Remedial Investigation/Feasibility Study

Niles Cone Groundwater Basin Extraction Well Site Evaluation Project

September 23, 2022

Grant Agreement No. D1912527

Prepared for:

State Water Resources Control Board
Division of Financial Assistance
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Submitted by: Alameda County Water District

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Acronyms and Abbreviations

AASHTO	American Association of State Highway and Transportation Officials
ACFCC	Alameda Creek Flood Control Channel
ACWD	Alameda County Water District
Agreement	Agreement No. SWRCB0000000000D1912527
AHF	Above Hayward Fault
ARP	Aquifer Reclamation Program
ASTM	ASTM International
bgs	below ground surface
BHF	Below Hayward Fault
BTOC	below top of casing
CEQA	California Environmental Quality Act
COC	chain of custody
CTL	Cooper Testing Labs, Inc.
DFA	Division of Financial Assistance
DTW	depth to water
DWR	Department of Water Resources
EEA	Eurofins Eaton Analytical, Inc.
ELAP	State Water Board Environmental Laboratory Accreditation Program
ft	feet
gpd	gallons per day
gpm	gallons per minute
GPS	Global Positioning System
GPSDP	Global Positioning System Information Data Package
IDW	investigation-derived waste
L/min	liters per minute
LOBF	line of best fit
MRP	Monitoring and Reporting Plan
Niles Cone	Niles Cone Groundwater Basin
NEBIGSM	Niles Cone East Bay Plain Integrated Groundwater Surface Water Model
NOE	Notice of Exemption
NPDES	National Pollutant Discharge Elimination System
NTU	nephelometric turbidity units
O&M	operation and maintenance
PPE	personal protective equipment
QA	quality assurance
QAPP	Quality Assurance Project Plan
QC	quality control
Quarry Lakes	Quarry Lakes Regional Recreation Area
RI/FS	Remedial Investigation/Feasibility Study
SDS	safety data sheet
SFPUC	San Francisco Public Utilities Commission
State Water Board	State Water Resources Control Board

SWP	State Water Project
TAC	Technical Advisory Committee
Ti	titanium
Tl	thallium
USA	Underground Service Alert
USCS	Unified Soil Classification System
WQL	Water Quality Laboratory

Section 1. Introduction

The Alameda County Water District (ACWD) has prepared this Report to summarize the field activities, data collected, and data evaluation performed in support of the Remedial Investigation/Feasibility Study (RI/FS) for the Niles Cone Groundwater Basin Extraction Well Site Evaluation Project (hereafter referred to as the "Project" or "Planning Project phase"). The Project was conducted pursuant to Agreement No. SWRCB0000000000D1912527 (Agreement) with the California State Water Resources Control Board (State Water Board) (ACWD and State Water Board, 2020) and according to the activities specified in the RI/FS Workplan developed for the Project (ACWD, 2021). Funding for this Project has been provided in full or in part by Proposition 1 - the Water Quality, Supply, and Infrastructure Improvement Act of 2014 through an agreement with the State Water Resources Control Board. The contents of this document do not necessarily reflect the views and policies of the foregoing, nor does mention of trade names or commercial products constitute endorsement or recommendation for use.

The primary objective of the Project was to investigate and evaluate three potential sites located in the central portion of the Niles Cone Groundwater Basin (Niles Cone) (hereafter referred to as "well site evaluation areas") for possible installation of brackish groundwater extraction facilities during a future Implementation Project phase. To meet the Project objective, the Project included collection of qualitative and quantitative information to evaluate each well site evaluation area based on a set of predetermined criteria presented in the RI/FS Workplan developed for the Project (ACWD, 2021). Data collected during the Planning Project phase were used to evaluate on-site conditions and select the optimal site for installation of brackish groundwater extraction facilities during the future Implementation Project phase. Data collected during the Planning Project phase will also be used to design and engineer the extraction well, pumping equipment, associated discharge piping, and other appurtenances to be installed during the Implementation Project phase.

Funding for this Project was provided in part by Proposition 1 – the Water Quality, Supply, and Infrastructure Improvement Act of 2014 through an agreement with the State Water Board. The contents of this document do not necessarily reflect the views and policies of the foregoing, nor does mention of trade names or commercial products constitute endorsement or recommendation for use.

1.1. PURPOSE

The purpose of this RI/FS Report is to present the data collected during field activities performed between November 15, 2021, and April 7, 2022, and summarize the results of the data evaluation performed to achieve the primary objective of the Project. Specifically, this Report: (1) summarizes the data collected at each well site evaluation area; (2) describes how the data were evaluated to determine which well site evaluation area(s) achieved the Project objectives; and, based on the results of the evaluation, (3) provides a recommendation for installation of a groundwater extraction well at one of the well site evaluation areas.

1.2. DOCUMENT ORGANIZATION

The remainder of this Report is organized as follows:

- Section 2 summarizes the Project background information, objectives of the Project, criteria used for evaluating the three well site evaluation areas for possible brackish groundwater extraction facilities, and the scope of the field investigation.
- Section 3 summarizes the field activities completed (including monitoring and test well installation activities, aquifer pumping tests performed, and quality assurance {QA} and quality control {QC} procedures) and methods used.
- Section 4 provides the key findings of the investigation, including an evaluation of the results from aquifer pumping tests performed at each well site evaluation area and a recommendation and rationale for selecting a well site evaluation area for installation of a brackish groundwater extraction facility.
- Section 5 lists the documents and guidance used to prepare this RI/FS Report.

Figures and tables are presented after Section 5. In addition, the following supplemental information is appended to the Report:

- Appendix 1, Permits
- Appendix 2, Well Location Memorandum
- Appendix 3, Field Notes and Forms
- Appendix 4, Public Notices
- Appendix 5, Administrative Documents and Correspondence
- Appendix 6, Photographic Log
- Appendix 7, Well Completion Reports
- Appendix 8. Waste Manifests

- Appendix 9, COCs and Analytical Results
- Appendix 10, Safety Data Sheets
- Appendix 11, Transducer Installation Procedures

Section 2. Project Background and Objectives

This section summarizes the Project background information, including the local geologic and hydrogeologic setting, surface water, and previous saltwater intrusion investigations and mitigation strategies implemented in the Project area. This section also describes the locations and land uses of the three well site evaluation areas identified in the RI/FS Workplan (ACWD, 2021), the criteria used for evaluating the three well site evaluation areas for possible brackish groundwater extraction facilities, and the scope of the field investigation.

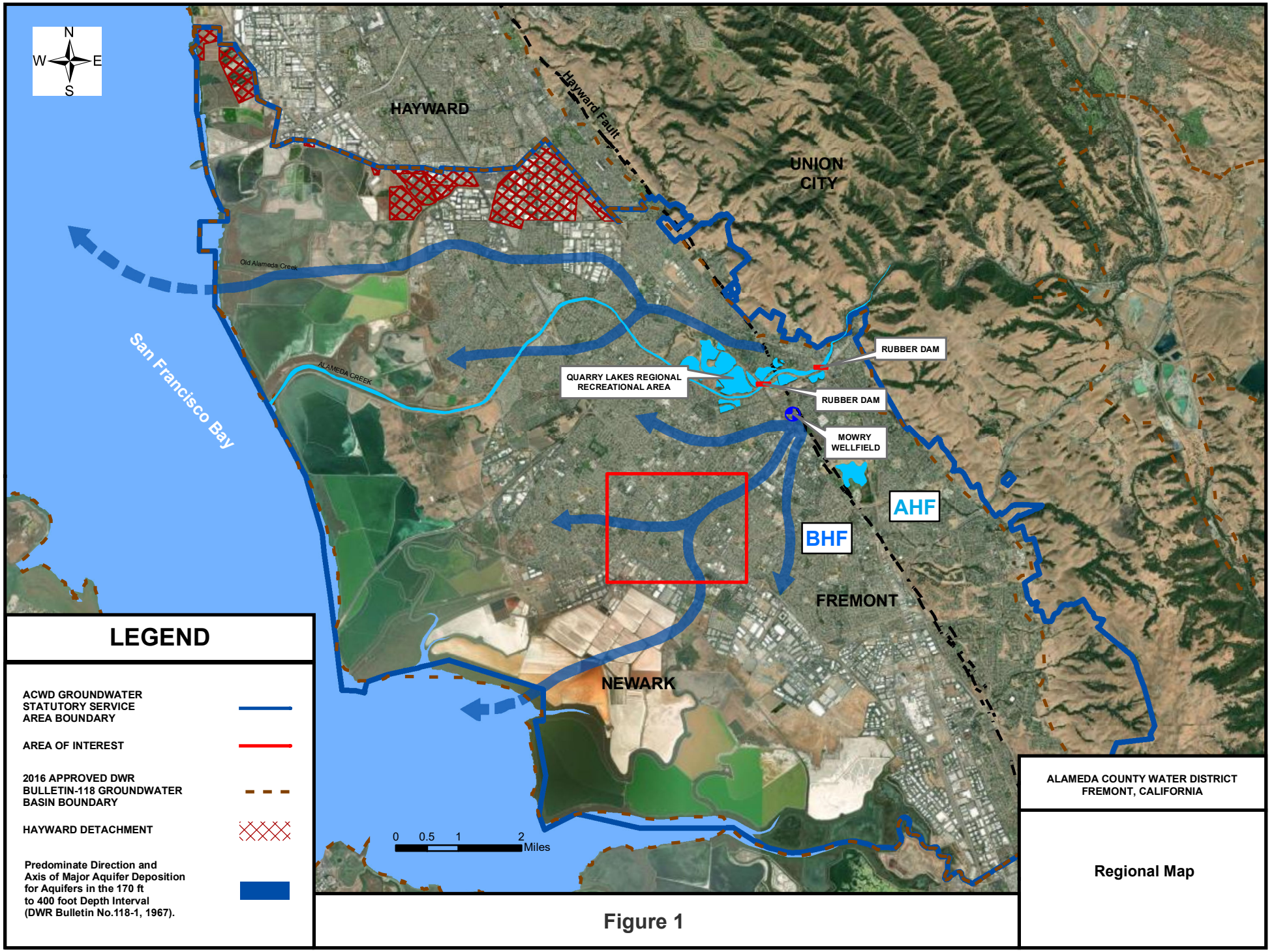
2.1. PROJECT AREA BACKGROUND

This subsection provides background information about the Project area, including the local geology and hydrogeology, surface water, and land use. This subsection also includes a description of the three well site evaluation areas investigated as part of the Project.

2.1.1. Geologic and Hydrogeologic Setting

The Niles Cone is an alluvial aquifer system consisting of unconsolidated gravel, sand, silt, and clay. The gravel and sand deposits have the highest permeability and thus make up the aquifers. Conversely, silt and clay layers have low permeability and form the aquitards. The Niles Cone is divided by the Hayward Fault (Figure 1). The Hayward Fault is an active fault with low permeability that impedes the lateral flow of groundwater. Large differences in water levels on either side of the fault demonstrate the relatively impermeable nature of the fault. The Above Hayward Fault (AHF) sub-basin on the east side of the Hayward Fault is composed of highly permeable sediments referred to as the AHF Aquifer. The Below Hayward Fault (BHF) sub-basin is composed of a series of relatively flat-lying aquifers separated by extensive clay aquitards. Due to the different hydrogeological settings of the AHF and BHF sub-basins, ACWD operates the two sub-basins as separate management areas.

Over time, the alluvial/fluvial depositional environment produced thick coarse grain sediments along present day Alameda Creek and along historic stream channels (now buried). With distance westward, both the thickness and grain size of the aquifers decreases while the intervening clay aquitards become thicker (DWR, 1967). The aquitards appear to be absent just west of the Hayward Fault in the hydrogeologic region called the forebay area; see Section 2.1.3 for a brief description of how the forebay area has contributed to saltwater intrusion into the lower aquifers.


N
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HAYWARD
Hayward Fault
UNION CITY
Old Alameda Creek
ALAMEDA CREEK
San Francisco Bay
QUARRY LAKES REGIONAL RECREATIONAL AREA
RUBBER DAM
RUBBER DAM
MOWRY WELLFIELD
AHF
BHF
FREMONT
NEWARK
0 0.5 1 2 Miles
LEGEND
ACWD GROUNDWATER STATUTORY SERVICE AREA BOUNDARY
AREA OF INTEREST
2016 APPROVED DWR BULLETIN-118 GROUNDWATER BASIN BOUNDARY
HAYWARD DETACHMENT
Predominate Direction and Axis of Major Aquifer Deposition for Aquifers in the 170 ft to 400 foot Depth Interval (DWR Bulletin No.118-1, 1967).
ALAMEDA COUNTY WATER DISTRICT
FREMONT, CALIFORNIA
Regional Map

Figure 1

The shallowest regional aquifer in the BHF sub-basin, the Newark Aquifer, is an extensive permeable gravel and sand layer between 40 and 140 feet below ground surface (bgs), except in the forebay area where it begins at the surface. The thickness of the Newark Aquifer ranges from less than 20 feet at the western edge of the basin to more than 140 feet at the Hayward Fault (DWR, 1968). The Newark Aquifer is overlain in most of the sub-basin by a thick layer of silt and clay called the Newark Aquiclude (DWR, 1968). The Newark Aquiclude is absent in the forebay area, allowing direct recharge to the Newark Aquifer from Alameda Creek and ACWD's recharge ponds. The strong interconnection between the Newark Aquifer and San Francisco Bay renders the Niles Cone a coastal aquifer system subject to risk of saltwater intrusion.

An extensive thick clay aquitard separates the Newark Aquifer from the Centerville Aquifer. The Centerville Aquifer, the top of which lies at an average depth of 180 to 200 feet bgs, overlies a thick clay aquitard, which in turn overlies the Fremont Aquifer. The Fremont Aquifer exists in the interval of 300 to 390 feet bgs. Due to lithologic and water level data indicating that they are in good hydrogeologic connection, the Centerville and Fremont Aquifers are considered one combined aquifer (Centerville-Fremont Aquifer) in some parts of the Niles Cone. However, water level, water chemistry, and lithology data indicate that in some areas of the basin, these two aquifers are more isolated from each other.

The deepest water-bearing units, referred to collectively as the Deep Aquifers, are present at approximately 400 feet bgs and deeper. They are separated from the overlying Fremont Aquifer by a regional aquitard. Also, based on ACWD's lithologic data and DWR (1967), these deep aquifers are both hydraulically separated and connected by the presence or absence of intervening clays dependent on the location in the basin, and extend beyond the limits of the Niles Cone to act as conductive layers for the migration of groundwater out of the basin.

Groundwater has been significantly affected by saltwater intrusion in the Newark, Centerville, and Fremont Aquifers. Recharge efforts through ACWD's managed-aquifer-recharge operations (through recharge ponds within the Quarry Lakes Regional Recreation Area {Quarry Lakes} and Rubber Dam Impoundments along Alameda Creek) have substantially reduced that impact; however, a considerable volume of brackish water remains in the Newark, Centerville, and Fremont Aquifers. Section 2.1.3 below describes the history of saltwater intrusion into the Niles Cone and the current and historic efforts by ACWD to abate the intrusion.

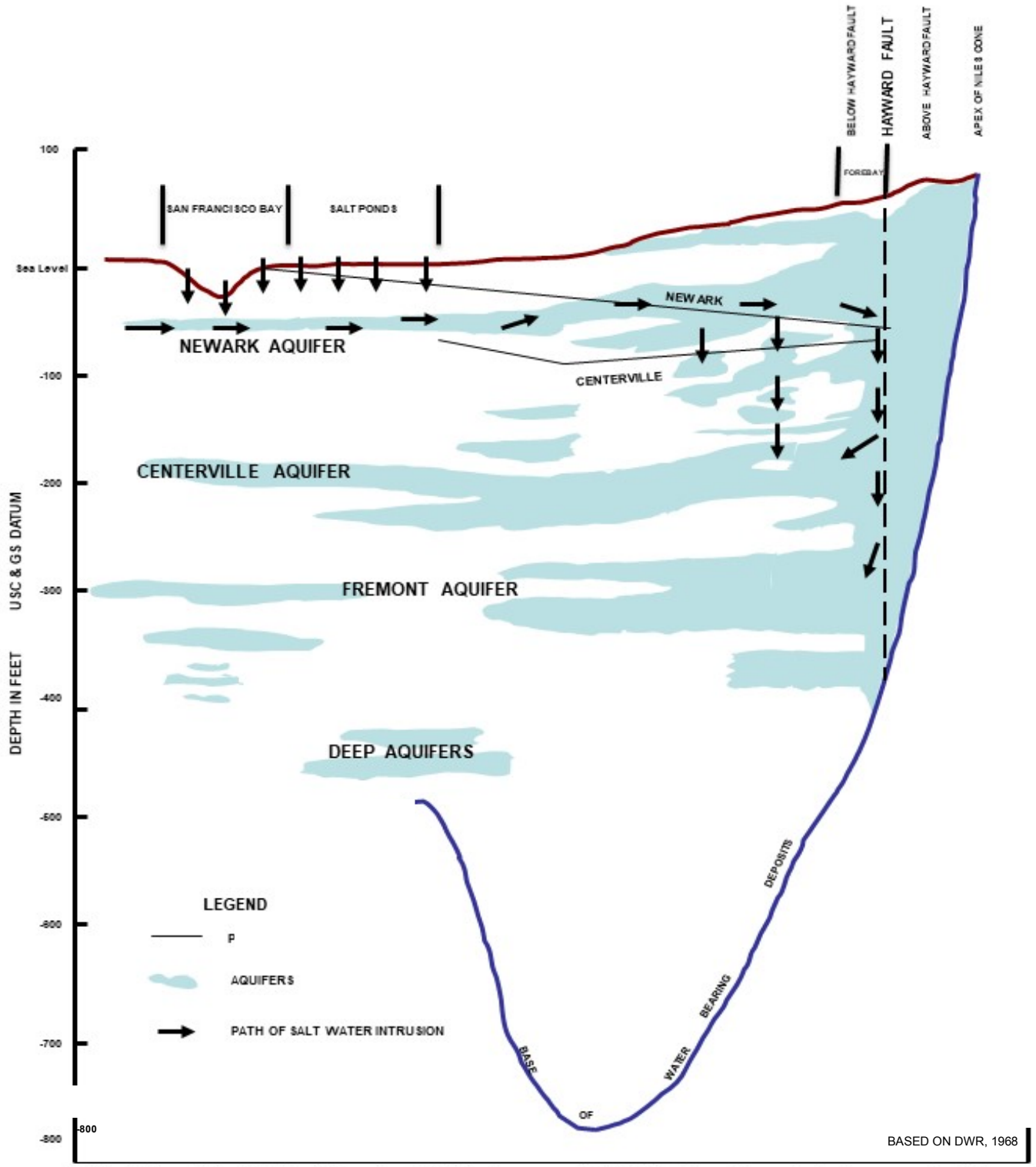
2.1.2. Surface Water

The primary surface water bodies in the Niles Cone are Alameda Creek (including portions of the Alameda Creek Flood Control Channel {ACFCC}), its tributaries, and the Quarry Lakes. Alameda Creek is a large perennial stream in the Niles Cone, flowing 45 miles to the eastern shore of the San Francisco Bay by way of Niles Canyon. The Alameda Creek watershed is the largest

watershed within the southern San Francisco Bay, draining 660 square miles and accounting for 20% of the total drainage area for the South Bay. The Alameda Creek Drainage system consists of two main branches which join near the City of Sunol and jointly discharge through an approximately six-mile-long canyon with an outlet near the historic Niles District within the City of Fremont. The Southern branch, Alameda Creek, receives drainage from Calaveras Creek, San Antonio Creek, and several smaller streams.

Watershed runoff, along with water released from the South Bay Aqueduct at a location east of the town of Sunol, flows down Alameda Creek and into the ACFCC, where water is diverted from the dams to the Quarry Lakes for recharge. The ACFCC is a key surface water feature in the Niles Cone Subbasin. Alameda Creek becomes the ACFCC downstream of Niles Canyon at the east side of the Niles Cone. Dry Creek, Ward Creek, and the Old Alameda Creek lie within the Alameda Creek watershed, west of the Hayward Fault. The ACFCC, a key manmade surface water feature in the Niles Cone Subbasin, is comprised of the lower 12 miles of Alameda Creek that has been channelized for flood control. Alameda Creek becomes the ACFCC downstream of Niles Canyon at the east side of the Subbasin, and runs from east to west, exiting the Subbasin into the Bay on the west.

The Niles Cone is substantially recharged by ACWD's recharge facilities, which include two inflatable dams in the ACFCC and Quarry Lakes (Figure 1). The Quarry Lakes and dam-controlled channel impoundments straddle the Hayward Fault, thereby replenishing both the AHF and BHF sub-basins. When one or more of the dams are inflated, impounded water may be diverted to recharge ponds, and percolation through the channel bottom is enhanced. The total water area of the recharge facilities is over approximately 400 acres. In wet months and years, the source of water to the recharge facilities is mostly local water originating in the Alameda Creek Watershed, which is drained by Alameda Creek (which becomes the ACFCC downstream of Niles Canyon). In dryer months and years, ACWD uses imported water for groundwater recharge, delivered to Alameda Creek via the South Bay Aqueduct.



Adapted from State of California Department of Water Resources. 1968. *Evaluation of Groundwater Resources, South Bay, Volume 1: Fremont Study Area, Bulletin No. 118-1.*

INTRUSION OF SALT WATER INTO THE FREMONT STUDY AREA

ALAMEDA COUNTY WATER DISTRICT
FREMONT, CALIFORNIA

N
W E
S

Figure 2. Intrusion of Saltwater into the Fremont Study Area

2.1.3. History of Saltwater Intrusion and Mitigation in the Niles Cone Groundwater Basin

There is a strong degree of communication between the San Francisco Bay and the underlying Newark Aquifer. This interconnection enabled saltwater intrusion into the Niles Cone from the early 1900s to the early 1960s when pumping caused the piezometric heads in the inland part of the Newark Aquifer to drop tens of feet below sea level, which resulted in the intrusion of saltwater from San Francisco Bay into the Newark Aquifer. Saltwater eventually entered and became trapped in the lower aquifers (Centerville and Fremont Aquifers) through an area near the Hayward Fault where the lower aquifers are interconnected with the Newark Aquifer known as the forebay; see Figure 2 for a schematic depiction of saltwater intrusion in the Niles Cone.

Saltwater intrusion in the Niles Cone was noticed as early as the 1920s, and gradually worsened over four decades of declining well levels in the Below Hayward Fault. Many years of chronic overdraft caused the groundwater levels in the uppermost principal aquifer, the Newark Aquifer, to drop to below sea level. This relative elevation difference between groundwater in the Subbasin and the saline water in the San Francisco Bay caused landward (eastward) groundwater flow through the Newark Aquifer and intrusion of saltwater into the Subbasin. Several decades of seawater intrusion has caused saline water to migrate as far inland as the forebay area. Due to the thin to absent aquitards in the forebay area, saline water has since migrated downward from the Newark Aquifer into the lower aquifers. This downward migration may also have been exacerbated by additional downward migration of saline water through abandoned and improperly sealed wells.

Groundwater in the Newark and Centerville-Fremont Aquifers has been significantly affected by saltwater intrusion. The elevated concentrations of chlorides in the Centerville-Fremont Aquifer are primarily in the western portion of the Niles Cone with an extended zone (“bulge”) traveling along a historic depositional channel toward Mowry Wellfield, a primary groundwater extraction facility utilized as part of ACWD’s water supply.

In 1920, ACWD began to impound winter flows in Alameda Creek to increase groundwater recharge within the Niles Cone. In an attempt to mitigate saltwater intrusion in the Niles Cone, ACWD began importing water from the State Water Project (SWP) in 1962 and began to more effectively recharge the aquifer system through unused gravel pits. In 1964, to reduce the demand for groundwater resources, ACWD contracted with San Francisco Public Utilities Commission (SFPUC) to receive Hetch-Hetchy Reservoir water. In 1972 and 1989, ACWD installed rubber dams along Alameda Creek to improve recharge to the Niles Cone aquifers. In 1974, ACWD initiated the Aquifer Reclamation Program (ARP) to actively remove brackish water from the Niles Cone by strategically placing reclamation recovery wells in areas near the historic stream channel deposits. These activities have combined to bring groundwater levels in the Niles Cone above

water levels of nearby San Francisco Bay and have significantly reduced the aerial extent and concentration of the intruded saltwater.

The ARP program was initiated since there is no natural outlet for the brackish water trapped in the deep confined aquifers (Centerville and Fremont Aquifers). As a result, identifying areas where there is trapped brackish water in the deeper confined aquifers is important to identifying potential locations where groundwater extraction facilities can be placed to efficiently remediate the brackish areas. Evaluation of geologic reports, recent ACWD/DWR geologic studies, and groundwater analytical data have identified that although saltwater has migrated throughout the permeable material within each aquifer, there is preferential movement through historic stream channel deposits where the greater aquifer thickness and more coarse-grained materials reside. The three groundwater extraction well site evaluation areas (referred to as well site evaluation areas for the remainder of the Report) selected for the Project are located in these geologic areas of preferential groundwater movement in the central portion of the Niles Cone where elevated concentrations of chlorides, due to saltwater intrusion, have been documented in wells sampled during ACWD's spring and fall groundwater monitoring programs.

As previously mentioned, elevated concentrations of chlorides in the Centerville-Fremont Aquifer are primarily in the western portion of the Niles Cone with an extended zone "bulge" within the central portion of the Niles Cone traveling along a historic depositional channel toward the Mowry Wellfield (Figure 3). Two of ACWD's existing production wells, Bellflower and Farwell, are proposed emergency water supply source wells that are currently impacted by elevated concentrations of chlorides (Figure 4). To address the elevated chlorides and the potential threat to the Mowry Wellfield and the two potential emergency water supply wells, this Project is to investigate three potential sites in the central portion of the Niles Cone for possible brackish groundwater extraction facilities.

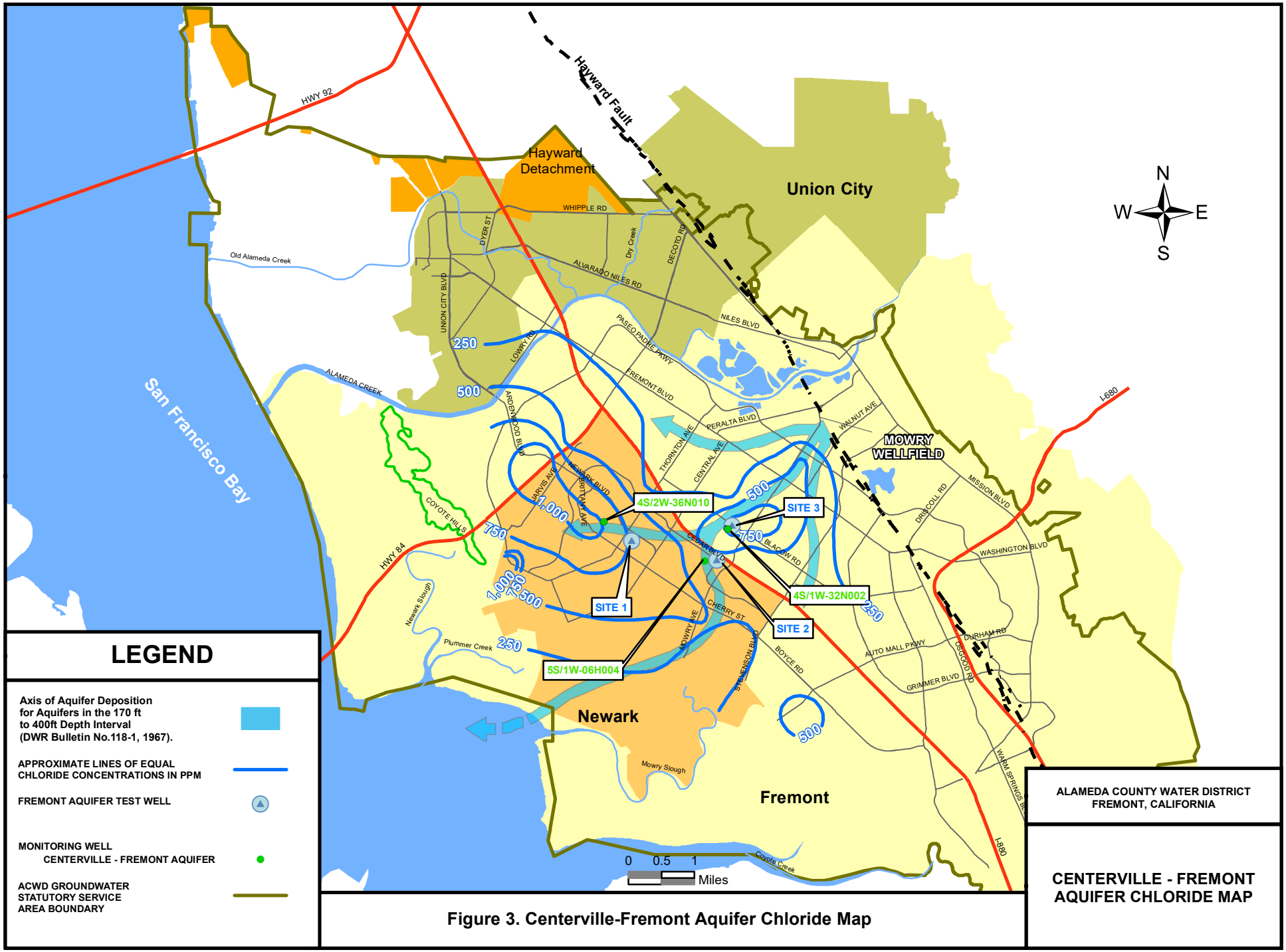


Figure 3. Centerville-Fremont Aquifer Chloride Map

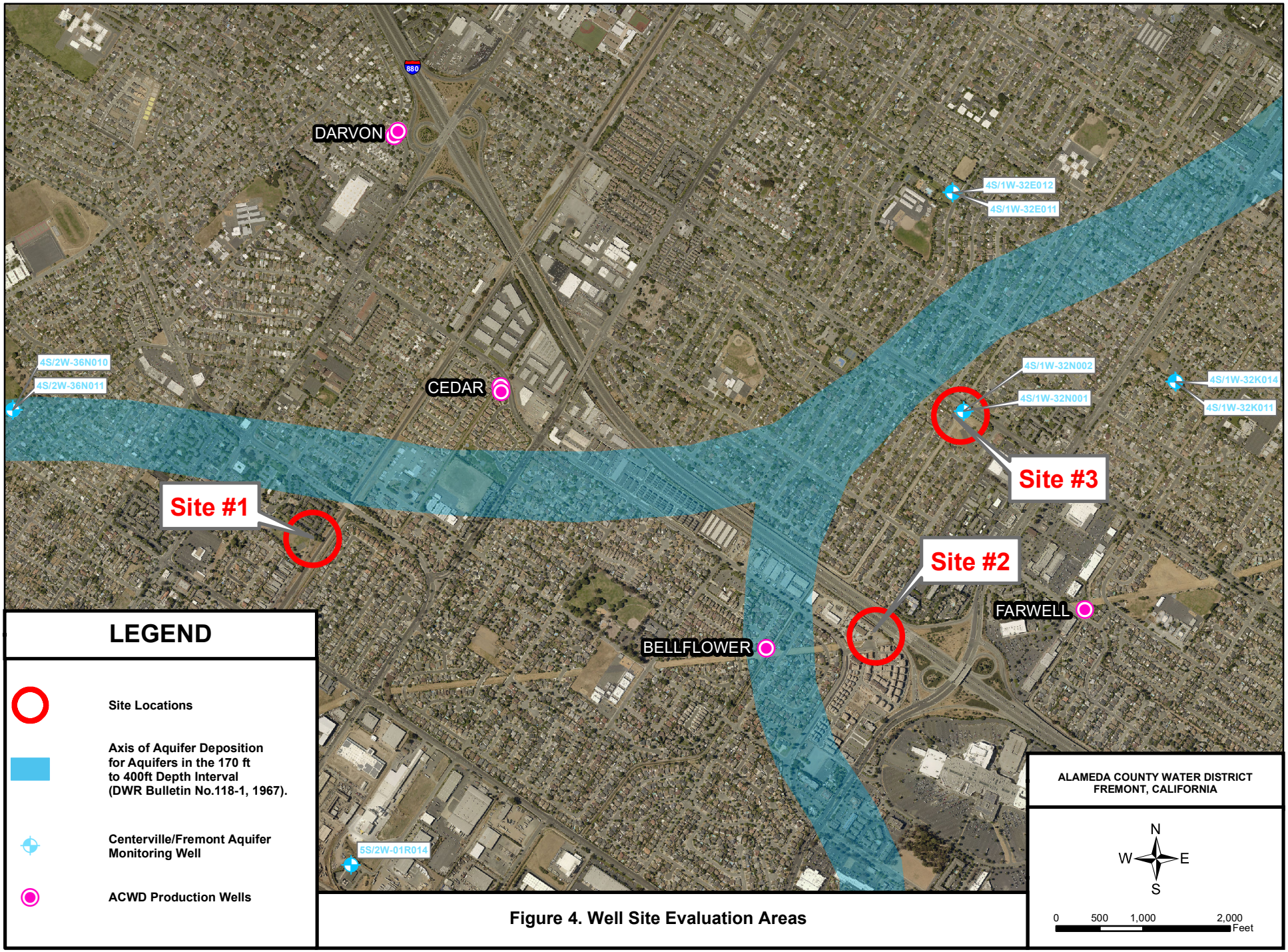


Figure 4. Well Site Evaluation Areas

2.2. PROJECT LOCATIONS

The three well site evaluation areas are located in the central portion of the Niles Cone. Sites 1 and 2 are located on property owned by the City of Newark, and Site 3 is located on property owned by the City of Fremont (Figure 4). Figure 5, Figure 6, and Figure 7 show the locations of the three well site evaluation areas, the ten Centerville-Fremont Aquifer and Newark monitoring wells, and the three groundwater extraction test wells (one test well per evaluation area) installed at Sites 1, 2, and 3, respectively.

Sites 1, 2, and 3 are vacant or undeveloped parcels on city-owned public lands or rights-of-way neighboring vacant or undeveloped parcels zoned as residential and/or commercial. Specifically, the three well site evaluation areas are owned by the City of Newark, Alameda County, and a church, respectively. Presently there are no plans for development at the well site evaluation areas.

The three well site evaluation areas were selected based on several factors. The area of concern is highly urbanized; therefore, the number of available parcels large enough to install an extraction system is very limited. Priority was given to publicly-owned properties with a higher likelihood of potential property acquisition. Priority was also given to the locations that are proximal to depositional channels. As first revealed in investigations published in 1967, depositional channels of the Newark and Centerville-Fremont Aquifers are interconnected with the Mowry Wellfield. Placement of a groundwater extraction system or systems in or near an axis of the depositional channel greatly increases the efficiency of brackish water extraction while also intercepting the potential migration of brackish water to the Mowry Wellfield.

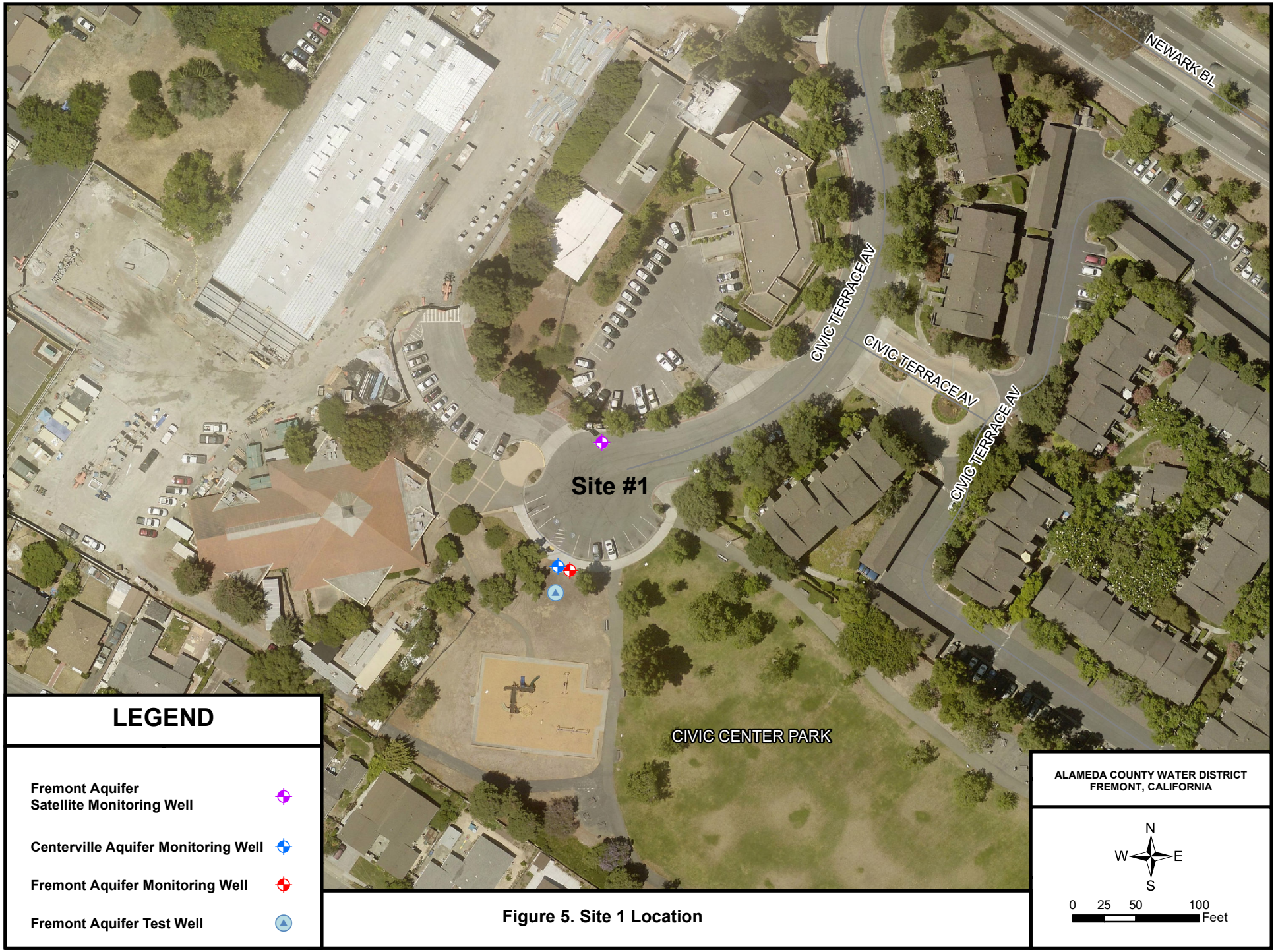


Figure 5. Site 1 Location

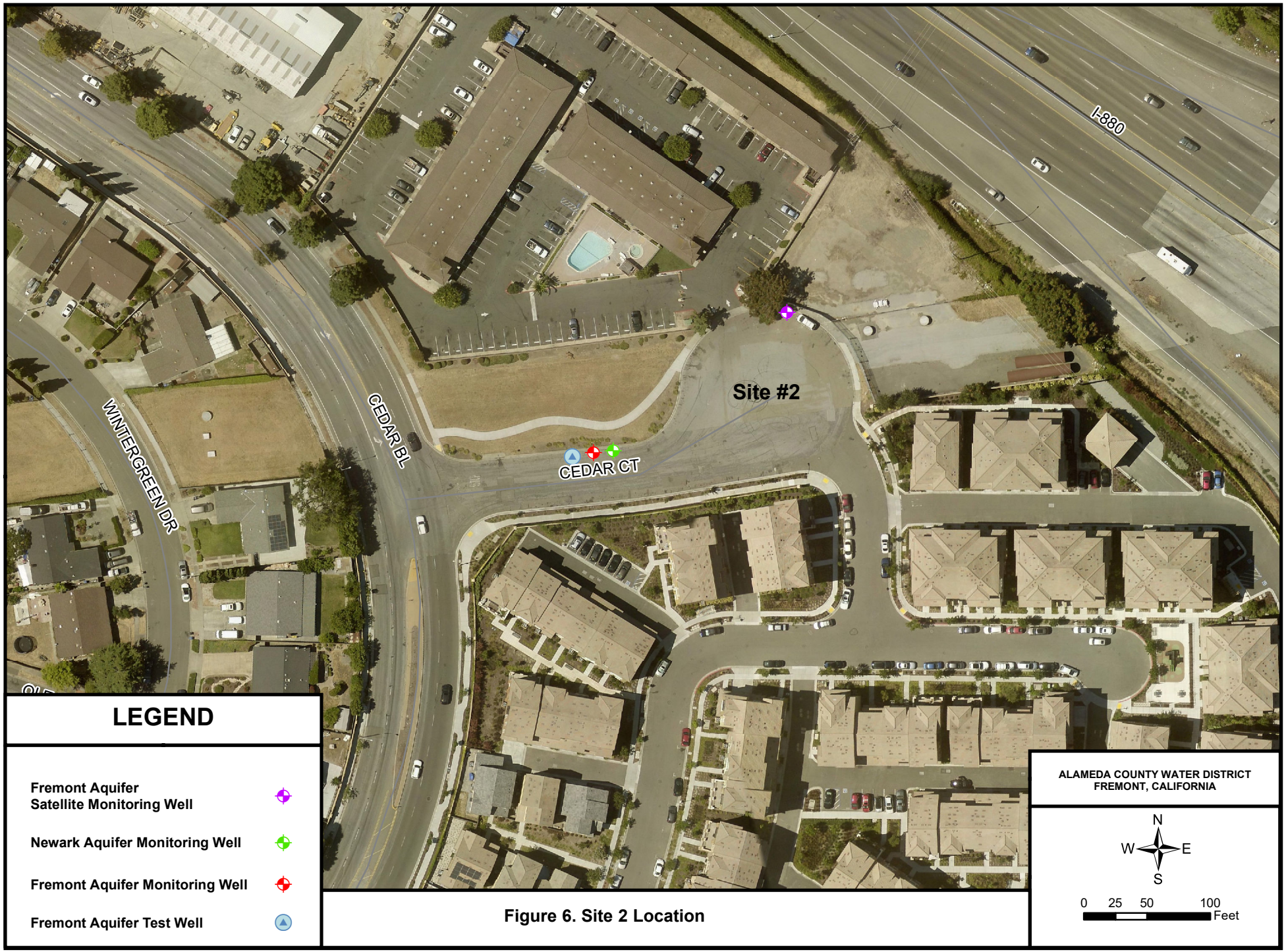


Figure 6. Site 2 Location



Figure 7. Site 3 Location

2.3. PROJECT OBJECTIVES

The objective of this Project was to conduct a remedial investigation to evaluate alternatives to:

- Prevent the spread of saltwater intrusion to the Mowry Wellfield, a primary groundwater extraction facility utilized as part of ACWD's water supply, by removing brackish water from the Centerville-Fremont aquifer.
- Accelerate cleanup of the Centerville-Fremont aquifer by removing the trapped brackish water, thereby further reducing the impacts to the Bellflower and Farwell production wells (proposed as possible emergency water supply source wells upon completion of cleanup).
- Reclaim aquifer storage by removing brackish groundwater.

2.4. EVALUATION CRITERIA

To meet the Project objectives, the Project included collection of sufficient information to evaluate each well site evaluation area for the following criteria:

1. Viability to extract brackish groundwater caused by saltwater intrusion
2. Potential to engineer an efficient and long-lasting brackish water extraction system
3. Potential to reduce the concentration of brackish water in the Bellflower and Farwell production wells that could then be used as emergency water supply wells
4. Potential to provide long-term protection of water supply wells from future saltwater intrusion
5. Potential to provide long-term protection from water quality-related pumping restrictions at the Mowry Wellfield

2.5. SCOPE OF PROJECT

The Project involved field investigation at three sites in the central portion of the Niles Cone to facilitate data collection and evaluation for possible brackish groundwater extraction facilities. Investigation activities performed throughout the duration of the Project were divided into six main tasks:

- Task 1. Administration Activities
- Task 2. Planning Activities
- Task 3. Implementation
- Task 4. Monitoring and Performance

- Task 5. RI/FS Report
- Task 6. Outreach

The remainder of this subsection provides a summary of the activities completed under each task of the Project.

Task 1. Administrative Activities

Coordination, communication, and reporting were performed throughout the duration of the Project to keep it on schedule and budget. ACWD communicated with the State Water Board frequently to keep them abreast of Project timeline, developments, and milestones. Discussions between ACWD, the State Water Board, City of Fremont, City of Newark, Alameda County, and the drilling contractor occurred on an ongoing basis throughout the Project to ensure adequate coordination and to avoid potential delays. Coordination activities included phone calls and telephone conferences, email correspondence, occasional meetings, document preparation, and consultation with specialists. A kick-off meeting was held for the Project on June 19, 2020.

ACWD prepared three key planning documents in support of the Project: (1) a Monitoring and Reporting Plan (MRP); (2) a Quality Assurance Project Plan (QAPP); and (3) an RI/FS Workplan. The QAPP was finalized as Appendix A of the RI/FS Workplan. Table 1 below summarizes the dates when the drafts were submitted to the Technical Advisory Committee (TAC) for review, when ACWD received comments from the TAC, and the drafts were finalized for each planning document. ACWD received approval of the RI/FS, QAPP, and MRP from the State Water Board Division of Financial Assistance (DFA) Grant Manager on September 1, 2021. Note that selection of the TAC members was finalized on August 13, 2020.

Table 1. Summary of Timeline for Submittal of Draft and Final Versions of Project Planning Documents

Planning Document	Dates Draft Submitted to TAC	Dates Received Comments from TAC	Date Finalized
MRP	October 29, 2020	December 8 and 15, 2020	August 17, 2021
	May 7, 2021	May 10 and June 2, 2021	
RI/FS Workplan and appended QAPP	October 29, 2020	December 8 and 15, 2020	August 17, 2021
	May 7, 2021	May 10 and June 2, 2021	

ACWD submitted quarterly progress reports to the State Water Board following the format of the outline specified in the Agreement and corresponding disbursement requests. ACWD also tracked and reviewed the Project budget and prepared a quarterly budget summary report for submittal to the State Water Board. ACWD prepared intermediate invoices as needed and will prepare a final invoice at the end of the Project. Any budget modifications were discussed with the State Water Board prior to implementation, as specified in the Agreement (see Appendix 5). Amendment 1 to the Agreement was approved by the State Water Board on June 28, 2022.

Table 2 below summarizes the dates on which quarterly progress reports, disbursement requests, and invoices were submitted to the State Water Board. Due to the preparation approval of Amendment 1, no Disbursement Request or Invoice was submitted for Q3 2021/2022.

Table 2. Summary of Quarterly Progress Reports and Disbursement Requests Submitted to State Water Board

Quarter	Date Progress Report Submitted	Date Disbursement Request Submitted	Date Invoice Submitted
Q4 2019/2020 – Q1 2020/2021	November 15, 2020	November 15, 2020	November 10, 2020
Q2 2020/2021	February 12, 2021	February 12, 2021	February 9, 2021
Q3 2020/2021	May 15, 2021	May 15, 2021	May 13, 2021
Q4 2020/2021	August 15, 2021	August 15, 2021	August 12, 2021
Q1 2021/2022	November 15, 2021	November 15, 2021	November 22, 2021
Q2 2021/2022	February 12, 2022	February 12, 2022	February 25, 2022
Q3 2021/2022	May 12, 2022	Combined with Q4	Combined with Q4
Q4 2021/2022	July 28, 2022	July 28, 2022	July 28, 2022

The grant award from the State Water Board for this Project totaled $613,048.50. Under Task 1 (Direct Project/Administrative Costs), ACWD tracked and reviewed the Project budget and all Project expenditures, prepared budget summary reports and reported them to the State Water Board in the form of quarterly progress reports, and prepared intermediate and final invoices for the Project. Table 3 below summarizes the estimated final budget allocations for the Project, as specified in the Agreement. As sown below, ACWD ultimately committed a 50.0% local match to the total Project cost, which amounted to $1,226,097.

Table 3. Estimated Final Budget Summary

Task	Grant Funds	Local Match Funds	Total	% Local Match
Direct Project/Administrative Costs	$22,788	$22,788	$45,576	50.0%
Planning/Design/Engineering/ Environmental Activities	$34,946	$34,946	$69,892	50.0%
Construction/Implementation	$503,141	$503,141	$1,006,282	50.0%
Monitoring/Performance	$49,398	$49,398	$98,796	50.0%
Education/Outreach	$2,776	$2,776	$5,551	50.0%
Total	**$613,048.50**	**$613,048.50**	**$1,226,097**	**50.0%**

ACWD has prepared this Draft RI/FS Report describing all required elements set forth in the Agreement. ACWD is also preparing a Draft Project Summary that briefly summarizes the information included in this Draft RI/FS Report, which will be submitted on or before September 30, 2022. The Final Project Summary will include any accomplishments, recommendations, and lessons learned, as appropriate.

Task 2. Planning Activities

Prior to conducting field activities, ACWD finalized the test and monitoring well locations, secured a drilling contractor, and completed and obtained necessary and required encroachment and drilling permits. ACWD submitted applications for encroachment permits with the cities of Fremont and Newark on June 16, 2021, and received finalized encroachment permits on November 4, 2021, and August 8, 2021, respectively. A request to extend the encroachment permit for the City of Newark to May 31, 2022, was submitted to City staff on March 3, 2022, and was granted on the same day. ACWD received an Approved County of Alameda Property entry Agreement on January 13, 2022, for Site 2 access. A list and signed copies of all required encroachment and drilling permits and approvals were finalized on January 13, 2022. Drilling permits for all three sites were submitted to the ACWD Well Ordinance Department on October 12, 2021, and were finalized on December 7, December 9, and November 10, 2021, respectively. See Appendix 1 for copies of all permits.

On August 6, 2020, ACWD submitted the Global Positioning System (GPS) coordinates of the anticipated locations of the test and monitoring wells to the DFA Grant Manager (see the Well Location Memorandum, provided as Appendix 2) and submitted the final, post-installation well locations to the TAC on September 1, 2022 (see Well Completion Report, provided as Appendix 7). See Section 3.1.2.1 below for the final locations of the wells installed at each site.

In compliance with the California Environmental Quality Act (CEQA), a Notice of Exemption (NOE) certifying that the Project is exempt from CEQA review was adopted by the ACWD Board of Directors on May 14, 2020, and filed with the Alameda County Clerk and California Governor's Office of Planning & Research State Clearinghouse between May 16 and June 16, 2020 (included in Appendix 5). No comments were received on the NOE within the public comment period. The NOE was received by the State Clearinghouse on May 19, 2020.

On June 18, 2021, ACWD submitted draft bid specifications to the DFA Grant Manager for the Project. Due to irregularities in the bids received and modifications to the scope of work (e.g., change of casing material), all bids were rejected on August 12, 2021, and a rebidding of the project scope was conducted. The re-bid scope of work bid opening occurred on September 14, 2021. A Staff Report approving the winning bidder, Pitcher Services, LLC (Pitcher), was presented to the ACWD Board of Directors on October 14, 2021, and a Notice of Award was sent to Pitcher

on October 15, 2021. Upon approval of insurance and bonding documents, the Notice to Proceed was issued to Pitcher on November 9, 2021.

Task 3. Implementation

All field operations were conducted under the supervision of a Professional Geologist licensed in the State of California. The Professional Geologist reviewed all procedures and protocols (including those required for compliance with health and safety requirements in response to COVID-19) and assured that Standard of Practice for the work proposed was followed and documented. All data collection activities were performed in accordance with the QAPP developed for the Project unless otherwise noted in Section 3 of this RI/FS Report.

The scope of field activities is summarized as follows:

1. Investigated three well site evaluation areas to evaluate on-site conditions for feasibility of designing and engineering a potential new groundwater extraction system.

2. Installed a total of three groundwater extraction test wells and ten groundwater monitoring wells.

3. Conducted soil and groundwater sampling at each of the three well site evaluation areas.

4. Conducted geophysical logging to assist in soil description and lithologic contact definition and finalize the design of the test and monitoring wells.

5. Performed aquifer pumping tests to determine hydraulic characteristics of the aquifer and the well, including modified constant rate tests at Sites 1 and 2 and step-drawdown, constant rate, and recovery tests at Site 3. Purge water generated from the test wells during the aquifer pumping tests was discharged to a storm drain under the District's existing National Pollutant Discharge Elimination System (NPDES) permit.

Task 4. Monitoring and Performance

Following installation and well development, groundwater samples were collected from the test wells and analyzed for chlorides and total dissolved solids. In addition, groundwater samples collected at the test well at Site 3, 3-TF, were analyzed for the entire suite of chemical analyses indicated in the QAPP (Appendix A of the RI/FS Workplan developed for the Project) to determine the suitability for brackish groundwater cleanup.

Data from the step-drawdown tests, constant-rate tests, and recovery tests were analyzed using industry-accepted analytical radial flow equations. Hydraulic characteristics of the aquifer and the test wells were derived and confirmed.

Data from the analytical testing; boring logs; and the step-drawdown, constant-rate, and recovery tests were put into ACWD's groundwater model(s) for the basin. Section A-7 of the QAPP (Appendix A of the RI/FS Workplan) provides a detailed discussion of the data that were collected during the remedial investigation, the purpose for the data, and the methods and procedures that were followed to collect the data. The extent to which one or more of the proposed groundwater extraction systems would benefit water quality in the applicable area of the groundwater basin will be modeled using a MODFLOW/MT3D numeric model capable of simulating solute transport. Certain hydraulic boundary conditions and water inputs to the MODFLOW/MT3D model were estimated through simulations with ACWD's basin-wide flow model, Niles Cone East Bay Plain Integrated Groundwater Surface Water Model (NEBIGSM). The model calibration was refined in each of the three study areas for evaluation of the efficiency and long-term pumping effects of a proposed groundwater extraction system. Section A-5.1 of the QAPP provides a detailed discussion of all data and information inputs into the groundwater model(s), data quality objectives, and how groundwater modeling will be used to inform Project objectives.

The eight monitoring wells installed as part of the Project have been incorporated into ACWD's long-term Groundwater Monitoring Program for the monitoring of the Niles Cone. Results from the sampling will be used annually to evaluate the health of the Niles Cone Groundwater Basin and the expected long-term efficiency of the future pumping facilities that will be installed during the implementation project phase. Data collected from the wells will be presented in ACWD's Annual Monitoring Report at the beginning of each calendar year. The fate of the test well at each location is under review and will be determined at a later date.

Task 5. RI/FS Report

ACWD has prepared this RI/FS Report to summarize the analysis performed during the RI/FS for submittal to the TAC for review and the State Water Board for approval. Pursuant to Exhibit A.1.7 of the Agreement, the RI/FS Report includes the following required elements: a summary of the Project area history, local geologic and hydrogeologic environment, surface water, local land use, previous investigations, and remedial actions (Section 2.1); the purpose and scope of the RI/FS (Sections 2.3, 2.4, and 2.5); a summary of field work completed and methods used (Section 3.1); findings of the investigation and evaluation of data collected during the RI/FS (Section 4); identification of any data gaps that should be addressed (Section 4.2.2); and supporting documentation, including all data (including laboratory data sheets and chain-of-custody sheets), permits, field notes, field forms well logs, development logs, and tabular depth to groundwater/groundwater elevation data (Appendix 3).

The RI/FS Report is a comprehensive document that includes a comparison of the planned schedule with the actual timeline, discussion of major problems encountered, a summary of all costs, a detailed description and analysis of Project results, and recommendations for an

implementation project. The RI/FS Report contains all the information specified in the Agreement and follows ACWD's quality control document procedures.

Task 6. Outreach

ACWD used the public notification and public bidding process to select a contractor. All residents and businesses within 0.25 miles of each drilling site were sent notification letters via United States Postal Service prior to starting field work. ACWD discussed the Project at committee and Board of Director's meetings and held a public meeting to present the Project to the public and solicit comments. Due to COVID-19, most of the meetings were held virtually through Zoom. Further, public review of the CEQA documents was made available on the District's website and at the Alameda County Clerk's Office. A final report will be sent to the State Water Board, interested stakeholders, and presented on ACWD's website.

The subtasks for Task 6 are described below.

6.1. Public Notice for CEQA

Upon review of CEQA exemption documentation, the documentation was approved by ACWD's Board of Directors and filed with the Alameda County Clerk's Office and the State Clearinghouse and provided on ACWD's website for 30-day public review. No comments were received, and the CEQA exemption documentation was finalized.

6.2. Public Notice for Field Activities

The Public Notice announcing the Public Meeting was submitted to the public and the DFA Grant Manager on September 16, 2021. A virtual public meeting was held on September 28, 2021, to present the Project and provide the public an opportunity to ask questions and make comments prior to commencing field activities. A meeting announcement was provided to the public and the DFA Project Manager on September 16, 2021, and posted on ACWD's website and in the local paper.

Notification letters were distributed to residents and businesses within 0.25 miles of each drilling site via United States Postal Service on October 6, 2021, to inform them about upcoming field activities. The notification letters provided the dates that drilling activities were expected to occur, the hours of work, the purpose of the Project, the potential impacts that the Project may have on their neighborhood, and a site map. In addition, the letters identified ACWD's Project Manager and provided contact information so that any questions and concerns could be addressed during and after normal business hours. See Appendix 4 for copies of the Public Notices. No comments on the Public Notice of Field Activities were received.

6.3. Report to Stakeholders

During the Project, ACWD staff engaged in several conversations with bystanders during field activities to explain the purpose of the Project and inform them of the financial support provided through the Proposition 1 Groundwater Grant Program managed by the State Water Board. ACWD also held an unscheduled meeting with the City of Newark on January 3, 2022, during drilling activities at the Site 1 test well (1-TF), to discuss storm drain coverage and street cleaning for stormwater protection purposes.

Upon final approval of the Final RI/FS Report by the TAC, the document will be distributed to the State Water Board, stakeholders, and all other interested parties.

Section 3. Field Activities and Data Collection

This section presents a summary of the field activities completed during the RI/FS. The purpose of field activities was to collect geological, geophysical, hydrogeological, and water quality data from three sites in the central portion of the Niles Cone for possible brackish groundwater extraction facilities. Data collected during field activities were used to evaluate on-site conditions and select the site (or sites) that would best fit the larger objective of conducting an implementation project to remove trapped brackish groundwater from the Niles Cone and prevent the plume of brackish water from migrating further inland toward ACWD's Mowry Wellfield. The data collected during the investigation will also be used to design and engineer the extraction well, pumping equipment, associated discharge piping, and other appurtenances for the future brackish groundwater extraction facility.

This section also includes a description of activities that deviated from the RI/FS Workplan; see Appendix 5 for a copy of the email memorandum submitted to the State Water Board indicating this component (i.e., Item 6.1.2 of the Agreement) would be reflected in this RI/FS Report.

3.1. RI/FS FIELD ACTIVITIES

Field activities for the Project included monitoring and test well installation, soil logging and sampling, geotechnical sampling, well development, groundwater level measurements and groundwater quality sampling, aquifer pumping tests, and the QA and QC procedures followed during field activities. See Appendix 6 for a photographic log of key field activities that occurred over the course of the Project.

As previously discussed, Sites 1, 2, and 3 identified for investigation in the RI/FS Workplan are located in the central portion of the Niles Cone. Two observation monitoring wells were located between 17 and 21 feet of the test well at each site: one shallower observation monitoring well completed in the Newark Aquifer[1] to assess the vertical groundwater gradient, and one deeper observation monitoring well completed in the Centerville-Fremont Aquifer (target zone for extraction and cleanup) to monitor water level changes during the pumping tests. One "satellite" monitoring well (located between 124 and 1,017 feet away from the test well) was installed in the Centerville-Fremont Aquifer to evaluate the distal effects of groundwater pumping during each of

[1] Note that lithologic characteristics at Site 1 were such that the Newark Aquifer was not encountered, so the observation monitoring well was completed in the Centerville Aquifer instead. See Site 1 below for additional details.

the pumping tests. Section 3.1.2.1 below describes the types and locations of wells installed at each of the sites.

3.1.1. Mobilization, Utility Clearance, and Site Preparation

A Well Location Memorandum providing the surveyed locations of the wells proposed for each of the three sites was provided to the State Water Board on August 6, 2020; see Appendix 2. Once the surveyed locations were finalized, Underground Service Alert (USA) was contacted to clear subsurface utilities. Pitcher also cleared each well location to at least eight feet bgs using a hand auger. ACWD instructed Pitcher to proceed slowly with initial drilling activities at each well location to prevent damage to any potential unidentified deeper utilities. Slow drilling was conducted until drill cuttings were verified to be native material (i.e., not imported fill material) by the ACWD Project Manager/Field QA Officer or surrogate.

During field activities, ACWD field staff (including the ACWD Project Manager/Field QA Officer) were on site to support all field activities, including drilling and well installations, field screening activities, and soil and groundwater sampling. The ACWD Project Manager/Field QA Officer monitored all Project operations to ensure they were in compliance with established QC procedures and goals.

Initial mobilization to Sites 1, 2, and 3 occurred on December 7, 2021, January 7, 2022, and November 15, 2021, respectively. For the majority of the Project duration, two drill rigs were utilized: one larger drill rig (capable of drilling and installing the 8-inch test wells) and one smaller drill rig (capable of drilling and installing the 2-inch observation and satellite monitoring wells). Each of the drilling locations was secured with temporary fencing and stormwater best management practices (BMPs), including storm drain coverage with filter fabric before each inlet, as appropriate. Drilling equipment, waste disposal vessels, and other associated materials were mobilized to the sites, staged, and secured. Equipment was arranged to minimize impacts to vehicle and pedestrian traffic and to prevent accidents. Contractor personnel conducted safety inspections prior to commencing field activities at each well site evaluation area.

During field activities in December 2021, inclement weather associated with atmospheric rivers delivered exceptionally large amounts of precipitation. This caused ground stabilization issues in the underlying soils at two of the sites and required mitigation for both safety- and Project schedule-related reasons. Mitigation included application of trench plates and wood boards to stabilize the soil.

3.1.2. Drilling, Borehole Logging, and Sampling Activities

This section describes the field activities conducted to drill and install wells at each of the three sites. This section also describes the initial data collection that occurred during drilling activities at each of the sites, including geologic logging, e-logging, and geotechnical sampling.

3.1.2.1. Drilling, Geologic Logging, and Well Installation

This section describes the drilling and geologic logging activities conducted during the Project, organized by site location. Table 4 below summarizes the basic well information, including the final surveyed locations, for each of the wells installed and/or utilized for the Project. Well installation activities occurred as planned unless otherwise noted in this section. All Well Completion Reports, including lithologic logs and descriptions, are provided as Appendix 7. For wells that were not logged, a note is provided on the corresponding well completion diagrams indicating which logs were referenced in designing the well construction. The specific lithologic log that was primarily used to design the corresponding well construction is also provided alongside the well construction diagram with dotted (approximate) lithologic contacts.

The RI/FS Workplan indicates the Newark Aquifer observation monitoring wells at each site would be completed to a depth of 150 feet bgs. Due to the depth intervals of the productive portions of the Newark Aquifer at the site locations (as evidenced by lithologic and geophysical logging; see Sections 3.1.2.1 and 3.1.2.2), the Newark Aquifer observation monitoring wells at Sites 2 and 3 were completed to depths of 115 and 111.3 feet bgs, respectively. Further, the Newark Aquifer was not encountered at Site 1, so the observation monitoring well was completed in the Centerville Aquifer instead; see the Site 1 section below for additional details. Additionally, the RI/FS Workplan indicates the satellite monitoring wells would be completed to 350 feet bgs. The actual completion depths of the satellite monitoring wells at Sites 1 and 3 (1-SF and 3-SF) were 345 and 355 feet bgs, respectively, due to the depth intervals of the productive portions of the Fremont Aquifer at the site locations (again, as evidenced by lithologic and geophysical logging; see Sections 3.1.2.1 and 3.1.2.2).

All drilling activities were performed by either Pitcher or their associate, Gregg Drilling, LLC, both of which have valid C57 drilling contractor's licenses for the State of California. In accordance with the RI/FS Workplan, all drilling equipment and materials brought to the sites were clean and properly inspected, and all reusable equipment was properly decontaminated prior to reuse at a new site. Drill cuttings were containerized, characterized, and disposed of under manifest at an appropriate off-site disposal facility. See Appendix 8 for copies of the waste manifests. Drilling fluid and rinse water was stored and contained on site unless water quality was determined suitable for discharge to the adjacent ACFCC; see Section 3.1.5. Prior to removal of any drill cuttings or fluids, the drilling contractor properly characterized the material for disposal.

Table 4. Summary of Wells Installed and/or Utilized During Project

Well Name	State Well Number	Completed Depth (ft)	GPS Coordinates	Aquifer
Site 1				
1-TF	5S/2W-01B012	360	N2020681.676 E6118120.905	Fremont
1-MC	5S/2W-01B010	240	N2020702.095 E6118123.069	Centerville
1-MF	5S/2W-01B009	350	N2020699.137 E6118132.440	Fremont
1-SF	5S/2W-01B011	345	N2020800.190 E6118157.599	Fremont
Site 2				
2-TF	5S/1W-06H010	350	N2019155.454 E6124889.451	Fremont
2-MN	5S/1W-06H011	115	N2019160.257 E6124921.691	Newark
2-MF	5S/1W-06H012	350	N2019158.371 E6124906.161	Fremont
2-SF	5S/1W-06H009	350	N2019269.574 E6125059.204	Fremont
Site 3				
3-TF	4S/1W-32N005	345	N2021899.564 E6126114.702	Fremont
3-MN	4S/1W-32N003	111.3	N2021894.992 E6126124.718	Newark
3-SF	4S/1W-32N004	355	N2022475.241 E6125276.925	Fremont
3-MF	4S/1W-32N002	350	N2021890.098 E6126130.411	Fremont
BLACOW RD - C	4S/1W-32N001	250	N2021886.979 E6126135.090	Centerville

At Sites 2 and 3, drilling activities began by drilling a pilot boring for both the test and satellite monitoring well at each site and performing continuous lithologic logging, in accordance with the RI/FS Workplan. However, in discussions with the State Water Board, lithologic and geophysical logging were completed at the Fremont observation monitoring well, 1-MF, rather than the test well, 1-TF, at Site 1; see Site 1 for additional details. At all sites, the mud rotary drilling method was utilized. All lithologic logging was conducted under the supervision of a Professional Geologist licensed in the State of California following the ASTM International (ASTM) Manual Soil Description Standard and USCS. Boreholes for the remaining observation monitoring wells that were not subject to lithologic or geophysical logging were drilled to their designated depths and completed as 2-inch diameter wells. The construction design for the unlogged observation

monitoring wells was determined based on the lithologic and geophysical data from the logged pilot borings.

Site 1

Site 1 is located along Civic Terrace Avenue adjacent to Civic Center Park on property owned by the City of Newark. Well installations at Site 1 consisted of the following four (4) wells:

- One (1) test well (**1-TF**) located in an unpaved portion of Civic Center Park, on the south side of the Civic Terrace Avenue cul-de-sac;
- One (1) observation monitoring well completed in the Fremont Aquifer (**1-MF**) located approximately 21 feet northeast of 1-TF;
- One (1) observation monitoring well completed in the Centerville Aquifer (1**-MC**) located approximately 21 feet north-northeast of 1-TF; and
- One (1) satellite monitoring well completed in the Fremont Aquifer (**1-SF**) located approximately 124 feet north-northeast of 1-TF.

Mobilization to Site 1 occurred on December 7, 2021, and, following site preparation, drilling began at the Fremont observation monitoring well, 1-MF. The RI/FS Workplan indicates that the test and satellite monitoring well at each site would be subject to lithologic and geophysical logging. However, at Site 1, field conditions required that 1-MF be logged instead of the test well, 1-TF. This was necessary because the larger drill rig (capable of drilling and installing the 8-inch test wells) was drilling and installing the test well for the Site 3, 3-TF, at the time 1-TF was planned for drilling and installation. For this reason, and in discussions with the State Water Board, it was necessary to utilize the smaller drill rig (capable of drilling and installing the 2-inch observation and satellite monitoring wells) to drill and install 1-MF in order to maintain the Project schedule and avoid incurring standby time, which would have been costly to the Project. The decision to perform lithologic and geophysical logging at 1-MF rather than 1-TF at Site 1 was also technically justified due to the proximity to 1-TF (approximately 21 feet) and having the same target aquifer (Fremont Aquifer), which provided a similar depth of logging data. Well installation activities at 1-MF were completed on December 16, 2021.

During soil logging activities at Site 1, the Newark Aquifer was not encountered. For this reason, ACWD decided to deepen the planned Newark observation monitoring well to the next-encountered water-bearing zone, the Centerville Aquifer (and rename the well 1-MC), to assess the vertical groundwater gradient with the underlying Fremont Aquifer. Drilling and installation of 1-MC began on December 17, 2021, and was completed on December 22, 2021.

Drilling and installation of the satellite monitoring well at Site 1, 1-SF, began on December 27, 2021, and was completed on January 7, 2022. Drilling activities at 1-SF were performed nearly concurrently with drilling activities at 1-TF, which occurred from December 28, 2021, to January

5, 2022. Following installation of 1-TF on January 5, 2022, the larger drill rig was mobilized to Site 2 to begin drilling and installation of the test well, 2-TF (see Site 2). Following installation of 1-SF on January 7, 2022, the smaller drill rig was mobilized to Site 3 to begin drilling and installation of the Newark observation monitoring well at the site, 3-MN (see Site 3).

Site 2

Site 2 is located entirely along Cedar Court on property owned by the City of Newark. The locations for wells differ from the original proposed locations due to the identification of unknown utility lines at the satellite location and wider than expected setback from the SFPUC Hetch Hetchy pipelines. Well installations at Site 2 consisted of the following four (4) wells:

- One (1) test well (**2-TF**) located along the paved northern margin of Cedar Court;
- One (1) observation monitoring well completed in the Fremont Aquifer (**2-MF**) located along the paved northern margin of Cedar Court, approximately 17 feet east of 2-TF;
- One (1) observation monitoring well completed in the Newark Aquifer (**2-MN**) located along the paved northern margin approximately 33 feet north-northeast of 2-TF; and
- One (1) satellite monitoring well completed in the Fremont Aquifer (**2-SF**) located approximately 205 feet northeast of 2-TF on the paved north side of the Cedar Court cul-de-sac.

Mobilization to Site 2 occurred on January 7, 2022, and, following site preparation, drilling began at the test well, 2-TF, and was completed on January 24, 2022. Concurrently, drilling and installation activities for the satellite monitoring well, 2-SF, began on January 18, 2022, and were completed on January 25, 2022. During this time, the Fremont observation monitoring well, 2-MF, was conducted between January 25 and February 2, 2022. The Newark observation monitoring well, 2-MN, was drilled and constructed between February 2 and 3, 2022.

Site 3

Site 3 is located along an access road on the southern side of Blacow Road on property owned by the City of Fremont. As discussed above, a Centerville-Fremont Aquifer observation monitoring well already existed approximately 18 feet from the test well, 3-TF (3-MF; State well identification 4S/1W-32N002); therefore, one test well, one Newark Aquifer observation monitoring well, and one satellite monitoring well were installed at the site. A pre-existing Centerville monitoring well, Blacow Rd – C, is also located approximately 24 feet from 3-TF. Note that the satellite monitoring well installed at Site 3, 3-SF, was installed approximately 1,017 feet from 3-TF, which is slightly further than the distance specified in the RI/FS Workplan (between 500 and 1,000 feet outside the site evaluation area).

Therefore, well installations at Site 3 consisted of the following three (3) wells:

- One (1) test well (**3-TF**) located on the paved sidewalk along an access road on the southern side of Blacow Road, adjacent to the ACFCC;
- One (1) observation monitoring well completed in the Newark Aquifer (**3-MN**) located on the paved sidewalk approximately 11 feet east-southeast of 3-TF; and
- One (1) satellite monitoring well completed in the Fremont Aquifer (**3-SF**) located approximately 1,017 feet northeast of 3-TF in an unpaved island between Blacow Road and Eggers Drive.

Mobilization to Site 3 occurred on November 15, 2021, and, following site preparation, drilling began at the satellite monitoring well, 3-SF, and was completed on November 24, 2021.Thereafter, drilling and installation activities for the test well, 3-TF, began on November 29, 2021, and were completed on December 22, 2021. The Newark observation monitoring well, 3-MN, was drilled and constructed between January 10 and 11, 2022.

3.1.2.2. Geophysical Electric Logging

Geophysical electric logging was conducted at two borings at each site in order to assist the visual logs' soil description and lithologic contact determinations. The geophysical log consisted of gamma ray, spontaneous potential, short- and long-normal, and point resistivity logging. Geophysical logs were used in transmission with lithologic logs to design the well construction for the corresponding well, as well as to design the well constructions for wells located in the vicinity of the logged boreholes that were not subject to geophysical and lithologic logging. See Appendix 7 for the Well Completion Reports for each well installed as part of the Project.

In accordance with the RI/FS Workplan, pilot borings for the test and satellite monitoring wells at each site evaluation area were subject to geophysical logging. However, as discussed in Section 3.1.2.1 above, field conditions at Site 1 required that lithologic and geophysical logging take place at the Fremont observation monitoring well, 1-MF, instead of the test well, 1-TF, to keep the Project on budget and schedule.

3.1.2.3. Geotechnical Sampling for Laboratory Analysis

In accordance with the RI/FS Workplan, soil samples were collected from the productive portion of the target aquifer for the test well boreholes (i.e., Fremont Aquifer) for the purpose of hydrogeologic characterization (sieve analysis, ASTM Method D422) and for well screen design and filter pack selection. Soil samples of the fine-grained material from above and below the aquifer (i.e., confining layer material) were also collected for permeability analysis (ASTM Method D-5084) and to determine the potential for leakage between aquifers.

Samples collected for permeability analysis were collected in brass sample liners placed in two-inch diameter by six-inch long liners driven into undisturbed soil. Upon retrieval, the brass sample liners were removed, sealed with plastic endcaps, orientation of the core identified, and promptly labeled with a unique sample number, boring identification number, depth, date, and time. Labeled samples were checked by the ACWD Field QA Officer for accuracy, then transferred under a chain of custody (COC) record to Cooper Testing Labs, Inc. (CTL), an analytical laboratory certified by the American Association of State Highway and Transportation Officials (AASHTO).

All geotechnical samples were analyzed by CTL in accordance with the methods and procedures described in the RI/FS Workplan and appended QAPP. See Appendix 9 for the results from the geotechnical permeability and sieve analyses.

3.1.3. Well Development

At least 72 hours following well installation, the drilling contractor developed the test and monitoring wells using air lift and swabbing methods to remove residual drilling fluid from the wells. ACWD technicians were on site throughout the duration of well development to record the development progress on development logs. Throughout well development activities, ACWD technicians recorded critical water quality parameters (including temperature, pH, specific conductance, and turbidity); see Monitoring Well Sampling Record data sheets provided as part of Appendix 3.

Development activities began at Site 1 with the development of 1-MF on January 13, 2022. A total volume of approximately 1,200 gallons of water was purged from the well at an estimated average flow rate of approximately 8 gallons per minute (gpm). The final turbidity after purging for approximately 2 hours and 15 minutes was 0.35 nephelometric turbidity units (NTU). On January 14, 2022, 1-MC was developed at an estimated approximate flow rate of 8.5 gpm over approximately 2 hours and 45 minutes, removing approximately 1,400 gallons of water and achieving a final turbidity of 7.81 NTU. Satellite monitoring well 1-SF was bailed on January 14, 2022, and developed on January 18, 2022. Satellite monitoring well 1-SF was developed at two flow rates: first, the well was purged for approximately 35 minutes at an estimated average flow rate of 8 gpm; then, following adjustment of the pump to resolve a pump malfunction, the well was purged for approximately 1 hour at an estimated average flow rate of 12 gpm. A total of approximately 845 gallons of water was purged from the well to achieve a final turbidity of 0.46 NTU.

Initial development of 1-TF occurred over three days from January 26 to February 1, 2022. The well was developed at estimated flow rates between approximately 14 and 30 gpm and the final turbidity recorded for 1-TF on February 1, 2022, was 20.9 NTU. However, as discussed in Section

3.1.3.1, 1-TF did not produce the volume of water expected given its size, and 1-MF did not exhibit a response (i.e., drawdown) to pumping at 1-TF. Therefore, a polymer dispersant was applied and a second phase of well development was performed on March 25 and 29, 2022. See Section 3.1.3.1 for additional details regarding the second phase of well redevelopment at Sites 1 and 3, including the chemical and safety information about the polymer dispersant that was used.

Development activities at Site 2 began on February 4, 2022, with the bailing of wells 2-TF and 2-MF in preparation for airlifting. Test well 2-TF was developed on February 8, 2022, at an estimated flow rate of approximately 60 gpm. The well was purged for approximately 6 hours and swabbed six times during purging activities until reaching a final turbidity of 7.02 NTU. On February 9, 2022, 2-MF was developed for approximately 2 hours and 27 minutes until reaching a final turbidity of 14.0 NTU. On February 7, 2022, well 2-MN was purged until reaching a final turbidity of 21.3 NTU. Satellite monitoring well 2-SF was developed on February 10, 2022, for approximately 1 hour and 40 minutes, at which point an estimated 900 gallons had been pumped from the well and the effluent reached a final turbidity of 7.8 NTU.

At Site 3, initial development activities began on January 19, 2022, with the development of 3-MN. After approximately 5 hours, a cumulative estimated volume of 1,565 gallons had been removed from the well at an estimated average flow rate of approximately 6.25 gpm. Effluent from 3-MN following development had a final turbidity of 4.03 NTU. Satellite monitoring well 3-SF was developed on January 20, 2022, an estimated 1,650 gallons were pumped from the well at an estimated average flow rate of approximately 10 gpm over approximately 2 hours and 45 minutes, reaching a final turbidity of 3.65 NTU. Initial development activities at 3-TF began on February 2, 2022, and continued for three days (until February 4, 2022). During initial development, the well was swabbed from the 45-foot interval from 294 to 339 feet bgs and pumped at estimated flow rates between approximately 42 and 71 gpm. Similar to 1-TF, 3-TF did not produce the volume of water expected given its size, and 3-MF did not exhibit a response (i.e., drawdown) to pumping at 3-TF. Therefore, a polymer dispersant was applied and a second phase of well development was performed at 3-TF over the course of three days from March 18 to 24, 2022; see Section 3.1.3.1 for additional details regarding the second phase of well redevelopment at Sites 1 and 3.

3.1.3.1. Aqua-Clear Application

During initial well development activities at Site 1 and 3, test wells 1-TF and 3-TF did not produce the expected amount of water provided their relatively large well diameter, and the monitoring wells installed adjacent to the test wells (1-MF and 3-MF, respectively) did not exhibit a response to pumping in the test wells. Therefore, a polymer dispersant (AQUA-CLEAR PFD, or Aqua-Clear) was added to 1-TF and 3-TF and redevelopment of the wells was conducted. Aqua-Clear is a concentrated liquid polymer dispersant known to provide mud and sediment removal from the producing formation and filter pack during well development activities. The product has a neutral

to basic pH (7-9) and is NSF International Standard/American National Standard 60 – 2016 certified.[2]

On March 25, 2022, a total of approximately 152 gallons of Aqua-Clear mixture[3] was added to 1-TF and swabbed at two 20-foot intervals: 335 to 355 feet bgs and then, approximately 22 minutes later, 325 to 345 feet bgs. Following injection of Aqua-Clear and swabbing, the well was developed on March 29, 2022.

On March 18, 2022, a total of approximately 110 gallons of Aqua-Clear mixture was added to 3-TF and the screened interval was swabbed at three 25-foot intervals. On March 21, 2022, an additional three batches of Aqua-Clear were applied to three intervals at 3-TF, and the well was swabbed at three intervals: 290 to 320 feet bgs, 300 to 320 feet bgs, and 290 to 300 feet bgs. On March 23, 2022, 3-TF was swabbed and airlifted repeatedly for approximately 7 hours and 45 minutes, achieving a final turbidity of 3.48 NTU. Finally, on March 24, 2022, 3-TF was pumped consistently at estimated flow rates ranging from 330 to 350 gpm and reached a final turbidity of 8.6 NTU.

Following application of Aqua-Clear and swabbing, well development activities proceeded according to the initial planned procedures specified in the RI/FS Workplan and appended QAPP. The performance of the wells during subsequent pumping activities was greatly increased as a result of the polymer dispersant application and test well redevelopment. The drilling contractor submitted Safety Data Sheets (SDSs) to ACWD for the Aqua-Clear being used at the drilling sites. The SDSs were reviewed and approved. See Appendix 10 for the SDS for the polymer dispersant applied to wells 1-TF and 3-TF.

Due to the additional development activities at Site 1 and 3, a significant additional volume of pumped water needed to be containerized and stored prior to discharge. To contain the generated development water and to maintain the Project schedule, a 21,000-gallon storage tank was mobilized to the Project sites.

[2] NSF/ANSI 60: *Drinking Water Treatment Chemicals – Health Effects* is an American National Standard that establishes the minimum health-effects requirements for the chemicals, chemical contaminants and impurities that are directly added to drinking water from drinking water treatment chemicals. For more information, visit: <https://d2evkimvhatqav.cloudfront.net/documents/NSF-ANSI_60_watemarked.pdf?v=1594929800>.

[3] Each batch of Aqua-Clear mixture consisted of 1.66 gallons of Aqua-Clear per approximately 50 gallons of water.

3.1.4. Well Surveying

Well locations were recorded using GPS coordinates. The precise locations of the wells, provided as northing and easting coordinates, are provided in Appendix 7, and the Well Completion Report for the Project (ACWD, 2022).

3.1.5. Investigation-Derived Waste Management

The following types of investigation-derived waste (IDW) were generated during field activities:

- Drill cuttings
- Groundwater/effluent generated and collected during well development activities and aquifer pumping tests
- Decontamination fluid (i.e., rinsate)
- Used personal protective equipment (PPE)
- Used disposable sampling equipment

IDW was handled, containerized, stored in on-site storage bins, and disposed of properly under manifest at an off-site disposal facility. Used PPE and other disposable sampling equipment was containerized in plastic bags and properly disposed of off-site as municipal waste. Reusable sampling equipment was decontaminated on site.

Purge water generated from the test wells during well development activities and aquifer pumping tests at Sites 1 and 2 was discharged to a storm drain under the District's existing NPDES permit. The water quality of groundwater generated during well development activities and aquifer pumping tests at Site 3 was suitable for discharge to the adjacent ACFCC under an existing NPDES permit; see Appendix 9 for the water quality data for groundwater generated at Site 3.

3.1.6. Initial Water Levels

The depth to water (DTW) was recorded in each test well, observation monitoring well, and satellite monitoring well following well installation and development activities. Table 5 below provides the DTW measurement recorded at each well after development and the date the measurement was recorded.

Table 5. Depth to Water Measurements After Development in Wells Installed During Project

Well Name	State Well Number	Depth to Water (ft BTOC)
1-TF	5S/2W-01B012	29.8
1-MC	5S/2W-01B010	33.1
1-MF	5S/2W-01B009	26.62
1-SF	5S/2W-01B011	27.88
2-TF	5S/1W-06H010	41.17
2-MN	5S/1W-06H011	23.38
2-MF	5S/1W-06H012	37
2-SF	5S/1W-06H009	38.05
3-TF	4S/1W-32N005	44.68
3-MN	4S/1W-32N003	27.92
3-SF	4S/1W-32N004	41.65

ft BTOC = feet below top of casing

3.1.7. Groundwater Quality Sampling for Laboratory Analysis

The RI/FS Workplan and appended QAPP indicated ACWD would collect initial groundwater samples from the three test wells following well development and analyze them for various water quality parameters and chemical constituents, including physical and analytical characteristics, bacteriological quality, inorganic chemicals, radioactivity, organic chemicals, and other chemical constituents. The primary purpose of the water quality sampling was to determine the extracted groundwater's suitability for treatment at ACWD's Desalination Facility located in Newark, California (Desal). During preliminary aquifer pumping tests, it became clear that the test wells installed at two of the well site evaluation areas, Sites 1 and 2, could not produce sufficient volumes of water at rates necessary to complete the aquifer pumping tests as planned or to calculate hydrogeologic properties; see Section 3.1.8 for more information. For this reason, only the test well at Site 3, 3-TF, was sampled for the entire suite of chemical analyses indicated in the QAPP.[4]

Groundwater quality samples were collected from the sampling port on the pump assembly for 3-TF during the Constant Rate Test performed on April 5, 2022. The groundwater quality samples were collected approximately one hour (60 minutes) following initiation of pumping at an estimated pumping rate of approximately 300 gpm. Groundwater samples were promptly sealed and labeled with a unique sample number, depth, date, and time. Labeled samples were checked by the

[4] Please note that in contrast to what was specified in Section A-10 of the QAPP, ACWD analyzed the 3-TF groundwater sample for thallium (Tl), not titanium (Ti). Specification of analysis for Ti was in error.

ACWD Field QA Officer for accuracy and immediately transported to the ACWD Water Quality Laboratory (WQL) for analysis under a COC record. ACWD contracted Eurofins Eaton Analytical, Inc. (EEA) to perform several analyses, as noted in the QAPP. Both the ACWD WQL and EEA are accredited under the State Water Board Environmental Laboratory Accreditation Program (ELAP).

Table 6 below provides the laboratory analytical results from the water quality sample collected from 3-TF.

Table 6. Water Quality Sampling Results from 3-TF

Component	Result	Units
Silver	<0.500	ug/L
Aluminum	4.377	ug/L
ALK-CO3	<2	mg/L
ALK-HCO3	225	mg/L
ALK-OH	<1	mg/L
Total Alkalinity	225	mg/L
Gross Alpha Activity	3.5	pCi/L
Alpha counting error	1.66	pCi/L
alpha min detect activity	2.19	pCi/L
Asbestos	<0.20	MFL
Arsenic	<2.000	ug/L
Barium	209.817	ug/L
Beryllium	<0.500	ug/L
Calcium	240	mg/L
Cadmium	<0.500	ug/L
Chloride	799.1	mg/L
Perchlorate	<2.000	ug/L
Cyanide	<0.025	mg/L
Coliform	Positive	
E-COLI	Negative	
Color	<5	cu
Conductivity	2920	umhos/cm
Chromium	<5.000	ug/L
Copper	<2.000	ug/L
2,3,7,8-TCDD 1613	<5	pg/L
Chlordane	<0.10	ug/L
Endrin	<0.01	ug/L

Component	Result	Units
Heptachlor	<0.01	ug/L
Heptachlor Epoxide	<0.01	ug/L
Lindane (gamma-BHC)	<0.01	ug/L
Methoxychlor	<0.05	ug/L
PCB 1016 Arochlor	<0.08	ug/L
PCB 1221 Arochlor	<0.10	ug/L
PCB 1232 Arochlor	<0.10	ug/L
PCB 1242 Arochlor	<0.10	ug/L
PCB 1248 Arochlor	<0.10	ug/L
PCB 1254 Arochlor	<0.10	ug/L
PCB 1260 Arochlor	<0.10	ug/L
Total PCBs	<0.100	ug/L
Toxaphene	<0.50	ug/L
2,4,5-TP (Silvex)	<0.20	ug/L
2,4-D	<0.10	ug/L
Bentazon	<0.50	ug/L
Dalapon	<1.00	ug/L
Dinoseb	<0.20	ug/L
Pentachlorophenol	<0.04	ug/L
Picloram	<0.10	ug/L
1,1,1-Trichloroethane	<0.500	ug/L
1,1,2,2-Tetrachloroethane	<0.500	ug/L
1,1,2-Trichloroethane	<0.500	ug/L
1,1-Dichloroethane	<0.500	ug/L
1,1-Dichloroethylene	<0.500	ug/L
1,2,4-Trichlorobenzene	<0.500	ug/L
1,2-Dichlorobenzene	<0.500	ug/L
1,2-Dichloroethane	<0.500	ug/L
1,2-Dichloropropane	<0.500	ug/L
1,4-Dichlorobenzene	<0.500	ug/L
Benzene	<0.500	ug/L
Carbon Tetrachloride	<0.500	ug/L
Chlorobenzene	<0.500	ug/L
Cis-1,2-Dichloroethylene	<0.500	ug/L
Dichloromethane	<0.500	ug/L
Ethyl benzene	<0.500	ug/L
Fluorotrichloromethane-Freon11	<0.500	ug/L
Methyl Tert-butyl ether (MTBE)	<0.500	ug/L

Component	Result	Units
Styrene	<0.500	ug/L
Tetrachloroethylene	<0.500	ug/L
Toluene	<0.500	ug/L
Total 1,3-Dichloropropene	<0.500	ug/L
Total xylenes	<0.5	ug/L
Trans-1,2-Dichloroethylene	<0.500	ug/L
Trichloroethylene (TCE)	<0.500	ug/L
Trichlorotrifluoroethane (Freon 113)	<0.500	ug/L
Vinyl Chloride	<0.300	ug/L
Alachlor	<0.05	ug/L
Atrazine	<0.05	ug/L
Benzo(a)pyrene	<0.02	ug/L
Di-(2-Ethylhexyl)adipate	<0.60	ug/L
Di(2-Ethylhexyl)phthalate	<0.60	ug/L
Hexachlorobenzene	<0.05	ug/L
Hexachlorocyclopentadiene	<0.05	ug/L
Molinate	<0.10	ug/L
Simazine	<0.05	ug/L
Thiobencarb	<0.20	ug/L
Carbofuran	<0.90	ug/L
Oxamyl	<1.00	ug/L
Glyphosate	<6.00	ug/L
Endothall	<20.00	ug/L
Diquat	<0.40	ug/L
Dibromochloropropane (DBCP)	<0.01	ug/L
Ethylene Dibromide (EDB)	<0.01	ug/L
Fluoride	<0.100	mg/L
Iron	0.049	mg/L
Total Hardness	900	mg/L
Mercury	<0.250	ug/L
Heterotrophic Plate Count (SimPlate)	507	MPN/mL
MBAS	<0.10	mg/L
Magnesium	74	mg/L
Manganese	867.8	ug/L
Sodium	200	mg/L
Nickel	6.079	ug/L
Nitrite	<0.1	mg/L
Nitrate (as N)	0.18	mg/L

Component	Result	Units
Nitrate (as N)	0.18	mg/L
Odor	<1.000	TON
Odor threshold (Tester 1)	<1.0	
Odor threshold (Tester 2)	<1.0	
Odor threshold (Tester 3)	<1.0	
pH	7.4	
Antimony	<1.000	ug/L
Selenium	<1.000	ug/L
Sulfate	54.8	mg/L
1,2,3-Trichloropropane	<0.005	ug/L
Total dissolved solids	1,500	mg/L
Temperature	18.3	C
Thallium	<1.000	ug/L
Turbidity	0.3	NTU
Uranium (pCi/L_	1.5	pCi/L
Uranium (ug/L)	2.2	ug/L
Zinc	42.892	ug/L

Please see Appendix 8. Waste Manifests

Appendix 9 for the full analytical report from the groundwater water quality sample collected from well 3-TF.

3.1.8. Aquifer Pumping Tests

A series of aquifer pumping tests were planned for each of the three well site evaluation areas to determine the hydrogeologic conditions of the Fremont Aquifer and the effectiveness and longevity of a potential groundwater extraction well. With the exception of Site 1, transducers were installed in the test wells, newly installed and previously existing observation monitoring wells, and satellite monitoring wells to continuously record depth-to-water measurements during the aquifer pumping tests. A transducer was not installed in the test well at Site 1 because of the short duration of the modified aquifer pumping test performed on 1-TF; depth-to-water measurements at 1-TF were collected using hand measurements. Depth-to-water measurements from the transducers were recorded at 1-minute intervals, with the exception of the test well at Site 3, 3-TF, which recorded depth-to-water at 15-second intervals. ACWD personnel were present at all times during the aquifer pumping and intermittently collected hand-measured water level data in the monitoring wells as a backup to validate data collected by the transducers. The procedures followed to install the transducers are included as Appendix 11. The procedures for the aquifer pumping tests were performed as described in the QAPP unless otherwise noted in this section.

The aquifer pumping tests performed at each well site evaluation area included a step-drawdown test, a constant-rate test, and a recovery test. However, following preliminary pumping tests performed at Sites 1 and 2, it became clear that the corresponding test wells (1-TF and 2-TF, respectively) could not produce sufficient volumes of water at rates necessary to complete the aquifer pumping tests as planned or efficiently operate a groundwater extraction system. Due to the low flow rates of 1-TF and 2-TF, only modified constant rate tests were conducted at Sites 1 and 2, and the full suite of planned aquifer pumping tests was performed at Site 3 only.

Sections 3.1.8.1 and 3.1.8.2 describe the aquifer pumping tests performed at Sites 1 and 2, respectively, and Section 3.1.8.3 describes the aquifer pumping tests performed at Site 3. Evaluation of the aquifer pumping test data for Site 3 is provided in Section 4.

3.1.8.1. Site 1 Modified Aquifer Pumping Tests

During the initial well development activities at the Site 1, test well 1-TF did not produce the volume of water expected given the large well diameter, and Fremont observation monitoring well 1-MF did not exhibit a response (i.e., drawdown) to pumping at 1-TF; see Section 3.1.3. Because similar effects were observed at Site 3 (see Section 3.1.8.3), application of a polymer dispersant (Aqua-Clear) and redevelopment of 1-TF was recommended. Following application of Aqua-Clear, test well 1-TF was redeveloped between March 25 and 29, 2022, and modified aquifer pumping tests were performed on March 29 and 30, 2022.

A modified constant rate aquifer pumping test was conducted at Site 1 due to the low flow rates observed at 1-TF. On March 29, 2022, 1-TF was pumped at an estimated average flow rate of approximately 52 gpm. The pump test ran for approximately three hours (from 8:00 AM to 11:00 AM), during which time only 0.63 feet of drawdown was recorded in observation monitoring well, 1-MF (from 27.73 to 28.35 feet BTOC); see Figure 8. Due to the short timeframe of the modified constant rate test performed, a transducer was not installed in 1-TF and only hand measurements were taken. 1-MF and the nearby monitoring wells were equipped with transducers that collected water level measurements every minute. Following cessation of pumping at 11:00 AM, 1-TF recovered to within 95% of its original water levels within 30 minutes.

Figure 8. Site 1 Modified Aquifer Pumping Test Drawdown

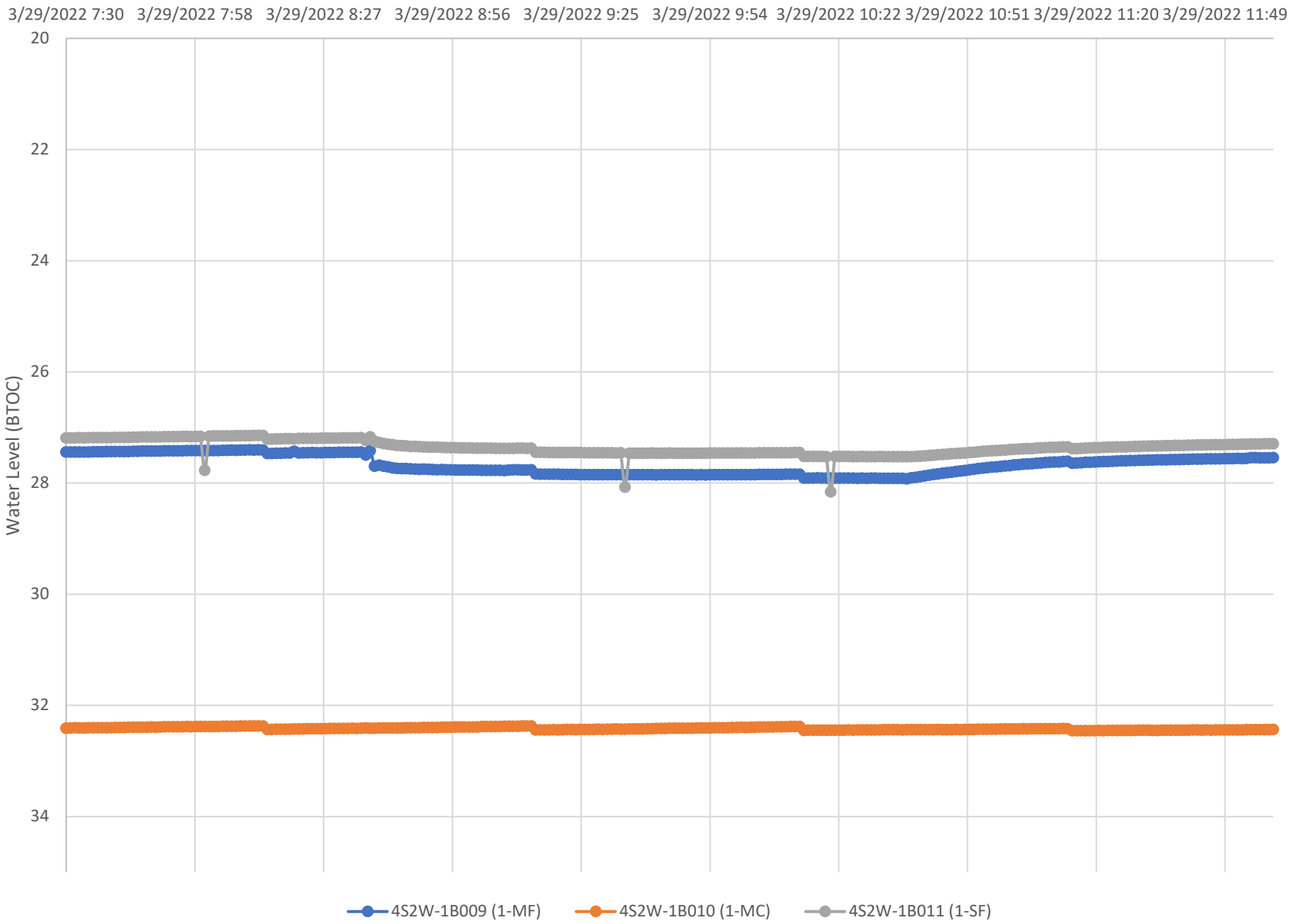


Table 7 below summarizes the water levels observed during the modified aquifer pumping test performed at Site 1 on March 29, 2022.

Table 7. Modified Aquifer Pumping Test Data, Site 1 (March 29, 2022)

Pumping Well	**1-TF** (5S/2W-01B009)	**Date**	3/29/2022
Observation Well	**1-MF** (5S/2W-01B009)	**Time Start**	8:00
Observation to Pumping well distance, ft	20	**Time Finish**	11:00
Pumping well flow rate, gpm	52	**Recorder**	DY

Time since start of pumping, min	Time since pumping stopped, min	DTW
0.1		27.73
0.5		27.76
1		27.78
1.5		27.83
2		27.85
2.5		27.89
3		27.94
3.5		27.95
4		27.97
4.5		28
5		28.01
5.5		28.01
6		28.02
6.5		28.03
7		28.04
7.5		28.04
10		28.05
16		28.06
18		28.07
20		28.1
25		28.1
30		28.11
35		28.15
40		28.17
45		28.2
50		28.2
55		28.21
60		28.21

Pumping Well	1-TF (5S/2W-01B009)	Date	3/29/2022
Observation Well	1-MF (5S/2W-01B009)	Time Start	8:00
Observation to Pumping well distance, ft	20	Time Finish	11:00
Pumping well flow rate, gpm	52	Recorder	DY

Time since start of pumping, min	Time since pumping stopped, min	DTW
70		28.21
80		28.23
90		28.25
100		28.29
130		28.31
150		28.33
170		28.35
	0.3	28.24
	0.7	28.22
	1	28.21
	1.5	28.2
	2	28.2
	2.5	28.19
	3	28.18
	3.5	28.14
	4	28.12
	4.5	28.11
	5	28.06
	6	28.03
	7	28
	8	27.98
	9	27.96
	10	27.91
	15	27.88
	20	27.83
	25	27.81
	30	27.78

On March 30, 2020, a second modified aquifer pumping test was performed at Site 1. 1-TF was pumped at an estimated pumping rate of between approximately 40 and 52 gpm.[5] The pump test ran for approximately 52 minutes (from 8:00 AM to 8:52 AM), during which time water levels in

[5] The pump at 1-TF was increased to an estimated flow rate of approximately 52 gpm during the last 4 minutes of the test.

1-TF dropped from an initial depth to water of 29.8 feet below top of casing (ft BTOC) to 269.4 ft BTOC. Such a significant decline in water levels in the test well may indicate insufficient productivity of the Fremont Aquifer at the Site 1 location due to site specific lithologic conditions. Once pumping was stopped, water levels rebounded from 269.4 ft BTOC to 30 feet BTOC after 30 minutes of recovery.

Table 8 below summarizes the water levels observed at different times during the second modified aquifer pumping test performed at Site 1 on March 30, 2022.

Table 8. Modified Aquifer Pumping Test Data, Site 1 (March 30, 2022)

Pumping Well	**1-TF** (5S/2W-01B009)	**Date**	3/30/2022
Observation Well	**1-MF** (5S/2W-01B009)	**Time Start**	8:00
Observation to Pumping well distance, ft	20	**Time Finish**	11:30
Pumping well flow rate, gpm	40-45[5]	**Recorder**	KS
Time since start of pumping, min	**Time since pumping stopped, min**	**DTW**	
0		29.8	
1		43.5	
2		56.0	
3		68.0	
4		137.5	
5		180.5	
8		181.0	
9		184.0	
10		14.0	
11		189.0	
12		187.2	
14		178.5	
16		195.9	
18		195.8	
20		196.8	
25		197.2	
40		275.8	
52		269.4	
	3	261	
	4	229	
	4.5	215	
	5	204	

Pumping Well	1-TF (5S/2W-01B009)	Date	3/30/2022
Observation Well	1-MF (5S/2W-01B009)	Time Start	8:00
Observation to Pumping well distance, ft	20	Time Finish	11:30
Pumping well flow rate, gpm	40-45[5]	Recorder	KS

Time since start of pumping, min	Time since pumping stopped, min	DTW
	5.5	193
	6	185
	6.5	174
	7	162
	8	152
	9	136
	10	123
	11	105
	13	93
	14	78
	17	61
	20	48
	23	40
	26	32
	30	30

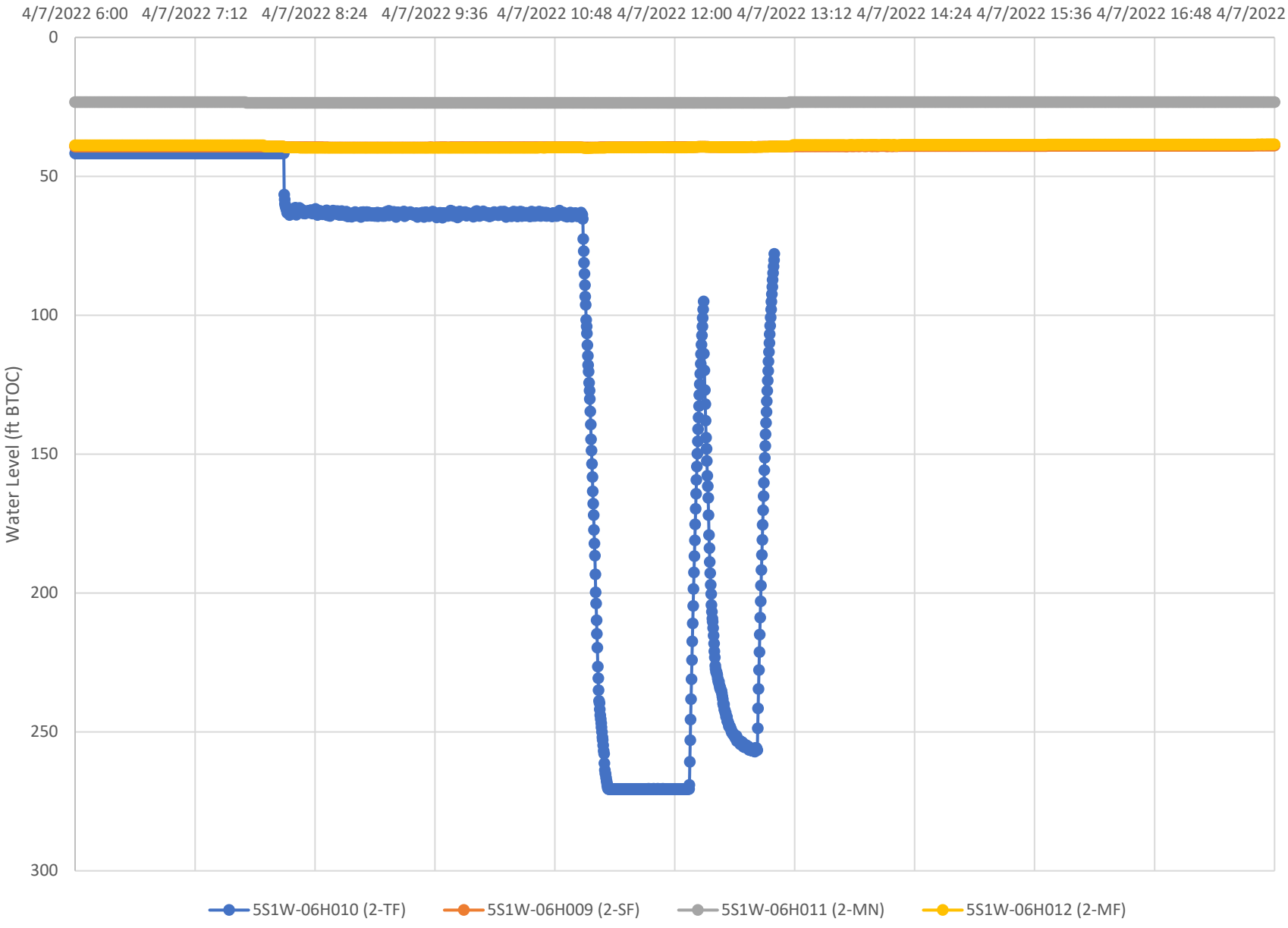
3.1.8.2. Site 2 Modified Aquifer Pumping Test

Due to the low flow rate test well 2-TF exhibited during well development, only a modified constant rate aquifer pumping test was conducted at Site 2. Transducers were installed in all test wells, observation monitoring wells, and the satellite monitoring well and recorded depth-to-water measurements every minute. The modified aquifer pumping test was performed on April 7, 2022. Over the course of approximately 4 hours and 41 minutes (281 minutes, from 8:04 AM to 12:45 PM), pumping at 2-TF was performed at three different estimated pumping rates: approximately 60, 120, and 70 gpm. The modified aquifer pumping test began by pumping 2-TF at a constant estimated rate of approximately 60 gpm for approximately 3 hours (180 minutes, from 8:04 AM to 11:04 AM), which created only approximately 1 foot of drawdown in the test well (from approx. 62 to approx. 63 feet BTOC). The pumping rate was then increased to an estimated rate of approximately 120 gpm for approximately 8 minutes, which caused water levels in the test well to drop sharply to approx. 169 ft BTOC. Decreasing the pumping rate to an estimated 70 gpm for approximately 39 minutes did not cause water levels in the test well to rebound appreciably; water levels stabilized between approximately 264 and 269 feet BTOC and the pump was barely able to yield water. Occasionally, the flow meter fell to 0 gpm. Reducing the pumping rate at 2-TF back

to an estimated 60 gpm for approximately 2 hours and 36 minutes (156 minutes) did not cause water levels to rebound. Intermittently stopping the pump in an effort to allow water levels to rebound, then starting the pump at 2-TF at pumping rates between 50 to 70 gpm, caused water levels to continue dropping at variable rates. A drawdown response was not observed in any of the observation or satellite monitoring wells; see Figure 9.

The significant drops in water levels observed in 2-TF during the modified aquifer pumping test may indicate insufficient productivity of the Fremont Aquifer at the Site 2 location due to site specific lithologic conditions. The final water level reading in the well was 256.22 feet BTOC.

Figure 9. Site 2 Modified Aquifer Pumping Test Drawdown



3.1.8.3. Site 3 Aquifer Pumping Tests

Aquifer pumping tests consisting of a step-drawdown test, a constant rate test, and a recovery test were performed at Site 3 on April 4 and 5, 2022.

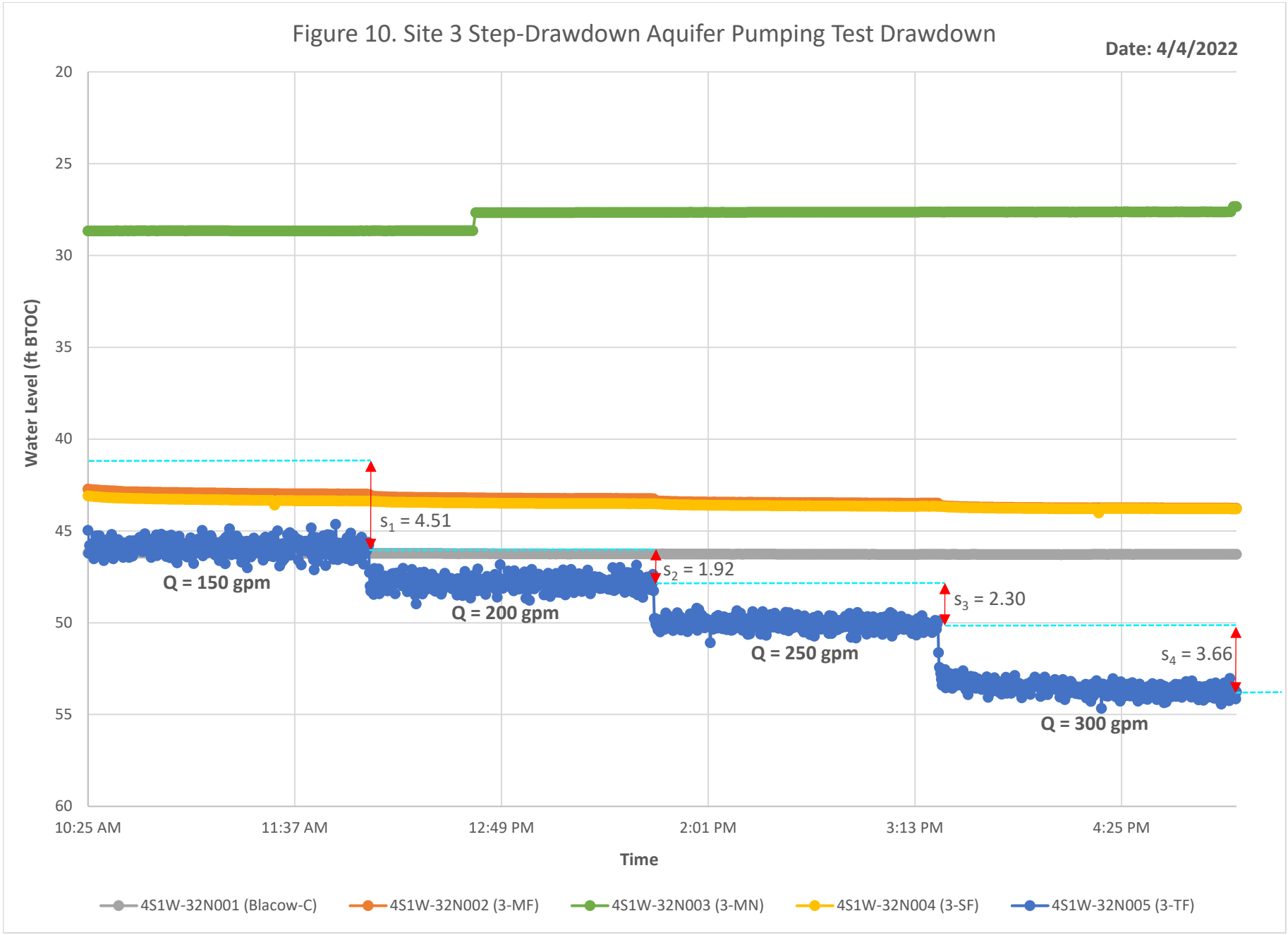
ACWD personnel were present at all times during the aquifer pumping and intermittently collected hand-measured water level data in the monitoring wells as a backup to validate data collected by the transducers. Field notes containing tabularized depth to groundwater data measured throughout the three aquifer pumping tests are provided in Appendix 3.

Step-Drawdown Test

The step-drawdown aquifer pumping test for Site 3 was performed on April 4, 2022, for a total duration of approximately 6 hours and 38 minutes (398 minutes, from 10:22 AM to 5:00 PM). During the step-drawdown test, the pump installed at the test well (3-TF) was run through a sequence of progressively increasing pumping intervals consisting of the following estimated pumping rates: 150, 200, 250, and 300 gpm. Prior to beginning the step-drawdown test, static water level measurements were collected by hand. Each step was performed for a duration of 98 or 99 minutes. The drawdown levels observed in the test and monitoring wells during the step-drawdown aquifer pumping test at Site 3 are shown on Figure 10. During the step-drawdown test, the test well and, to a lesser extent, the monitoring wells located proximal to the test well, exhibited a rapid initial drawdown after the pump was turned on, followed by gradually declining drawdown until equilibrium was asymptotically achieved. With each subsequent increase in pumping rate, the drawdown observed in the wells also increased. Final water level measurements were collected by hand at the conclusion of the step-drawdown test.

Approximately 58 minutes into the second step (200 gpm), or approximately 2 hours and 38 minutes (158 minutes) into the step-drawdown test, ACWD staff observed water leaking from the pump assembly and measured the volume of water accumulated after a specific time period to estimate the leak rate. The leakage rate was approximately 3 liters per minute (L/min), which was determined to be an insignificant volume of water loss and not likely to impact the aquifer pumping test results or analysis.

Figure 10. Site 3 Step-Drawdown Aquifer Pumping Test Drawdown



Constant Rate Test

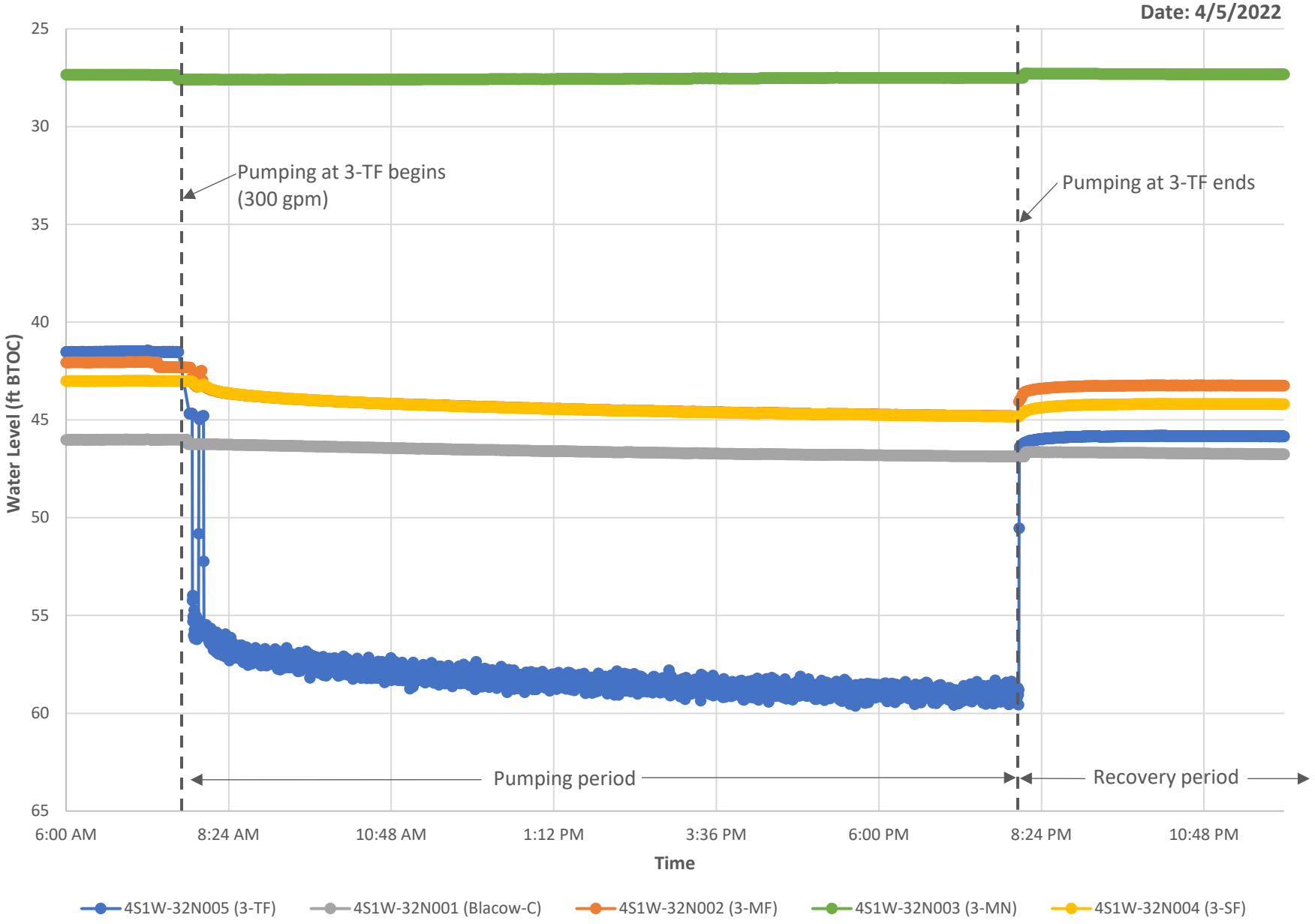
After completing the step-drawdown test, the wells recovered overnight and on April 5, 2022, the constant rate aquifer pumping test was performed. During the constant rate test, water was pumped from the test well at a rate of 300 gpm for approximately 12 hours (720 minutes, from 8:00 AM to 8:00 PM). The drawdown levels observed in the test and monitoring wells during the constant rate test are shown on Figure 11. Water quality samples were collected from the sampling port at the 3-TF pump approximately one hour (60 minutes) following initiation of the constant rate aquifer pumping test. See Section 3.1.7 for details regarding groundwater sampling procedures and results.

Depth-to-water measurements from the test and monitoring wells at Site 3 and nearby existing monitoring wells were plotted over time for the duration of the step-drawdown, constant rate, and recovery tests. During the constant rate test, the monitoring wells displayed the same distinct pattern exhibited in the test and monitoring wells during the step-drawdown test of a rapid initial drawdown after the pump was turned on, followed by gradually declining drawdown until equilibrium was asymptotically achieved (see Figure 11).

Recovery Test

At the conclusion of the constant rate aquifer pumping test, the pump at 3-TF was turned off while transducers in the test and monitoring wells continued recording water level data. A rapid initial recovery was observed, followed by decreasing levels of recovery until steady state was asymptotically restored. The recovery following the constant rate test can also be seen on Figure 11.

Figure 11. Site 3 Constant Rate Aquifer Pumping Test Drawdown



3.1.9. Site Restoration and Demobilization

Site restoration activities and demobilization commenced at each of the well site evaluation areas following completion of the aquifer pumping tests. Visible debris generated during field activities was removed from each of the sites, all paved and unpaved surfaces were cleaned and restored to pre-implementation conditions, and all equipment, materials, and personnel were transported off site. Final demobilization occurred at Site 1, 2, and 3 on March 30, April 7, and April 5, 2022, respectively.

Section 4. Data Evaluation

This section provides the key findings of the investigation, including an evaluation of the results from aquifer pumping tests performed at each well site evaluation area and the potential efficacy of installing a brackish groundwater extraction facility at the well site evaluation area in achieving Project objectives (see Section 2.3).

4.1. AQUIFER PUMPING TEST DATA EVALUATION

Based on the results of the pump tests conducted at Sites 1 and 2, ACWD concluded that it is not feasible to efficiently operate a groundwater extraction system at these sites (see Section 3.1.8). Since all planned aquifer pump tests were not able to be performed at Sites 1 and 2, the data collected during the modified constant rate aquifer tests at Sites 1 and 2 are not evaluated in this section. The data evaluation provided in this section is from the Site 3 well site evaluation area only, where the full suite of planned aquifer pumping tests was performed.

Figure 10 shows the drawdown levels observed at Site 3 during the step-drawdown test and Figure 11 shows the drawdown and recovery observed during the constant rate test. The drawdown and recovery observed at each Site 3 well is summarized in Table 9.

All of the monitoring wells exhibiting a drawdown effect during the Site 3 aquifer pumping tests followed the same distinct pattern of rapid initial drawdown after the pump at 3-TF was turned on, followed by gradually declining drawdown until steady-state conditions were achieved for the particular pumping rate. When pumping at 3-TF ceased, there was a rapid initial recovery in the test and monitoring wells followed by decreasing levels of recovery until steady-state conditions were achieved. The rate of recovery tended to be slightly slower than the initial rate of pumping period, and 3-TF did not reach its original static water level as expected because insufficient time was allowed to observe full recovery/recharge. Within approximately four hours following the constant rate aquifer pumping test, 3-TF had recovered to approximately 8% of its original static water level, and the Fremont observation monitoring well, 3-MF, had recovered to approximately 43% of its original static water level; see Table 9. The Newark observation monitoring well at Site 3, 3-MN, exhibited a very slight but noticeable rebound in water levels following cessation of pumping in 3-TF during the constant rate aquifer pumping test (Figure 11), suggesting a potential hydraulic connection between the Fremont and Newark aquifers.

The drawdown observed at the observation and satellite monitoring wells during the pump tests conducted at Site 3 and the calculated specific capacity at 3-TF clearly indicate that pumping 3-

TF may have the capability to intercept the brackish groundwater “bulge” and prevent its migration to the Mowry Wellfield.

Table 9. Site 3 Well Drawdown and Recovery Observed During Constant Rate Aquifer Pumping Test

State Well ID	Well Name	Approx. Distance from Pumping Well (ft)	Drawdown (ft)	Recovery (ft)
4S/1W-32N005	3-TF	0	14.4	13.2
4S/1W-32N002	3-MF	18	2.76	1.57
4S/1W-32N001	BLACOW RD - C	24	0.573	0.057
4S/1W-32N003	3-MN	11	-0.09	0.17
4S1W-32N004	3-SF	1,017	1.69	0.61

4.1.1. Calculated Aquifer Properties

This subsection provides the calculations for the specific capacity of the Site 3 test well, 3-TF, as well as the transmissivity and coefficient of storage for the Fremont Aquifer based on the flow rate(s) and drawdown observed during the aquifer pumping tests performed at Site 3. These parameters were calculated using data from 3-TF and 3-MF because aquifer pumping tests conducted while pumping 3-TF resulted in sufficient water production and aquifer replenishment to suggest installation of a brackish groundwater extraction system was viable. Using pumping and drawdown data from 3-TF, the specific capacity was found to be 20.89 gpm/ft over a 12-hour period. The transmissivity and coefficient of storage for the Fremont Aquifer were calculated using drawdown data from the constant rate aquifer pumping test performed at 3-TF; see Table 10. Using 3-MF drawdown data, transmissivity was found to be approximately 86,747 gallons per day (gpd)/ft (equivalent to approximately 11,596 ft^2/day) and the coefficient of storage was found to be 0.0000287 (2.87 x 10^{-5}). The coefficient of storage is defined as "the volume of water released from storage or taken into storage per unit of aquifer storage area per unit change in head" (Driscoll, 1986). The units for coefficient of storage are thus [volume]/[area]/[length], which cancel out, so the value is dimensionless.

The specific capacity [Equation *(1)*] was calculated from the flow rate and drawdown for 3-TF over the 12-hour duration of the constant rate aquifer pumping test. This 12-hour period is measured from the time the pump at 3-TF was turned on to the desired flow rate (i.e., 300 gpm) to the time the pump was turned off (i.e., beginning of the recovery test). The flow rate for 3-TF was estimated at 300 gpm, and the total drawdown observed during the 12-hour period was 14.36 feet (from 44.68 to 59.04 ft BTOC). The specific capacity for 3-TF is therefore 20.89 gpm/ft over a 12-hour period.

$$SC = \frac{Q}{s} \qquad (1)$$

Where:
SC = specific capacity (gpm/ft)
Q = flow rate (gpm)
s = drawdown (ft)

The transmissivity of the Fremont Aquifer was calculated using the Cooper-Jacob non-equilibrium well equation [Equation *(2)*].

$$T = \frac{264Q}{\Delta s} x \Delta log t = \frac{264Q}{m} \quad (2)$$

Where:
T = transmissivity (gpd/ft)
Q = flow rate (gpm)
s = drawdown (ft)
t = time (min)
m = slope of the line generated by plotting s vs. log(t)

The Cooper-Jacob non-equilibrium well equation, Equation *(2)*, requires many assumptions to be made regarding the characteristics of the aquifer and the well, many of which are likely not representative of reality. (For example, the equation assumes the aquifer is homogenous and isotropic and has uniform thickness and infinite areal extent.) However, if t (i.e., the time scale over which the pump test is performed) is large enough and the distance between the pumping well to the observation well is small enough, then the equation yields reasonable results. As t becomes sufficiently large and the distance between the pumping well to the observation well becomes sufficiently small, the time-drawdown curve plotted on a semi-logarithmic scale should appear linear.

For the 12-hour constant rate aquifer pumping test performed at Site 3, aquifer properties were calculated using drawdown data from the Fremont observation monitoring well (3-MF), which is located approximately 18 feet away from the pumping well, 3-TF. The recommended time scale for a pump test in a confined aquifer such as the Fremont Aquifer is between 8 hours (Abbott, 2006) and 24 hours (Driscoll, 1986). The drawdown data obtained during the constant rate aquifer pumping test was measured over a 12-hour period, which is a sufficiently long enough time scale to obtain useful results. The drawdown data for 3-MF plotted on a semi-logarithmic plot is nearly linear (see Figure 12), demonstrating the applicability of the Cooper-Jacob equation. Initial measurements, which did not demonstrate significant drawdown and did not follow the same near-linear pattern as later measurements, were not included in the transmissivity and storage coefficient calculations.

A logarithmic trendline was generated in Microsoft Excel as the line of best fit (LOBF) to the drawdown curve [Equation *(3)*]. The slope of the LOBF is 0.3966, which is the change in drawdown over the change in ln(time), where ln in the natural log function. This slope was converted to a base-10 log (0.9132) and then used along with the flow rate to calculate

transmissivity, as below. Using Equation *(2)*, the transmissivity of the Fremont Aquifer in the vicinity of wells 3-TF and 3-MF location is approximately 86,747 gpd/ft, which is equivalent to approximately 11,596 ft^2/day.

$$s = 0.3966 \ln(t) + 3.0047$$

Where:
s = *drawdown (ft)*
t = *time (min)*

(3)

Figure 12: 3-MF Drawdown Curves for Transmissivity and Storage Coefficient Calculations

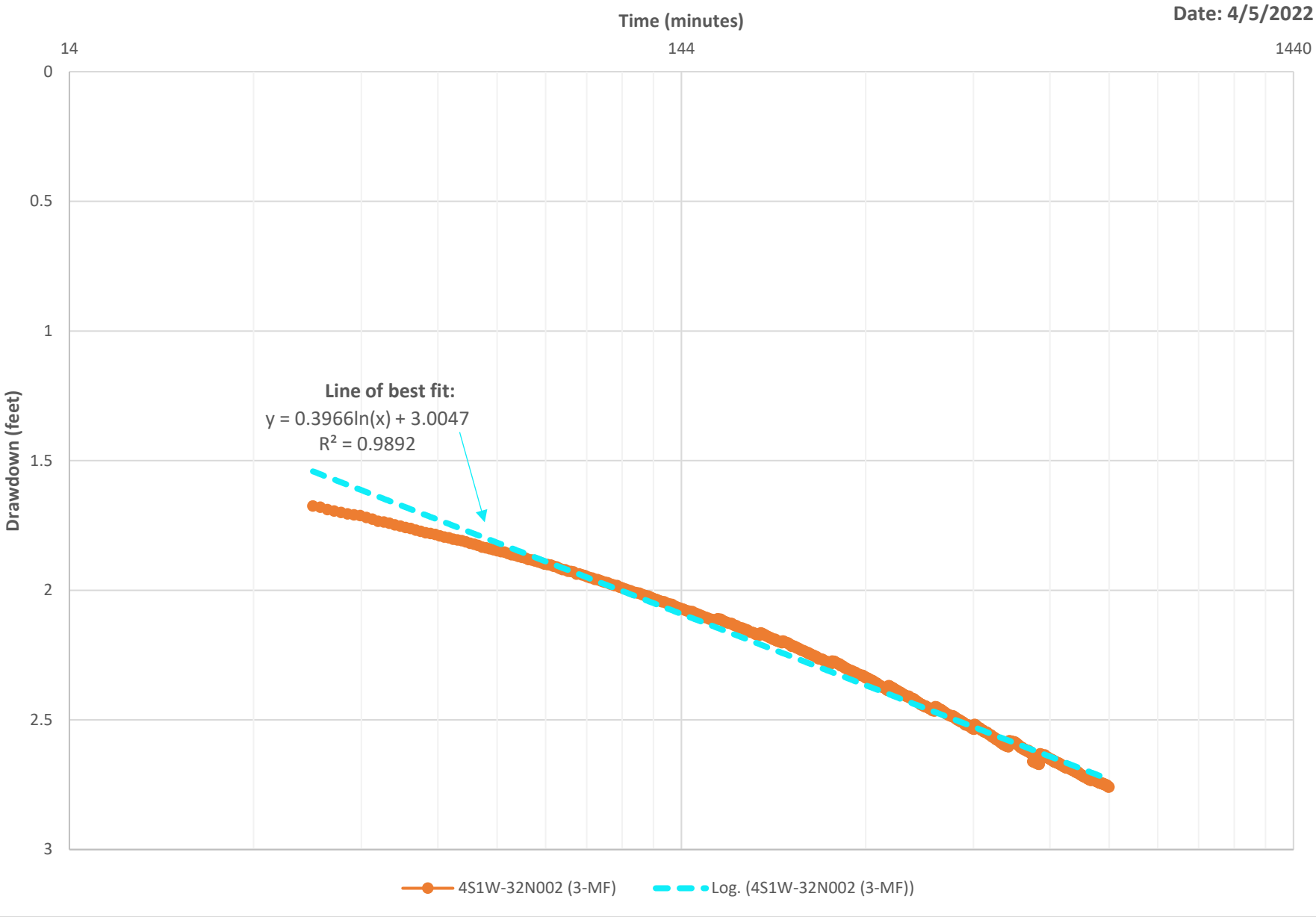


Table 10. Specific Capacity, Transmissivity, Storage Coefficient Calculated Using Aquifer Pumping Test Data

State Well ID	Well Name	Drawdown, s (ft)	Flow rate, Q (gpm)	Specific capacity, SC (gpm/ft)	Duration (hrs)	Transmissivity, T (ft^2/day)	Transmissivity, T (gpd/ft)	Storage coefficient, dimensionless
4S/1W-32N005	3-TF	14.36	300	20.89	12	NA	NA	NA
4S/1W-32N002	3-MF	2.76	NA	NA	NA	11,596	86,747	0.0000287 (2.87×10^{-5})

Notes:
ft = feet
gpd = gallons per day
hrs = hours
NA = not applicable

The coefficient of storage was calculated using the drawdown curve [Equation (3)] and Equation (4). The transmissivity calculated previously (in units of ft^2/day), 11,596 ft^2/day, was used to calculate the coefficient of storage. The value of t_0 is found by using the equation of the LOBF to the time-drawdown curve [Equation (3)]. By setting the drawdown to zero (s=0), one may solve for t_0. We find that t_0 is approximately 5.13 x 10^{-4} minutes, or 3.56 x 10^{-7} days. The value of r is the distance between the test and Fremont observation monitoring well, or 18 feet. These values are then used in Equation *(4)* to calculate the coefficient of storage (dimensionless), which is found to be 0.0000287.

$$S = \frac{(2.25Tt_0)}{r^2}$$

Where:
S = coefficient of storage (dimensionless)
T = transmissivity (ft^2/day)
t_0 = intercept of best fit curve at zero drawdown (days)
r = distance from the pumped well to the observation well where the drawdown measurements were made (ft)

(4)

4.1.2. Groundwater Modeling Results

ACWD performed modeling analysis to simulate the effects of pumping the proposed groundwater extraction well on the presence and concentration of chlorides in the Niles Cone Groundwater Basin, specifically within the Fremont Aquifer. Simulated effects from ACWD's solute transport model, MODFLOW, were used to determine if operation of a groundwater extraction system at Site 3 would achieve sufficient removal and/or containment of chlorides and the anticipated timeline for achieving such removal and/or containment. The key assumptions utilized for the model simulation are as follows:

1. The model run utilizes hydrologic and production assumptions as those presented in ACWD's Alternative Update (2070-Typical future scenario), but for a total simulated run time of 50 years.

2. The model run assumes the proposed groundwater extraction well will be run with a pumping rate of 1,990 gpm for 5,452 hours per year (i.e., average of approx. 15 hours per day) over a total simulated run time of 50 years.

3. Short-term startup tests performed to confirm the production capacity and pump rates indicated above are not included in the model simulation. The well is assumed to perform

as a production well that will eventually be connected to ACWD's Desal Facility for potable supply throughout the 50-year simulation period.

4. Sea level is assumed to rise gradually over time, eventually reaching 3.7 feet NGVD29 after 50 years (3.1 feet plus the current 0.6 feet NGVD29). A 'gentle' exponential growth function (instead of a linear) was used to affect the rise. Tidal and seasonal fluctuations are not accounted for.

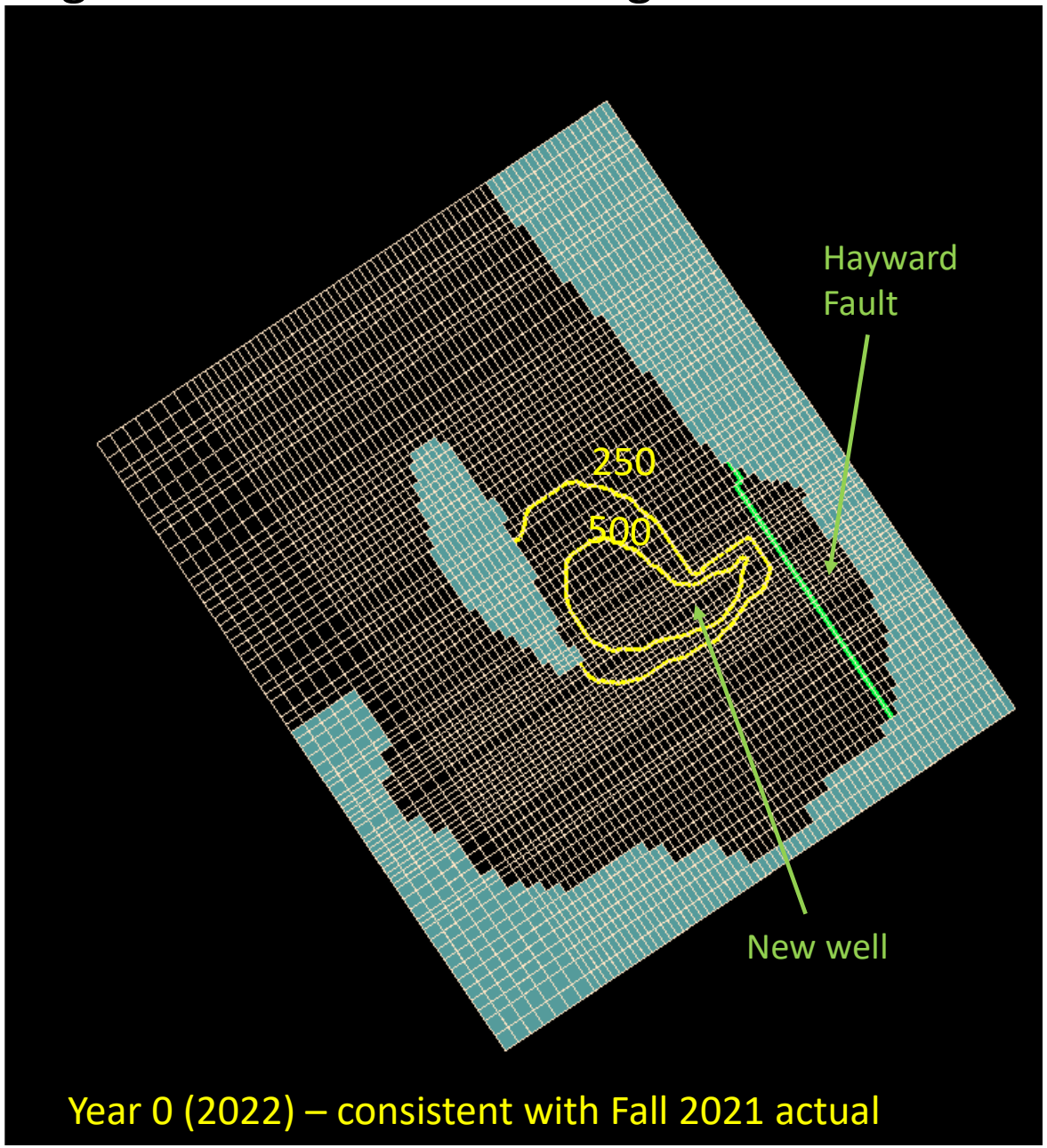
5. Total pumping within the Niles Cone is assumed to remain constant over the planned lifetime of the installed system even after the planned future decommissioning of the other ARP wells.

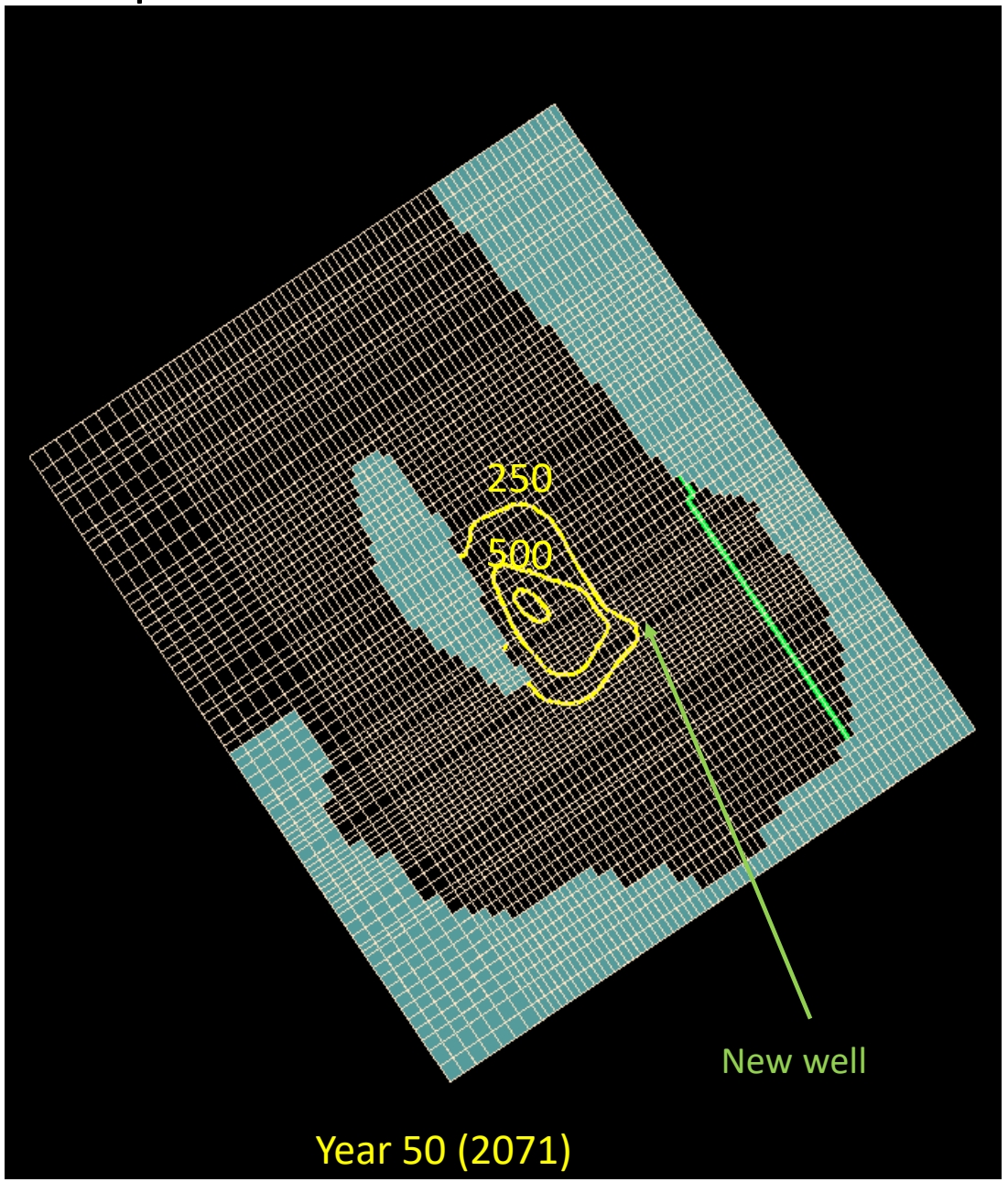
6. Initial conditions for chloride concentrations in the Fremont Aquifer were from Fall 2021 (collected as part of ACWD's semi-annual monitoring program).

7. Chloride in aquitards at start of simulation are assumed to equal that of the underlying aquifer (i.e., initial conditions for chloride concentrations in the aquitards between the Centerville and Fremont Aquifers and between the Fremont and Deep Aquifers are assumed to be the same as the Fremont and Deep Aquifers, respectively). To test the sensitivity of this parameter, ACWD also completed a model run assuming the aquitards between the Centerville and Fremont Aquifers and between the Fremont and Deep Aquifers had the same initial chloride concentrations as the Centerville and Fremont Aquifers, respectively. This model run is described in further detail later in this section.

Simulated effects from modeling indicate that running the proposed groundwater extraction well for a period of 50 years would achieve significant chloride removal and containment of the brackish groundwater plume in the Fremont Aquifer, including interception of brackish groundwater prior to reaching the Mowry Wellfield. As shown in Figure 13, the westernmost "bulge" of the brackish groundwater plume greater than 250 milligrams per liter (mg/L) is simulated to be virtually removed by operating the proposed groundwater extraction well as designed. Portions of aquifers within the Niles Cone that contain water with chloride concentrations greater than 250 milligrams per liter (mg/L) are considered to remain degraded by legacy saltwater intrusion. For this reason, 250 mg/L will be used as a benchmark against which success of the potential future Implementation Project phase will be measured.

Figure 13. Simulated Change in Chloride in Fremont Aquifer Over 50 Years





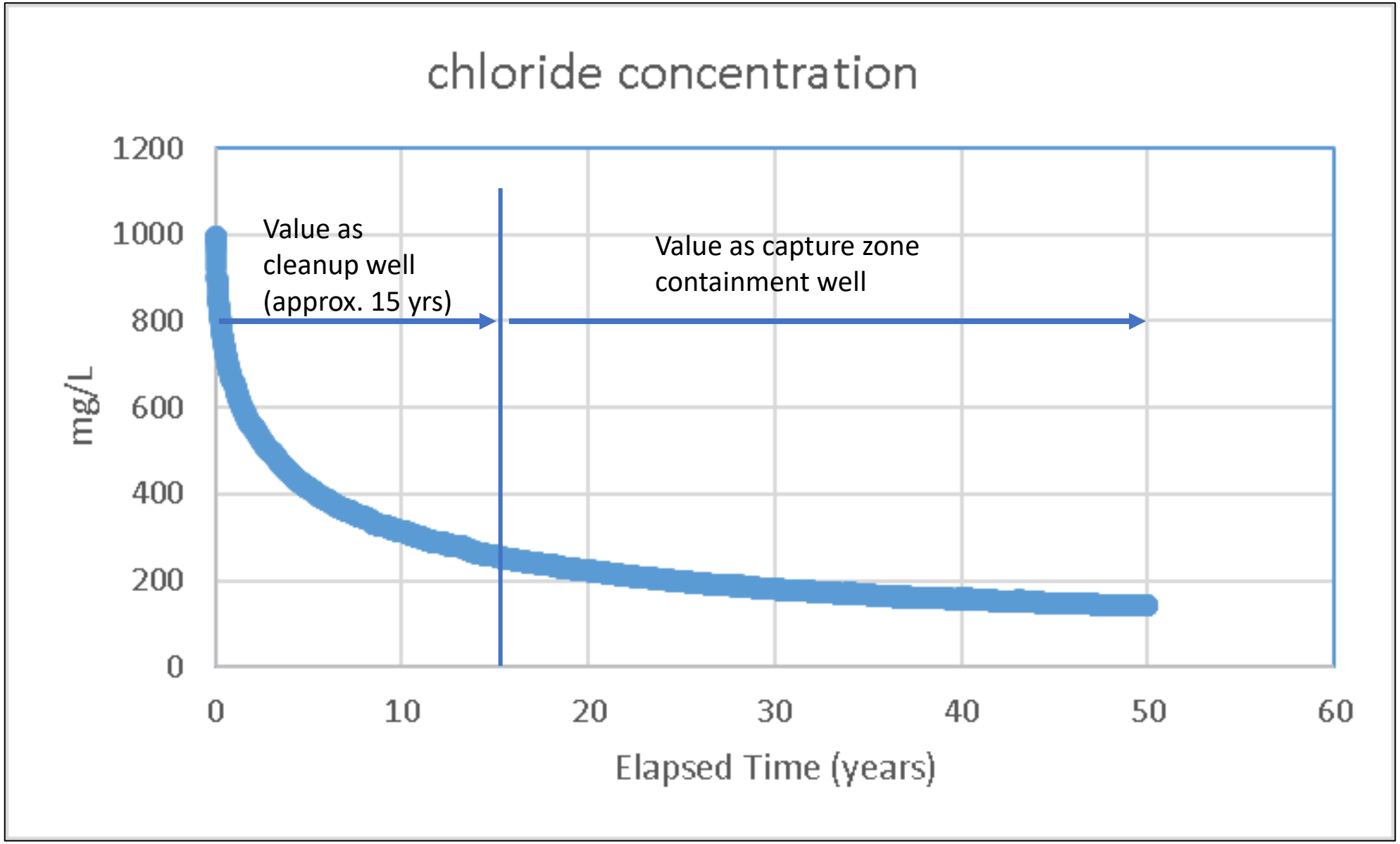
Chloride concentration in aquitard between Centerville and Fremont aquifers assumed equal to that in Fremont Aquifer.

The results from the model simulation indicate the proposed groundwater extraction well would reduce chloride concentrations from approximately 1,000 mg/L at the proposed well location to approximately 250 mg/L in approximately 15 years, which is the time through which the proposed extraction well would serve as a “cleanup well;” see Figure 14. After approximately 15 years, the primary function of the proposed groundwater extraction well would be to continue to impose a negative pressure gradient on the brackish groundwater plume and serve as a containment well while chloride concentrations are simulated to continue to decrease at a reduced rate. The final simulated chloride concentration at the proposed well location after 50 years of operation would be approximately 180 mg/L.

Total cumulative chloride removed from the proposed groundwater extraction well, in metric tons (MT), is simulated to reach approximately 30,000 after 50 years of operation; see Figure 15. The rate at which chloride is simulated to be removed by the proposed extraction well begins at year 0 at approximately 2,700 MT per year (MT/yr), after which the rate reduces rapidly, then more gradually, until the removal rate converges on approximately 500 MT/yr at year 50 (Figure 16). This reduced chloride removal efficiency over time is to be expected with groundwater extraction wells, especially sentry wells designed to intercept brackish groundwater at the margin of the plume. The primary purpose of the proposed groundwater extraction well is to protect the Mowry Wellfield from intercepting the brackish groundwater plume; operation of the proposed extraction well over time will serve as containment of the plume and serve achieve this goal in the long term.

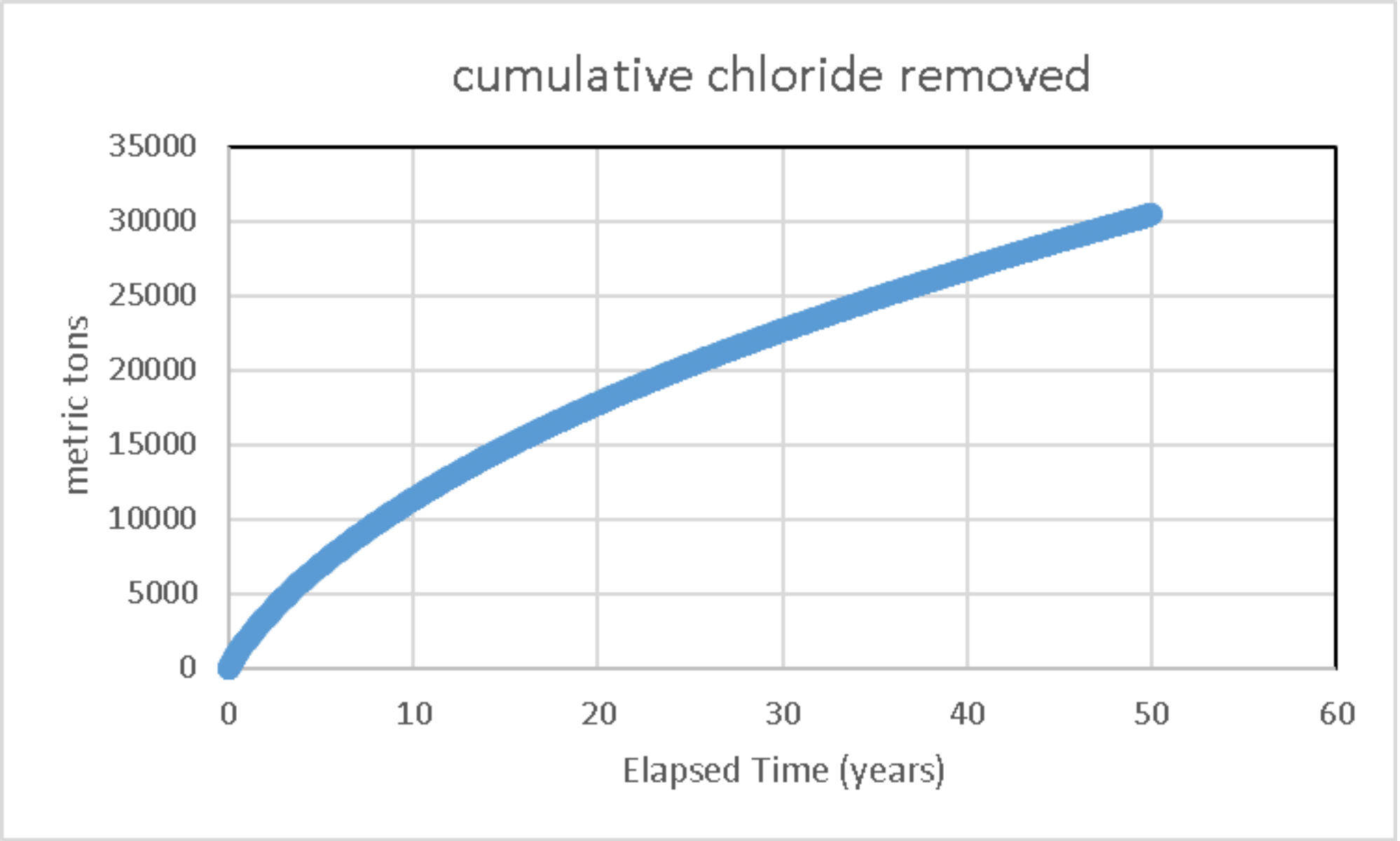
It is important to note that the model simulation described above is based on an assumed pumping rate and duration; actual pumping rates and duration of pumping are subject to actual groundwater conditions.

Figure 14. Simulated Changes in Chloride Concentrations at Groundwater Extraction Well Location After 50 Years of Operation



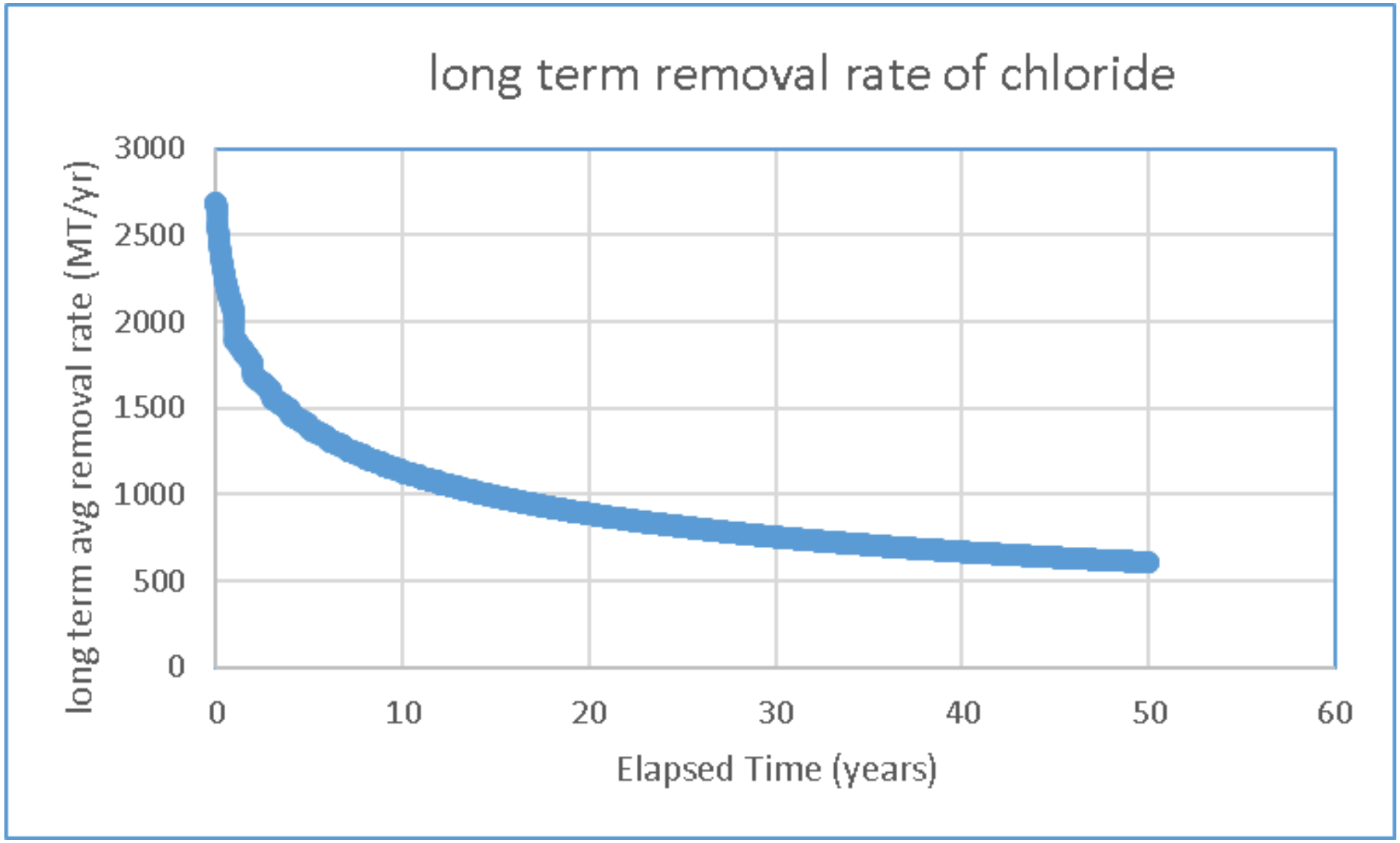
Chloride concentration in aquitard between Centerville and Fremont aquifers assumed equal to that in Fremont Aquifer.

Figure 15. Total Cumulative Chloride Removed from Proposed Groundwater Extraction Well After 50 Years of Operation



Chloride concentration in aquitard between Centerville and Fremont aquifers assumed equal to that in Fremont Aquifer.

Figure 16. Long-Term Chloride Removal Rate of Proposed Groundwater Extraction Well After 50 Year of Operation



Chloride concentration in aquitard between Centerville and Fremont aquifers assumed equal to that in Fremont Aquifer.

4.2. FEASIBILITY EVALUATION

4.2.1. Recommendation for Implementation Project

The three well site evaluation areas evaluated during the Project were located within or near the inferred axis of historic depositional channels associated with the Newark and Centerville-Fremont Aquifers (Figure 1). The sites were chosen to maximize the efficiency of potential brackish water extraction. Site 3 was the only location that demonstrated likely successful implementation of a future groundwater extraction well.

The following criteria were used to evaluate the feasibility of constructing a groundwater extraction system at each of the well site evaluation areas:

1. Viability to extract brackish groundwater caused by saltwater intrusion
2. Potential to engineer an efficient and long-lasting brackish water extraction system
3. Potential to further reduce the concentration of brackish water in the Bellflower and Farwell production wells that could then be used as emergency water supply wells
4. Potential to provide long-term protection of water supply wells from future saltwater intrusion
5. Potential to provide long-term protection from water quality-related pumping restrictions at the Mowry Wellfield

Based on the outcomes of the aquifer pumping tests, ACWD concluded that only Site 3 is a viable candidate for installation of a groundwater extraction system. The step-drawdown and constant rate tests performed at Site 3 suggest production rates capable of supporting a long-term extraction system that could effectively extract brackish groundwater. There is a clear indication from both the step-drawdown and constant rate pumping tests that by pumping a groundwater extraction well at the Site 3 location, the brackish water “bulge” can be reduced in size, concentration, and drawn away from the Mowry Wellfield, thus achieving all five of the evaluation criteria.

4.2.2. Estimated Costs of Proposed Implementation Project

ACWD calculated the estimated total life cycle cost of the proposed Implementation Project by combining the total capital cost estimate developed for the proposed Implementation Project and the estimated annual operation and maintenance (O&M) costs projected over the useful life of the Project (50 years), as shown below. Estimated costs are provided in FY 2021/22 dollars.

Table 11. Estimated Cost of Proposed Implementation Project

Capital Cost	Annual O&M Cost	Life Cycle Cost
$	$/year	$
4,410,188	**164,000**	**12,610,188**

4.2.3. Estimated Schedule of Proposed Implementation Project

The estimated schedule for installing a brackish groundwater extraction system at the Site 3 well site evaluation area was developed based on: experience in implementing the Proposition 1 planning grant and managing six similar grant projects; experience with obtaining permits and completing CEQA procedures and requirements; contractor time estimates for well installation and development activities; standard aquifer testing protocols; and experience in designing and operating brackish groundwater aquifer reclamation facilities. The schedule assumes that a potential Proposition 1 implementation grant would be awarded in December 2022 and a grant agreement would be executed by June 2022.

Planning documents for the Implementation Project are estimated to be completed in February 2023. Filing of all required documentation for compliance with CEQA is estimated to be completed by April 2024. Bid specifications, public notification, and selection and award of a contract to a drilling contractor is estimated to be completed by July 2024. The same process is expected to be completed for the groundwater extraction system construction contractor by July 2024. Field activities are estimated to begin in October 2024, at which time all encroachment permits and well permits would be in place. Public outreach activities, including distribution of public notices for CEQA and field activities and a Public Information Meeting to inform stakeholders of planned Project activities, are estimated for completion by July 2024.

Drilling activities and installation and development of the proposed groundwater extraction well are estimated to be completed in January 2025. A Well Completion Report is estimated to be submitted in March 2025. Installation of the extraction system (including all associated piping, valves, electrical and controller systems, well pump, and site structures and shelters) is estimated to be completed in January 2025, and system performance and evaluation is expected to be completed shortly thereafter. A final project walk-through and certification of Project completion are estimated for completion in January 2026. Following verification of system performance, one year of performance monitoring of the extraction system is estimated to be completed between February 2025 to February 2026, with completion of the Implementation Project expected in February 2026.

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Appendix 1. Permits

COUNTY OF ALAMEDA

PROPERTY ENTRY AGREEMENT ONTO COUNTY PROPERTY

Public Works Agency
Alameda County

Access to Use County Owned Property

CEDAR COURT, NEWARK

ASSESSOR'S PARCEL NUMBERS: 92A-2588-7-4 (POR.)

This Property Entry Agreement (hereinafter "Agreement") is made and entered into by and between the COUNTY OF ALAMEDA, a municipal corporation (hereinafter "County"), and ALAMEDA COUNTY WATER DISTRICT, a county water district duly organized and existing under County Water District Law of the State of California (hereinafter "Permittee"). County and Permittee may be collectively referred to herein as the "parties."

RECITALS

A. The County is the owner of the real property located in the City of Newark, generally described as APN: 92A-2588-7-4 (portion), and more particularly described on Exhibits "A" & "B" attached hereto and incorporated herein by reference (hereinafter "Premises").

B. The Permittee has requested permission from the County to enter the Premises for the purposes identified in this Agreement, in return for the County's agreement to perform in accordance with the terms of this Agreement.

C. The scope of work includes: Parking of Drill Rig and storage of well construction/drilling materials on the front portion of the property, inside the gate. These equipment and materials are to facilitate the construction of a well located on the street near to the entrance of this property. This area will be fenced off and locked during non-operational hours.

NOW, THEREFORE, IN CONSIDERATION OF THE MUTUAL COVENANTS AND CONDITIONS IDENTIFIED HEREIN, THE PARTIES HEREBY AGREE AS FOLLOWS:

1. **PERMISSION TO ENTER.** The County hereby grants permission to the Permittee (including its officers, employees, contractors, and agents) to enter the Premises in accordance with the terms of this Agreement, for the purpose of the work identified in Recitals' "Section C" above without affecting the regular use of the premises. County requires Permittee to share the reports of the findings of the drilling activities adjacent to the Premises during the term of this agreement.

2. **TERM.** The term of this Agreement shall commence upon full execution of this Agreement by the parties, and shall terminate on February 25, 2022. In the event Permittee shall continue in possession of the Premises after the termination of this Agreement, such possession shall not be considered a renewal of this Agreement. Five (5) business days prior to termination of this agreement, Permittee may apply for renewal of this agreement for additional 2 months. After the termination of this Agreement, Permittee shall vacate the Premises upon 48-hour notice from the County and leave the premises in the same or better condition as it was prior to the Agreement unless the Agreement is renewed.

3. **PAYMENT FOR USE.** Permittee shall pay County $250.00 (Two Hundred and Fifty and 00/100 Dollars) per month for the initial month and the initial payment must be received prior to entry onto Premises. The payment will be adjusted if renewal is requested. If approved, County will notify and send Permittee a Property Entry Agreement Update document for Permittee's signature.

4. **LIMITATIONS ON PERMITTEE'S USE OF COUNTY PROPERTY.**

4(a). The Permittee's rights under this Agreement shall be a revocable non-exclusive right to use the Premises ("as is"), for the sole purpose identified in Section 1 of this Agreement. The County's permission to Permittee to use the Premises in accordance with this Agreement shall not create any right, title, or interest in the Premises. The Permittee's rights under this Agreement shall be subordinate to the rights of the County to use the Premises for any legitimate public purpose. Additionally, this Agreement may be terminated by the County without cause upon five (5) days written notice to the Permittee. In determining the Permittee's rights and responsibilities under this Agreement, the Permittee shall take direction from the County's Authorized Representatives: an Alameda County Public Works Supervisor, or their authorized designees.

4(b). The Permittee's rights to use Premises in accordance with this Agreement shall be subject to any other property rights held by other parties. The County makes no representation or guaranty to the Permittee regarding the extent of the County's property interest in the Premises, relative to the rights of other parties to use the same Premises, and relative to the Permittee's proposed uses of the Premises.

4(c). The Permittee shall, at its sole cost and expense, repair any damage arising out of Permittee's entry on the Premises, and Permittee shall restore the Premises to a condition equal to or better than the condition which existed prior to Permittee's entry on the Premises. Permittee shall reimburse the County for any costs incurred to cure a breach of Permittee's obligations under this Agreement.

5. **HAZARDOUS MATERIALS.**

5(a). Permittee shall not (a) use, generate or store, or allow its employees, contractors or agents to use, generate or store any Hazardous Materials on the Premises, except for those materials required to perform the Work permitted under this Agreement and in compliance with all federal, state and local laws and regulations for the protection of the environment, human health and safety, as now in effect or hereafter amended (hereinafter "Environmental Laws); or (b) release or dispose of, or allow its employees, contractors or agents to release or dispose of, any Hazardous Materials on the Premises. "Hazardous Materials" are those materials now or hereafter (a) defined as hazardous substances or hazardous wastes pursuant to the Comprehensive Environmental Response Compensation and Liability Act (42 U.S.C. Section 9601, *et seq.*) or the Resource Conservation and Recovery Act (42 U.S.C. Section 6901 *et seq.*); (b) listed in the Hazardous Substances List, Title 8 , California Code of Regulations, G.I.S.O. Sections 337-339, or those which meet the toxicity, reactivity, corrosivity or flammability criteria of the above Code; (c) characterized, regulated or subject to permitting or warning requirements as hazardous or toxic materials, substances, chemicals, pollutants, contaminants or wastes, or as materials for which removal, remediation or disposal is required under any Environmental Laws; or (d) otherwise posing a present or potential hazard to human health, welfare or the environment.

5(b). County shall at all times have the right to go upon and inspect the Premises and the operations conducted thereon to assure compliance with any of the requirements of this Agreement. This inspection may include, but is not limited to, taking samples of substances and materials present for testing.

5(c). Permittee shall be responsible for and bear the entire cost of removal and disposal, in compliance with Environmental Laws, for all Hazardous Materials and non-hazardous wastes introduced to the Premises, by Permittee, its contractor, or agent, during Permittee's use and possession of the Premises. Permittee shall also be responsible for any remediation on or off the Premises necessitated by such Hazardous Materials or non-hazardous wastes. As used herein, "remediation" includes any investigation or post-cleanup monitoring that may be necessary in compliance with Environmental Laws. For purposes of disposal, Permittee shall be the generator of any such Hazardous Materials and shall provide a generator identification number on manifests for such disposal as required by Environmental Laws.

5(d). To the extent that any New Environmental Condition is caused by, or any Pre-existing Environmental Condition is contributed to or exacerbated by, Permittee's acts or omissions (including those of its employees, contractors and agents) during its use and possession of the Premises, Permittee shall, at County's discretion, either (a) perform remediation of such New Environmental Condition or Pre-Existing Environmental Condition, at Permittee's cost and expense, in compliance with Environmental Laws and subject to the approval of a governmental agency with jurisdiction; or (b) indemnify County against all costs incurred by County in performing remediation of such New Environmental Condition or Pre-Existing Environmental Condition. A "New Environmental Condition" is defined as the release or threatened release of Hazardous Materials on, about, under or emanating from the Premises as of the commencement date of this Agreement. A "Pre-Existing Environmental Condition" is defined as the release or threatened release of Hazardous Materials on, about, under or emanating from the Premises prior to the commencement date of this Agreement. Permittee's obligation under this paragraph for Pre-Existing Environmental Conditions is limited to the extent Permittee contributed to or exacerbated the Pre-Existing Environmental Conditions.

5(e). Permittee agrees to assume responsibility and liability for, and defend, indemnify and hold harmless County, its elected officials, officers, agents and employees from all claims, demands, suits, losses, damages, injury, and liability, direct or indirect (including any and all costs, fees, and expenses in connection therewith) arising from the introduction on the Premises of any Hazardous Materials or non-hazardous wastes by Permittee (including its employees, contractors and agents) or from any New Environmental Condition caused by, or any Pre-existing Environmental Condition contributed to or exacerbated by, the acts or omissions of Permittee (including those of its employees, contractors and agents) during its use and possession of the Premises.

6. TIME FOR PERFORMANCE. Time is of the essence in the performance of the requirements of this Agreement.

7. RELATIONSHIP BETWEEN THE PARTIES. Permittee is, and at all times shall remain, an independent contractor solely responsible for all acts of its employees, agents, or contractors, including any negligent acts or omissions. Permittee is not County's agent, and shall have no authority to act on behalf of the County, or to bind the County to any obligation whatsoever, unless the County provides prior written authorization to Permittee.

8. COMPLIANCE WITH LAW.

Permittee shall comply with all applicable legal requirements including all federal, state, and local laws (including ordinances and resolutions), whether or not said laws are expressly stated in this Agreement.

9. INSURANCE. Permittee shall, throughout the duration of this Agreement, maintain insurance to cover Permittee (including its agents, representatives, contractors, and employees) in connection with the performance of services under this Agreement of the types and in the coverage amounts set forth in Exhibit C entitled "Insurance Requirements". This Agreement identifies the minimum insurance levels with which Permittee shall comply; however, the minimum insurance levels shall not relieve Permittee of any other performance responsibilities under this Agreement (including the indemnity requirements), and Permittee may carry, at its own expense, any additional insurance it deems necessary or prudent. Concurrently with the execution of this Agreement by the Permittee, and prior to the commencement of any services, the Permittee shall furnish written proof of insurance (certificates and endorsements), in a form acceptable to the County. Permittee shall provide substitute written proof of insurance no later than ten (10) days prior to the expiration date of any insurance policy required by this Agreement.

Permitee may satisfy the insurance coverage requirements, or a portion of these insurance coverage requirements, through a program of self-insurance. To satisfy the insurance coverage requirements, or a portion of these insurance coverage requirements, through a program of self-insurance Permitee shall provide a letter of self-insurance to County prior to commencing the Work.

10. REPORTING DAMAGES. If any damage (including death, personal injury or property damage) occurs in connection with the performance of this Agreement, Permittee shall immediately notify the County's Risk Manager's office by telephone at (510) 272-6920 and Permittee shall promptly submit to the County's Risk Manager and the County's Authorized Representative, a written report (in a form acceptable to the County) with the following information: (a) a detailed description of the damage (including the name and address of the injured or deceased person(s), and a description of damaged property; (b) name and address of witnesses, and (c) name and address of any potential insurance companies.

11. INDEMNIFICATION. Permittee shall indemnify, hold harmless, and defend the County (including its elected officials, officers, agents and employees) from and against any and all claims (including all litigation, demands, damages, liabilities, costs, and expenses, and including court costs and attorney's fees) resulting or arising from performance, or failure to perform, under this Agreement (with the exception of the active negligence or willful misconduct of the County).

12. ATTORNEY'S FEES. In the event any legal action is commenced to enforce this Agreement, the prevailing party is entitled to reasonable attorney's fees, costs, and expenses incurred.

13. ASSIGNMENT AND DELEGATION. This Agreement, and any portion thereof, shall not be assigned or transferred, nor shall any of the Permittee's duties be delegated, without the written consent of the County. Any attempt to assign or delegate this Agreement without the written consent of the County shall be void and of no force or effect. A consent by the County to one assignment shall not be deemed to be a consent to any subsequent assignment.

14. WAIVERS. Waiver of a breach or default under this Agreement shall not constitute a continuing waiver or a waiver of a subsequent breach of the same or any other provision of this Agreement.

15. NOTICES. All notices required or contemplated by this Agreement shall be in writing and shall be delivered to the respective party as set forth in this section. Communications shall be deemed to be effective upon the first to occur of: (a) actual receipt by a party's Authorized Representative, or (b) actual receipt at the address designated below, or (c) three working days following deposit in the United States Mail of

registered or certified mail sent to the address designated below.

TO: County	**To: Permittee**
Attn: County of Alameda	Attn: _____
Public Works Agency	Alameda County Water District
Right of Way Section	43885 South Grimmer Boulevard
399 Elmhurst Street	Fremont, CA 94538
Hayward, CA 94544	_____

16. **HEADINGS.** The heading titles for each section of this Agreement are included only as a guide to the contents and are not to be considered as controlling, enlarging, or restricting the interpretation of the Agreement.

17. **SEVERABILITY.** If any term of this Agreement (including any phrase, provision, covenant, or condition) is held by a court of competent jurisdiction to be invalid or unenforceable, the Agreement shall be construed as not containing that term, and the remainder of this Agreement shall remain in full force and effect; provided, however, this paragraph shall not be applied to the extent that it would result in a frustration of the parties' intent under this Agreement.

18. **COUNTERPARTS**. This Agreement may be executed in one or more counterparts, including facsimile or pdf counterparts, each of which shall constitute an original, and all of which shall be one and the same agreement.

19. **GOVERNING LAW, JURISDICTION, AND VENUE.** The interpretation, validity, and enforcement of this Agreement shall be governed by and interpreted in accordance with the laws of the State of California. Any suit, claim, or legal proceeding of any kind related to this Agreement shall be filed and heard in a court of competent jurisdiction in the County of Alameda.

20. **MODIFICATIONS.** This Agreement may not be modified orally or in any manner other than by an agreement in writing signed by both parties.

21. **CONFLICTS.** If any conflicts arise between the terms and conditions of this Agreement and the terms and conditions of the attached exhibits or any documents expressly incorporated, the terms and conditions of this Agreement shall control.

22. **ENTIRE AGREEMENT.** This Agreement, including all documents incorporated herein by reference, comprises the entire integrated understanding between the parties concerning the work described herein. This Agreement supersedes all prior negotiations, agreements, and understandings regarding this matter, whether written or oral. The documents incorporated by reference into this Agreement are complementary; what is called for in one is binding as if called for in all.

SIGNATURES. The individuals executing this Agreement represent and warrant that they have the right, power, legal capacity, and authority to enter into and to execute this Agreement on behalf of the respective legal entities of the Permittee and the County. This Agreement shall inure to the benefit of and be binding upon the parties hereto and their respective successors and assigns.

IN WITNESS WHEREOF, the County and Permittee do hereby agree to the full performance of the terms set forth herein.

COUNTY OF ALAMEDA

DocuSigned by:
Beth Perrill
54BC2502B493431...

By: Beth Perrill

Title: Supervising Right of Way Agent

Date: 1/13/2022 | 11:54 AM PST

ALAMEDA COUNTY WATER DISTRICT

DocuSigned by:
Laura J. Hidas
4630A6595EAC425...

By: Laura J. Hidas

Title: Director of Water Resources

Date: 1/13/2022 | 9:57 AM PST

EXHIBIT A

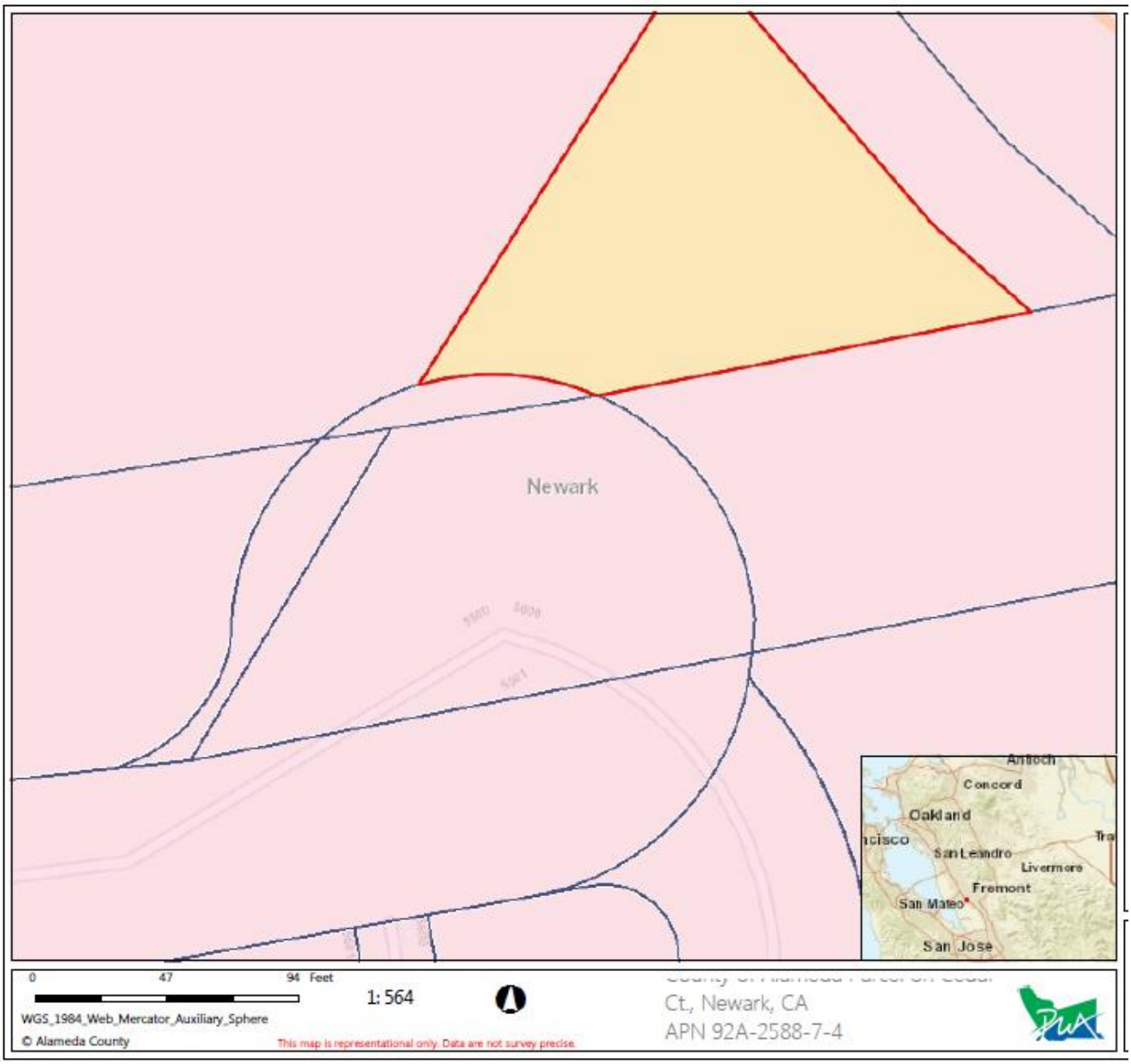
Newark
Antioch
Concord
Oakland
San Leandro
Livermore
Fremont
San Mateo
San Jose
0
47
94 Feet
1: 564
WGS_1984_Web_Mercator_Auxiliary_Sphere
© Alameda County
This map is representational only. Data are not survey precise.
Ct., Newark, CA
APN 92A-2588-7-4

EXHIBIT B


55 Cedar Court
EZ 8 Motel
Newark/Fremont
2.9 (601)
2-star hotel
Nimitz Fwy
Cedar Ct
Layers
Google
Imagery ©2021 Maxar Technologies, Map data ©2021 United States 3D Earth view is not available Terms Privacy Send feedback 20 ft

EXHIBIT C

COUNTY OF ALAMEDA MINIMUM INSURANCE REQUIREMENTS

Without limiting any other obligation or liability under this Agreement, the Contractor, at its sole cost and expense, shall secure and keep in force during the entire term of the Agreement or longer, as may be specified below, the following minimum insurance coverage, limits and endorsements:

	TYPE OF INSURANCE COVERAGES	MINIMUM LIMITS
A	**Commercial General Liability** Premises Liability; Products and Completed Operations; Contractual Liability; Personal Injury and Advertising Liability	$1,000,000 per occurrence (CSL) Bodily Injury and Property Damage
B	**Commercial or Business Automobile Liability** All owned vehicles, hired or leased vehicles, non-owned, borrowed and permissive uses. Personal Automobile Liability is acceptable for individual contractors with no transportation or hauling related activities	$1,000,000 per occurrence (CSL) Any Auto Bodily Injury and Property Damage
C	**Workers' Compensation (WC) and Employers Liability (EL)** Required for all contractors with employees	WC: Statutory Limits EL: $1,000,000 per accident for bodily injury or disease
D	**Endorsements and Conditions:**	

1. **ADDITIONAL INSURED:** All insurance required above with the exception of Commercial or Business Automobile Liability, Workers' Compensation and Employers Liability, shall be endorsed to name as additional insured: County of Alameda, its Board of Supervisors, the individual members thereof, and all County officers, agents, employees, volunteers, and representatives. The Additional Insured endorsement shall be at least as broad as ISO Form Number CG 20 38 04 13.
2. **DURATION OF COVERAGE:** All required insurance shall be maintained during the entire term of the Agreement. In addition, Insurance policies and coverage(s) written on a claims-made basis shall be maintained during the entire term of the Agreement and until 3 years following the later of termination of the Agreement and acceptance of all work provided under the Agreement, with the retroactive date of said insurance (as may be applicable) concurrent with the commencement of activities pursuant to this Agreement.
3. **REDUCTION OR LIMIT OF OBLIGATION:** All insurance policies, including excess and umbrella insurance policies, shall include an endorsement and be primary and non-contributory and will not seek contribution from any other insurance (or self-insurance) available to the County. The primary and non-contributory endorsement shall be at least as broad as ISO Form 20 01 04 13. Pursuant to the provisions of this Agreement insurance effected or procured by the Contractor shall not reduce or limit Contractor's contractual obligation to indemnify and defend the Indemnified Parties.
4. **INSURER FINANCIAL RATING:** Insurance shall be maintained through an insurer with a A.M. Best Rating of no less than A:VII or equivalent, shall be admitted to the State of California unless otherwise waived by Risk Management, and with deductible amounts acceptable to the County. Acceptance of Contractor's insurance by County shall not relieve or decrease the liability of Contractor hereunder. Any deductible or self-insured retention amount or other similar obligation under the policies shall be the sole responsibility of the Contractor.
5. **SUBCONTRACTORS:** Contractor shall include all subcontractors as an insured (covered party) under its policies or shall verify that the subcontractor, under its own policies and endorsements, has complied with the insurance requirements in this Agreement, including this Exhibit. The additional Insured endorsement shall be at least as broad as ISO Form Number CG 20 38 04 13.
6. **JOINT VENTURES:** If Contractor is an association, partnership or other joint business venture, required insurance shall be provided by one of the following methods:
   - Separate insurance policies issued for each individual entity, with each entity included as a "Named Insured" (covered party), or at minimum named as an "Additional Insured" on the other's policies. Coverage shall be at least as broad as in the ISO Forms named above.
   - Joint insurance program with the association, partnership or other joint business venture included as a "Named Insured".
7. **CANCELLATION OF INSURANCE:** All insurance shall be required to provide thirty (30) days advance written notice to the County of cancellation.
8. **CERTIFICATE OF INSURANCE:** Before commencing operations under this Agreement, Contractor shall provide Certificate(s) of Insurance and applicable insurance endorsements, in form and satisfactory to County, evidencing that all required insurance coverage is in effect. The County reserves the rights to require the Contractor to provide complete, certified copies of all required insurance policies. The required certificate(s) and endorsements must be sent as set forth in the Notices provision.

Certificate C-1 Page 1 of 1 Form 2001-1 (Rev. 02/26/14)

EXHIBIT D

Alameda County Water District's Insurance Certificate

CITY OF Fremont
Public Works Department
39550 Liberty Street, P.O. Box 5006
Fremont, CA 94537-5006
(510) 494-4700

ENCROACHMENT PERMIT
Public Works Department
Permit No. ENC2021-01486
Type: (2) Public Agency

JOB#10097

Niles Cone Groundwater Basin Extraction Well Site Evaluation Project, Site 3

Address / Work Location: 38801 Blacow Rd / Blacow Rd x Eggers Dr, Waller Ave x Brophy Dr

Project Description:

Work to be performed is part of Niles Cone Groundwater Basin Extraction Well Site Evaluation Project (Site 3). Includes installation of three (3) wells in City of Fremont right-of-way, including: one (1) test Centerville-Fremont Aquifer extraction well and one (1) Newark Aquifer monitoring well along Blacow Rd between Waller Ave and Brophy Dr; and one (1) Centerville-Fremont Aquifer monitoring well near the island between Blacow Rd & Eggers Dr. (37.539655, -122.005229). Monitoring weel shall be abandoned/destrioyed per ACWD guidelines. Restore affected sidewalk and median area per City of Fremont standards. All traffic control setup shall conform to CA MUTCD guidelines.

See figure (attached to Engineering Application) showing map of well locations with respect to Alameda County parcels.

DO NOT CLOSE PERMIT UNITL WELL IS REMOVED

Comment:

Main Contact: Michelle Myers - (510) 668-4454
Ava Lazor - (510) 668-4411

	Job Cost & Work Order #		Access Over ROW		Res. #2716 Poles
	Curb & Gutter LF		Mat'l Storage		Sidewalk SF
	Curb Painting		Misc Sm Structure		Traffic Control
	Driveway LF		Misc Lg Structure	Yes	Well Installation / Abandoned
	Dumpster		Paving SF		Other
	Excavation LF				

***** Attention - NOTIFY INSPECTOR 48 HOURS PRIOR TO COMMENCEMENT AND UPON COMPLETION OF WORK *****

Inspector Signature _____ **Phone** 510-494-4734

Inspector RUSS BROECKEL **Completed Date** _____

EncroachmentPermit_V1 Run Date & Time: 11/2/2021 4:26:42 PM ☐ Applicant Copy ☐ Office Copy ☐ Finance Copy ☐ Job Copy

Application Date:	6/17/2021	**Applicant Name:**	AVA LAZOR
Issued Date:	11/2/2021	**Applicant Address:**	43885 SOUTH GRIMMER BOULEVARD
Est. Start Date:	11/2/2021	**Applicant Phone:**	5106684411
Est. End Date:	11/2/2022	**Owner Name:**	HOLY TRINITY LUTHERAN CHURCH
Expiration Date:	11/2/2022	**Contractor Name:**	There is no Contractor on the permit

Bond / Deposit Type

Reference No.	Bank / Surety Name	Amount

Fees	
Well Install and Abandonment	$801.00

WORK COPY - KEEP AT SITE DURING CONSTRUCTION PERIOD
THIS PERMIT APPLIES TO ENCROACHMENT WORK WITHIN THE PUBLIC RIGHT-OF-WAY
THE PERMITTEE MUST IMPLEMENT STORMWATER AND EROSION CONTROL BEST MANAGEMENT PRACTICES
CONTACT UNDEGROUND SERVICE ALERT AT LEAST TWO WORKING DAYS PRIOR TO COMMENCING WORK
USA NORTH 1-800-227-2600 TOLL FREE

In consideration of the granting of this permit and other good and valuable consideration therefor, the undersigned intending to be legally bound does hereby for the undersigned and the heirs, executors, administrators and assigns of the undersigned agree that applicant and permittee shall be responsible for all liability imposed by law for personal injury and property damage proximately caused by failure on Permittee's part to perform his obligations under said permit in respect to maintenance. If any claim of such liability is made against the CITY OF FREMONT, its officers, or employees. Permittee shall defend, indemnify and hold them, and each of them, harmless from such claim. Nothing herein is intended to impose on Permittee any different or higher standard of care than that required by law.

CITY OF Fremont
Public Works Department
39550 Liberty Street, P.O. Box 5006
Fremont, CA 94537-5006
(510) 494-4700

ENCROACHMENT PERMIT
Public Works Department
Permit No. ENC2021-01486
Type: (2) Public Agency

JOB#10097

Niles Cone Groundwater Basin
Extraction Well Site Evaluation Project,
Site 3

Applicant Signature _____ **Date** 11/4/21

GENERAL PROVISIONS

ACCEPTANCE OF PROVISIONS: It Is understood and agreed by the permittee that the doing of work under this permit shall constitute an acceptance of these provisions.

INSPECTION AND APPROVAL: All work shall be subject to inspection and approval by the city engineer. Fremont Municipal Code (FMC) 12.05.100(e).

INSPECTIONS: The permittee shall provide the city inspector a minimum of forty-eight (48) hours advance notice for inspection prior to commencement of any work. City inspections shall occur on City work days between the hours of 8:00 AM and 3:30 PM. Work performed w/o presence of inspector is subject to rejection.

CONSTRUCTION HOURS: The permittee shall abide by the construction hours specified in FMC 18.160.010.

PERMITS FROM OTHER AGENCIES: The permittee shall, whenever necessary or required by law, secure the written order or consent to do work affecting other agencies, from such agency or agencies affected. This permit shall not be valid until such order or consent is obtained. A permit may be required for this work from the following agencies:

a. Alameda County Public Works Agency

b. Alameda County Water District

c. California Department of Transportation (Caltrans)

d. California Division of Occupational Safety & Health (Cal/OSHA)

e. California Department of Water Resource

f. San Francisco Water Department

g. Union Sanitary District

6. **STANDARDS OF CONSTRUCTION:** All work shall conform to the permit plans and specifications, the City of Fremont Standard Specifications, Standard Details, Municipal Code, and recognized industry standards. FMC 12.05.160.

7. **MINIMUM INTERFERENCE WITH AND PROTECTION OF TRAFFIC:** All work planned and carried out by the permittee shall have the least possible inconvenience to the traveling public. Permittee shall follow California MUTCD for any lane, shoulder, or pedestrian closures. Prior to any closure on a thoroughfare, permittee shall submit traffic control plans for review and approval. Lane closures are limited to Mon.-Fri. 8:30am-4pm. No lane closures allowed Sat.-Sun. unless authorized by the city engineer. FMC12.05.090(e) and 12.05.130.

8. **MAINTENANCE:** The permittee agrees to maintain properly any encroachment placed by the permittee and to exercise reasonable care in inspecting for and preventing any damage to any portion of the street or sidewalk area resulting from the encroachment. FMC 12.05.160 and 12.05.180.

9. **KEEP PERMIT ON THE JOBSITE:** This permit and associated plans, or a duplicate, shall be kept on the jobsite for the duration of the work and must be shown, upon request, to any police officer or any city employee with jurisdictional responsibilities over activities in the public right-of-way. FMC 12.05.100(g).

10. **CARE OF DRAINAGE:** The permittee shall maintain established drainage patterns or facilities. If temporary interference of drainage patterns or facilities is required to complete the work, the permittee shall make provisions for temporary drainage facilities, subject to review and approval by the city engineer.

11. **STORAGE OF MATERIALS:** Unless included as part of the permit or otherwise approved by the city engineer, no construction materials or equipment shall be stored within the public right-of-way. Excess construction materials shall be removed from the public right-of-way the work is being done.

12. **REPAIRS AND CLEANUP OF JOBSITE:** In every case the permittee shall be responsible for restoring the public right-of-way as shown on the plans or to the same condition that existed prior to the work, including removeal of USA markings. Upon completion of work the jobsite shall be restored to a condition of order and cleanliness. FMC 12.05.160 and 12.05.210.

13. **TRENCH PLATES:** On arterial & collector streets, trench plates shall be recessed to the same elevation as the surrounding paving and tack welded together. This shall also be required on residential streets where no work has been performed for 72 hours.

SPECIAL PROVISIONS

1. **ALL TRENCHING, BACKFILL, AND RESURFACING** shall be in accordance with City of Fremont Standard Specifications, Standard Details, Municipal Code, or as otherwise authorized by the city engineer. FMC 12.05.190.

2. **PORTLAND CEMENT CURBS, GUTTERS, SIDEWALKS AND DRIVEWAYS.** Existing concrete work shall be removed to the nearest score mark or construction joint. Sidewalk and/or curb and gutter shall be cut cleanly and removed for the entire width. Concrete work shall be placed on subgrade and rock, prepared and conforming to the City of Fremont Standard Specifications and Standard Details. Concrete shall contain not less than 550 pounds of cementitious material per cubic yard. All concrete curb, gutter, sidewalk and/or driveways shall conform to the form and dimensions shown on the Standard Details. All concrete work placed shall be scored, colored and finished to conform to the plans or to the adjacent existing concrete work. Type and location of expansion joints shall be as directed by the city engineer.

3. **STREET CUTTING POLICY:** Three or more pavement cuts within 200 feet shall result in additional grind and AC overlay outside the stated limits in accordance with the City's policy.

4. **NO LATERAL STREET CUTS PERMITTED:** No lateral street cut will be permitted in connection with this permit unless approved by the city engineer. Street cuts used for locating existing utilities and for connecting laterals to the main shall be minimal in size and shall be approved in advance of cutting the street pavement, unless approved by the city engineer. Connecting pipe shall be bored completely under the street paving, curb and/or gutter and sidewalk. If a sidewalk cut is necessary, the sidewalk shall be replaced in conformance with Special Provision 2 of this permit. The street cut shall be backfilled and repaved In conformance with Special Provision 1 of this permit.

5. **FRIDAY PERMITS:** No permits shall be granted on any Friday if the work to be done under said permit is of such nature as to cause pedestrian or vehicular traffic interruption over the weekend.

6. **TIME ELAPSED PRIOR TO TEMPORARY AND PERMANENT REPAVING:** Temporary or permanent surfacing shall be installed on the same or next working day after the backfilling has been completed or when directed by the city engineer. The time limit for the replacement of temporary pavement with final pavement shall not exceed ten (10) days.

ENGINEERING APPLICATION

CITY OF Fremont

Community Development Department
39550 Liberty St, P.O. Box 5006
Fremont, CA 94537-5006
510-494-4700 for information

For Finance Staff use only

PERMIT NUMBER: ENC2021-01486

WORK ORDER NUMBER: _____

Total Deposit and/or Fee: $ 801

PLEASE PRINT CLEARLY AND FILL IN ALL APPLICABLE SECTIONS

PROJECT INFORMATION

PROJECT NAME: Niles Cone Groundwater Basin Extraction Well Site Evaluation Project, Site 3; ACWD Job #10097

PROJECT SITE ADDRESS / LOCATION: Planter box on south side of Blacow Rd between Waller Ave & Brophy Dr (37.538131, -122.002380) and island between Blacow Rd & Eggers Dr (37.539655, -122.005229)

APN: ____ - ____ - NA (City of Fremont right-of-way)

VACANT SITE? ☐ YES ☐ NO

PROJECT DESCRIPTION: Work to be performed is part of Niles Cone Groundwater Basin Extraction Well Site Evaluation Project (Site 3). Includes installation of three (3) wells in City of Fremont right-of-way, including: one (1) test Centerville-Fremont Aquifer extraction well and one (1) Newark Aquifer monitoring well along Blacow Rd between Waller Ave and Brophy Dr; and one (1) Centerville-Fremont Aquifer monitoring well near the island between Blacow Rd & Eggers Dr. (37.539655, -122.005229). See attached figure showing map of well locations with respect to Alameda County parcels.

ESTIMATED START / FINISH DATES: 8 / 23 / 21 to 11 / 12 / 21

APPLICANT: Person requesting the filing of this application

NAME: Michelle Myers
COMPANY: Alameda County Water District
ADDRESS: 43885 S. Grimmer Blvd.
CITY / STATE / ZIP: Fremont, CA 94538
PHONE: (510) 668 - 4454 FAX: (510) 651 - 1760
EMAIL: michelle.myers@acwd.com
BUSINESS TAX LICENSE: Federal Tax ID: 946000012 State Tax ID: 93201044
BUSINESS TAX LICENSE EXPIRATION DATE: ____ / ____ / NA

MAIN CONTACT: Contact person other than applicant

NAME: Ava Lazor
COMPANY: Alameda County Water District
ADDRESS: 43885 S. Grimmer Blvd.
CITY / STATE / ZIP: Fremont, CA 94538
PHONE: (510) 668 - 4411 FAX: (510) 651 - 1760
EMAIL: Ava.Lazor@acwd.com
BUSINESS TAX LICENSE: Federal Tax ID: 946000012 State Tax ID: 93201044
BUSINESS TAX LICENSE EXPIRATION DATE: ____ / ____ / NA

PROPERTY OWNER AUTHORIZATION

NAME: _____
COMPANY: _____
ADDRESS: _____
CITY / STATE / ZIP: _____
PHONE: (____) _____ - _____ FAX: (____) _____ - _____
EMAIL: _____

CHOOSE ONE:

☐ *I am the sole owner and hereby authorize the filing of this application*

☐ *I own the project site jointly with one or more persons and am empowered to authorize the filing of this application on behalf of my fellow property owners; or,*

☐ *I own the project site in conjunction with one or more persons who are listed with the acknowledgement and authorization for the filing of this application attached for additional property owner authorization / acknowledgements.*

OWNER SIGNATURE: _____

SUBDIVISIONS: SIZE OF DEVELOPMENT AND NUMBER OF LOTS

a) Total Land Area of Project Site: _____ acres

b) Current number of lots: _____ lots

Tentative Map Approval Date: ____ / ____ / ____

PLN # _____

c) Proposed Subdivisions? ☐ YES ☐ NO

Total # of propsed lots: _____
Total # of units: _____
Total SFR lots: _____
Total # of Townhouse lots: _____
Total # of Common lots: _____
Total # of Condo lots: _____

GRADING

Site Cut: _____ Cubic Yards
Site Fill: _____ Cubic Yards
Import: _____ Cubic Yards
Export: _____ Cubic Yards

Preliminary Grading Plan Approval Date: ____ / ____ / ____

PLN # _____

PERMIT NUMBER: ENC2021-01486

BILLING AUTHORIZATION: Person responsible for payment of project charges

I agree that the application fee submitted with this application is a deposit only. If the application is modified, an additional deposit or deposits may be required. The actual charges for the application(s) and any subsequent modifications will be based on staff time required to process the application, including modifications and appeals. Progress billings will be made during the review of the project if changes exceed the deposit. Prompt payments of progress billings will assure continued staff review of the project. I also agree that the denial of the project does not relieve me of the payment of charges for the processing of the application. I acknowledge I will be issued a refund at the completion of the project review if excess funds have been paid.

I further agree to pay all fees charged for the processing of this application and any subsequent modification based on the current fee schedule, which is in effect at the time the work is performed. Additionally, I authorize the City of offset any shortage in any other accounts I might have with the City with excess funds from this account.

The City reserves the right to offset any shortage in other accounts.

NAME: Michelle A. Myers
COMPANY: Alameda County Water District
ADDRESS: 43885 S. Grimmer Blvd.
CITY/STATE/ZIP: Fremont, CA 94538
PHONE: (510) 668-4454 FAX: (510) 651-1760
EMAIL: michelle.myers@acwd.com

APPLICANT SIGNATURE: Michelle A. Myers

INDEMNIFICATION: Permittee shall indemnify, hold harmless, and defend the City (including its elected officials, officers, agents, and employees) from and against any and all claims (including all litigation, demands, damages, liabilities, costs, and expenses, and including court costs and attorney's fees) resulting or arising from performance, or failure to perform, under this application (except only for those claims arising from the City's sole negligence, willful misconduct, or active negligence, as defined by Californai Civil Code section 2782). This Permit shall inure to the benefit of and be binding upon the Permittee and the Permittee's respective successors and assigns. This Permit shall not be assigned or transferred without the written consent of the City in accordance with Fremont Municipal Code Title 12, Chapter 12.05.

FOR ENCROACHMENT PERMIT APPLICANTS: Approval of this permit is subject to all of the provisions of the Encroachment Ordinance, applicable special provisions, and conditions as noted on the encroachment permit form.

APPLICANT SIGNATURE: Michelle A. Myers DATE: 06 / 16 / 21

☐ **Attach billing information for special mailing if other than U.S. Postal Service requested.**

SECTION BELOW IS FOR STAFF USE ONLY

ENCROACHMENT PERMITS

☐ Curb & Gutter	$ _____
☐ Sidewalk	$ _____
☐ Driveway	$ _____
☐ Paving	$ _____
☐ Underground Utility Exception	$ _____
☐ Miscellaneous Structures	$ _____
☐ Storage of Materials in Right-of-Way	$ _____
☐ Excavations ≤ 20 Sq Ft	$ 507
☐ Excavations > 20 Sq Ft	$ 1,080
☐ Traffic Control Review Application	$ 262
☐ Traffic Control Inspection	$ 240
☐ Dumpster (Republic Services ONLY)	$ 274
☒ Well Installation & Abandonment	$ 801
☐ Access over Public Right-of-Way	$ 159
☐ Curb Painting	$ 50
☐ Application Fee	$ 150

OTHER (Please specify)

_____ $ _____

ADM

☐ Geotechnical Studies	$ _____
☐ Peer Review Deposit	$ _____

TRACT OR PARCEL MAP CHECK

☐ Parcel Map & Improvement Plans	$ 5,000
☐ Final Tract Map & Improvement Plans	$ 15,000
☐ Amended Map or Cert. of Correction	$ 200
☐ Construction Inspection	$ _____

GRADING

☐ Plan Check - Non-Subdivision	$ 600
☐ Grading Permit Fee - Non-Subdivision	
☐ 1 - 1,000 Cubic Yards	$ _____
☐ 1,001 or more Cubic Yards	$ _____
☐ Supervised Grading	$ _____

FLAT FEE SUBTOTAL $ _____

TOTAL DEPOSITS AND/OR FLAT FEES $ 801

APPLICATION TYPE: Residential _____ Commericial _____ Industrial _____ RECEIVED DATE: 06 / 16 / 2021 BY: AS

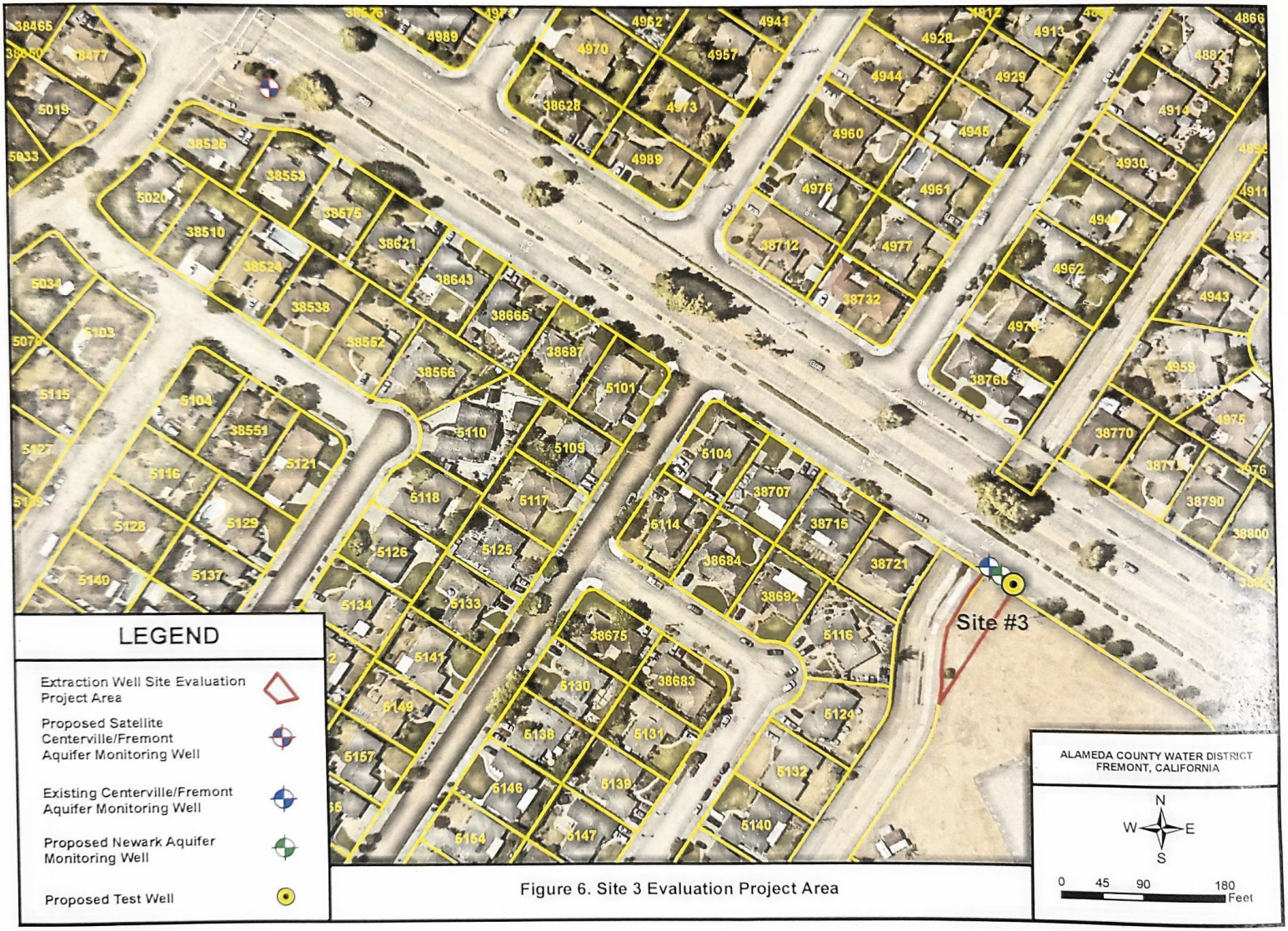

Figure 6. Site 3 Evaluation Project Area

City of Newark
37101 Newark Blvd.
Newark, CA 94560-3796

ISSUING DEPARTMENT:
Public Works Department
Engineering Division

PERMIT TYPE AND NUMBER:
ENCROACHMENT PERMIT ENCP2021-0249

PROJECT:

Address: **Varies**

Street Segments:

Project Description: **Job #10097 Install Wells@Civic Terrace/Wintergreen/Cedar Ct**

Detailed Description: **Install one well at Civic Terrace Ave cul-de-sac (37.534495, -122.029785) & install three wells at NE end of Civic Center Park (37.533651, -122.027886)**

Install one well at sidewalk on Wintergreen Dr (37.530886, -122.008172) & install three wells at N end of Cedar Ct cul-de-sac (37.530874, -122.005728)

CONTRACTOR:

Name: Contact:

Address: City: State: Zip:

Phone: Fax:

E-Mail: License No:

BOND:

Type: N/A

Amount:

Bond/CD#:

Bank/Surety:

APPLICANT/PERMITTEE:

Name: ACWD Contact: Ava Lazor

Address: 43885 S GRIMMER BLVD City: FREMONT State: CA Zip: 94538

Phone: (510)668-4411 Fax:

E-Mail: Ava.Lazor@acwd.com

PERMIT FEES: To Be Billed

DATE PERMIT ISSUED: August 05, 2021

EXPIRATION DATE: November 08, 2021

48 HOURS IN ADVANCE OF CONSTRUCTION CALL USA (Underground Service Alert) at 1-800-227-2600

24 HOURS IN ADVANCE OF CONSTRUCTION Call City of Newark Public Works Inspector at 510-409-1425 or 510-578-4260

INSURANCE:

On File: Yes

Expiration Date:

Approved by (City of Newark Staff)	Karl Kreutzer Print Name	11/8/2021 Date

CONDITIONS:

NOTIFY PUBLIC WORKS INSPECTOR AT LEAST 24 HOURS PRIOR TO THE START OF WORK AND FOR ANY INSPECTIONS

COORDINATE ALL WORK WITH THE PUBLIC WORKS INSPECTOR

NO WORK ON CITY OF NEWARK 'CLOSED FRIDAYS' WITHOUT PRIOR AUTHORIZATION

PROVIDE ALL APPLICABLE BEST MANAGEMENT PRACTICES (BMPS) FROM THE CASQA BMP HANDBOOK FOR CONSTRUCTION

ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH CITY STANDARD DETAILS AND SPECIFICATIONS

SPECIAL TRENCH BACKFILL REQUIREMENT: SD-117, TYPE I

REPLACE SIDEWALK TO NEAREST SCORELINE

COORDINATE ANY PARTIAL LANE, SHOULDER, OR SIDEWALK CLOSURES WITH THE INSPECTOR

ALL PEDESTRIAN AND VEHICULAR TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE CA MUTCD

NOTIFY NEARBY RESIDENTS AND/OR BUSINESSES AT LEAST 48 HOURS PRIOR TO THE START OF WORK

FINAL PAVEMENT RESTORATION SHALL BE COMPLETED BY THE NEXT BUSINESS DAY

REPLACE DAMAGED STREET IMPROVEMENTS TO THE SATISFACTION OF THE CITY ENGINEER

MINIMIZE IMPACTS TO STREET PAVEMENT

ALL WORK MUST BE COMPLETED PRIOR TO THE PERMIT EXPIRATION DATE UNLESS AN EXTENSION IS OBTAINED

GENERAL PROVISIONS APPLICABLE TO ALL ENCROACHMENT PERMITS

NOTIFICATION: All work must be coordinated with the City of Newark Public Works Inspector. For street construction and utility projects, the Permittee shall notify the City of Newark Public Works Inspector (510-409-1425) at least 24 hours prior to the start of and completion of work. Failure to notify the City as required may result in rejection of all work not inspected by the City and/or issuance of an Administrative Citation of up to $1,000.

UNDERGROUND SERVICE ALERT: This permit is not valid until the Permittee has obtained an inquiry identification number from Underground Service Alert (800-227-2600) as required by California Government Code Section 4216. The Permittee shall notify USA a minimum of 48 hours prior to commencing work. The 48 hour advance notice shall not include Saturdays, Sundays, or holidays. The USA ticket must be updated every 28 days while the work is still in progress. Contacting USA does not relieve contractor of responsibility for locating or protecting existing utilities.

TRAFFIC CONTROL: Construction area signs shall be installed and maintained in accordance with the current edition of the California Department of Transportation Manual on Uniform Traffic Control Devices (CA MUTCD) and/or California Department of Transportation Manual of Traffic Controls for Construction and Maintenance Work Zones.

STANDARDS: All work shall be accomplished in accordance with the appropriate provisions of the current City of Newark Standard Details and State of California Standard Plans and Specifications. In the case of a conflict between the City of Newark and State of California Plans or Specifications, City of Newark Plans and Specifications shall have precedence.

BONDS AND INSURANCE: Permittee shall provide cash/surety bonds and public liability and workers compensation insurance, which shall remain in effect: (1) a minimum of one year after the date of completion, (2) through the correction of any construction deficiencies, and (3) until authorization to release the bonds and insurance has been received from the City. Work will be suspended in the event insurance policies posted with this permit expire prior to the completion of the work covered by this permit and the required policies are not renewed, all work covered by this permit shall be suspended (except for traffic control measure required by the City) until valid insurance endorsements are resubmitted and approved by the City.

PIPES AND CONDUITS: Utility services and other conduits shall be directional bored or jacked under existing pavement unless otherwise permitted herein. Pipes and conduit depths must be installed according to City of Newark ordinances and utility agency specifications.

CONCRETE CONSTRUCTION/REPAIRS: Whenever existing sidewalk or curb and gutter is removed or repaired, the area under construction shall be barricaded with a minimum of four (4) barricades, or which two (2) shall be lighted barricades. In the event that a location is not properly barricaded, the City will supply the required barricades and charge the Permittee per day for each and every location so barricaded, in accordance with the Master Fee Schedule. No concrete shall be poured without inspection.

TRENCH BACKFILL: Trench backfill shall be import material placed and compacted in conformance with City of Newark Standard Details unless otherwise approved by the City Inspector. Trench backfill may also be slurry cement per Caltrans Standard Specifications (Section 19-3.062), or controlled density fill per City of Newark specifications. Existing roadway structural section shall be replaced with: (1) equivalent structural section plus one additional inch of asphalt concrete, or (2) equivalent full depth asphalt concrete section per the Traffic Index designation for the street plus one additional inch. All trench backfill shall be placed and compacted in 12” lifts and is subject to continuous inspection and testing.

TRENCH PAVING: Replace existing asphalt pavement with one additional inch of hot mix asphalt. All trenches must have a minimum of four inches of asphalt concrete paving. Trenches must be neatly cut, cleaned, and tacked with SS-1h or equivalent binder. Asphalt concrete lifts shall not exceed 4” in thickness. A tack coat (SS-1h or equivalent) binder is required on all lifts of asphalt. Final lift asphalt at finish grade shall be within 1-1/2” to 2-1/2” uniform thickness. Asphalt concrete mix meeting the Caltrans Standard Specification Aggregate Grading requirements for Type A ½” Maximum Medium shall be used for the final lift. Asphalt concrete must be placed and compacted per City of Newark or Caltrans Standard Specifications. All trench paving is subject to continuous inspections and testing. Paving reinforcement fabric may be required.

NON-PERFORMANCE: This permit may be revoked if work does not commence within 90 days of the Permit Issue Date. All work must be completed by the Permit Expiration Date, unless an extension is approved in writing by the City Engineer. If work is not completed prior to the Permit Expiration Date, the Permittee may be subject to the following: (1) Work will be completed by the City and the Permittee will be billed for all costs plus applicable administrative charges; (2) Additional permit and inspection fees; and/or (3) Citations to ensure safety in the public right-of-way and completion of the work.
SAFETY: Permittee/Contractor is responsible for all health and safety requirements as stated in City, County, Regional, State, and Federal government codes and regulations. No open excavations will be unprotected.

STORM WATER POLLUTION PREVENTION: Implement Best Management Practices and SWPPP requirements per SWRCB to control pollutants, dirt and debris from entering City streets and storm drainage. Provide dust control at all times. A vacuum-type street sweeper will be required continuously on any off-haul or import of materials to and from the site and when requested by the City.

From: KARL KREUTZER
To: Ava Lazor
Subject: RE: Job #10097 Encroachment Permit
Date: Wednesday, May 25, 2022 7:12:25 AM
Attachments: image001.png

CAUTION: This email originated from outside of the District. Do not click links or open attachments unless you recognize the sender and know the content is safe.

I did a walkthrough myself yesterday. I will be finaling the permit today.

Best Regards,

Karl Kreutzer
Public Works Inspector | Public Works Department - Engineering
City of Newark | 37101 Newark Boulevard | Newark, CA | 94560
Office: 510-578-4589 | **Direct:** 510-578-4260 | **Mobile:** 510-409-1425

NOTE: City Hall is open Monday – Thursday, 8:00 AM – 1:00 PM

From: Ava Lazor <Ava.Lazor@acwd.com>
Sent: Tuesday, May 24, 2022 3:36 PM
To: KARL KREUTZER <karl.kreutzer@newark.org>
Cc: JAYSON IMAI <jayson.imai@newark.org>; Douglas Young <Douglas.Young@acwd.com>
Subject: RE: Job #10097 Encroachment Permit

Hi Karl,

Thank you again for granting the extension for the below-mentioned encroachment permit. I'm writing to schedule a final site walkthrough/inspection of the two (2) sites. Please let me know your or your colleague(s) availability to schedule a walkthrough.

Thank you!
Ava

Ava Lazor, PG | Groundwater Resources Hydrogeologist
Alameda County Water District
43885 South Grimmer Boulevard | Fremont, CA 94538
Office: (510) 668-4411 | Cell: (724) 968-9457
ava.lazor@acwd.com

From: Ava Lazor
Sent: Thursday, March 3, 2022 7:16 AM
To: KARL KREUTZER <karl.kreutzer@newark.org>
Cc: JAYSON IMAI <jayson.imai@newark.org>; Douglas Young <Douglas.Young@acwd.com>
Subject: RE: Job #10097 Encroachment Permit

Thank you, Karl!

Best,

Ava

From: KARL KREUTZER <karl.kreutzer@newark.org>
Sent: Thursday, March 3, 2022 7:14 AM
To: Ava Lazor <Ava.Lazor@acwd.com>
Cc: JAYSON IMAI <jayson.imai@newark.org>; Douglas Young <Douglas.Young@acwd.com>
Subject: RE: Job #10097 Encroachment Permit

CAUTION: This email originated from outside of the District. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Permit has been extended to 5/31/2022

Best Regards,

Karl Kreutzer
Public Works Inspector | Public Works Department - Engineering
City of Newark | 37101 Newark Boulevard | Newark, CA | 94560
Office: 510-578-4589 | **Direct:** 510-578-4260 | **Mobile:** 510-409-1425

NOTE: City Hall is open Monday – Thursday, 8:00 AM – 1:00 PM

From: Ava Lazor <Ava.Lazor@acwd.com>
Sent: Thursday, March 3, 2022 7:06 AM
To: KARL KREUTZER <karl.kreutzer@newark.org>
Cc: JAYSON IMAI <jayson.imai@newark.org>; Douglas Young <Douglas.Young@acwd.com>
Subject: RE: Job #10097 Encroachment Permit
Importance: High

Hi Karl,

Many apologies in advance for the confusion – our management has decided to wait until planned pumping tests have been completed to close out the permit. Please disregard my below request for a final site inspection.

With this being the case, is it possible to extend the permit to May 31, 2022?

Thank you!
Ava

Ava Lazor | Groundwater Resources Hydrogeologist
Alameda County Water District
43885 South Grimmer Boulevard | Fremont, CA 94538
Office: (510) 668-4411 | Cell: (724) 968-9457
ava.lazor@acwd.com

From: Ava Lazor
Sent: Wednesday, March 2, 2022 5:13 PM
To: KARL KREUTZER <karl.kreutzer@newark.org>
Cc: JAYSON IMAI <jayson.imai@newark.org>; Douglas Young <Douglas.Young@acwd.com>
Subject: RE: Job #10097 Encroachment Permit

Hi Karl,

I'm writing to schedule a final site walkthrough/inspection of the two (2) sites relative to the attached encroachment permit. We'd prefer to schedule an inspection for next week (Wednesday, 3/9 through Friday, 3/11), if possible, but please let me know your availability.

Thank you in advance!
Ava

Ava Lazor | Groundwater Resources Hydrogeologist
Alameda County Water District
43885 South Grimmer Boulevard | Fremont, CA 94538
Office: (510) 668-4411 | Cell: (724) 968-9457
ava.lazor@acwd.com

From: KARL KREUTZER <karl.kreutzer@newark.org>
Sent: Thursday, January 13, 2022 7:39 AM
To: Ava Lazor <Ava.Lazor@acwd.com>
Cc: JAYSON IMAI <jayson.imai@newark.org>; Douglas Young <Douglas.Young@acwd.com>
Subject: RE: Job #10097 Encroachment Permit

CAUTION: This email originated from outside of the District. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Ava,

The permit is extended to 2/15/2022. There has been some damage to the new slurry that was placed on Civic Terrace Ct that will need repair per one of the City's engineers. When the project is complete, we will need to walk the site and assess required repairs.

Best Regards,

Karl Kreutzer
Public Works Inspector | Public Works Department - Engineering
City of Newark | 37101 Newark Boulevard | Newark, CA | 94560
Office: 510-578-4589 | **Direct:** 510-578-4260 | **Mobile:** 510-409-1425

NOTE: City Hall is open limited hours, **Monday – Thursday 8:00am – 1:00pm**. Please check the City's website at https://link.edgepilot.com/s/328c6090/jvvkvgRfEE6ZT01j3EIloA?u=http://www.newark.org/ for services on-line, via phone, and by appointment as needed.

From: Ava Lazor <Ava.Lazor@acwd.com>
Sent: Wednesday, January 12, 2022 11:17 AM
To: KARL KREUTZER <karl.kreutzer@newark.org>
Cc: JAYSON IMAI <jayson.imai@newark.org>; Douglas Young <Douglas.Young@acwd.com>
Subject: RE: Job #10097 Encroachment Permit

Hello Karl,

I'm reaching out to request an extension of the work being completed under the attached encroachment permit; apologies for the delayed notification. Work for this project is anticipated to be completed at the end of the month, but no later than February 15, 2022.

Please feel free to give me a call to discuss. Thank you in advance!

Ava

Ava Lazor | Groundwater Resources Hydrogeologist
Alameda County Water District
43885 South Grimmer Boulevard | Fremont, CA 94538
Office: (510) 668-4411 | Cell: (724) 968-9457
ava.lazor@acwd.com

From: KARL KREUTZER <karl.kreutzer@newark.org>
Sent: Thursday, August 5, 2021 3:29 PM
To: Ava Lazor <Ava.Lazor@acwd.com>; Operations Clerical Staff Group <Operations_Clerical_Staff_Group@acwd.com>
Cc: JAYSON IMAI <jayson.imai@newark.org>
Subject: Job #10097 Encroachment Permit

Approved encroachment permit attached.

Karl Kreutzer
Public Works Inspector | Public Works Department - Engineering
City of Newark | 37101 Newark Boulevard | Newark, CA | 94560
Office: 510-578-4589 | **Direct:** 510-578-4260 | **Mobile:** 510-409-1425

NOTE: City Hall is open limited hours, **Monday – Thursday 8:00am – 1:00pm**. Please check the City's website at https://link.edgepilot.com/s/bf57211a/fqMzCQOsREqmpyusedR6ZQ?u=http://www.newark.org/ for services on-line, via phone, and by appointment as needed.

Links contained in this email have been replaced. If you click on a link in the email above, the link will be analyzed for known threats. If a known threat is found, you will not be able to proceed to the destination. If suspicious content is detected, you will see a warning.

Links contained in this email have been replaced. If you click on a link in the email above, the link will be analyzed for known threats. If a known threat is found, you will not be able to proceed to the destination. If suspicious content is detected, you will see a warning.

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Links contained in this email have been replaced. If you click on a link in the email above, the link will be analyzed for known threats. If a known threat is found, you will not be able to proceed to the destination. If suspicious content is detected, you will see a warning.

Site #1

ALAMEDA COUNTY WATER DISTRICT
43885 South Grimmer Blvd. • P.O. Box 5110
Fremont, CA 94537-5110
Permitting & Scheduling (510) 668-4460

APPLICATION FOR DRILLING PERMIT

ACWD ORDINANCE NO. 2010-01
COMPUTER POSTED

Application Received Date:	By:	Permit Issued Date:	Permit Expiration Date:	Job No.	Permit No. / Well No.
10/19/21	AS	12/7/21	2/7/22	10097	2021-0345 / 5S/2W-01BC09

JOB ADDRESS:
East side of Civic Center Park
37101 Newark Blvd, Newark, CA 94560

PROPERTY OWNER
NAME: City of Newark
ADDRESS: 37101 Newark Blvd,
Newark, CA 94560
TELEPHONE: (510) 578-4200

CONSULTING ENGINEER
NAME: Alameda County Water District
ADDRESS: 43885 South Grimmer Boulevard
Fremont, CA 94538
TELEPHONE: (510) 68-4452 RG/CEG/RCE NO. PG 5859

DRILLING CONTRACTOR
NAME: Pitcher Services, LLC
ADDRESS: 218 Demeter Street
East Palo Alto, CA 94303
E-MAIL ADDRESS: Terry Shewchuk <tshewchuk@pitcherservicesllc.com>
TELEPHONE: (650)328-8910 STATE LIC. NO. 1044895

When properly signed 1-MF

THIS APPLICATION IS A VALID PERMIT

to perform only work described below at the given job address, in accordance with ACWD Ordinance No. 2010-01 and all other applicable laws and regulations. Discontinuation of work may result in revocation of permit. ***Permittee must schedule the work in advance with ACWD.*** *ACWD's approval of drawings, designs, specifications, work plans, reports or incidental work and materials shall not relieve the permittee of responsibility for the technical adequacy of the work. Except for special circumstances, all work to be inspected must be performed within ACWD work hours – 7:00 a.m. to 4:30 p.m., Monday through Friday.*

PLEASE CHECK TYPE OF PROPOSED WORK
Each well or other excavation requires a separate permit application form unless otherwise indicated.
Only one specific type of work can be checked per permit application.

WELLS	EXPLORATORY HOLES	OTHER EXCAVATIONS
☒ CONSTRUCTION ☐ REPAIR ☐ DESTRUCTION	☐ CONSTRUCT./DESTRUCT.	☐ CONSTRUCTION ☐ REPAIR ☐ DESTRUCTION
☐ Water Well	*Multiple exploratory holes of the same type may be grouped together on the same permit application form.*	☐ Cathodic Protection Well ☐ Inclinometer
Monitoring Well:		☐ Vibrating Wire Piezometer ☐ Elevator Shaft
☒ Chemical Investigation	☐ Chemical Investigation	*Multiple other excavations of the same type may be grouped together on the same permit application form for the following:*
☐ Injection Well (for Chemical Cleanup)	☐ Injection Boreholes	☐ Cleanup Site Excavation(s) ☐ Wick Drains
☒ Geotechnical Investigation	☐ Soil Vapor Sampling	☐ Shaft, Tunnel, or Directional Borehole (s) ☐ Support Piers, Piles, or Caissons
☐ Geothermal Heat Exchange Well	☐ Geotechnical Investigation	☐ Other: Quantity:
☐ Dewatering Well *(Multiple dewatering wells may be grouped together on the same permit application form)* Quantity:	Quantity:	

DESCRIPTION OF PROPOSED WORK:
Installation of 2" diameter monitoring well
Well Name: Civic Center Park 1-MF

TOTAL ESTIMATED COST
$

PERMIT CONDITIONS:
Monitoring Well Construction to comply with current ACWD Standards

FEES: ☐ Private ☐ City ☒ Governmental Agency
GUARANTEE OF PERFORMANCE: ☐ Cash Deposit ☐ Bond
REFUND: Amount $ Reason:

FEES/ DEPOSIT: Date Received Estimated Amount $ —
Check No. Actual Amount $
Cash Difference $

ACWD SITE NO. 0
APPROVED FOR SCHEDULING BY: DATE: 12/7/2021 APPROVED BY: DATE: 12/7/2021

I hereby agree to comply with all conditions of this permit in accordance with ACWD Ordinance No. 2010-01 and to furnish the District a completed copy of D.W.R. Drillers Report (form 188) within sixty (60) days after completion as well as any chemical testing results within thirty (30) days after completion.

Title: Associate Hydrogeologist Signature: Date: 10/12/2021

Representing: Alameda County Water District Name (printed): Douglas Young

ACWD #458 11-12

Site # 1

ALAMEDA COUNTY WATER DISTRICT
43885 South Grimmer Blvd. • P.O. Box 5110
Fremont, CA 94537-5110
Permitting & Scheduling (510) 668-4460

APPLICATION FOR DRILLING PERMIT

ACWD ORDINANCE NO. 2010-01

COMPUTER POSTED

Application Received Date:	By:	Permit Issued Date:	Permit Expiration Date:	Job No.	Permit No.	Well No.
10/14/21	AJ	12/7/21	2/7/22	10097	2021-0346	5S/2W-01B010

JOB ADDRESS:
East Side of Civic Center Park
37101 Newark Blvd, Newark, CA 94560

PROPERTY OWNER
NAME: City of Newark
ADDRESS: 37101 Newark Blvd,
Newark, CA 94560
TELEPHONE: (510) 578-4200

CONSULTING ENGINEER
NAME: Alameda County Water District
ADDRESS: 43885 South Grimmer Boulevard
Fremont, CA 94538
TELEPHONE: (510) 68-4452 RG/CEG/RCE NO. PG 5859

DRILLING CONTRACTOR
NAME: Pitcher Services, LLC
ADDRESS: 218 Demeter Street
East Palo Alto, CA 94303
E-MAIL ADDRESS: Terry Shewchuk <tshewchuk@pitcherservicesllc.com>
TELEPHONE: (650)328-8910 STATE LIC. NO. 1044895

When properly signed 1-MW

THIS APPLICATION IS A VALID PERMIT

to perform only work described below at the given job address, in accordance with ACWD Ordinance No. 2010-01 and all other applicable laws and regulations. Discontinuation of work may result in revocation of permit. ***Permittee must schedule the work in advance with ACWD.*** *ACWD's approval of drawings, designs, specifications, work plans, reports or incidental work and materials shall not relieve the permittee of responsibility for the technical adequacy of the work. Except for special circumstances, all work to be inspected must be performed within ACWD work hours – 7:00 a.m. to 4:30 p.m., Monday through Friday.*

PLEASE CHECK TYPE OF PROPOSED WORK
Each well or other excavation requires a separate permit application form unless otherwise indicated.
Only one specific type of work can be checked per permit application.

WELLS	EXPLORATORY HOLES	OTHER EXCAVATIONS
☑ CONSTRUCTION ☐ REPAIR ☐ DESTRUCTION	☐ CONSTRUCT./DESTRUCT.	☐ CONSTRUCTION ☐ REPAIR ☐ DESTRUCTION
☐ Water Well	*Multiple exploratory holes of the same type may be grouped together on the same permit application form.*	☐ Cathodic Protection Well ☐ Inclinometer
Monitoring Well:		☐ Vibrating Wire Piezometer ☐ Elevator Shaft
☑ Chemical Investigation	☐ Chemical Investigation	*Multiple other excavations of the same type may be grouped together on the same permit application form for the following:*
☐ Injection Well (for Chemical Cleanup)	☐ Injection Boreholes	☐ Cleanup Site Excavation(s) ☐ Wick Drains
☐ Geotechnical Investigation	☐ Soil Vapor Sampling	☐ Shaft, Tunnel, or Directional Borehole (s) ☐ Support Piers, Piles, or Caissons
☐ Geothermal Heat Exchange Well	☐ Geotechnical Investigation	☐ Other: Quantity:
☐ Dewatering Well *(Multiple dewatering wells may be grouped together on the same permit application form)* Quantity:	Quantity:	

DESCRIPTION OF PROPOSED WORK:
Installation of 2" diameter monitoring well
Well Name: Civic Center Park 1-MW MC

TOTAL ESTIMATED COST
$

PERMIT CONDITIONS:
Monitoring Well Construction to comply with current ACWD Standards

FEES: ☐ Private ☐ City ☑ Governmental Agency

GUARANTEE OF PERFORMANCE: ☐ Cash Deposit ☐ Bond

REFUND: Amount $ Reason:

FEES/ DEPOSIT: Date Received Estimated Amount $
Check No. Actual Amount $
Cash Difference $

ACWD SITE NO. 0
APPROVED FOR SCHEDULING BY: DATE: 12/7/2021
APPROVED BY: DATE: 12/7/2021

I hereby agree to comply with all conditions of this permit in accordance with ACWD Ordinance No. 2010-01 and to furnish the District a completed copy of D.W.R. Drillers Report (form 188) within sixty (60) days after completion as well as any chemical testing results within thirty (30) days after completion.

Title: Associate Hydrogeologist Signature: Date: 10/12/2021

Representing: Alameda County Water District Name (printed): Douglas Young

ACWD #458 11-12

Site 1

ALAMEDA COUNTY WATER DISTRICT
43885 South Grimmer Blvd. • P.O. Box 5110
Fremont, CA 94537-5110
Permitting & Scheduling (510) 668-4460

APPLICATION FOR DRILLING PERMIT

ACWD ORDINANCE NO. 2010-01

COMPUTER POSTED

Application Received Date: 10/14/21 By: AS | Permit Issued Date: 12/7/21 | Permit Expiration Date: 2/7/22 | Job No. 10097 | Permit No. 2021-0347 | Well No. 5S/2W-01B011

JOB ADDRESS:
Northwest side of Civic Center Park
37101 Newark Blvd, Newark, CA 94560

When properly signed 1-SF

THIS APPLICATION IS A VALID PERMIT

to perform only work described below at the given job address, in accordance with ACWD Ordinance No. 2010-01 and all other applicable laws and regulations. Discontinuation of work may result in revocation of permit. ***Permittee must schedule the work in advance with ACWD.*** *ACWD's approval of drawings, designs, specifications, work plans, reports or incidental work and materials shall not relieve the permittee of responsibility for the technical adequacy of the work. Except for special circumstances, all work to be inspected must be performed within ACWD work hours – 7:00 a.m. to 4:30 p.m., Monday through Friday.*

PROPERTY OWNER
NAME: City of Newark
ADDRESS: 37101 Newark Blvd
Newark Ca 94560
TELEPHONE: (510)578-4200

CONSULTING ENGINEER
NAME: Alameda County Water District
ADDRESS: 43885 South Grimmer Boulevard
Fremont, CA 94538
TELEPHONE: (510) 68-4452 RG/CEG/RCE NO. PG 5859

DRILLING CONTRACTOR
NAME: Pitcher Services, LLC
ADDRESS: 218 Demeter Street
East Palo Alto, CA 94303
E-MAIL ADDRESS: Terry Shewchuk <tshewchuk@pitcherservicesllc.com>
TELEPHONE: (650)328-8910 STATE LIC. NO. 1044895

PLEASE CHECK TYPE OF PROPOSED WORK

Each well or other excavation requires a separate permit application form unless otherwise indicated. Only one specific type of work can be checked per permit application.

WELLS

☒ CONSTRUCTION ☐ REPAIR ☐ DESTRUCTION

☐ Water Well

Monitoring Well:
- ☒ Chemical Investigation
- ☐ Injection Well (for Chemical Cleanup)
- ☒ Geotechnical Investigation

☐ Geothermal Heat Exchange Well

☐ Dewatering Well *(Multiple dewatering wells may be grouped together on the same permit application form)*
Quantity: _____

EXPLORATORY HOLES

☐ CONSTRUCT./DESTRUCT.

Multiple exploratory holes of the same type may be grouped together on the same permit application form.

- ☐ Chemical Investigation
- ☐ Injection Boreholes
- ☐ Soil Vapor Sampling
- ☐ Geotechnical Investigation

Quantity: _____

OTHER EXCAVATIONS

☐ CONSTRUCTION ☐ REPAIR ☐ DESTRUCTION

- ☐ Cathodic Protection Well
- ☐ Inclinometer
- ☐ Vibrating Wire Piezometer
- ☐ Elevator Shaft

Multiple other excavations of the same type may be grouped together on the same permit application form for the following:

- ☐ Cleanup Site Excavation(s)
- ☐ Wick Drains
- ☐ Shaft, Tunnel, or Directional Borehole (s)
- ☐ Support Piers, Piles, or Caissons
- ☐ Other: _____ Quantity: _____

DESCRIPTION OF PROPOSED WORK:
Installation of 2" diameter monitoring well
Well Name: Civic Center Park 1-SF

TOTAL ESTIMATED COST
$ _____

PERMIT CONDITIONS:
Monitoring Well Construction to comply with current ACWD Standards

FEES: ☐ Private ☐ City ☒ Governmental Agency

GUARANTEE OF PERFORMANCE: ☐ Cash Deposit ☐ Bond

REFUND: Amount $ _____ Reason: _____

FEES/ DEPOSIT: Date Received _____ Estimated Amount $ _____
Check No. _____ Actual Amount $ _____
Cash _____ Difference $ _____

ACWD SITE NO. 8
APPROVED FOR SCHEDULING BY: [signature] DATE: 12/7/2021
APPROVED BY: [signature] DATE: 12/7/2021

I hereby agree to comply with all conditions of this permit in accordance with ACWD Ordinance No. 2010-01 and to furnish the District a completed copy of D.W.R. Drillers Report (form 188) within sixty (60) days after completion as well as any chemical testing results within thirty (30) days after completion.

Title: Associate Hydrogeologist Signature: [signature] Date: 10/12/2021

Representing: Alameda County Water District Name (printed): Douglas Young

ACWD #458 11-12

Site #1

ALAMEDA COUNTY WATER DISTRICT
43885 South Grimmer Blvd. • P.O. Box 5110
Fremont, CA 94537-5110
Permitting & Scheduling (510) 668-4460

APPLICATION FOR DRILLING PERMIT

ACWD ORDINANCE NO. 2010-01

COMPUTER POSTED

Application Received Date: 10/14/21 By: BS | Permit Issued Date: 12/7/21 | Permit Expiration Date: 2/7/22 | Job No. 1097 | Permit No. 2021-0348 | Well No. 5S/2W-01B012

JOB ADDRESS:
East Site of Civic Center Park
37101 Newark Boulevard, Newark Ca 94560

PROPERTY OWNER
NAME: City of Newark
ADDRESS: 37101 Newark Boulevard, Newark Ca 94560
TELEPHONE: (510) 578-4200

CONSULTING ENGINEER
NAME: Alameda County Water District
ADDRESS: 43885 South Grimmer Boulevard Fremont, CA 94538
TELEPHONE: (510) 68-4452 RG/CEG/RCE NO. PG 5859

DRILLING CONTRACTOR
NAME: Pitcher Services, LLC
ADDRESS: 218 Demeter Street East Palo Alto, CA 94303
E-MAIL ADDRESS: Terry Shewchuk <tshewchuk@pitcherservicesllc.com>
TELEPHONE: (650)328-8910 STATE LIC. NO. 1044895

When properly signed 1-TF

THIS APPLICATION IS A VALID PERMIT

to perform only work described below at the given job address, in accordance with ACWD Ordinance No. 2010-01 and all other applicable laws and regulations. Discontinuation of work may result in revocation of permit. ***Permittee must schedule the work in advance with ACWD.*** *ACWD's approval of drawings, designs, specifications, work plans, reports or incidental work and materials shall not relieve the permittee of responsibility for the technical adequacy of the work. Except for special circumstances, all work to be inspected must be performed within ACWD work hours – 7:00 a.m. to 4:30 p.m., Monday through Friday.*

PLEASE CHECK TYPE OF PROPOSED WORK

Each well or other excavation requires a separate permit application form unless otherwise indicated. Only one specific type of work can be checked per permit application.

WELLS	EXPLORATORY HOLES	OTHER EXCAVATIONS
☒ CONSTRUCTION ☐ REPAIR ☐ DESTRUCTION	☐ CONSTRUCT./DESTRUCT.	☐ CONSTRUCTION ☐ REPAIR ☐ DESTRUCTION
☐ Water Well	*Multiple exploratory holes of the same type may be grouped together on the same permit application form.*	☐ Cathodic Protection Well ☐ Inclinometer
Monitoring Well:		☐ Vibrating Wire Piezometer ☐ Elevator Shaft
☒ Chemical Investigation	☐ Chemical Investigation	*Multiple other excavations of the same type may be grouped together on the same permit application form for the following:*
☐ Injection Well (for Chemical Cleanup)	☐ Injection Boreholes	☐ Cleanup Site Excavation(s) ☐ Wick Drains
☐ Geotechnical Investigation	☐ Soil Vapor Sampling	☐ Shaft, Tunnel, or Directional Borehole (s) ☐ Support Piers, Piles, or Caissons
☐ Geothermal Heat Exchange Well	☐ Geotechnical Investigation	☐ Other: Quantity:
☐ Dewatering Well *(Multiple dewatering wells may be grouped together on the same permit application form)* Quantity:	Quantity:	

DESCRIPTION OF PROPOSED WORK:
Installation of 6" diameter test well.
Well Name: Civic Center Park 1-TF

TOTAL ESTIMATED COST $

PERMIT CONDITIONS:
Monitoring Well Construction to comply with current ACWD Standards

FEES: ☐ Private ☐ City ☒ Governmental Agency

GUARANTEE OF PERFORMANCE: ☐ Cash Deposit ☐ Bond

REFUND: Amount $ Reason:

FEES/ DEPOSIT: Date Received Estimated Amount $ 5

Check No. Actual Amount $

Cash Difference $

ACWD SITE NO. 0

APPROVED FOR SCHEDULING BY: DATE: 12/7/2021

APPROVED BY: DATE: 12/7/2021

I hereby agree to comply with all conditions of this permit in accordance with ACWD Ordinance No. 2010-01 and to furnish the District a completed copy of D.W.R. Drillers Report (form 188) within sixty (60) days after completion as well as any chemical testing results within thirty (30) days after completion.

Title: Associate Hydrogeologist Signature: Date: 10/12/2021

Representing: Alameda County Water District Name (printed): Douglas Young

ACWD #458 11-12

Site #2

ALAMEDA COUNTY WATER DISTRICT
43885 South Grimmer Blvd. • P.O. Box 5110
Fremont, CA 94537-5110
Permitting & Scheduling (510) 668-4460

APPLICATION FOR DRILLING PERMIT

ACWD ORDINANCE NO. 2010-01
COMPUTER POSTED

Application Received		Permit Issued	Permit Expiration	Job No.	Permit No.	
Date: 10/14/21	By: AS	Date: 11/4/21	Date: 1/4/22	10097	Well No.	2021-0289 5S/1W-06H010

JOB ADDRESS:
End of Cedar Court
Cedar Court, Newark

When properly signed 2-TF

THIS APPLICATION IS A VALID PERMIT

to perform only work described below at the given job address, in accordance with ACWD Ordinance No. 2010-01 and all other applicable laws and regulations. Discontinuation of work may result in revocation of permit. ***Permittee must schedule the work in advance with ACWD.*** *ACWD's approval of drawings, designs, specifications, work plans, reports or incidental work and materials shall not relieve the permittee of responsibility for the technical adequacy of the work. Except for special circumstances, all work to be inspected must be performed within ACWD work hours – 7:00 a.m. to 4:30 p.m., Monday through Friday.*

PROPERTY OWNER
NAME: City of Newark
ADDRESS: 37101 Newark Blvd,
Newark, CA 94560
TELEPHONE: (510) 578-4200

CONSULTING ENGINEER
NAME: Alameda County Water District
ADDRESS: 43885 South Grimmer Boulevard
Fremont, CA 94538
TELEPHONE: (510) 68-4452 RG/CEG/RCE NO. PG 5859

DRILLING CONTRACTOR
NAME: Pitcher Services, LLC
ADDRESS: 218 Demeter Street
East Palo Alto, CA 94303
E-MAIL ADDRESS: Terry Shewchuk <tshewchuk@pitcherservicesllc.com>
TELEPHONE: (650)328-8910 STATE LIC. NO. 1044895

PLEASE CHECK TYPE OF PROPOSED WORK
Each well or other excavation requires a separate permit application form unless otherwise indicated.
Only one specific type of work can be checked per permit application.

WELLS	EXPLORATORY HOLES	OTHER EXCAVATIONS
☒ CONSTRUCTION ☐ REPAIR ☐ DESTRUCTION	☐ CONSTRUCT./DESTRUCT.	☐ CONSTRUCTION ☐ REPAIR ☐ DESTRUCTION
☐ Water Well	*Multiple exploratory holes of the same type may be grouped together on the same permit application form.*	☐ Cathodic Protection Well ☐ Inclinometer
Monitoring Well:		☐ Vibrating Wire Piezometer ☐ Elevator Shaft
☒ Chemical Investigation	☐ Chemical Investigation	*Multiple other excavations of the same type may be grouped together on the same permit application form for the following:*
☐ Injection Well (for Chemical Cleanup)	☐ Injection Boreholes	☐ Cleanup Site Excavation(s) ☐ Wick Drains
☒ Geotechnical Investigation	☐ Soil Vapor Sampling	☐ Shaft, Tunnel, or Directional Borehole (s) ☐ Support Piers, Piles, or Caissons
☐ Geothermal Heat Exchange Well	☐ Geotechnical Investigation	☐ Other: Quantity:
☐ Dewatering Well *(Multiple dewatering wells may be grouped together on the same permit application form)* Quantity:	Quantity:	

DESCRIPTION OF PROPOSED WORK:
Installation of 6" diameter test well
Well Name Cedar Court 2-TF

TOTAL ESTIMATED COST
$

PERMIT CONDITIONS:
Monitoring Well Construction to comply with current ACWD Standards

FEES: ☐ Private ☐ City ☒ Governmental Agency

GUARANTEE OF PERFORMANCE: ☐ Cash Deposit ☐ Bond

REFUND: Amount $ Reason:

FEES/ DEPOSIT: Date Received Estimated Amount $

Check No. Actual Amount $

Cash Difference $

ACWD SITE NO. 6

APPROVED FOR SCHEDULING BY: DATE: 12/9/2021

APPROVED BY: DATE: 12/9/2021

I hereby agree to comply with all conditions of this permit in accordance with ACWD Ordinance No. 2010-01 and to furnish the District a completed copy of D.W.R. Drillers Report (form 188) within sixty (60) days after completion as well as any chemical testing results within thirty (30) days after completion.

Title: Associate Hydrogeologist Signature: Date: 10/12/2021

Representing: Alameda County Water District Name (printed): Douglas Young

ACWD #458 11-12

Site #2

ALAMEDA COUNTY WATER DISTRICT
43885 South Grimmer Blvd. • P.O. Box 5110
Fremont, CA 94537-5110
Permitting & Scheduling (510) 668-4460

APPLICATION FOR DRILLING PERMIT

ACWD ORDINANCE NO. 2010-01

COMPUTER POSTED

Application Received Date:	By:	Permit Issued Date:	Permit Expiration Date:	Job No.	Permit No.	Well No.
10/14/21	AS	11/4/21	1/4/22	10097	2021-0290	55/1W-06H01

JOB ADDRESS:
End of Cedar Court
Newark, CA

PROPERTY OWNER
NAME: City of Newark
ADDRESS: 37101 Newark Blvd,
Newark, CA 94560
TELEPHONE: (510) 578-4200

CONSULTING ENGINEER
NAME: Alameda County Water District
ADDRESS: 43885 South Grimmer Boulevard
Fremont, CA 94538
TELEPHONE: (510) 68-4452 RG/CEG/RCE NO. PG 5859

DRILLING CONTRACTOR
NAME: Pitcher Services, LLC
ADDRESS: 218 Demeter Street
East Palo Alto, CA 94303
E-MAIL ADDRESS: Terry Shewchuk <tshewchuk@pitcherservicesllc.com>
TELEPHONE: (650)328-8910 STATE LIC. NO. 1044895

When properly signed 2-MN

THIS APPLICATION IS A VALID PERMIT

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PLEASE CHECK TYPE OF PROPOSED WORK
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Only one specific type of work can be checked per permit application.

WELLS	EXPLORATORY HOLES	OTHER EXCAVATIONS
☒ CONSTRUCTION ☐ REPAIR ☐ DESTRUCTION	☐ CONSTRUCT./DESTRUCT.	☐ CONSTRUCTION ☐ REPAIR ☐ DESTRUCTION
☐ Water Well	*Multiple exploratory holes of the same type may be grouped together on the same permit application form.*	☐ Cathodic Protection Well ☐ Inclinometer
Monitoring Well:		☒ Vibrating Wire Piezometer ☐ Elevator Shaft
☒ Chemical Investigation	☐ Chemical Investigation	*Multiple other excavations of the same type may be grouped together on the same permit application form for the following:*
☐ Injection Well (for Chemical Cleanup)	☐ Injection Boreholes	☐ Cleanup Site Excavation(s) ☐ Wick Drains
☒ Geotechnical Investigation	☐ Soil Vapor Sampling	☐ Shaft, Tunnel, or Directional Borehole (s) ☐ Support Piers, Piles, or Caissons
☐ Geothermal Heat Exchange Well	☐ Geotechnical Investigation	☐ Other: Quantity:
☐ Dewatering Well *(Multiple dewatering wells may be grouped together on the same permit application form)* Quantity:	Quantity:	

DESCRIPTION OF PROPOSED WORK:
Installation of 2" diameter monitoring well
Well Name: Cedar Court 2-MN

TOTAL ESTIMATED COST
$

PERMIT CONDITIONS:
Monitoring Well Construction to comply with current ACWD Standards

FEES: ☐ Private ☐ City ☒ Governmental Agency

GUARANTEE OF PERFORMANCE: ☐ Cash Deposit ☐ Bond

REFUND: Amount $ Reason:

FEES/ DEPOSIT: Date Received Estimated Amount $
Check No. Actual Amount $
Cash Difference $

ACWD SITE NO. 0
APPROVED FOR SCHEDULING BY: DATE: 12/9/2021
APPROVED BY: DATE: 12/9/2021

I hereby agree to comply with all conditions of this permit in accordance with ACWD Ordinance No. 2010-01 and to furnish the District a completed copy of D.W.R. Drillers Report (form 188) within sixty (60) days after completion as well as any chemical testing results within thirty (30) days after completion.

Title: Associate Hydrogeologist Signature: Date: 10/12/2021

Representing: Alameda County Water District Name (printed): Douglas Young

ACWD #458 11-12

Site #2

ALAMEDA COUNTY WATER DISTRICT
43885 South Grimmer Blvd. • P.O. Box 5110
Fremont, CA 94537-5110
Permitting & Scheduling (510) 668-4460

APPLICATION FOR DRILLING PERMIT

ACWD ORDINANCE NO. 2010-01

COMPUTER POSTED

Application Received Date:	By:	Permit Issued Date:	Permit Expiration Date:	Job No.	Permit No.	Well No.
10/4/21	AS	11/4/21	1/4/22	10097	2021-0291	5S/1W-06H012

JOB ADDRESS:
End of Cedar Court
Newark, CA

PROPERTY OWNER
NAME: City of Newark
ADDRESS: 37101 Newark Blvd,
Newark, CA 94560
TELEPHONE: (510)578-4200

CONSULTING ENGINEER
NAME: Alameda County Water District
ADDRESS: 43885 South Grimmer Boulevard
Fremont, CA 94538
TELEPHONE: (510) 68-4452 RG/CEG/RCE NO. PG 5859

DRILLING CONTRACTOR
NAME: Pitcher Services, LLC
ADDRESS: 218 Demeter Street
East Palo Alto, CA 94303
E-MAIL ADDRESS: Terry Shewchuk <tshewchuk@pitcherservicesllc.com>
TELEPHONE: (650)328-8910 STATE LIC. NO. 1044895

When properly signed 2MF

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Each well or other excavation requires a separate permit application form unless otherwise indicated.
Only one specific type of work can be checked per permit application.

WELLS
☒ CONSTRUCTION ☐ REPAIR ☐ DESTRUCTION
☐ Water Well
Monitoring Well:
☒ Chemical Investigation
☐ Injection Well (for Chemical Cleanup)
☒ Geotechnical Investigation
☐ Geothermal Heat Exchange Well
☐ Dewatering Well *(Multiple dewatering wells may be grouped together on the same permit application form)*
Quantity: _____

EXPLORATORY HOLES
☐ CONSTRUCT./DESTRUCT.
Multiple exploratory holes of the same type may be grouped together on the same permit application form.
☐ Chemical Investigation
☐ Injection Boreholes
☐ Soil Vapor Sampling
☐ Geotechnical Investigation
Quantity: _____

OTHER EXCAVATIONS
☐ CONSTRUCTION ☐ REPAIR ☐ DESTRUCTION
☐ Cathodic Protection Well ☐ Inclinometer
☐ Vibrating Wire Piezometer ☐ Elevator Shaft
Multiple other excavations of the same type may be grouped together on the same permit application form for the following:
☐ Cleanup Site Excavation(s) ☐ Wick Drains
☐ Shaft, Tunnel, or Directional Borehole (s) ☐ Support Piers, Piles, or Caissons
☐ Other: _____ Quantity: _____

DESCRIPTION OF PROPOSED WORK:
Installation of 2" diameter monitoring well
Well Name: Cedar Court 2-MF

TOTAL ESTIMATED COST
$_____

PERMIT CONDITIONS:
Monitoring Well Construction to comply with current ACWD Standards

FEES: ☐ Private ☐ City ☒ Governmental Agency
GUARANTEE OF PERFORMANCE: ☐ Cash Deposit ☐ Bond
REFUND: Amount $ _____ Reason: _____

FEES/ DEPOSIT: Date Received _____ Estimated Amount $ _____
Check No. _____ Actual Amount $ _____
Cash _____ Difference $ _____

ACWD SITE NO. MA
APPROVED FOR SCHEDULING BY: [signature] DATE: 12/9/2021 APPROVED BY: [signature] DATE: 12/9/2021

I hereby agree to comply with all conditions of this permit in accordance with ACWD Ordinance No. 2010-01 and to furnish the District a completed copy of D.W.R. Drillers Report (form 188) within sixty (60) days after completion as well as any chemical testing results within thirty (30) days after completion.

Title: Associate Hydrogeologist Signature: [signature] Date: 10/12/2021

Representing: Alameda County Water District Name (printed): Douglas Young

ACWD #458 11-12

Site #2

ALAMEDA COUNTY WATER DISTRICT
43885 South Grimmer Blvd. • P.O. Box 5110
Fremont, CA 94537-5110
Permitting & Scheduling (510) 668-4460

APPLICATION FOR DRILLING PERMIT

ACWD ORDINANCE NO. 2010-01

COMPUTER POSTED

Application Received Date: 10/4/21 By: AS | Permit Issued Date: 11/4/21 | Permit Expiration Date: 1/4/22 | Job No. 10097 | Permit No. 2021-0292 | Well No. 5S/1W-06H009

JOB ADDRESS: ~~Wintergreen Drive~~ End of Cedar Ct.
Newark Ca

PROPERTY OWNER
NAME: City of Newark
ADDRESS: 37101 Newark Blvd,
Newark, CA 94560
TELEPHONE: (510) 578-4200

CONSULTING ENGINEER
NAME: Alameda County Water District
ADDRESS: 43885 South Grimmer Boulevard
Fremont, CA 94538
TELEPHONE: (510) 68-4452 RG/CEG/RCE NO. PG 5859

DRILLING CONTRACTOR
NAME: Pitcher Services, LLC
ADDRESS: 218 Demeter Street
East Palo Alto, CA 94303
E-MAIL ADDRESS: Terry Shewchuk <tshewchuk@pitcherservicesllc.com>
TELEPHONE: (650)328-8910 STATE LIC. NO. 1044895

When properly signed 2-SF

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WELLS	EXPLORATORY HOLES	OTHER EXCAVATIONS
☒ CONSTRUCTION ☐ REPAIR ☐ DESTRUCTION	☐ CONSTRUCT./DESTRUCT.	☐ CONSTRUCTION ☐ REPAIR ☐ DESTRUCTION
☐ Water Well	*Multiple exploratory holes of the same type may be grouped together on the same permit application form.*	☐ Cathodic Protection Well ☐ Inclinometer
Monitoring Well:		☐ Vibrating Wire Piezometer ☐ Elevator Shaft
☒ Chemical Investigation	☐ Chemical Investigation	*Multiple other excavations of the same type may be grouped together on the same permit application form for the following:*
☐ Injection Well (for Chemical Cleanup)	☐ Injection Boreholes	☐ Cleanup Site Excavation(s) ☐ Wick Drains
☒ Geotechnical Investigation	☐ Soil Vapor Sampling	☐ Shaft, Tunnel, or Directional Borehole (s) ☐ Support Piers, Piles, or Caissons
☐ Geothermal Heat Exchange Well	☐ Geotechnical Investigation	☐ Other: Quantity:
☐ Dewatering Well *(Multiple dewatering wells may be grouped together on the same permit application form)* Quantity:	Quantity:	

DESCRIPTION OF PROPOSED WORK:
Installation of 2" diameter monitoring well
Well Name: Cedar Court 2-SF

TOTAL ESTIMATED COST $

PERMIT CONDITIONS:
Monitoring Well Construction to comply with current ACWD Standards

FEES: ☐ Private ☐ City ☑ Governmental Agency
GUARANTEE OF PERFORMANCE: ☐ Cash Deposit ☐ Bond
REFUND: Amount $ Reason:

FEES/ DEPOSIT: Date Received Estimated Amount $
Check No. Actual Amount $
Cash Difference $

ACWD SITE NO. NA
APPROVED FOR SCHEDULING BY: DATE: 12/9/2021 APPROVED BY: DATE: 12/9/2021

I hereby agree to comply with all conditions of this permit in accordance with ACWD Ordinance No. 2010-01 and to furnish the District a completed copy of D.W.R. Drillers Report (form 188) within sixty (60) days after completion as well as any chemical testing results within thirty (30) days after completion.

Title: Associate Hydrogeologist Signature: Date: 10/12/2021

Representing: Alameda County Water District Name (printed): Douglas Young

ACWD #458 11-12

Site #3

ALAMEDA COUNTY WATER DISTRICT
43885 South Grimmer Blvd. • P.O. Box 5110
Fremont, CA 94537-5110
Permitting & Scheduling (510) 668-4460

APPLICATION FOR DRILLING PERMIT

ACWD ORDINANCE NO. 2010-01

COMPUTER POSTED

Application Received Date: 10/14/21 By: AS | Permit Issued Date: 11/4/21 | Permit Expiration Date: 1/4/22 | Job No. 10097 | Permit No. 2021-0286 | Well No. 4S/1W-32N003

JOB ADDRESS:
Intersection of Blacow Road and Brophy Drive
Fremont, CA

PROPERTY OWNER
NAME: City of Fremont
ADDRESS: 3300 Capitol Avenue
Fremont, CA 94538
TELEPHONE: (510) 284-4000

CONSULTING ENGINEER
NAME: Alameda County Water District
ADDRESS: 43885 South Grimmer Boulevard
Fremont, CA 94538
TELEPHONE: (510) 68-4452 RG/CEG/RCE NO. PG 5859

DRILLING CONTRACTOR
NAME: Pitcher Services, LLC
ADDRESS: 218 Demeter Street
East Palo Alto, CA 94303
E-MAIL ADDRESS: Terry Shewchuk <tshewchuk@pitcherservicesllc.com>
TELEPHONE: (650)328-8910 STATE LIC. NO. 1044895

When properly signed 3-MW

THIS APPLICATION IS A VALID PERMIT

to perform only work described below at the given job address, in accordance with ACWD Ordinance No. 2010-01 and all other applicable laws and regulations. Discontinuation of work may result in revocation of permit. ***Permittee must schedule the work in advance with ACWD.*** *ACWD's approval of drawings, designs, specifications, work plans, reports or incidental work and materials shall not relieve the permittee of responsibility for the technical adequacy of the work. Except for special circumstances, all work to be inspected must be performed within ACWD work hours – 7:00 a.m. to 4:30 p.m., Monday through Friday.*

PLEASE CHECK TYPE OF PROPOSED WORK
Each well or other excavation requires a separate permit application form unless otherwise indicated.
Only one specific type of work can be checked per permit application.

WELLS
☒ CONSTRUCTION ☐ REPAIR ☐ DESTRUCTION

☐ Water Well

Monitoring Well:
☒ Chemical Investigation
☐ Injection Well (for Chemical Cleanup)
☐ Geotechnical Investigation

☐ Geothermal Heat Exchange Well

☐ Dewatering Well *(Multiple dewatering wells may be grouped together on the same permit application form)*
Quantity: _____

EXPLORATORY HOLES
☐ CONSTRUCT./DESTRUCT.

Multiple exploratory holes of the same type may be grouped together on the same permit application form.

☐ Chemical Investigation
☐ Injection Boreholes
☐ Soil Vapor Sampling
☐ Geotechnical Investigation
Quantity: _____

OTHER EXCAVATIONS
☐ CONSTRUCTION ☐ REPAIR ☐ DESTRUCTION

☐ Cathodic Protection Well ☐ Inclinometer
☐ Vibrating Wire Piezometer ☐ Elevator Shaft

Multiple other excavations of the same type may be grouped together on the same permit application form for the following:

☐ Cleanup Site Excavation(s) ☐ Wick Drains
☐ Shaft, Tunnel, or Directional Borehole (s) ☐ Support Piers, Piles, or Caissons
☐ Other: _____ Quantity: _____

DESCRIPTION OF PROPOSED WORK:
Installation of 2" diameter monitoring well
Well Name: Blacow Road 3-MN

TOTAL ESTIMATED COST
$_____

PERMIT CONDITIONS:
Monitoring Well Construction to comply with current ACWD Standards

FEES: ☐ Private ☐ City ☒ Governmental Agency

GUARANTEE OF PERFORMANCE: ☐ Cash Deposit ☐ Bond

REFUND: Amount $ _____ Reason: _____

FEES/ DEPOSIT: Date Received _____ Estimated Amount $_____
Check No. _____ Actual Amount $_____
Cash _____ Difference $ _____

ACWD SITE NO. Ø
APPROVED FOR SCHEDULING BY: _____ DATE: 11/10/2021 APPROVED BY: _____ DATE: 11/10/2021

I hereby agree to comply with all conditions of this permit in accordance with ACWD Ordinance No. 2010-01 and to furnish the District a completed copy of D.W.R. Drillers Report (form 188) within sixty (60) days after completion as well as any chemical testing results within thirty (30) days after completion.

Title: Associate Hydrogeologist Signature: _____ Date: 10/12/2021

Representing: Alameda County Water District Name (printed): Douglas Young

ACWD #458 11-12

ALAMEDA COUNTY WATER DISTRICT
43885 South Grimmer Blvd. • P.O. Box 5110
Fremont, CA 94537-5110
Permitting & Scheduling (510) 668-4460

APPLICATION FOR DRILLING PERMIT

ACWD ORDINANCE NO. 2010-01

COMPUTER POSTED

Application Received Date:	By:	Permit Issued Date:	Permit Expiration Date:	Job No.	Permit No. / Well No.
10/4/21	AS	11/4/21	1/4/22	10097	2021-0287 / 4S/1W-32N004

JOB ADDRESS:
Intersection of Blacow Road and Eggers Drive
Fremont, CA

PROPERTY OWNER
NAME: City of Fremont
ADDRESS: 3300 Capitol Avenue
Fremont, CA
TELEPHONE: (510) 284-4000

CONSULTING ENGINEER
NAME: Alameda County Water District
ADDRESS: 43885 South Grimmer Boulevard
Fremont, CA 94538
TELEPHONE: (510) 68-4452 RG/CEG/RCE NO. PG 5859

DRILLING CONTRACTOR
NAME: Pitcher Services, LLC
ADDRESS: 218 Demeter Street
East Palo Alto, CA 94303
E-MAIL ADDRESS: Terry Shewchuk <tshewchuk@pitcherservicesllc.com>
TELEPHONE: (650)328-8910 STATE LIC. NO. 1044895

When properly signed 3-SF

THIS APPLICATION IS A VALID PERMIT

to perform only work described below at the given job address, in accordance with ACWD Ordinance No. 2010-01 and all other applicable laws and regulations. Discontinuation of work may result in revocation of permit. ***Permittee must schedule the work in advance with ACWD.*** *ACWD's approval of drawings, designs, specifications, work plans, reports or incidental work and materials shall not relieve the permittee of responsibility for the technical adequacy of the work. Except for special circumstances, all work to be inspected must be performed within ACWD work hours – 7:00 a.m. to 4:30 p.m., Monday through Friday.*

PLEASE CHECK TYPE OF PROPOSED WORK
Each well or other excavation requires a separate permit application form unless otherwise indicated.
Only one specific type of work can be checked per permit application.

WELLS
☒ CONSTRUCTION ☐ REPAIR ☐ DESTRUCTION
☐ Water Well
Monitoring Well:
☒ Chemical Investigation
☐ Injection Well (for Chemical Cleanup)
☐ Geotechnical Investigation
☐ Geothermal Heat Exchange Well
☐ Dewatering Well *(Multiple dewatering wells may be grouped together on the same permit application form)*
Quantity: _____

EXPLORATORY HOLES
☐ CONSTRUCT./DESTRUCT.
Multiple exploratory holes of the same type may be grouped together on the same permit application form.
☐ Chemical Investigation
☐ Injection Boreholes
☐ Soil Vapor Sampling
☐ Geotechnical Investigation
Quantity: _____

OTHER EXCAVATIONS
☐ CONSTRUCTION ☐ REPAIR ☐ DESTRUCTION
☐ Cathodic Protection Well ☐ Inclinometer
☐ Vibrating Wire Piezometer ☐ Elevator Shaft
Multiple other excavations of the same type may be grouped together on the same permit application form for the following:
☐ Cleanup Site Excavation(s) ☐ Wick Drains
☐ Shaft, Tunnel, or Directional Borehole (s) ☐ Support Piers, Piles, or Caissons
☐ Other: _____ Quantity: _____

DESCRIPTION OF PROPOSED WORK:
Installation of 2" diameter monitoring well
Well Name: Blacow Road 3-SF

TOTAL ESTIMATED COST
$_____

PERMIT CONDITIONS:
Monitoring Well Construction to comply with current ACWD Standards

FEES: ☐ Private ☐ City ☒ Governmental Agency

GUARANTEE OF PERFORMANCE: ☐ Cash Deposit ☐ Bond

REFUND: Amount $ _____ Reason: _____

FEES/ DEPOSIT: Date Received _____ Estimated Amount $ _____
Check No. _____ Actual Amount $ _____
Cash _____ Difference $ _____

ACWD SITE NO. 0
APPROVED FOR SCHEDULING BY: _____ DATE: 11/10/2021
APPROVED BY: _____ DATE: 11/10/2021

I hereby agree to comply with all conditions of this permit in accordance with ACWD Ordinance No. 2010-01 and to furnish the District a completed copy of D.W.R. Drillers Report (form 188) within sixty (60) days after completion as well as any chemical testing results within thirty (30) days after completion.

Title: Associate Hydrogeologist Signature: _____ Date: 10/12/2021

Representing: Alameda County Water District Name (printed): Douglas Young

ACWD #458 11-12

S/A#3

ALAMEDA COUNTY WATER DISTRICT
43885 South Grimmer Blvd. • P.O. Box 5110
Fremont, CA 94537-5110
Permitting & Scheduling (510) 668-4460

APPLICATION FOR DRILLING PERMIT

ACWD ORDINANCE NO. 2010-01

Application Received Date: 10/14/21 By: AS | Permit Issued Date: 11/4/21 | Permit Expiration Date: 1/4/22 | Job No. 10097 | Permit No. 2021-0288 | Well No. 4S/1W-32N005

JOB ADDRESS:
Intersection of Blacow Road and Brophy Drive
Fremont, CA

PROPERTY OWNER
NAME: City of Fremont
ADDRESS: 3300 Capitol Avenue
Fremont, CA 94538
TELEPHONE: (510) 284-4000

CONSULTING ENGINEER
NAME: Alameda County Water District
ADDRESS: 43885 South Grimmer Boulevard
Fremont, CA 94538
TELEPHONE: (510) 68-4452 RG/CEG/RCE NO. PG 5859

DRILLING CONTRACTOR
NAME: Pitcher Services, LLC
ADDRESS: 218 Demeter Street
East Palo Alto, CA 94303
E-MAIL ADDRESS: Terry Shewchuk <tshewchuk@pitcherservicesllc.com>
TELEPHONE: (650)328-8910 STATE LIC. NO. 1044895

When properly signed (3-TF)

THIS APPLICATION IS A VALID PERMIT

to perform only work described below at the given job address, in accordance with ACWD Ordinance No. 2010-01 and all other applicable laws and regulations. Discontinuation of work may result in revocation of permit. ***Permittee must schedule the work in advance with ACWD.*** *ACWD's approval of drawings, designs, specifications, work plans, reports or incidental work and materials shall not relieve the permittee of responsibility for the technical adequacy of the work. Except for special circumstances, all work to be inspected must be performed within ACWD work hours – 7:00 a.m. to 4:30 p.m., Monday through Friday.*

PLEASE CHECK TYPE OF PROPOSED WORK
Each well or other excavation requires a separate permit application form unless otherwise indicated.
Only one specific type of work can be checked per permit application.

WELLS	EXPLORATORY HOLES	OTHER EXCAVATIONS
☒ CONSTRUCTION ☐ REPAIR ☐ DESTRUCTION	☐ CONSTRUCT./DESTRUCT.	☐ CONSTRUCTION ☐ REPAIR ☐ DESTRUCTION
☐ Water Well	*Multiple exploratory holes of the same type may be grouped together on the same permit application form.*	☐ Cathodic Protection Well ☐ Inclinometer
Monitoring Well:		☐ Vibrating Wire Piezometer ☐ Elevator Shaft
☒ Chemical Investigation	☐ Chemical Investigation	*Multiple other excavations of the same type may be grouped together on the same permit application form for the following:*
☐ Injection Well (for Chemical Cleanup)	☐ Injection Boreholes	
☐ Geotechnical Investigation	☐ Soil Vapor Sampling	☐ Cleanup Site Excavation(s) ☐ Wick Drains
☐ Geothermal Heat Exchange Well		☐ Shaft, Tunnel, or Directional Borehole (s) ☐ Support Piers, Piles, or Caissons
☐ Dewatering Well *(Multiple dewatering wells may be grouped together on the same permit application form)*	☐ Geotechnical Investigation	
Quantity:	Quantity:	☐ Other: Quantity:

DESCRIPTION OF PROPOSED WORK:
Installation of 6" diameter test well
Well Name: Blacow Road 3-TF

TOTAL ESTIMATED COST
$

PERMIT CONDITIONS:
Monitoring Well Construction to comply with current ACWD Standards

FEES: ☐ Private ☐ City ☒ Governmental Agency

GUARANTEE OF PERFORMANCE: ☐ Cash Deposit ☐ Bond

REFUND: Amount $ Reason:

FEES/ DEPOSIT: Date Received Estimated Amount $
Check No. Actual Amount $
Cash Difference $

ACWD SITE NO. 0
APPROVED FOR SCHEDULING BY: [signature] DATE: 11/10/2021 APPROVED BY: [signature] DATE: 11/10/2021

I hereby agree to comply with all conditions of this permit in accordance with ACWD Ordinance No. 2010-01 and to furnish the District a completed copy of D.W.R. Drillers Report (form 188) within sixty (60) days after completion as well as any chemical testing results within thirty (30) days after completion.

Title: Associate Hydrogeologist Signature: [signature] Date: 10/12/2021

Representing: Alameda County Water District Name (printed): Douglas Young

ACWD #458 11-12

Appendix 2. Well Location Memorandum

Douglas Young

From: Douglas Young
Sent: Thursday, August 6, 2020 9:28 AM
To: Conkle, Diana@Waterboards
Cc: Michelle Myers
Subject: Global Positioning System (GPS) Information-Niles Cone Groundwater Basin Extraction Well Site Evaluation Project (Agreement D1912527, ACWD Job # 10097)
Attachments: Site 1.pdf; Site 2.pdf; Site 3.pdf

Dear Ms. Conkle,

Below is the surveyed data for the locations of the proposed well locations for the project. The survey data supplied are the proposed locations and may change depending on field conditions and potentially unidentified and mis-identified underground utilities. The Datum used in NAD1983 (CONUS) within 6-inch horizontal and 0.1-inch vertical precision.

Site 1

1-T F
Latitude: 37° 32’ 1.0287” N
Longitude: 122° 1’ 40.3556” W
Elevation : 25.172 survey feet (sft)

1-MF
Latitude: 37° 32’ 1.1160” N
Longitude: 122° 1’ 40.2778” W
Elevation : 24.728 sft.

1-MN
Latitude: 37° 32’ 0.9464” N
Longitude: 122° 1’ 40.4236” W
Elevation : 25.310 sft

1-SF
Latitude: 37° 32’ 4.0871” N
Longitude: 122° 1’ 47.0087” W
Elevation : 21.799 sft

Site 2

2-T F
Latitude: 37° 31’ 51.0252” N
Longitude: 122° 0’ 20.7394” W
Elevation : 33.176 sf

2-MF
Latitude: 37° 31’ 51.0362” N
Longitude: 122° 0’ 20.8505” W
Elevation : 33.140 sft.

2-MN
Latitude: 37° 31’ 51.0076” N
Longitude: 122° 0’ 20.6350” W
Elevation : 33.033 sf

2-SF
Latitude: 37° 31’ 51.1569” N
Longitude: 122° 0’ 29.3191” W
Elevation : 28.695 sft.

Site 3

3-TF

Latitude: 37° 32’ 17.1811” N
Longitude: 122° 0’ 8.0502” W
Elevation : 37.108 sft

3-MN
Latitude: 37° 32’ 17.2202” N
Longitude: 122° 0’ 8.1263” W
Elevation : 37.125 sft

3-SF
Latitude: 37° 32’ 22.6862” N
Longitude: 122° 0’ 18.5170” W
Elevation : 37.700 sft.

If there is any additional information need, please contact me.

Sincerely,

Douglas Young

Douglas Young
Hydrogeologist
Alameda County Water District
(510) 668-4452 (Phone)
(510) 651-1760 (Fax)
douglas.young@acwd.com

43885 South Grimmer Boulevard
Fremont, CA 94538
http://www.acwd.org/

Appendix 3. Field Notes and Forms

Site # 1

ALAMEDA COUNTY WATER DISTRICT
43885 South Grimmer Blvd. • P.O. Box 5110
Fremont, CA 94537-5110
Permitting & Scheduling (510) 668-4460

APPLICATION FOR DRILLING PERMIT

ACWD ORDINANCE NO. 2010-01

COMPUTER POSTED

Application Received Date: 10/14/21 By: AS | Permit Issued Date: 12/7/21 | Permit Expiration Date: 2/7/22 | Job No. 10097 | Permit No. 2021-0346 | Well No. 5S/2W-01B010

JOB ADDRESS:
East Side of Civic Center Park
37101 Newark Blvd, Newark, CA 94560

PROPERTY OWNER
NAME: City of Newark
ADDRESS: 37101 Newark Blvd, Newark, CA 94560
TELEPHONE: (510) 578-4200

CONSULTING ENGINEER
NAME: Alameda County Water District
ADDRESS: 43885 South Grimmer Boulevard Fremont, CA 94538
TELEPHONE: (510) 68-4452 RG/CEG/RCE NO. PG 5859

DRILLING CONTRACTOR
NAME: Pitcher Services, LLC
ADDRESS: 218 Demeter Street East Palo Alto, CA 94303
E-MAIL ADDRESS: Terry Shewchuk <tshewchuk@pitcherservicesllc.com>
TELEPHONE: (650)328-8910 STATE LIC. NO. 1044895

When properly signed 1-MW

THIS APPLICATION IS A VALID PERMIT

to perform only work described below at the given job address, in accordance with ACWD Ordinance No. 2010-01 and all other applicable laws and regulations. Discontinuation of work may result in revocation of permit. ***Permittee must schedule the work in advance with ACWD.*** *ACWD's approval of drawings, designs, specifications, work plans, reports or incidental work and materials shall not relieve the permittee of responsibility for the technical adequacy of the work. Except for special circumstances, all work to be inspected must be performed within ACWD work hours – 7:00 a.m. to 4:30 p.m., Monday through Friday.*

PLEASE CHECK TYPE OF PROPOSED WORK
Each well or other excavation requires a separate permit application form unless otherwise indicated. Only one specific type of work can be checked per permit application.

WELLS	EXPLORATORY HOLES	OTHER EXCAVATIONS
☑ CONSTRUCTION ☐ REPAIR ☐ DESTRUCTION	☐ CONSTRUCT./DESTRUCT.	☐ CONSTRUCTION ☐ REPAIR ☐ DESTRUCTION
☐ Water Well	*Multiple exploratory holes of the same type may be grouped together on the same permit application form.*	☐ Cathodic Protection Well ☐ Inclinometer
Monitoring Well:		☐ Vibrating Wire Piezometer ☐ Elevator Shaft
☑ Chemical Investigation	☐ Chemical Investigation	*Multiple other excavations of the same type may be grouped together on the same permit application form for the following:*
☐ Injection Well (for Chemical Cleanup)	☐ Injection Boreholes	☐ Cleanup Site Excavation(s) ☐ Wick Drains
☐ Geotechnical Investigation	☐ Soil Vapor Sampling	☐ Shaft, Tunnel, or Directional Borehole (s) ☐ Support Piers, Piles, or Caissons
☐ Geothermal Heat Exchange Well	☐ Geotechnical Investigation	☐ Other: Quantity:
☐ Dewatering Well *(Multiple dewatering wells may be grouped together on the same permit application form)* Quantity:	Quantity:	

DESCRIPTION OF PROPOSED WORK:
Installation of 2" diameter monitoring well
Well Name: Civic Center Park 1-MW MC

TOTAL ESTIMATED COST
$

PERMIT CONDITIONS:
Monitoring Well Construction to comply with current ACWD Standards

FEES: ☐ Private ☐ City ☑ Governmental Agency

GUARANTEE OF PERFORMANCE: ☐ Cash Deposit ☐ Bond

REFUND: Amount $ Reason:

FEES/ DEPOSIT: Date Received — Estimated Amount $ —
Check No. Actual Amount $
Cash Difference $

ACWD SITE NO. 0
APPROVED FOR SCHEDULING BY: DATE: 12/7/2021
APPROVED BY: DATE: 12/7/2021

I hereby agree to comply with all conditions of this permit in accordance with ACWD Ordinance No. 2010-01 and to furnish the District a completed copy of D.W.R. Drillers Report (form 188) within sixty (60) days after completion as well as any chemical testing results within thirty (30) days after completion.

Title: Associate Hydrogeologist Signature: Date: 10/12/2021

Representing: Alameda County Water District Name (printed): Douglas Young

ACWD #458 11-12

Monitoring Well Construction

Inspector: Pablo Cortez
Job No.: 10097
Date: 12/17/21

Permit No.: 2021-0345
Well No.: 5S/2W-01B009 10
Other Well ID: 1-MF MC

Job Location: End of Civic Terrace Ave, Newark
Contractor: Pitcher Services LLC

Major Equipment and Materials On-site

ITEM	MATERIALS RECEIVED TODAY
Drill rig	
Fork lift	
Waste bins	
Support trucks	

Contractor Arrival Time: 7:00
Contractor Departure Time: 5:00
Daily Start Depth: 0 ft.
Daily Finish Depth: 120 ft.
Daily Drill Bit Size(s): 8 in.

Work Completed Summary: Began drilling. Drilled to 120'.

ACWD Meter No.: _____ **Beginning Meter Reading:** _____ **End Meter Reading:** _____

Pictures Taken: ☑ YES ☐ NO File Location: _____
Visitors to Job Site: Doug Young
Delays/Accidents: _____

Construction Details

Final Bit Size & Type: _____
Control Casing Size: _____ in.
Conductor Casing Size: _____ in.
Well Casing Diameter: _____ in.
Perforation Slot Size: _____ in.
Sand Info.: _____
_____
Grout Mix: _____
Bottom Plug Info.: _____

Total Borehole Depth: _____ ft.
Control Casing Depth: _____ ft. to _____ ft.
Conductor Casing Depth: _____ ft. to _____ ft.
Completed Well Depth: _____ ft.
Perforation Interval: _____ ft. to _____ ft.
Sand Interval: _____ ft. to _____ ft.
and _____ ft. to _____ ft.
Grout Interval: _____ ft. to _____ ft.
*and** _____ ft. to _____ ft.

*Two grout intervals if bottom of borehole extended beyond completed well depth and was grouted prior to well construction.

Monitoring Well Construction Remarks

Inspector: **Permit No.:** 2021-0345

8:05 Arrival onsite. Pitcher Drilling crew (Marcos + Andrew) onsite.

8:18 Drillers break ground with core barrel. Vac truck is onsite to drain waste bins.

8:20 Drillers begin hand augering.

10:18 Drilled to 10' with 5" mud rotary bit, then switched to 8" bit.

10:44 Doug Young arrives.

10:50 Doug Young departs.

10:57 At 19', started getting a gravelly sand. Transitioned to a sandy gravel at 30'.

11:09 Got back into clay at 30.5'.

11:58 At 45', still drilling in a stiff clay.

12:17 Hit a small pocket of sands and gravels from 52'-54'. Now in clay once again.

12:30 Departed site.

13:08 Returned to site. At ~~55'~~ 70', still in clay.

13:42 Hit sands and gravels from 79'-~~85'~~ 83'

16:00 Drilled to 120'. Stopped for the day. Will continue drilling next week.

16:20 Departed site.

ALAMEDA COUNTY WATER DISTRICT

Monitoring Well Construction

Inspector: Brianna Thomas
Permit No.: 2021-0346
Job No.: 10097
Well No.: 5S/2W-01B009
Date: 12/20/21
Other Well ID: 1-MF MC

Job Location: End of Civic Terrace Ave, Newark
Contractor: Pitcher Services LLC

Major Equipment and Materials On-site

ITEM	MATERIALS RECEIVED TODAY
Drill Rig	
Support Truck x2	
Waste bin x3	
Fork Lift	

Contractor Arrival Time: 0700
Contractor Departure Time: 1700
Daily Start Depth: 120 ft.
Daily Finish Depth: 240 ft.
Daily Drill Bit Size(s): 8"

Work Completed Summary: continue drilling boring to total depth of 240'.

ACWD Meter No.: _____ **Beginning Meter Reading:** _____ **End Meter Reading:** _____

Pictures Taken: ☐ YES ☐ NO File Location: _____

Visitors to Job Site: _____

Delays/Accidents: _____

Construction Details

Final Bit Size & Type: _____
Total Borehole Depth: _____ ft.
Control Casing Size: _____ in.
Control Casing Depth: _____ ft. to _____ ft.
Conductor Casing Size: _____ in.
Conductor Casing Depth: _____ ft. to _____ ft.
Well Casing Diameter: _____ in.
Completed Well Depth: _____ ft.
Perforation Slot Size: _____ in.
Perforation Interval: _____ ft. to _____ ft.
Sand Info.: _____
Sand Interval: _____ ft. to _____ ft.
and _____ ft. to _____ ft.
Grout Mix: _____
Grout Interval: _____ ft. to _____ ft.
Bottom Plug Info.: _____
*and** _____ ft. to _____ ft.

*Two grout intervals if bottom of borehole extended beyond completed well depth and was grouted prior to well construction.

Monitoring Well Construction Remarks

Inspector: Brianna Thomas

Permit No.: 2021-0346 (0346)

0747 - Arrive onsite, Pitcher Services (Marcos/Andrew) onsite. They are preparing to begin drilling

0800 - Begin flushing out boring at 23'

0933 - Boring has been flushed out to 120', continue drilling - target depth is 240'

0956 - At 125' in sands/gravels, ~~back into clay at 127~~ (ST)

1003 - Back into clay at 130'

1010 - sands/gravels at ~~134-137~~ (ST) 136-143', getting back into clay

1132 - Currently at 170' - in stiff clay/silty clay

1201 - At 184' back into stiff clay, silty clay 179-184'

1341 - Reached 200', continuing to drill

1352 - Kit Soo arrives onsite to take over inspection while I go to other inspections

1422 - chattering @ 204'-228'
- back into clay @ 228'

1530 - At 239', continue to TD @ 240'

1605 - continue to remove rods

1645 - secured hole, all rods removed, leave site.

ALAMEDA COUNTY WATER DISTRICT

Monitoring Well Construction

Inspector: Brianna Thomas
Job No.: 10097
Date: 12/21/21

Permit No.: 2021-0345
Well No.: 5S/2W-01B0091O
Other Well ID: ~~1-MF~~ 1-MC

Job Location: End of Civic Terrace Ave, Newark
Contractor: Pitcher Services LLC

Major Equipment and Materials On-site

ITEM	MATERIALS RECEIVED TODAY
Drill Rig	2" PVC casing - schedule 80
Support Truck x 2	Sand pack (#3)
Waste bin x 3	grout (type "V)
Fork Lift	

Contractor Arrival Time: 0700
Contractor Departure Time: _____
Daily Start Depth: 240 ft.
Daily Finish Depth: 240 ft.
Daily Drill Bit Size(s): 8"

Work Completed Summary: Flush out boring to 240', set well casing and sand pack.

ACWD Meter No.: _____ **Beginning Meter Reading:** _____ **End Meter Reading:** _____

Pictures Taken: ☐ YES ☐ NO File Location: _____
Visitors to Job Site: _____
Delays/Accidents: _____

Construction Details

Final Bit Size & Type: _____
Total Borehole Depth: _____ ft.
Control Casing Size: _____ in.
Control Casing Depth: _____ ft. to _____ ft.
Conductor Casing Size: _____ in.
Conductor Casing Depth: _____ ft. to _____ ft.
Well Casing Diameter: _____ in.
Completed Well Depth: _____ ft.
Perforation Slot Size: _____ in.
Perforation Interval: _____ ft. to _____ ft.
Sand Info.: _____
Sand Interval: _____ ft. to _____ ft.
and _____ ft. to _____ ft.
Grout Mix: _____
Grout Interval: _____ ft. to _____ ft.
Bottom Plug Info.: _____
*and** _____ ft. to _____ ft.

*Two grout intervals if bottom of borehole extended beyond completed well depth and was grouted prior to well construction.

Monitoring Well Construction Remarks

Inspector: Brianna Thomas **Permit No.:** 2021-0346

0751 - Arrive onsite, Pitcher Drilling onsite (Andrew), Marcos from Pitcher is filling up water tank at site 3.

0820 - Marcos Arrives onsite, Crews is setting up to begin Flushing out the hole. Plan is to set well casing and sand pack today - grout tomorrow.

0903 - A delivery of 2" PVC casing (schedule 80) arrives onsite. Sand pack and grout also delivered

1022 - Boring has been flushed out to 240'

1104 - Fresh water being pumped downhole through drilling rods to thin out drilling mud so sand pack will go down.

1130 - Pulling drill rods in order to begin well construction.

1202 - Begin loading casing

Well construction Details

0 - 190' type II/V neat cement

190 - 240' sand pack #3

2" PVC casing (schedule 80), blank 0 - 200', screen 200 - 230', blank 230 - 240', screen slot = 0.020"

centralizers at bottom, middle and top of screen, and every 25' from 0 - 200'

1255 - Bottom of casing tagged at 240'

1304 - Begin sanding well

1500 - Finish sanding well, sand pack tagging at 188', plan to grout tomorrow morning.

1510 - Well secured and protected, left site.

ALAMEDA COUNTY WATER DISTRICT

Monitoring Well Construction

Inspector: Andres Aguayo | **Permit No.:** 2021-0345

Job No.: 10097 | **Well No.:** 5S/2W-01B009

Date: 12/22/21 | **Other Well ID:** ~~I-MF~~ MC

Job Location: End of Civic Terrace Ave, Newark

Contractor: Pitcher Services LLC

Major Equipment and Materials On-site

ITEM	MATERIALS RECEIVED TODAY
Drill Rig	
2x Support Truck	
3x Waste Bins	
Fork Lift	

Contractor Arrival Time: _____ Contractor Departure Time: _____

Daily Start Depth: _____ ft. Daily Finish Depth: _____ ft.

Daily Drill Bit Size(s): _____

Work Completed Summary: Grouted to surface using Type II/V neat cement via 1" PVC tremie pipe

ACWD Meter No.: _____ **Beginning Meter Reading:** _____ **End Meter Reading:** _____

Pictures Taken: ☐ YES ☐ NO File Location: _____

Visitors to Job Site: _____

Delays/Accidents: _____

Construction Details

Final Bit Size & Type: _____ Total Borehole Depth: _____ ft.

Control Casing Size: _____ in. Control Casing Depth: _____ ft. to _____ ft.

Conductor Casing Size: _____ in. Conductor Casing Depth: _____ ft. to _____ ft.

Well Casing Diameter: _____ in. Completed Well Depth: _____ ft.

Perforation Slot Size: _____ in. Perforation Interval: _____ ft. to _____ ft.

Sand Info.: _____ Sand Interval: _____ ft. to _____ ft.

_____ *and* _____ ft. to _____ ft.

Grout Mix: _____ Grout Interval: _____ ft. to _____ ft.

Bottom Plug Info.: _____ *and** _____ ft. to _____ ft.

*Two grout intervals if bottom of borehole extended beyond completed well depth and was grouted prior to well construction.

Monitoring Well Construction Remarks

Inspector: Andres Aguays **Permit No.:** 2021-0345

0730 - Arrived on site. Pitcher (Marco + Andrew) already on site. Setting up to start grouting.

07:41 - Started inserting 1" PVC tremie pipe to 180'. Sand pack tagged @ 185'

08:10 - Pitcher (Mikey) arrives on site.

08:15 - Started mixing Type II/V neat cement, and started grouting via 1" tremie pipe w/ Type II/V neat cement.

09:50 - Tremie grouted to surface using 11.5 batches of 23 gal/8 bags 47lbs Type II/V neat cement.

10:00 - 180' of 1" tremie pipe removed. Well box to be installed. once they clean up.

10:10 - Left site 1 to go to site 3.

Job 10097
well site Eval Project

Proposed wel comp
1 - MC

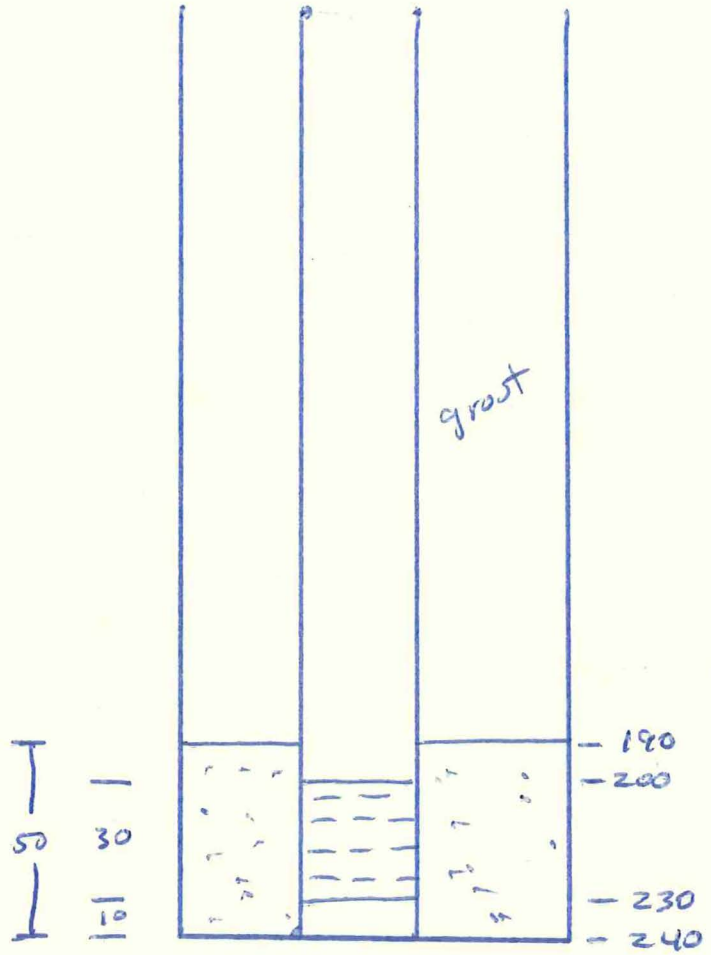
12 - 14 - 2021

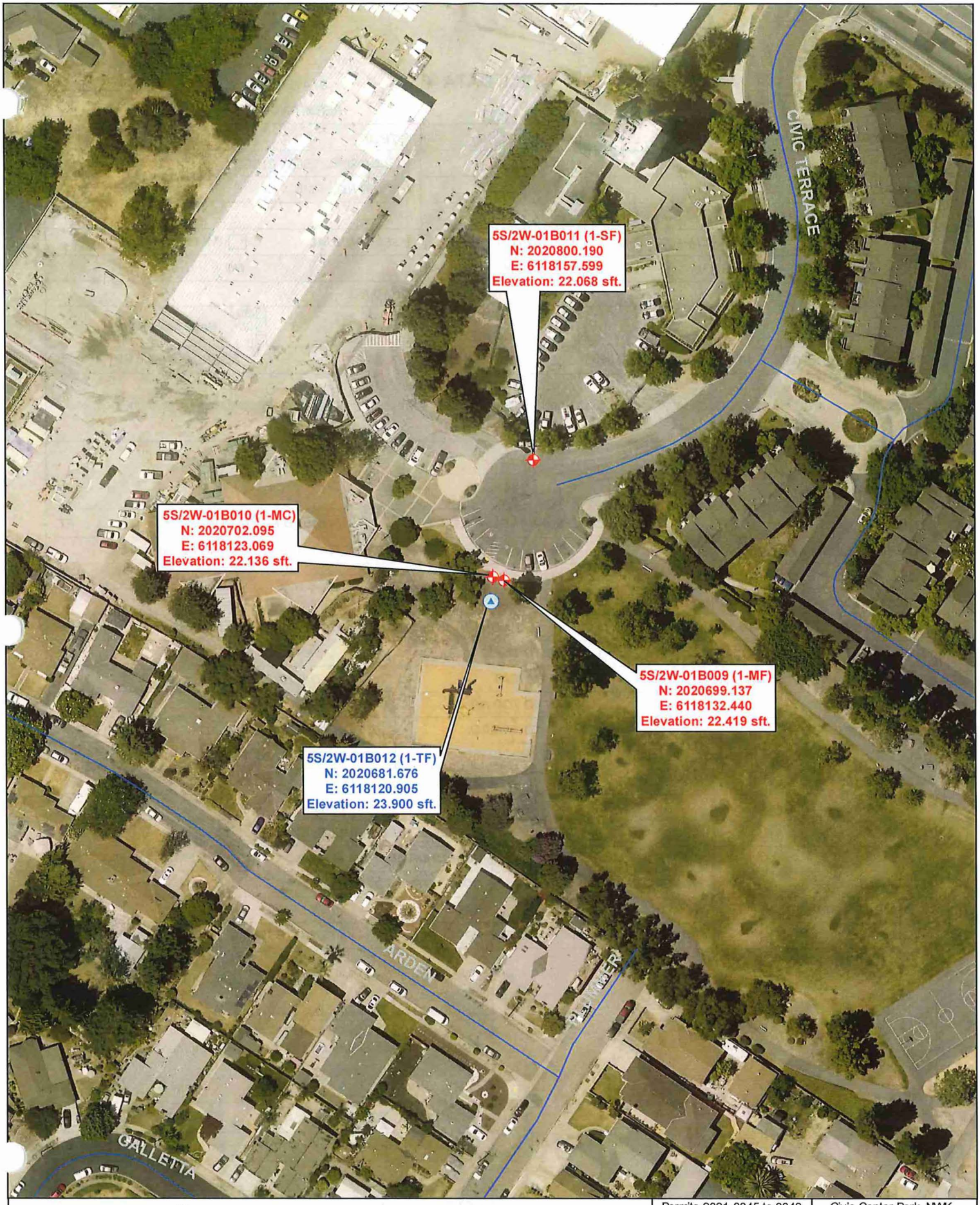
0

100

200

300





ACWD
ALAMEDA COUNTY WATER DISTRICT

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Well Location Map

Permits 2021-0345 to 0348	Civic Center Park, NWK
5S/2W-01B009 to B012	1:1200
Monitoring Well	03.10.2022
Water Well	Drawn By: Jeremy Bautista

WELL DATA

STATE WELL NO. 5S/2W-01B010

PERMIT NO. 2021-0346

OWNER: Alameda County Water District	SITE ID:
ADDRESS: 43885 S. Grimmer Blvd, FMT	WELL NAME: 5S/2W-01B010
TENANT:	OWNER NO.: 1-MC
SITE ADDRESS Northwest side of Civic Center Park, NWK	1-MC

TYPE OF WELL ☐ SPECIAL STUDIES ☐ MONTHLY ☐ SEMI ANNUAL ☐ WATER QUALITY

LOCATION COUNTY: Alameda County BASIN: Niles Cone NO.

U.S.G.S. QUAD. QUAD NO.

1/4 1/4 SECTION TWP. RGE. ☐MD ☐SB ☐H BASE & MERIDIAN

COORDINATES (NAD83) NORTHING: 2020702.095 EASTING: 6118.123.069 SOURCE Trimble R8

DESCRIPTION:

Well is located in a 12" round EMCO Wheaton Christy Box at the south curve of Civic Terrace Ave. just north of the playground area (right-most well when facing play area).

REFERENCE POINT DESCRIPTION:

Top center of the christy box lid

WHICH IS FT. ABOVE ☐ BELOW ☐ LAND SURFACE DATUM GROUND ELEVATION FT.

REFERENCE POINT ELEVATION 22.136 FT. DETERMINED FROM: Top center of the christy box lid

WELL USE: Groundwater Monitoring CONDITION: new DEPTH: 240 FT.

CASING, SIZE 2 IN., PVC PERFORATIONS: 200-230' SLOT SIZE: 0.020"

MEASUREMENTS BY ☐ DWR ☐ USGS ☐ USBR ☐ COUNTY ☐ IRR. DIST. ☐ WATER DIST. ☐ CONS. DIST. ☐ OTHER

GRAVEL PACK? ☑ YES ☐ NO	DEPTH TO TOP GR. 185'	DEPTH TO BOT GR. 240'
TYPE OF MATERIAL: #3 Sand	PERM. RATING	THICKNESS
CHIEF AQUIFER	DEPTH TO TOP AQ.	DEPTH TO BOT. AQ.
SUPP. AQUIFER	DEPTH TO TOP AQ.	DEPTH TO BOT. AQ.

DRILLER: Pitcher Serv. (Marcos/Andrew) DATE DRILLED: 12-22-2021 LOG NUMBER (DWR 188)

WELL PUMP TYPE	MAKE	MODEL	SERIAL NO.
WATER ANALYSIS MIN.	SAN.	H.M.	

POWER SOURCE		WATER LEVELS AVAILABLE? ☐ YES ☐ NO	
H.P.	MOTOR SERIAL NO	PERIOD OF RECORD BEGIN	END
ELEC. METER NO.	TRANSFORMER NO.	COLLECTING AGENCY	
SIZE OF DISCHARGE PIPE		IN.	
YIELD G.P.M.	PUMPING LEVEL FT.	PROD. REC.	PUMP TEST / YIELD

SKETCH



REMARKS

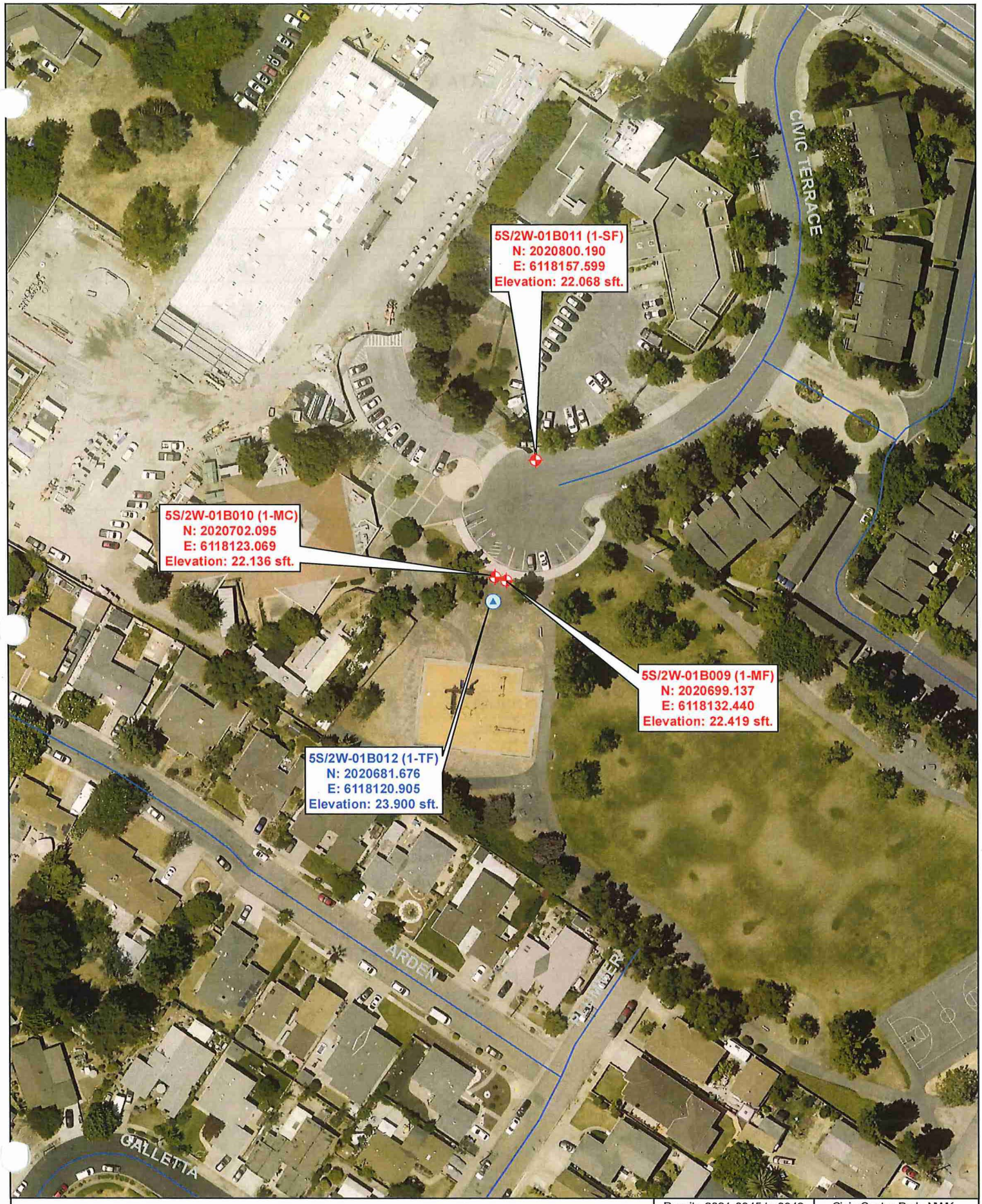
240' total depth of original borehole
8" Diameter Borehole
12" round EMCO Wheaton christy box
0.5-200' – 2" blank Schedule 80 PVC casing
230-240' – 2" blank Schedule 80 PVC casing + end cap

PERMIT NO.: 2021-0346

SANITARY SEAL: 1-185' - Type II/V neat cement

RECORDED BY: Jeremy Bautista

DATE: 03-15-2022



ACWD
ALAMEDA COUNTY WATER DISTRICT

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Well Location Map

Permits 2021-0345 to 0348	Civic Center Park, NWK
5S/2W-01B009 to B012	1:1200
Monitoring Well	03.10.2022
Water Well	Drawn By: Jeremy Bautista

WELL DATA

STATE WELL NO. 5S/2W-01B010

PERMIT NO. 2021-0346

OWNER: Alameda County Water District	SITE ID:
ADDRESS: 43885 S. Grimmer Blvd, FMT	WELL NAME: 5S/2W-01B010
TENANT:	OWNER NO.: 1-MC
SITE ADDRESS Northwest side of Civic Center Park, NWK	1-MC

TYPE OF WELL ☐ SPECIAL STUDIES ☐ MONTHLY ☐ SEMI ANNUAL ☐ WATER QUALITY

LOCATION COUNTY: Alameda County BASIN: Niles Cone NO.

U.S.G.S. QUAD. QUAD NO.

1/4 1/4 SECTION TWP. RGE. ☐MD ☐SB ☐H BASE & MERIDIAN

COORDINATES (NAD83) NORTHING: 2020702.095 EASTING: 6118.123.069 SOURCE Trimble R8

DESCRIPTION:

Well is located in a 12" round EMCO Wheaton Christy Box at the south curve of Civic Terrace Ave. just north of the playground area (right-most well when facing play area).

REFERENCE POINT DESCRIPTION:

Top center of the christy box lid

WHICH IS FT. ABOVE ☐ BELOW ☐ LAND SURFACE DATUM GROUND ELEVATION FT.

REFERENCE POINT ELEVATION 22.136 FT.	DETERMINED FROM: Top center of the christy box lid
WELL USE: Groundwater Monitoring	CONDITION: new
DEPTH: 240 FT.	
CASING, SIZE 2 IN., PVC	PERFORATIONS: 200-230'
SLOT SIZE: 0.020"	

MEASUREMENTS BY ☐ DWR ☐ USGS ☐ USBR ☐ COUNTY ☐ IRR. DIST. ☐ WATER DIST. ☐ CONS. DIST. ☐ OTHER

GRAVEL PACK? ☑ YES ☐ NO	DEPTH TO TOP GR. 185'	DEPTH TO BOT GR. 240'
TYPE OF MATERIAL: #3 Sand	PERM. RATING	THICKNESS
CHIEF AQUIFER	DEPTH TO TOP AQ.	DEPTH TO BOT. AQ.
SUPP. AQUIFER	DEPTH TO TOP AQ.	DEPTH TO BOT. AQ.

DRILLER: Pitcher Serv. (Marcos/Andrew)	DATE DRILLED: 12-22-2021	LOG NUMBER (DWR 188)

WELL PUMP TYPE	MAKE	MODEL	SERIAL NO.
WATER ANALYSIS MIN.	SAN.	H.M.	

POWER SOURCE		WATER LEVELS AVAILABLE? ☐ YES ☐ NO	
H.P.	MOTOR SERIAL NO	PERIOD OF RECORD BEGIN	END
ELEC. METER NO.	TRANSFORMER NO.	COLLECTING AGENCY	
SIZE OF DISCHARGE PIPE		IN.	

YIELD G.P.M.	PUMPING LEVEL FT.	PROD. REC.	PUMP TEST	YIELD

SKETCH

N

REMARKS

240' total depth of original borehole
8" Diameter Borehole
12" round EMCO Wheaton christy box
0.5-200' – 2" blank Schedule 80 PVC casing
230-240' – 2" blank Schedule 80 PVC casing + end cap

PERMIT NO.: 2021-0346

SANITARY SEAL: 1-185' - Type II/V neat cement

RECORDED BY: Jeremy Bautista

DATE: 03-15-2022

ALAMEDA COUNTY WATER DISTRICT

Monitoring Well Construction

Inspector: Pablo Cortez **Permit No.:** _____

Job No.: _____ **Well No.:** _____

Date: 1-14-22 **Other Well ID:** 5S/2W-01B010

Job Location: _____

Contractor: Gregg/Pitcher Drilling

Major Equipment and Materials On-site

ITEM	MATERIALS RECEIVED TODAY
Well development rig	
Support truck	
Compressor	
Waste bins, Water tank	

Contractor Arrival Time: 7:00 Contractor Departure Time: 16:00

Daily Start Depth: _____ ft. Daily Finish Depth: _____ ft.

Daily Drill Bit Size(s): _____

Delays/Accidents: Completed well development

ACWD Meter No.: _____ **Beginning Meter Reading:** _____ **End Meter Reading:** _____

Pictures Taken: ☐ YES ☐ NO

Visitors to Job Site: _____

Construction Details

Final Bit Size & Type: _____ Total Borehole Depth: _____ ft.

Control Casing Size: _____ in. Control Casing Depth: _____ ft. to _____ ft.

Conductor Casing Size: _____ in. Conductor Casing Depth: _____ ft. to _____ ft.

Well Casing Diameter: _____ in. Completed Well Depth: _____ ft.

Perforation Slot Size: _____ in. Perforation Interval: _____ ft. to _____ ft.

Sand Info.: _____ Sand Interval: _____ ft. to _____ ft.

_____ *and* _____ ft. to _____ ft.

Grout Mix: _____ Grout Interval: _____ ft. to _____ ft.

Bottom Plug Info.: _____ *and** _____ ft. to _____ ft.

*Two grout intervals if bottom of borehole extended beyond completed well depth and was grouted prior to well construction.

Monitoring Well Construction Remarks

Inspector: **Permit No.:**

7:50 Arrived onsite. Gregg/Pitcher Drilling crew onsite. Set up over well putting pump rods in place. Bailing of the well was completed yesterday.

8:35 Began air purging well.

8:56 Kit Soo arrives. I depart.

- took readings periodically for purged wtr pumped fr. well (@ 15 mins increments generally)
- well purging complete @ 11:20 am
- removal of rods.

12:35
- set up @ 55/2W-01B011
- putting surge and other eq. in well to surge & then bail

13:50 I return to site. Well development complete for 55/2W-01B010.

ALAMEDA COUNTY WATER DISTRICT

MONITORING WELL SAMPLING RECORD

127.5/15m <50NTU-OK discrn

WELL ID: 5S/2W-01B01D
PROJECT NO:
PROJECT NAME:
DATE: 1-14-22
SAMPLED BY: PC/KS

DEPTH TO WATER: 31.48'
TOTAL DEPTH OF WELL: 240'
WELL DIAMETER: 2"
CASING VOLUME:
METHOD OF PURGING: AIR LIFT

TIME	CUMULATIVE VOL. REMOVED (GALLONS)	TEMPERATURE (°C)	pH (UNITS)	SPECIFIC CONDUCTANCE (UMHOS/CM)	REMARKS (COLOR, TURBIDITY & SEDIMENT)
9:05	255	16.7	6.65	2499	T=153 NTU
9:35	510	18.5	7.12	2439	T=162 NTU
9:45	637.5	18.3	7.31	2438	T=76 NTU
10:~~15~~	892.5	18.4	7.98	1788	T=37.8 NTU
10:30	1,020	18.6	7.91	2431	T=27.5 NTU
10:45	1,147.5	18.6	7.90	2441	T=27.5 NTU
11:00	1,275	18.6	8.08	2448	T=9.67 NTU
11:15	1,402.5	18.7	8.04	2446	T=7.81 NTU
11:30X	1,530 X				

NOTES: Began pump @ 9:35. Flow rate @ 8.5 gpm (255 g/30 mins)
Stopped purge at 11:20 AM ~ 1400 g pumped. DTW @ 31.64 6 to lid/grade 12:05 pm

Daily Development Report

Well Location: Site 1
Well Number: 53/2w-01B01D
Totalizer Start:
End:

Date: 1-14-22
Measured by: PC/KS

Discharge Pressure:

Remarks: ~1400 total gallons pumped

After V pump

TIME	FLOW RATE gpm	STATIC DTW ft.	PUMPING DTW ft.	DRAWDOWN ft.	SPEC. CAPACITY gpm/ft.	NO. OF SURGES	SAND TESTER		REMARKS
							READ	AMT	
12:05	8.5	31.48	31.64	0.16					

Site #1

ALAMEDA COUNTY WATER DISTRICT
43885 South Grimmer Blvd. • P.O. Box 5110
Fremont, CA 94537-5110
Permitting & Scheduling (510) 668-4460

APPLICATION FOR DRILLING PERMIT

ACWD ORDINANCE NO. 2010-01
COMPUTER POSTED

Application Received Date: 10/19/21 By: AS | Permit Issued Date: 12/7/21 | Permit Expiration Date: 2/7/22 | Job No. 10097 | Permit No. 2021-0345 | Well No. 5S/2W-01B009

JOB ADDRESS:
East side of Civic Center Park
37101 Newark Blvd, Newark, CA 94560

PROPERTY OWNER
NAME: City of Newark
ADDRESS: 37101 Newark Blvd,
Newark, CA 94560
TELEPHONE: (510) 578-4200

CONSULTING ENGINEER
NAME: Alameda County Water District
ADDRESS: 43885 South Grimmer Boulevard
Fremont, CA 94538
TELEPHONE: (510) 68-4452 RG/CEG/RCE NO. PG 5859

DRILLING CONTRACTOR
NAME: Pitcher Services, LLC
ADDRESS: 218 Demeter Street
East Palo Alto, CA 94303
E-MAIL ADDRESS: Terry Shewchuk <tshewchuk@pitcherservicesllc.com>
TELEPHONE: (650)328-8910 STATE LIC. NO. 1044895

When properly signed 1-MF

THIS APPLICATION IS A VALID PERMIT

to perform only work described below at the given job address, in accordance with ACWD Ordinance No. 2010-01 and all other applicable laws and regulations. Discontinuation of work may result in revocation of permit. ***Permittee must schedule the work in advance with ACWD.*** *ACWD's approval of drawings, designs, specifications, work plans, reports or incidental work and materials shall not relieve the permittee of responsibility for the technical adequacy of the work. Except for special circumstances, all work to be inspected must be performed within ACWD work hours – 7:00 a.m. to 4:30 p.m., Monday through Friday.*

PLEASE CHECK TYPE OF PROPOSED WORK
Each well or other excavation requires a separate permit application form unless otherwise indicated.
Only one specific type of work can be checked per permit application.

WELLS	EXPLORATORY HOLES	OTHER EXCAVATIONS
☒ CONSTRUCTION ☐ REPAIR ☐ DESTRUCTION	☐ CONSTRUCT./DESTRUCT.	☐ CONSTRUCTION ☐ REPAIR ☐ DESTRUCTION
☐ Water Well	*Multiple exploratory holes of the same type may be grouped together on the same permit application form.*	☐ Cathodic Protection Well ☐ Inclinometer
Monitoring Well:		☐ Vibrating Wire Piezometer ☐ Elevator Shaft
☒ Chemical Investigation	☐ Chemical Investigation	*Multiple other excavations of the same type may be grouped together on the same permit application form for the following:*
☐ Injection Well (for Chemical Cleanup)	☐ Injection Boreholes	☐ Cleanup Site Excavation(s) ☐ Wick Drains
☒ Geotechnical Investigation	☐ Soil Vapor Sampling	☐ Shaft, Tunnel, or Directional Borehole (s) ☐ Support Piers, Piles, or Caissons
☐ Geothermal Heat Exchange Well	☐ Geotechnical Investigation	☐ Other: Quantity:
☐ Dewatering Well *(Multiple dewatering wells may be grouped together on the same permit application form)* Quantity:	Quantity:	

DESCRIPTION OF PROPOSED WORK:
Installation of 2" diameter monitoring well
Well Name: Civic Center Park 1-MF

TOTAL ESTIMATED COST $

PERMIT CONDITIONS:
Monitoring Well Construction to comply with current ACWD Standards

FEES: ☐ Private ☐ City ☒ Governmental Agency
GUARANTEE OF PERFORMANCE: ☐ Cash Deposit ☐ Bond
REFUND: Amount $ Reason:

FEES/ DEPOSIT: Date Received Estimated Amount $
Check No. Actual Amount $
Cash Difference $

ACWD SITE NO. 0
APPROVED FOR SCHEDULING BY: DATE: 12/7/2021 APPROVED BY: DATE: 12/7/2021

I hereby agree to comply with all conditions of this permit in accordance with ACWD Ordinance No. 2010-01 and to furnish the District a completed copy of D.W.R. Drillers Report (form 188) within sixty (60) days after completion as well as any chemical testing results within thirty (30) days after completion.

Title: Associate Hydrogeologist Signature: Date: 10/12/2021

Representing: Alameda County Water District Name (printed): Douglas Young

ACWD #458 11-12

ALAMEDA COUNTY WATER DISTRICT

Monitoring Well Construction

Inspector: Brianna Thomas
Permit No.: ~~2021-0286~~ 2021 - 0345

Job No.: 10097
Well No.: ~~4S/1W-32N003~~ 5S/2W-01B009

Date: 12/7/2021
Other Well ID: ~~3-MN~~ 1 - MF

Job Location: End of Civic Terrace Ave, Newark
~~Intersection of Blacow Rd and Brophy Dr~~

Contractor: Pitcher Services LLC

Major Equipment and Materials On-site

ITEM	MATERIALS RECEIVED TODAY
Drill Rig	
Support Truck x2	
Waste bin x 2	
Fork lift	

Contractor Arrival Time: 0700
Contractor Departure Time: 1700

Daily Start Depth: 0 ft.
Daily Finish Depth: 8 ft.

Daily Drill Bit Size(s): _____

Work Completed Summary: Moved to and set up at well site location, Hand augered well location.

ACWD Meter No.: _____ **Beginning Meter Reading:** _____ **End Meter Reading:** _____

Pictures Taken: ☒ YES ☐ NO File Location: _____

Visitors to Job Site: _____

Delays/Accidents: _____

Construction Details

Final Bit Size & Type: _____
Total Borehole Depth: _____ ft.

Control Casing Size: _____ in.
Control Casing Depth: _____ ft. to _____ ft.

Conductor Casing Size: _____ in.
Conductor Casing Depth: _____ ft. to _____ ft.

Well Casing Diameter: _____ in.
Completed Well Depth: _____ ft.

Perforation Slot Size: _____ in.
Perforation Interval: _____ ft. to _____ ft.

Sand Info.: _____
Sand Interval: _____ ft. to _____ ft.

_____
and _____ ft. to _____ ft.

Grout Mix: _____
Grout Interval: _____ ft. to _____ ft.

Bottom Plug Info.: _____
*and** _____ ft. to _____ ft.

*Two grout intervals if bottom of borehole extended beyond completed well depth and was grouted prior to well construction.

Monitoring Well Construction Remarks

Inspector: Brianna Thomas **Permit No.:** 2021-0345

1455 - Arrive onsite, Pitcher Drilling (Marcos/Andrew) onsite. They are finishing setting up equipment at drilling site.

1511 - Begin hand clearing well location with hand auger

16:08 - Boring hand cleared to 8', Doug Young logging soil, crew is securing hole now

1641 ~~1630~~ Left site, boring secured and protected.

Monitoring Well Construction

Inspector: Brianna Thomas

Permit No.: 2021-~~0286~~ 0345

Job No.: 10097

Well No.: ~~4S/1W-32N003~~ 5S/2W-01B009

Date: 12/8/21

Other Well ID: ~~3-MN~~ 1-MF

Job Location: ~~Intersection of Blacow Rd and Brophy Dr~~ End of Civic Terrace Ave, Newark

Contractor: Pitcher Services LLC

Major Equipment and Materials On-site

ITEM	MATERIALS RECEIVED TODAY
Drill Rig	
Support Truck x2	
Waste bin x2	
Forklift	

Contractor Arrival Time: 0700

Contractor Departure Time: 1700

Daily Start Depth: 8 ft.

Daily Finish Depth: 190 ft.

Daily Drill Bit Size(s): 8"

Work Completed Summary: 8" borehole drilled to 190'.

ACWD Meter No.: _____ **Beginning Meter Reading:** _____ **End Meter Reading:** _____

Pictures Taken: ☐ YES ☐ NO File Location: _____

Visitors to Job Site: _____

Delays/Accidents: _____

Construction Details

Final Bit Size & Type: _____

Total Borehole Depth: _____ ft.

Control Casing Size: _____ in.

Control Casing Depth: _____ ft. to _____ ft.

Conductor Casing Size: _____ in.

Conductor Casing Depth: _____ ft. to _____ ft.

Well Casing Diameter: _____ in.

Completed Well Depth: _____ ft.

Perforation Slot Size: _____ in.

Perforation Interval: _____ ft. to _____ ft.

Sand Info.: _____

Sand Interval: _____ ft. to _____ ft.

and _____ ft. to _____ ft.

Grout Mix: _____

Grout Interval: _____ ft. to _____ ft.

Bottom Plug Info.: _____

*and** _____ ft. to _____ ft.

*Two grout intervals if bottom of borehole extended beyond completed well depth and was grouted prior to well construction.

Monitoring Well Construction Remarks

Inspector: Brianna Thomas Permit No.: 2021-0345

0810- Arrive onsite, Pitcher services onsite (Marcos/Andrew), they have mixed mud and are getting ready to begin mud rotary drilling with 8" bit.

1030- Doug Young arrives onsite, currently at 55'.

1050- Doug Young departs site.

1520- Doug Young arrives onsite, currently at 175'.

1600- Drillers reached 190', pulling rods to secure boring

1625- Boring has been secured and protected, left site.

Monitoring Well Construction

Inspector: Brianna Thomas

Permit No.: 2021-~~0286~~ 0345

Job No.: 10097

Well No.: ~~4S/1W-32N003~~ ~~5S/2W-01B003~~ 1-MF

Date: 12/9/21

Other Well ID: ~~3-MN~~

Job Location: ~~Intersection of Blacow Rd and Brophy Dr~~ End of Civic Terrace Ave, Newark

Contractor: Pitcher Services LLC

Major Equipment and Materials On-site

ITEM	MATERIALS RECEIVED TODAY

Contractor Arrival Time: 0700

Contractor Departure Time: 1700

Daily Start Depth: 190 ft.

Daily Finish Depth: 260 ft.

Daily Drill Bit Size(s): 8"

Work Completed Summary: Continue drilling 8" well boring, took drive sample at 260'

ACWD Meter No.: _____ **Beginning Meter Reading:** _____ **End Meter Reading:** _____

Pictures Taken: ☐ YES ☐ NO File Location: _____

Visitors to Job Site: _____

Delays/Accidents: _____

Construction Details

Final Bit Size & Type: _____

Total Borehole Depth: _____ ft.

Control Casing Size: _____ in.

Control Casing Depth: _____ ft. to _____ ft.

Conductor Casing Size: _____ in.

Conductor Casing Depth: _____ ft. to _____ ft.

Well Casing Diameter: _____ in.

Completed Well Depth: _____ ft.

Perforation Slot Size: _____ in.

Perforation Interval: _____ ft. to _____ ft.

Sand Info.: _____

Sand Interval: _____ ft. to _____ ft.

_____

and _____ ft. to _____ ft.

Grout Mix: _____

Grout Interval: _____ ft. to _____ ft.

Bottom Plug Info.: _____

*and** _____ ft. to _____ ft.

*Two grout intervals if bottom of borehole extended beyond completed well depth and was grouted prior to well construction.

Monitoring Well Construction Remarks

Inspector: Brianna Thomas Permit No.: 2021-0345

0749- Arrive onsite, Pitcher Services onsite (Marcos/Andrew)
-they are setting up to begin drilling.
0832- Drillers tagged water at 14', sending down rods to begin drilling.
0901 - Begin flushing out boring at 60', boring bridged at this depth.
1005 - Back down to 190', flushing out boring and will continue drilling deeper.
1121 - Doug Young arrives onsite
1315 - Reached 250', Doug Young departs site, he will return later to finish logging
1411 - Reached 260', preparing to take a drive sample as instructed by Doug Young.
1520 - Doug Young arrives onsite to complete logging.
1555 - Drive sample collected at 260' to 261'
1621 - Boring has been secured and protected.
1629 - left site

ALAMEDA COUNTY WATER DISTRICT

Monitoring Well Construction

Inspector: Brianna Thomas

Permit No.: 2021-~~0286~~ 0345

Job No.: 10097

Well No.: ~~4S/1W-32N003~~ 5S/2W-01B009

Date: 12/10/24

Other Well ID: ~~3-MN~~ 1-MF

Job Location: ~~Intersection of Blacow Rd and Brophy Dr~~ End of Civic Terrace Ave, Newark

Contractor: Pitcher Services LLC

Major Equipment and Materials On-site

ITEM	MATERIALS RECEIVED TODAY
Drill Rig	
Support Truck	
Waste Bins	
Forklift	

Contractor Arrival Time: 0700

Contractor Departure Time: 1700

Daily Start Depth: 260 ft.

Daily Finish Depth: 340 ft.

Daily Drill Bit Size(s): 8"

Work Completed Summary: Continue drilling 8" borehole to 340', collected bulk sample. ~~from~~ @

ACWD Meter No.: _____ **Beginning Meter Reading:** _____ **End Meter Reading:** _____

Pictures Taken: ☐ YES ☐ NO File Location: _____

Visitors to Job Site: _____

Delays/Accidents: _____

Construction Details

Final Bit Size & Type: _____

Total Borehole Depth: _____ ft.

Control Casing Size: _____ in.

Control Casing Depth: _____ ft. to _____ ft.

Conductor Casing Size: _____ in.

Conductor Casing Depth: _____ ft. to _____ ft.

Well Casing Diameter: _____ in.

Completed Well Depth: _____ ft.

Perforation Slot Size: _____ in.

Perforation Interval: _____ ft. to _____ ft.

Sand Info.: _____

Sand Interval: _____ ft. to _____ ft.

_____

and _____ ft. to _____ ft.

Grout Mix: _____

Grout Interval: _____ ft. to _____ ft.

Bottom Plug Info.: _____

*and** _____ ft. to _____ ft.

*Two grout intervals if bottom of borehole extended beyond completed well depth and was grouted prior to well construction.

Monitoring Well Construction Remarks

Inspector: Brianna Thomas Permit No.: 2021-0345

0751 - Arrive onsite, Pitcher Services onsite (Marcos/Andrew) they are preparing to begin drilling

0805 - Sending rods down hole, will begin flushing out boring at 60'

1003 - Boring has been flushed out down to 260', continue drilling.

1245 - Drillers are currently at 290' - in a stiff clay, spoke with Ava Lazor - she will come to the site to log this afternoon at 3-3:30pm.

1441 - Hit sand/gravels, driller begins collecting bulk sample.

1555 - Ava Lazor arrives onsite to get sampler for logging.

1610 - Ava Lazor departs site, Drillers reached 348' and are pulling rods.

16:27 - Boring has been secured and protected. left site.

ALAMEDA COUNTY WATER DISTRICT

Monitoring Well Construction

Inspector: Jeremy Bautista | **Permit No.:** 2021-0345

Job No.: 10097 | **Well No.:** 5S/2W-01B009

Date: 12-13-21 | **Other Well ID:** 1-MF

Job Location: End of Civic Terrace Ave, Newark

Contractor: Pitcher Services LLC

Major Equipment and Materials On-site

ITEM	MATERIALS RECEIVED TODAY
Fraste Mud R	
Water Truck	
Crew F-150	
Port-a-potty	

Contractor Arrival Time: _____ Contractor Departure Time: _____

Daily Start Depth: _____ ft. Daily Finish Depth: 350 ft.

Daily Drill Bit Size(s): _____

Work Completed Summary: sampled @ 350'

ACWD Meter No.: _____ **Beginning Meter Reading:** _____ **End Meter Reading:** _____

Pictures Taken: ☐ YES ☐ NO File Location: _____

Visitors to Job Site: _____

Delays/Accidents: broken hydrolic seal

Construction Details

Final Bit Size & Type: _____ Total Borehole Depth: _____ ft.

Control Casing Size: _____ in. Control Casing Depth: _____ ft. to _____ ft.

Conductor Casing Size: _____ in. Conductor Casing Depth: _____ ft. to _____ ft.

Well Casing Diameter: _____ in. Completed Well Depth: _____ ft.

Perforation Slot Size: _____ in. Perforation Interval: _____ ft. to _____ ft.

Sand Info.: _____ Sand Interval: _____ ft. to _____ ft.

and _____ ft. to _____ ft.

Grout Mix: _____ Grout Interval: _____ ft. to _____ ft.

Bottom Plug Info.: _____ *and** _____ ft. to _____ ft.

*Two grout intervals if bottom of borehole extended beyond completed well depth and was grouted prior to well construction.

Monitoring Well Construction Remarks

Inspector: **Permit No.:** 2021-0345

drilling
to 150'.

down for

1500 - currently @ 350'. Doug wants them to continue to 360'.

1505 - Doug arrives on site.

ALAMEDA COUNTY WATER DISTRICT

Monitoring Well Construction

Inspector: Jeremy Bautista | **Permit No.:** 2021-0345

Job No.: 10097 | **Well No.:** 5S/2W-01B009

Date: 12.14.21 | **Other Well ID:** 1-MF

Job Location: End of Civic Terrace Ave, Newark

Contractor: Pitcher Services LLC

Major Equipment and Materials On-site

ITEM	MATERIALS RECEIVED TODAY
Fraste Mud Rot	
Water Truck	
Fork Lift / Pum	
Crew truck	

Contractor Arrival Time: _____ Contractor Departure Time: 5:00

Daily Start Depth: _____ ft. Daily Finish Depth: 400 ft.

Daily Drill Bit Size(s): _____

Work Completed Summary: Drilled to 400' total depth. E-logged hole and grouted to 352'.

ACWD Meter No.: _____ **Beginning Meter Reading:** _____ **End Meter Reading:** _____

Pictures Taken: ☑ YES ☐ NO File Location: _____

Visitors to Job Site: _____

Delays/Accidents: _____

Construction Details

Final Bit Size & Type: _____ Total Borehole Depth: _____ ft.

Control Casing Size: _____ in. Control Casing Depth: _____ ft. to _____ ft.

Conductor Casing Size: _____ in. Conductor Casing Depth: _____ ft. to _____ ft.

Well Casing Diameter: _____ in. Completed Well Depth: _____ ft.

Perforation Slot Size: _____ in. Perforation Interval: _____ ft. to _____ ft.

Sand Info.: _____ Sand Interval: _____ ft. to _____ ft.

_____ *and* _____ ft. to _____ ft.

Grout Mix: _____ Grout Interval: _____ ft. to _____ ft.

Bottom Plug Info.: _____ *and** _____ ft. to _____ ft.

*Two grout intervals if bottom of borehole extended beyond completed well depth and was grouted prior to well construction.

Monitoring Well Construction Remarks

Inspector: Jeremy Bautista **Permit No.:** 2021-0345

0835- arrive on site. Pitcher (Marcos/Andrew) on site. Currently @ 280'. cleaning the boring.
1015 - reach 360'. Took cutting samples @ 355' & 360'
1025 - remove cuttings to the roll-out bin.
1100 - reach 370'. Took cutting samples @ 365' & 370'.
1115 - Doug Young arrives on site
1145 - reach 380'
1220 - reach 390'
1240 - Pablo Cortez arrives on site to claim inspection.
1250 - Jeremy Bautista leaves site
13:06 Reached 400'.
13:13 Doug Young departs.
14:14 Pulled out rods. Awaiting e-logger.
14:20 Doug Young returns.
14:37 E-logger arrives.
15:35 E-logging complete. Doug Young departs site.
15:43 E-logger departs.
16:27 Set 2" steel tremie pipe to bottom, mixed grout (Type II/V).
16:40 Completed tremie grouting. Pulling out rods. Grouted to ~~355'~~ 352'. (PC)
17:00 Pulled out rods and secured hole. Departed site.

Monitoring Well Construction

Inspector: Pablo Cortez
Job No.: 10097
Date: 12-15-21

Permit No.: 2021-0345
Well No.: 5S/2W-01B009
Other Well ID: 1-MF

Job Location: End of Civic Terrace Ave, Newark
Contractor: Pitcher Services LLC

Major Equipment and Materials On-site

ITEM	MATERIALS RECEIVED TODAY
Drill rig	
Support trucks	
Forklift	
Waste bins	

Contractor Arrival Time: 7:00
Contractor Departure Time: 5:00
Daily Start Depth: ft.
Daily Finish Depth: ft.
Daily Drill Bit Size(s):

Work Completed Summary: Installed well casing and sand pack.

ACWD Meter No.: **Beginning Meter Reading:** **End Meter Reading:**

Pictures Taken: ☑ YES ☐ NO File Location:
Visitors to Job Site: Doug Young, Diana Conkle, Robin Guillot
Delays/Accidents:

Construction Details

Final Bit Size & Type: 8"
Total Borehole Depth: 400 ft.
Control Casing Size: in.
Control Casing Depth: ft. to ft.
Conductor Casing Size: in.
Conductor Casing Depth: ft. to ft.
Well Casing Diameter: 2 in.
Completed Well Depth: ft.
Perforation Slot Size: in.
Perforation Interval: ft. to ft.
Sand Info.:
Sand Interval: ft. to ft.
and ft. to ft.
Grout Mix:
Grout Interval: ft. to ft.
Bottom Plug Info.:
*and** ft. to ft.

*Two grout intervals if bottom of borehole extended beyond completed well depth and was grouted prior to well construction.

Monitoring Well Construction Remarks

Inspector: **Permit No.:** 2021-0345

* See attached *

PERMIT NO. 2021-0345 WELL NO. 5S/2W-01B009 1-MP

INSPECTOR	DATE	TIME	REMARKS
bld Cortez	12-15-21	7:55	Arrived onsite. Pitcher Drilling crew is onsite getting everything ready.
		8:08	Lowering rods down the hole.
		8:26	Began flushing out hole.
		9:19	Doug Young arrives. Delivers well construction diagram. Drillers still flushing out the hole.
		10:18	Regional Water Board staff (Diana + Robin) arrive.
		11:07	Doug departs with Regional Board staff.
		11:17	Preparing to install well materials. Flushing complete. Removed rods.
		11:40	Installed 30' of screen with 10' blank at the bottom. Centralizers placed in the middle and top of screen.
		12:36	Casing installed (2" sch. 80 PVC). Centralizers placed every 25'.
		13:05	Begin pouring sand (#3).
		13:10	Doug Young returns with Regional Board staff.
		13:30	Regional Board staff depart. Still pouring sand.
		15:17	Sand is at 312'.
		16:00	Sand brought up to 297'. Sand from 297' - 352'. Flushing hole a bit more to clear up the murky water.
		16:17	Flushing complete. Secured hole. Will grout tomorrow. Departed site.

NUMBER OF EXPLORATORY HOLES _____

WORK COMPLETED _____ (DATE) OR PERMIT VOIDED _____ (DATE)

COPY OF PERMIT TO _____ (REVIEWING INDIVIDUAL) ON _____ (DATE) BY _____ (INITIALS)

Monitoring Well Construction

Inspector: Pablo Cortez
Job No.: 10097
Date: 12-16-21

Permit No.: 2021-0345
Well No.: 5S/2W-01B009
Other Well ID: 1-MF

Job Location: End of Civic Terrace Ave, Newark
Contractor: Pitcher Services LLC

Major Equipment and Materials On-site

ITEM	MATERIALS RECEIVED TODAY
Drill rig	
Support trucks	
Forklift	
Waste bins	

Contractor Arrival Time: 7:00
Contractor Departure Time: 5:00
Daily Start Depth: ft.
Daily Finish Depth: ft.
Daily Drill Bit Size(s):

Work Completed Summary: Completed well construction by tremie grouting to surface.

ACWD Meter No.: **Beginning Meter Reading:** **End Meter Reading:**

Pictures Taken: ☑ YES ☐ NO File Location:
Visitors to Job Site: Doug Young, Kit Soo
Delays/Accidents:

Construction Details

Final Bit Size & Type: 8"
Control Casing Size: in.
Conductor Casing Size: in.
Well Casing Diameter: 2 in.
Perforation Slot Size: in.
Sand Info.: #3

Grout Mix: Type II/V
Bottom Plug Info.:

Total Borehole Depth: 400 ft.
Control Casing Depth: ft. to ft.
Conductor Casing Depth: ft. to ft.
Completed Well Depth: 352 ft.
Perforation Interval: 310.67 ft. to 340.67 ft.
Sand Interval: 290 ft. to 352 ft.
and ft. to ft.
Grout Interval: 0 ft. to 290 ft.
*and** 352 ft. to 400 ft.

*Two grout intervals if bottom of borehole extended beyond completed well depth and was grouted prior to well construction.

Monitoring Well Construction Remarks

Inspector: **Permit No.:** 2021-0345

7:15 Arrived onsite. Drill crew onsite getting set up.

7:~~30~~ 59 (PC) Placed 3/4" PVC tremie pipe to bottom. Sand tagged at 290'.

8:00 Driller departs to get more water.

8:37 Driller returns with water.

8:55 Mixed grout (Type II/V).

9:04 Began tremie grouting.

10:16 Doug Young arrives.

10:39 Doug Young departs.

12:02 Ran out of cement. Grout is getting close to surface. More cement is on the way.

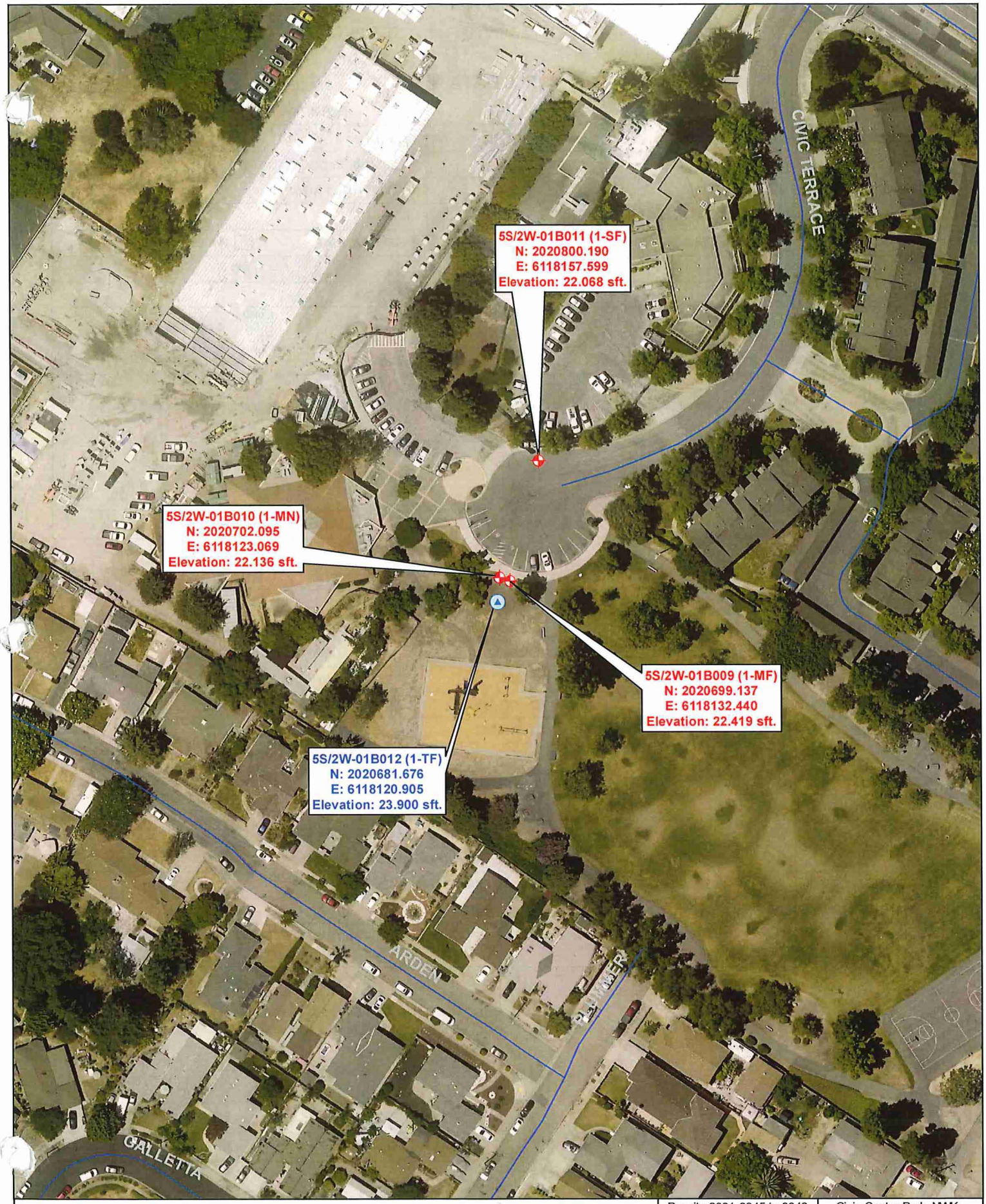
12:10 More cement arrives.

12:57 Completed tremie grouting to surface with neat cement. (B) ~~18.5~~ 18.5 batches total. Well construction complete.

13:29 Doug Young returns with Kit Soo.

13:35 Doug and Kit depart site.

16:00 Departed site.



ACWD
ALAMEDA COUNTY WATER DISTRICT

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Well Location Map

Permits 2021-0345 to 0348	Civic Center Park, NWK
5S/2W-01B009 to B012	1:1200
Monitoring Well	03.10.2022
Water Well	Drawn By: Jeremy Bautista

WELL DATA

STATE WELL NO. 5S/2W-01B009

PERMIT NO. 2021-0345

OWNER: Alameda County Water District	SITE ID:
ADDRESS: 43885 S. Grimmer Blvd, FMT	WELL NAME: 5S/2W-01B009
TENANT:	OWNER NO.: 1-MF
SITE ADDRESS Northwest side of Civic Center Park, NWK	1-MF

TYPE OF WELL ☐ SPECIAL STUDIES ☐ MONTHLY ☐ SEMI ANNUAL ☐ WATER QUALITY

LOCATION COUNTY: Alameda County BASIN: Niles Cone NO.

U.S.G.S. QUAD. QUAD NO.

1/4 1/4 SECTION TWP. RGE. ☐MD ☐SB ☐H BASE & MERIDIAN

COORDINATES (NAD83) NORTHING: 2020699.137 EASTING: 6118132.440 SOURCE Trimble R8

DESCRIPTION:

Well is located in a 12" round EMCO Wheaton Christy Box at the south curve of Civic Terrace Ave. just north of the playground area (left-most well when facing play area).

REFERENCE POINT DESCRIPTION:

Top center of the christy box lid

WHICH IS FT. ABOVE ☐ BELOW ☐ LAND SURFACE DATUM GROUND ELEVATION FT.

REFERENCE POINT ELEVATION 22.419 FT. DETERMINED FROM: Top center of the christy box lid

WELL USE: Groundwater Monitoring CONDITION: new DEPTH: 352 FT.

CASING, SIZE 2 IN., PVC PERFORATIONS: 310.67-340.67' SLOT SIZE: 0.020"

MEASUREMENTS BY ☐ DWR ☐ USGS ☐ USBR ☐ COUNTY ☐ IRR. DIST. ☐ WATER DIST. ☐ CONS. DIST. ☐ OTHER

GRAVEL PACK? ☑ YES ☐ NO	DEPTH TO TOP GR. 290'	DEPTH TO BOT GR. 352'
TYPE OF MATERIAL: #3 Sand	PERM. RATING	THICKNESS
CHIEF AQUIFER	DEPTH TO TOP AQ.	DEPTH TO BOT. AQ.
SUPP. AQUIFER	DEPTH TO TOP AQ.	DEPTH TO BOT. AQ.

DRILLER: Pitcher Serv. (Marcos/Andrew) DATE DRILLED: 12-16-2021 LOG NUMBER (DWR 188)

WELL PUMP TYPE	MAKE	MODEL	SERIAL NO.
WATER ANALYSIS MIN.	SAN.	H.M.	

POWER SOURCE		WATER LEVELS AVAILABLE? ☐ YES ☐ NO	
H.P.	MOTOR SERIAL NO	PERIOD OF RECORD BEGIN	END
ELEC. METER NO.	TRANSFORMER NO.	COLLECTING AGENCY	
SIZE OF DISCHARGE PIPE		IN.	
YIELD G.P.M.	PUMPING LEVEL FT.	PROD. REC.	PUMP TEST / YIELD

SKETCH



REMARKS

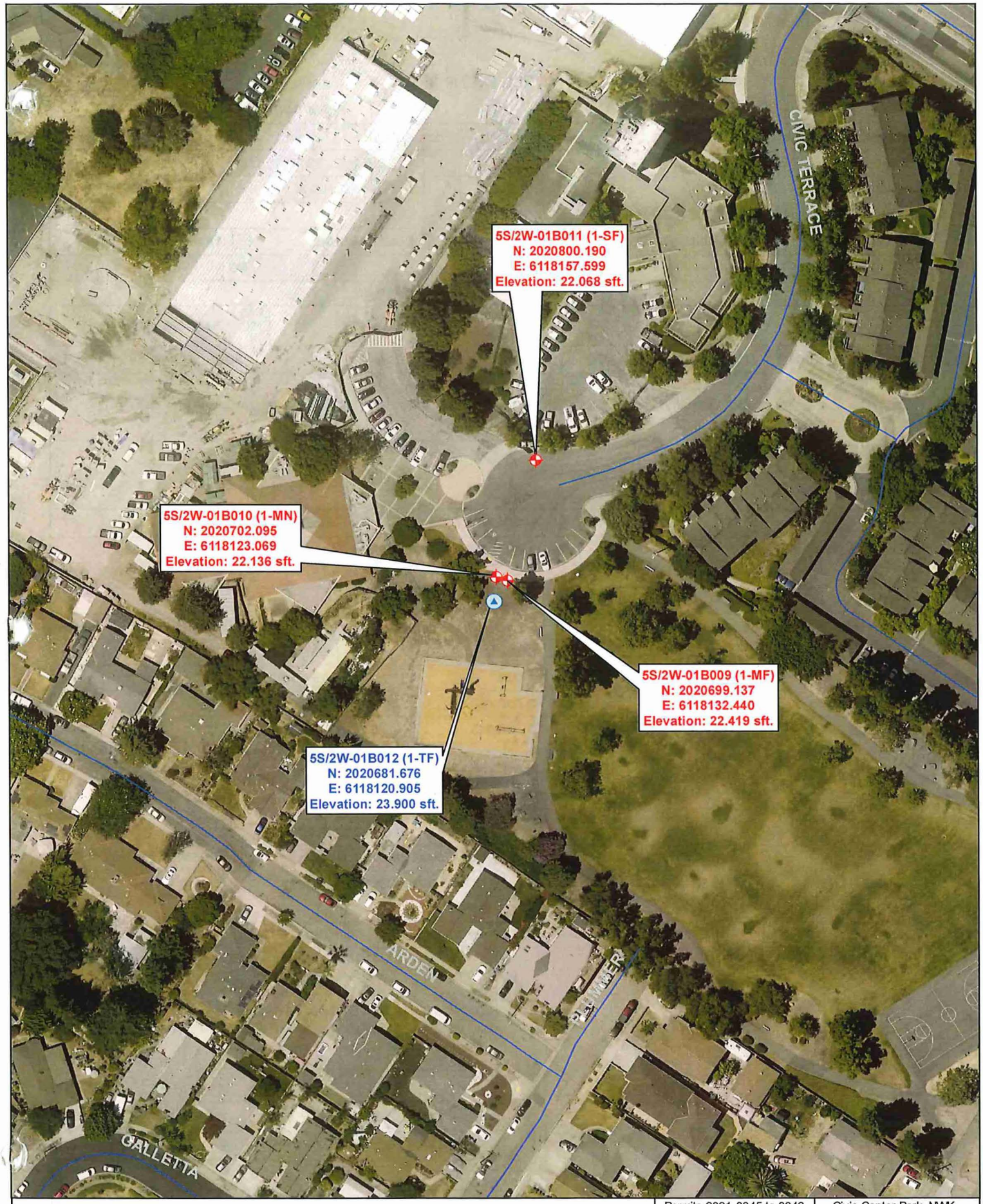
400' total depth of original borehole
12" round EMCO Wheaton christy box
0.5-310.67' – 2" blank Schedule 80 PVC casing
340.67-352' – 2" blank Schedule 80 PVC casing + end cap

PERMIT NO.: 2021-0345

SANITARY SEAL: 1-290' - Type II/V neat cement

RECORDED BY: Jeremy Bautista

DATE: 03-15-2022



ACWD
ALAMEDA COUNTY WATER DISTRICT

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Well Location Map

Permits 2021-0345 to 0348	Civic Center Park, NWK
5S/2W-01B009 to B012	1:1200
Monitoring Well	03.10.2022
Water Well	Drawn By: Jeremy Bautista

WELL DATA

STATE WELL NO. 5S/2W-01B009

PERMIT NO. 2021-0345

OWNER: Alameda County Water District	**SITE ID:**
ADDRESS: 43885 S. Grimmer Blvd, FMT	**WELL NAME:** 5S/2W-01B009
TENANT:	**OWNER NO.:** 1-MF
SITE ADDRESS Northwest side of Civic Center Park, NWK	1-MF

TYPE OF WELL ☐ SPECIAL STUDIES ☐ MONTHLY ☐ SEMI ANNUAL ☐ WATER QUALITY

LOCATION COUNTY: Alameda County **BASIN:** Niles Cone **NO.**

U.S.G.S. QUAD. **QUAD NO.**

1/4 1/4 SECTION TWP. RGE. ☐MD ☐SB ☐H BASE & MERIDIAN

COORDINATES (NAD83) **NORTHING:** 2020699.137 **EASTING:** 6118132.440 **SOURCE** Trimble R8

DESCRIPTION:

Well is located in a 12" round EMCO Wheaton Christy Box at the south curve of Civic Terrace Ave. just north of the playground area (left-most well when facing play area).

REFERENCE POINT DESCRIPTION:

Top center of the christy box lid

WHICH IS FT. ABOVE ☐ BELOW ☐ **LAND SURFACE DATUM** **GROUND ELEVATION** FT.

REFERENCE POINT ELEVATION 22.419 FT. **DETERMINED FROM:** Top center of the christy box lid

WELL USE: Groundwater Monitoring **CONDITION:** new **DEPTH:** 352 FT.

CASING, SIZE 2 IN., PVC **PERFORATIONS:** 310.67-340.67' **SLOT SIZE:** 0.020"

MEASUREMENTS BY ☐ DWR ☐ USGS ☐ USBR ☐ COUNTY ☐ IRR. DIST. ☐ WATER DIST. ☐ CONS. DIST. ☐ OTHER

GRAVEL PACK? ☑ YES ☐ NO	**DEPTH TO TOP GR.** 290'	**DEPTH TO BOT GR.** 352'
TYPE OF MATERIAL: #3 Sand	**PERM. RATING**	**THICKNESS**
CHIEF AQUIFER	**DEPTH TO TOP AQ.**	**DEPTH TO BOT. AQ.**
SUPP. AQUIFER	**DEPTH TO TOP AQ.**	**DEPTH TO BOT. AQ.**

DRILLER: Pitcher Serv. (Marcos/Andrew) **DATE DRILLED:** 12-16-2021 **LOG NUMBER** (DWR 188)

WELL PUMP TYPE	**MAKE**	**MODEL**	**SERIAL NO.**
WATER ANALYSIS MIN.	**SAN.**	**H.M.**	
POWER SOURCE		**WATER LEVELS AVAILABLE?** ☐ YES ☐ NO	
H.P.	**MOTOR SERIAL NO**	**PERIOD OF RECORD BEGIN**	**END**
ELEC. METER NO.	**TRANSFORMER NO.**	**COLLECTING AGENCY**	
SIZE OF DISCHARGE PIPE		**IN.**	
YIELD G.P.M.	**PUMPING LEVEL** FT.	**PROD. REC.**	**PUMP TEST** **YIELD**

SKETCH

N

REMARKS

400' total depth of original borehole
12" round EMCO Wheaton christy box
0.5-310.67' – 2" blank Schedule 80 PVC casing
340.67-352' – 2" blank Schedule 80 PVC casing + end cap

PERMIT NO.: 2021-0345

SANITARY SEAL: 1-290' - Type II/V neat cement

RECORDED BY: Jeremy Bautista

DATE: 03-15-2022

PERMIT NO. _____ WELL NO. _____

INSPECTOR	DATE	TIME	REMARKS
Pablo Cortez	1-13-22	7:40	Arrive.
			DTW = 25.71' } 5S/2W-01B009
			TD = ~340' }
		8:00	Setting up on well. (1-MF)
		8:24	Bailing well.
		10:00	Finished bailing well. DTW = 28.63.
			TD = 352'.
		10:50	Preparing for airlift purge.
		11:00	Began air purge.
		13:20	Stopped air purge.
		14:10	Pulled out purge rods. Final depth to water
			was 26.08.
		14:18	Setting up on 1-MC.
			31.48 = DTW, 212 = TD
		14:30	Began bailing well 1-MC.
		15:40	Completed bailing 1-MC. Well cleaned
			out to total depth of 240'.

NUMBER OF EXPLORATORY HOLES _____

WORK COMPLETED _____ (DATE) OR PERMIT VOIDED _____ (DATE)

COPY OF PERMIT TO _____ (REVIEWING INDIVIDUAL) ON _____ (DATE) BY _____ (INITIALS)

ALAMEDA COUNTY WATER DISTRICT

MONITORING WELL SAMPLING RECORD

WELL ID: 5S/2W-01B009 — DEPTH TO WATER: 25.71'
PROJECT NO: — TOTAL DEPTH OF WELL: 352'
PROJECT NAME: — WELL DIAMETER: 2"
DATE: 1-13-22 — CASING VOLUME:
SAMPLED BY: PC — METHOD OF PURGING: Air Lift

TIME	CUMULATIVE VOL. REMOVED (GALLONS)	TEMPERATURE (°C)	pH (UNITS)	SPECIFIC CONDUCTANCE (UMHOS/CM)	REMARKS (COLOR, TURBIDITY & SEDIMENT)
11:27	200	20	6.38	3076	T= 2.64 NTU's
12:00	500	19.8	7.40	3058	T= 0.80 NTU
12:15	625	20.1	7.87	3075	T= 0.56 NTU
12:30	750	20.4	7.97	3091	T= 0.54 NTU
12:45	875	20.0	7.99	3105	T= 0.41 NTU
13:00	1,000	20.0	7.99	3122	T= 0.36 NTU
13:15	1,125	19.7	8.00	3123	T= 0.35 NTU

NOTES: Total depth at start = ~340'. Began purge at 11:00. Flow rate = 8 gal/min (250 gal./30 min.). Stopped purge at 13:20. ~1200 gals total purged. DTW after purge was 26.08'.

Daily Development Report

Well Location: Site 1
Well Number: 55/2W-01B009
Totalizer Start:
End:

Date: 1-13-22
Measured by: PC
Discharge Pressure:

Remarks: ~1200 gallons total purged. Beginning DTW = 25.71. Final DTW = 26.08

TIME	FLOW RATE gpm	STATIC DTW ft.	PUMPING DTW ft.	DRAWDOWN ft.	SPEC. CAPACITY gpm/ft.	NO. OF SURGES	SAND TESTER READ	SAND TESTER AMT	REMARKS
11:27	8	25.71							
14:10	8	26.08		0.37					

PUMPING TEST RECORD OF:
☐ OBSERVATION WELL
☐ PUMPING WELL

WELL: 55/2w - 01B009

Sheet 1 of 2

PROJECT AND LOCATION: NCGB well site Eval Project - Site 1		ELEVATION AND DATUM:	PROJECT NO.: 10097
PUMPING WELL: 1-TF	OBSERVATION WELL: 1-MF	TIME STARTED: 8:00	TIME FINISHED: 11:00
RADIUS: 2" / DEPTH: 350	DEPTH: / DISTANCE OBS TO PUMPING: 20	MEASURING POINT (MP): Top of casing	CASING HEIGHT:
PUMP SETTING: — / ORIFICE SIZE: —	RECORDER: D. Young	CONTRACTOR: P. Fcher	
PUMP: Flow Rate of Pumping well 52 gpm		FOREMAN: D. Young	
ELECTRICAL EQUIPMENT:		INSPECTOR:	

DATE AND TIME	TIME SINCE START OF PUMPING, t (MIN)	t/R² (DAY/FEET²)	TIME SINCE PUMPING STOPPED, t' (MIN)	RATIO t/t'	WATER LEVEL DATA: WATER LEVEL BELOW MP (FEET)	WATER LEVEL DATA: DRAWDOWN, s (FEET)	WATER LEVEL DATA: RESIDUAL DRAWDOWN, s' (FEET)	PUMPING DATA: ORIFICE MANOMETER READING (INCHES)	PUMPING DATA: DISCHARGE (ORIFICE) (GPM)	PUMPING DATA: DISCHARGE (BY) (GPM)	PUMPING DATA: ENGINE SPEED (RPM)	WATER QUALITY: TEMPERATURE (°C.)	WATER QUALITY: SPECIFIC CONDUCTANCE (μ MHOS/CM @ 25°C.)	REMARKS
3/29	0.1													27.73
	0.5													27.75
	1													27.78
	1.5													27.83
	2													27.85
	2.5													27.89
	3													27.94
	3.5													27.95
	4													27.97
	4.5													28.00
	5													28.01
	5.5													28.01
	6													28.02
	6.5													28.03
	7													28.04
	7.5													28.04
	10													28.05
	16													28.06
	18													28.07
	20													28.10
	25													28.10
	30													28.11
	35													28.15
	40													28.17
	45													28.20

WELL:

PUMPING TEST RECORD OF:
☐ OBSERVATION WELL
☐ PUMPING WELL

WELL:

DATE AND TIME	TIME SINCE START OF PUMPING, t (MIN)	t/R² (DAY/FEET²)	TIME SINCE PUMPING STOPPED, t' (MIN)	RATIO t/t'	WATER LEVEL DATA			PUMPING DATA				WATER QUALITY		REMARKS
					WATER LEVEL BELOW MP (FEET)	DRAWDOWN, s (FEET)	RESIDUAL DRAWDOWN, s' (FEET)	ORIFICE MANOMETER READING (INCHES)	DISCHARGE (ORIFICE) (GPM)	DISCHARGE (BY) (GPM)	ENGINE SPEED (RPM)	TEMPERATURE (°C.)	SPECIFIC CONDUCTANCE (μMHOS/CM @ 25°C.)	
3/29	50													28.20
	55													28.21
	60													28.21
	70													28.21
	80													28.23
	90													28.25
	100													28.29
	130													28.31
	150													28.33
	170													28.35
			.3											28.24
			.7											28.22
			1											28.21
			1.5											28.20
			2											28.20
			2.5											28.19
			3											28.18
			3.5											28.14
			4											28.12
			4.5											28.11
			5											28.06
			6											28.03
			7											28.00
			8											27.98
			9											27.96
			10											27.91
			15											27.88
			20											27.83
			25											27.81
			30											27.78

WELL: 1-MF

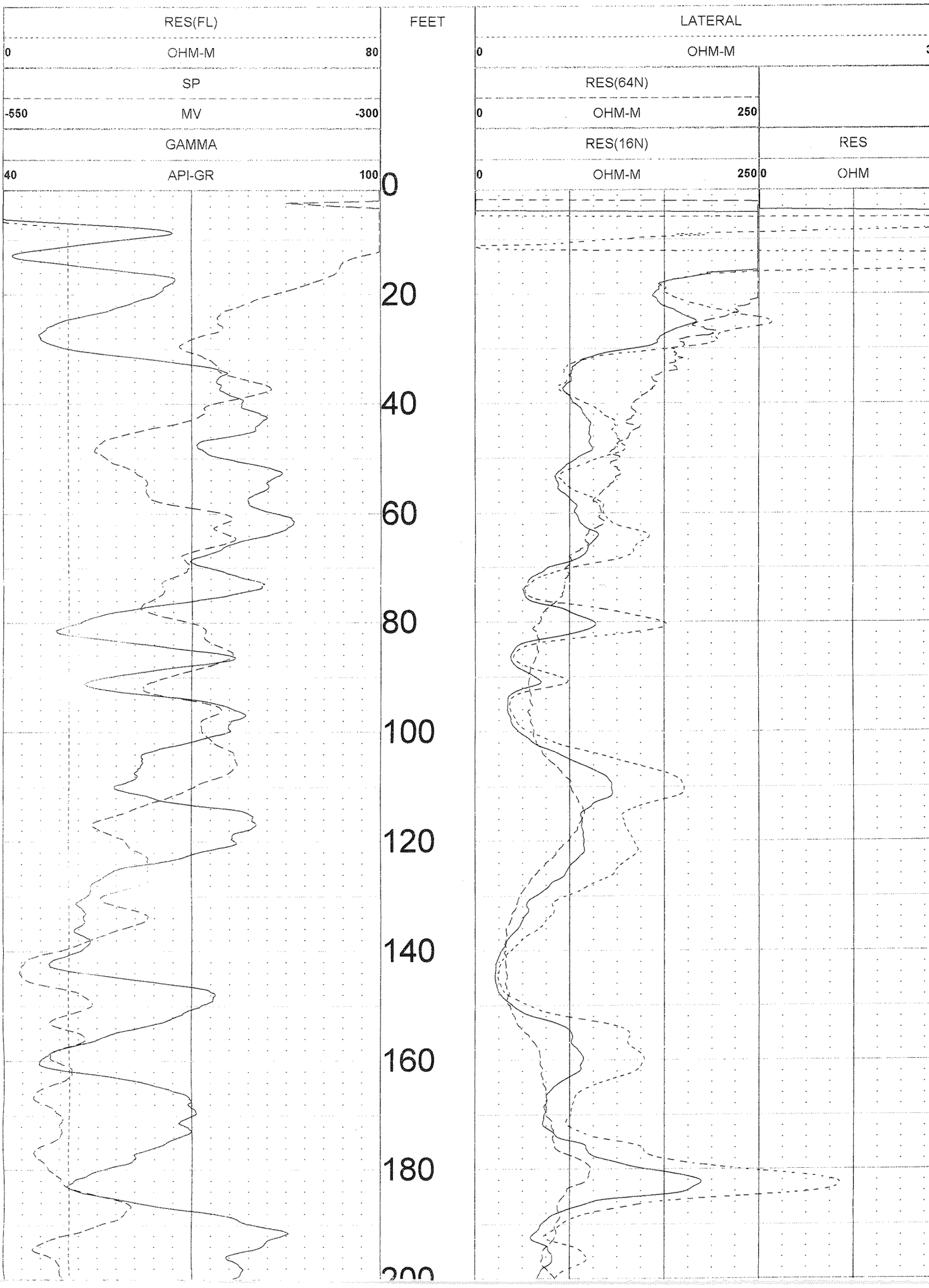
DEWEY DATA INC

1 - SF

COMPANY	: 1 - SF			OTHER SERVICES:	
WELL	: 1 - SF			010522	
LOCATION FIELD	: NEWARK			300PPM	
COUNTY	: ALAMEDA				
LOCATION	: N/A				
SECTION	: N/A	TOWNSHIP	: N/A	RANGE	: N/A
DATE	: 01/05/22	PERMANENT DATUM	: N/A		
DEPTH DRILLER	: 402			KB	: N/A
LOG BOTTOM	: 401.8	LOG MEASURED FROM:	GND LVL	DF	: N/A
LOG TOP	: 1	DRL MEASURED FROM:	N/A	GL	: N/A
CASING DIAMETER	:	LOGGING UNIT	: 2		
CASING TYPE	: SURFACE	FIELD OFFICE	:		
CASING THICKNESS:		RECORDED BY	: KRW		
BIT SIZE	: 8	BOREHOLE FLUID	: MUD	FILE	: ORIGINAL
MAGNETIC DECL.	: 11	RM	: .179	TYPE	: 8144A
MATRIX DENSITY	: 2.65	RM TEMPERATURE	: 68.5	LGDATE	: 01/05/22
NEUTRON MATRIX	: SANDSTONE	MATRIX DELTA T	: 54	LGTIME	: 13:14:
				THRESH:	0

PITCHER DRILLING
37.534766N -122.029477W

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS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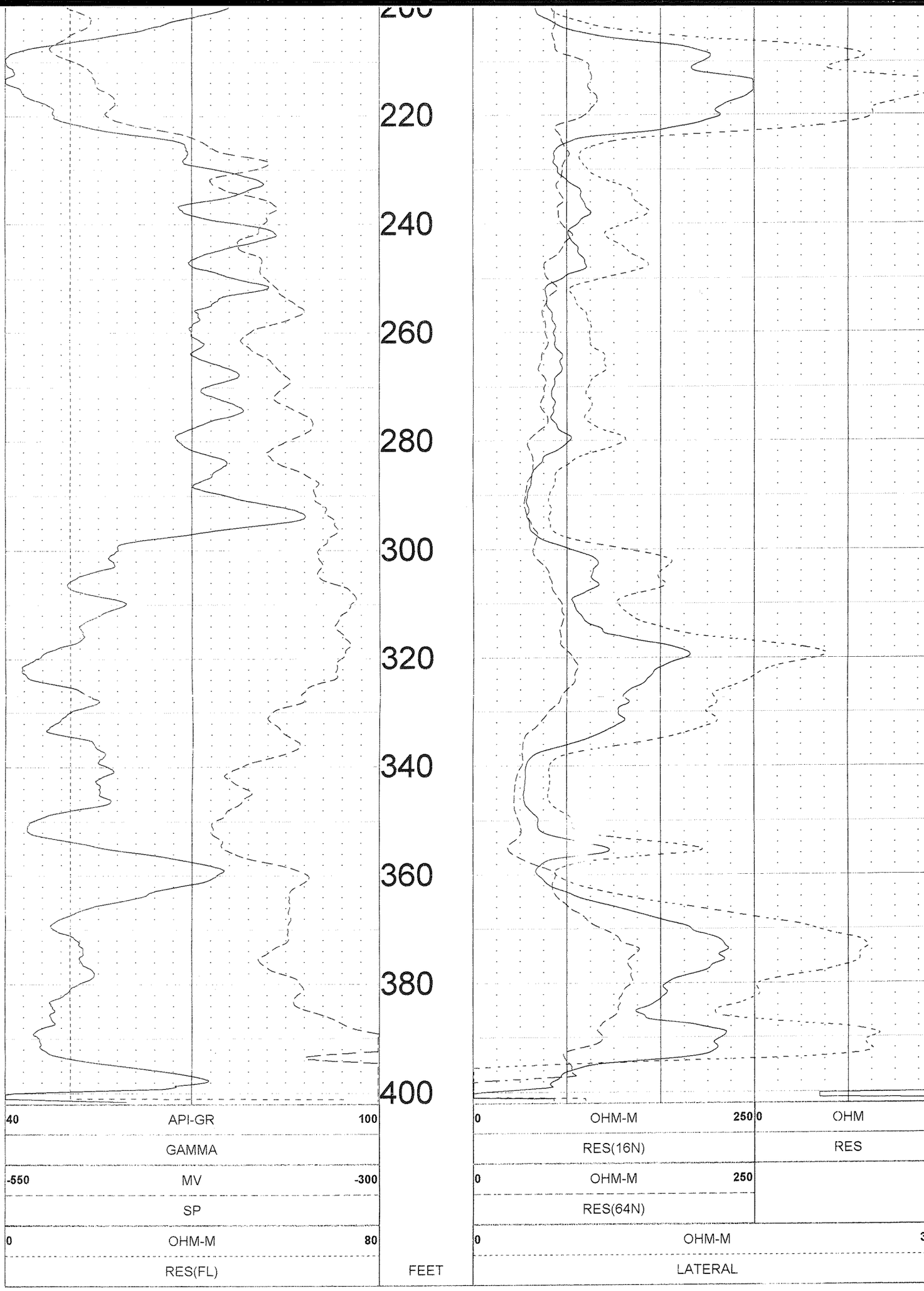
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OHM-M
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RES(64N)
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OHM-M
LATERAL
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OHM
RES

Sheet 1

ALAMEDA COUNTY WATER DISTRICT
43885 South Grimmer Blvd. • P.O. Box 5110
Fremont, CA 94537-5110
Permitting & Scheduling (510) 668-4460

APPLICATION FOR DRILLING PERMIT

ACWD ORDINANCE NO. 2010-01

COMPUTER POSTED

Application Received Date: 10/14/21 By: AS
Permit Issued Date: 12/7/21
Permit Expiration Date: 2/7/22
Job No. 10097
Permit No. 2021-0347
Well No. 5S/2W-01B011

JOB ADDRESS:
Northwest side of Civic Center Park
37101 Newark Blvd, Newark, CA 94560

PROPERTY OWNER
NAME: City of Newark
ADDRESS: 37101 Newark Blvd
Newark Ca 94560
TELEPHONE: (510)578-4200

CONSULTING ENGINEER
NAME: Alameda County Water District
ADDRESS: 43885 South Grimmer Boulevard
Fremont, CA 94538
TELEPHONE: (510) 68-4452 RG/CEG/RCE NO. PG 5859

DRILLING CONTRACTOR
NAME: Pitcher Services, LLC
ADDRESS: 218 Demeter Street
East Palo Alto, CA 94303
E-MAIL ADDRESS: Terry Shewchuk <tshewchuk@pitcherservicesllc.com>
TELEPHONE: (650)328-8910 STATE LIC. NO. 1044895

When properly signed 1-SF

THIS APPLICATION IS A VALID PERMIT

to perform only work described below at the given job address, in accordance with ACWD Ordinance No. 2010-01 and all other applicable laws and regulations. Discontinuation of work may result in revocation of permit. ***Permittee must schedule the work in advance with ACWD.*** *ACWD's approval of drawings, designs, specifications, work plans, reports or incidental work and materials shall not relieve the permittee of responsibility for the technical adequacy of the work. Except for special circumstances, all work to be inspected must be performed within ACWD work hours – 7:00 a.m. to 4:30 p.m., Monday through Friday.*

PLEASE CHECK TYPE OF PROPOSED WORK

Each well or other excavation requires a separate permit application form unless otherwise indicated.
Only one specific type of work can be checked per permit application.

WELLS	EXPLORATORY HOLES	OTHER EXCAVATIONS
☒ CONSTRUCTION ☐ REPAIR ☐ DESTRUCTION	☐ CONSTRUCT./DESTRUCT.	☐ CONSTRUCTION ☐ REPAIR ☐ DESTRUCTION
☐ Water Well	*Multiple exploratory holes of the same type may be grouped together on the same permit application form.*	☐ Cathodic Protection Well ☐ Inclinometer
Monitoring Well:		☐ Vibrating Wire Piezometer ☐ Elevator Shaft
☒ Chemical Investigation	☐ Chemical Investigation	*Multiple other excavations of the same type may be grouped together on the same permit application form for the following:*
☐ Injection Well (for Chemical Cleanup)	☐ Injection Boreholes	☐ Cleanup Site Excavation(s) ☐ Wick Drains
☐ Geotechnical Investigation	☐ Soil Vapor Sampling	☐ Shaft, Tunnel, or Directional Borehole (s) ☐ Support Piers, Piles, or Caissons
☐ Geothermal Heat Exchange Well	☐ Geotechnical Investigation	
☐ Dewatering Well *(Multiple dewatering wells may be grouped together on the same permit application form)*		☐ Other: Quantity:
Quantity:	Quantity:	

DESCRIPTION OF PROPOSED WORK:
Installation of 2" diameter monitoring well
Well Name: Civic Center Park 1-SF

TOTAL ESTIMATED COST
$

PERMIT CONDITIONS:
Monitoring Well Construction to comply with current ACWD Standards

FEES: ☐ Private ☐ City ☒ Governmental Agency

GUARANTEE OF PERFORMANCE: ☐ Cash Deposit ☐ Bond

REFUND: Amount $ Reason:

FEES/ DEPOSIT: Date Received Estimated Amount $
Check No. Actual Amount $
Cash Difference $

ACWD SITE NO. 8
APPROVED FOR SCHEDULING BY: DATE: 12/7/2021
APPROVED BY: DATE: 12/7/2021

I hereby agree to comply with all conditions of this permit in accordance with ACWD Ordinance No. 2010-01 and to furnish the District a completed copy of D.W.R. Drillers Report (form 188) within sixty (60) days after completion as well as any chemical testing results within thirty (30) days after completion.

Title: Associate Hydrogeologist Signature: Date: 10/12/2021

Representing: Alameda County Water District Name (printed): Douglas Young

ACWD #458 11-12

ALAMEDA COUNTY WATER DISTRICT

Monitoring Well Construction

Inspector: Andres Aguayo
Job No.: 10097
Date: 12-27-21

Permit No.: 2021-0345 7
Well No.: 5S/2W-01B009 11
Other Well ID: ~~1 MF~~ ~~1 TF~~ 1-SF

Job Location: End of Civic Terrace Ave, Newark
Contractor: Pitcher Services LLC

Major Equipment and Materials On-site

ITEM	MATERIALS RECEIVED TODAY
Drill Rig, Support Truck 2x, Fork Lift, Portable Restroom.	

Contractor Arrival Time: 07:00
Contractor Departure Time: _____
Daily Start Depth: _____ ft.
Daily Finish Depth: _____ ft.
Daily Drill Bit Size(s): 8"

Work Completed Summary: _____

ACWD Meter No.: _____ **Beginning Meter Reading:** _____ **End Meter Reading:** _____

Pictures Taken: ☐ YES ☐ NO File Location: _____
Visitors to Job Site: _____
Delays/Accidents: _____

Construction Details

Final Bit Size & Type: _____
Control Casing Size: _____ in.
Conductor Casing Size: _____ in.
Well Casing Diameter: _____ in.
Perforation Slot Size: _____ in.
Sand Info.: _____
_____
Grout Mix: _____
Bottom Plug Info.: _____

Total Borehole Depth: _____ ft.
Control Casing Depth: _____ ft. to _____ ft.
Conductor Casing Depth: _____ ft. to _____ ft.
Completed Well Depth: _____ ft.
Perforation Interval: _____ ft. to _____ ft.
Sand Interval: _____ ft. to _____ ft.
and _____ ft. to _____ ft.
Grout Interval: _____ ft. to _____ ft.
*and** _____ ft. to _____ ft.

*Two grout intervals if bottom of borehole extended beyond completed well depth and was grouted prior to well construction.

Monitoring Well Construction Remarks

Inspector: Andres Aguayo **Permit No.:** 2021-0345

07:50 - Arrived on site to check-in Pitcher Crew. Marcos + Andrew w/Pitcher have been on site since 0700. On site with MUD Rotary Drill Rig using 8" drill bit.

08:00 - Doug Young arrived on site for soil logging

0800 - Left site

1300 - Arrived on site. D.Y. and Pitcher Crew on site. Currently they are at 120'. Doug is going to lunch. Marcos will take samples every 5' and leave on table for Doug to log.

13:05 Doug Young left site.

14:35 - Doug Young arrived on site

1440 - Left Site

ALAMEDA COUNTY WATER DISTRICT

Monitoring Well Construction

Inspector: Brianna Thomas
Permit No.: 2021-0345 7
Job No.: 10097
Well No.: 5S/2W-01B009 11
Date: 12/28/21
Other Well ID: ~~1-MF~~ 1-SF

Job Location: End of Civic Terrace Ave, Newark
Contractor: Pitcher Services LLC

Major Equipment and Materials On-site

ITEM	MATERIALS RECEIVED TODAY
Drill Rig	
Support Truck	
Waste bins	
Fork lift	

Contractor Arrival Time: 0700
Contractor Departure Time: 1700
Daily Start Depth: 180 ft.
Daily Finish Depth: 260 ft.
Daily Drill Bit Size(s): 8"

Work Completed Summary: Continue drilling and logging well location, take a drive sample at 260'.

ACWD Meter No.: _____ **Beginning Meter Reading:** _____ **End Meter Reading:** _____

Pictures Taken: ☐ YES ☐ NO File Location: _____
Visitors to Job Site: _____
Delays/Accidents: _____

Construction Details

Final Bit Size & Type: _____
Total Borehole Depth: _____ ft.
Control Casing Size: _____ in.
Control Casing Depth: _____ ft. to _____ ft.
Conductor Casing Size: _____ in.
Conductor Casing Depth: _____ ft. to _____ ft.
Well Casing Diameter: _____ in.
Completed Well Depth: _____ ft.
Perforation Slot Size: _____ in.
Perforation Interval: _____ ft. to _____ ft.
Sand Info.: _____
Sand Interval: _____ ft. to _____ ft.
and _____ ft. to _____ ft.
Grout Mix: _____
Grout Interval: _____ ft. to _____ ft.
Bottom Plug Info.: _____
*and** _____ ft. to _____ ft.

*Two grout intervals if bottom of borehole extended beyond completed well depth and was grouted prior to well construction.

Monitoring Well Construction Remarks

Inspector: Brianna Thomas **Permit No.:** 2021-0345 7

0745- Arrive onsite, Pitcher Drilling (Marcos/Andrew) and Doug Young onsite. They will flush out boring to 180' and continue drilling - setting aside samples every 5' for Doug to log.

1207 - Drillers currently at 220', Andres Aguayo arrives onsite to cover lunch break for me.

1208 - Brianna Thomas leaves site for lunch.

1223 - Marcos advises that @ 224' soil goes back to clay.

1238 - Brianna Thomas returns from lunch.

1310 - Doug Young arrives onsite to log samples.

1345 - Doug Young leaves site. Advise drillers that a drive sample will need to be collected at 250-260' and 350'.

1520 - Reached 260', crew preparing to collect drive sample

1600 ~~1400~~ (B) Drive sample taken, pulling rods

1635 ~~1435~~ (B) Spoke with Doug, only ~ 4" of sample was recovered. Labled for Doug and will leave on his desk.

1650 - Hole secured and protected, left site

ALAMEDA COUNTY WATER DISTRICT

Monitoring Well Construction

Inspector: Jeremy Bautista
Permit No.: 2021-0347
Job No.: 10097
Well No.: 5S/2W-01B011
Date: 01.03.22
Other Well ID: 1-SF

Job Location: End of Civic Terrace Avenue, Newark
Contractor: Pitcher Services LLC

Major Equipment and Materials On-site

ITEM	MATERIALS RECEIVED TODAY
Fraste Mud Rotary Drill Rig	
Water Truck	
Fork Lift	
Crewtruck	

Contractor Arrival Time: 0700
Contractor Departure Time: 1700
Daily Start Depth: 60 ft.
Daily Finish Depth: 310 ft.
Daily Drill Bit Size(s): 8"

Work Completed Summary: cleaned and drilled to 310'; cleaned streets; took a drive sample @ 260'

ACWD Meter No.: _____ **Beginning Meter Reading:** _____ **End Meter Reading:** _____

Pictures Taken: ☑ YES ☐ NO File Location: _____
Visitors to Job Site: Doug Young
Delays/Accidents: _____

Construction Details

Final Bit Size & Type: _____
Total Borehole Depth: _____ ft.
Control Casing Size: _____ in.
Control Casing Depth: _____ ft. to _____ ft.
Conductor Casing Size: _____ in.
Conductor Casing Depth: _____ ft. to _____ ft.
Well Casing Diameter: _____ in.
Completed Well Depth: _____ ft.
Perforation Slot Size: _____ in.
Perforation Interval: _____ ft. to _____ ft.
Sand Info.: _____
Sand Interval: _____ ft. to _____ ft.
and _____ ft. to _____ ft.
Grout Mix: _____
Grout Interval: _____ ft. to _____ ft.
Bottom Plug Info.: _____
*and** _____ ft. to _____ ft.

*Two grout intervals if bottom of borehole extended beyond completed well depth and was grouted prior to well construction.

Monitoring Well Construction Remarks

1-SF

Inspector: Jeremy Bautista **Permit No.:** 2021-0347

0800- arrive on site. Pitcher (Marcos/Andrew) on site. There is a bridge at 60' that they are trying to get their bit past. Doug Young arrives on site

0850 - Doug Young leaves site.

0925- currently at 200' cleaning out.

1030- Doug Young arrives on site

1050- they reach 260', begin pulling out.

1100- take a drive sample @ 260'

1130- collect drive sample

1150 Doug Young leaves site.

1330 - Doug Young arrives on site. Currently @ 280'

1420- currently @ 285'. Left site for lunch. Doug remains on site

1440 - arrive on site. Doug asks me to get storm drain covers and gravel bags. Left site.

1520- arrive back on site. Cover the storm drains w/ storm drain covers and gravel bags currently @ 300'.

1600- stopping advancing the boring @ 310'.

1640 - left site

1515- City of Newark Inspector (Kurt) observes site and requests to cover storm drains and clean streets

Monitoring Well Construction

Inspector: Pablo Cortez | **Permit No.:** 2021-0347

Job No.: 10097 | **Well No.:** 5S/2W-01B011

Date: 1/4/22 | **Other Well ID:** 1-SF

Job Location: End of Civic Terrace Avenue, Newark

Contractor: Pitcher Services LLC

Major Equipment and Materials On-site

ITEM	MATERIALS RECEIVED TODAY
Drill rig	
Forklift	
Support truck	
Waste bins	

Contractor Arrival Time: 7:00 | Contractor Departure Time: 16:50

Daily Start Depth: 310 ft. | Daily Finish Depth: 370 ft.

Daily Drill Bit Size(s): 8"

Work Completed Summary: Drilled to 370'. Collected drive sample at 350'.

ACWD Meter No.: _____ **Beginning Meter Reading:** _____ **End Meter Reading:** _____

Pictures Taken: ☑ YES ☐ NO File Location: _____

Visitors to Job Site: Doug Young

Delays/Accidents: _____

Construction Details

Final Bit Size & Type: _____ | Total Borehole Depth: _____ ft.

Control Casing Size: _____ in. | Control Casing Depth: _____ ft. to _____ ft.

Conductor Casing Size: _____ in. | Conductor Casing Depth: _____ ft. to _____ ft.

Well Casing Diameter: _____ in. | Completed Well Depth: _____ ft.

Perforation Slot Size: _____ in. | Perforation Interval: _____ ft. to _____ ft.

Sand Info.: _____ | Sand Interval: _____ ft. to _____ ft.

_____ | *and* _____ ft. to _____ ft.

Grout Mix: _____ | Grout Interval: _____ ft. to _____ ft.

Bottom Plug Info.: _____ | *and** _____ ft. to _____ ft.

*Two grout intervals if bottom of borehole extended beyond completed well depth and was grouted prior to well construction.

Monitoring Well Construction Remarks

Inspector: **Permit No.:** 2021-0347

7:50 Arrived onsite. Pitcher Drilling crew onsite preparing to drill.

8:30 Began drilling. At 310'. Drilling through sands/gravels.

11:30 At 350'. No longer in gravelly sand. More clay content. Doug Young requests sample here. Crew is preparing to take the drive sample.

12:45 Collected drive sample. Blow counts = 50/6". Collected middle sleeve for lab sample (350.5' - 351'). Bottom sample sleeve collected for extra.

13:20 Anton Skorna arrives. I depart site.

14:00 Returned to site. Anton departs.

14:15 Driller says he encountered a stiff clay at 358'. Approaching 360'.

16:50 Drillers are done for today. Stopped at 370'. Hole secured. Drillers depart.

Monitoring Well Construction

Inspector: Brianna Thomas | **Permit No.:** 2021-0347

Job No.: 10097 | **Well No.:** 5S/2W-01B011

Date: 1/5/22 | **Other Well ID:** 1-SF

Job Location: End of Civic Terrace Avenue, Newark

Contractor: Pitcher Services LLC

Major Equipment and Materials On-site

ITEM	MATERIALS RECEIVED TODAY
Drill Rig	
Support Truck	
waste bins	
forklift	

Contractor Arrival Time: 0700 | Contractor Departure Time: 1630

Daily Start Depth: 370 ft. | Daily Finish Depth: 400 ft.

Daily Drill Bit Size(s): 8"

Work Completed Summary: Drill to 400', E-log, grout bottom 50' of borehole

ACWD Meter No.: _____ **Beginning Meter Reading:** _____ **End Meter Reading:** _____

Pictures Taken: ☐ YES ☐ NO File Location: _____

Visitors to Job Site: _____

Delays/Accidents: _____

Construction Details

Final Bit Size & Type: _____

Control Casing Size: _____ in.

Conductor Casing Size: _____ in.

Well Casing Diameter: _____ in.

Perforation Slot Size: _____ in.

Sand Info.: _____

_____

Grout Mix: _____

Bottom Plug Info.: _____

Total Borehole Depth: _____ ft.

Control Casing Depth: _____ ft. to _____ ft.

Conductor Casing Depth: _____ ft. to _____ ft.

Completed Well Depth: _____ ft.

Perforation Interval: _____ ft. to _____ ft.

Sand Interval: _____ ft. to _____ ft.

and _____ ft. to _____ ft.

Grout Interval: _____ ft. to _____ ft.

*and** _____ ft. to _____ ft.

*Two grout intervals if bottom of borehole extended beyond completed well depth and was grouted prior to well construction.

Monitoring Well Construction Remarks

Inspector: Brianna Thomas **Permit No.:** 2021-0347

0740 - Arrive onsite, Pitcher Services (Marcos/Andrew) onsite. They are starting to send down drill rods to flush out well boring, reached 370' last night target is 400'.

0810 - Begin drilling

1000 - Currently at 380'

1129 - Reached 400', drilling to 402' to allow for slough at bottom of well borehole.

1252 - E-Log company arrives onsite to log well borehole. Doug Young and Ava Lazor onsite

1335 - E-Log complete.

1430 ~~1408~~ Mixing type II/V neat cement

1513 - Well borehole has been grouted from 350-400' via tremie pipe. Well construction will begin tomorrow. 1.5 batches of grout used - 1 batch = 1 60gal drum.

1559 - Well Borehole has been secured and protected.

ALAMEDA COUNTY WATER DISTRICT

Monitoring Well Construction

Inspector: Brianna Thomas | **Permit No.:** 2021-0347

Job No.: 10097 | **Well No.:** 5S/2W-01B011

Date: 1/6/2022 | **Other Well ID:** 1-SF

Job Location: End of Civic Terrace Avenue, Newark

Contractor: Pitcher Services LLC

Major Equipment and Materials On-site

ITEM	MATERIALS RECEIVED TODAY
Drill Rig	
Support Truck	
Waste bins	
Fork Lift	

Contractor Arrival Time: 0700 | Contractor Departure Time: 1600

Daily Start Depth: 350 ft. | Daily Finish Depth: 350 ft.

Daily Drill Bit Size(s): 8"

Work Completed Summary: Begin construction of well, load casing and place sand pack

ACWD Meter No.: _____ **Beginning Meter Reading:** _____ **End Meter Reading:** _____

Pictures Taken: ☐ YES ☐ NO File Location: _____

Visitors to Job Site: _____

Delays/Accidents: _____

Construction Details

Final Bit Size & Type: _____ | Total Borehole Depth: _____ ft.

Control Casing Size: _____ in. | Control Casing Depth: _____ ft. to _____ ft.

Conductor Casing Size: _____ in. | Conductor Casing Depth: _____ ft. to _____ ft.

Well Casing Diameter: _____ in. | Completed Well Depth: _____ ft.

Perforation Slot Size: _____ in. | Perforation Interval: _____ ft. to _____ ft.

Sand Info.: _____ | Sand Interval: _____ ft. to _____ ft.

_____ | *and* _____ ft. to _____ ft.

Grout Mix: _____ | Grout Interval: _____ ft. to _____ ft.

Bottom Plug Info.: _____ | *and** _____ ft. to _____ ft.

*Two grout intervals if bottom of borehole extended beyond completed well depth and was grouted prior to well construction.

Monitoring Well Construction Remarks

Inspector: Brianna Thomas **Permit No.:** 2021-0347

0730- Arrive onsite, Pitcher Services (Marcos/Andrew/Hunter) onsite. Well borehole will be flushed and cleared out before construction begins.

0900- Borehole was been flushed, thinning out drilling fluid now

1025- Begin loading casing into borehole.

Well Construction Details ~~Slot~~ slot sizing = 0.020"

2" PVC, blank casing 0-300', slotted 300-340', blank 340-345'

flush mount round well box

0-290' type II/V neat cement

290-350' sand #3

Centralizers at top, bottom and middle of screen, and every 25' in the sealed area 0-290'

1138- Casing with centralizers has been loaded into borehole

1204- Begin sanding the well

1315- Sand currently at 330', continue pouring sand pack.

1507- ~~Sand~~ (BT) Top of sand pack tagged at 289', crew will secure hole and clean up. Grouting will take place tomorrow morning. Used 37 bags of sand.

1529- Well borehole protected and secured, left site

ALAMEDA COUNTY WATER DISTRICT

Monitoring Well Construction

Inspector: Pablo Cortez
Permit No.: 2021-0347
Job No.: 10097
Well No.: 5S/2W-01B011
Date: 1/7/22
Other Well ID: 1-SF

Job Location: End of Civic Terrace Avenue, Newark
Contractor: Pitcher Services LLC

Major Equipment and Materials On-site

ITEM	MATERIALS RECEIVED TODAY
Drill rig	
Support truck	
Fork lift	
Waste bins	

Contractor Arrival Time: 7:00
Contractor Departure Time: 5:00 pm
Daily Start Depth: ft.
Daily Finish Depth: ft.
Daily Drill Bit Size(s):

Work Completed Summary: Grouted well to surface. Moved equipment to Site 3.

ACWD Meter No.: **Beginning Meter Reading:** **End Meter Reading:**

Pictures Taken: ☑ YES ☐ NO File Location:
Visitors to Job Site:
Delays/Accidents:

Construction Details

Final Bit Size & Type:
Total Borehole Depth: ft.
Control Casing Size: in.
Control Casing Depth: ft. to ft.
Conductor Casing Size: in.
Conductor Casing Depth: ft. to ft.
Well Casing Diameter: in.
Completed Well Depth: ft.
Perforation Slot Size: in.
Perforation Interval: ft. to ft.
Sand Info.:
Sand Interval: ft. to ft.
and ft. to ft.
Grout Mix:
Grout Interval: ft. to ft.
Bottom Plug Info.:
*and** ft. to ft.

*Two grout intervals if bottom of borehole extended beyond completed well depth and was grouted prior to well construction.

Monitoring Well Construction Remarks

Inspector: **Permit No.:** 2021-0347

7:50 Arrived onsite. Pitcher Drilling crew is getting set up and preparing to grout.

9:05 Sand tagged at 282'. Set 1" PVC tremie pipe to 270'

9:30 Placed second tremie pipe down the well casing for flushing cool water.

9:55 Began mixing grout (Type II/V).

10:07 Began tremie grouting.

12:20 Andres Aguayo arrives. I depart site.

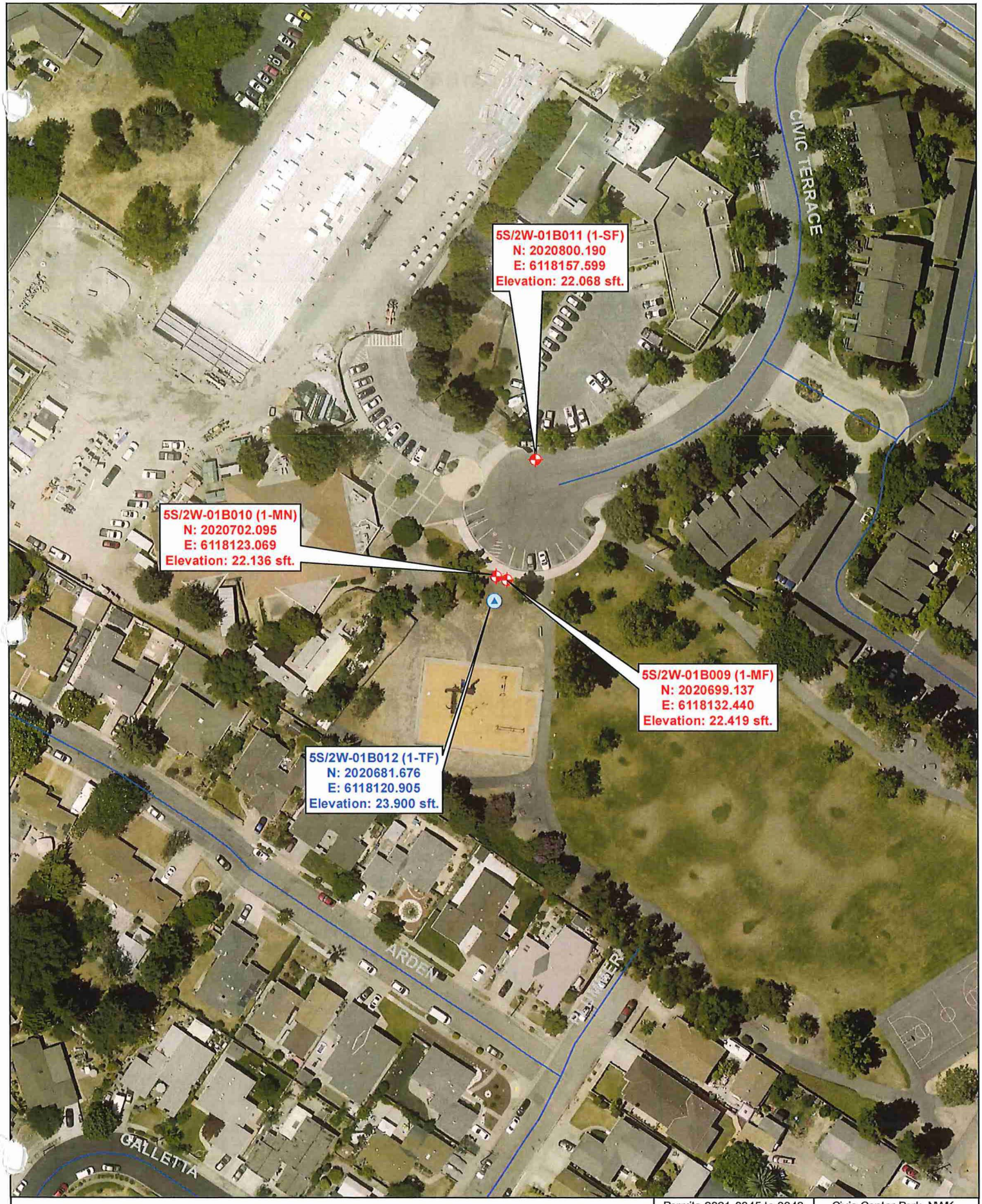
13:05 I returned to site. Andres departs. Crew is still grouting.

13:40 Tremie grouted to surface with neat cement.

14:30 Flushing well with cold water.

16:10 Site cleaned up. Moved drill rig off well. Moving core barrel truck onto well to widen the top of hole for well box.

16:45 Cored out top of hole with 14" core barrel and placed 12" well box on top. Covered with delineator and fenced off area. Will place concrete patch next week. Departed site.



ACWD
ALAMEDA COUNTY WATER DISTRICT

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Well Location Map

Permits 2021-0345 to 0348	Civic Center Park, NWK
5S/2W-01B009 to B012	1:1200
Monitoring Well	03.10.2022
Water Well	Drawn By: Jeremy Bautista

WELL DATA

STATE WELL NO. 5S/2W-01B011

PERMIT NO. 2021-0347

OWNER: Alameda County Water District	SITE ID:
ADDRESS: 43885 S. Grimmer Blvd, FMT	WELL NAME: 5S/2W-01B011
TENANT:	OWNER NO.: 1-SF
SITE ADDRESS Northwest side of Civic Center Park, NWK	1-SF

TYPE OF WELL ☐ SPECIAL STUDIES ☐ MONTHLY ☐ SEMI ANNUAL ☐ WATER QUALITY

LOCATION COUNTY: Alameda County BASIN: Niles Cone NO.

U.S.G.S. QUAD. QUAD NO.

1/4 1/4 SECTION TWP. RGE. ☐MD ☐SB ☐H BASE & MERIDIAN

COORDINATES (NAD83) NORTHING: 2020800.190 EASTING: 6118157.599 SOURCE Trimble R8

DESCRIPTION:

Well is located in a 12" round EMCO Wheaton Christy Box at the north curve of Civic Terrace Ave. just south of the City Hall parking lot

REFERENCE POINT DESCRIPTION:

Top center of the christy box lid

WHICH IS FT. ABOVE ☐ BELOW ☐ LAND SURFACE DATUM GROUND ELEVATION FT.

REFERENCE POINT ELEVATION 22.068 FT. DETERMINED FROM: Top center of the christy box lid

WELL USE: Groundwater Monitoring CONDITION: new DEPTH: 352 FT.

CASING, SIZE 2 IN., PVC PERFORATIONS: 300-340' SLOT SIZE: 0.020"

MEASUREMENTS BY ☐ DWR ☐ USGS ☐ USBR ☐ COUNTY ☐ IRR. DIST. ☐ WATER DIST. ☐ CONS. DIST. ☐ OTHER

GRAVEL PACK? ☑ YES ☐ NO DEPTH TO TOP GR. 290' DEPTH TO BOT GR. 352'

TYPE OF MATERIAL: #3 Sand PERM. RATING THICKNESS

CHIEF AQUIFER DEPTH TO TOP AQ. DEPTH TO BOT. AQ.

SUPP. AQUIFER DEPTH TO TOP AQ. DEPTH TO BOT. AQ.

DRILLER: Pitcher Serv. (Marcos/Andrew) DATE DRILLED: 01-07-2022 LOG NUMBER (DWR 188)

WELL PUMP TYPE	MAKE	MODEL	SERIAL NO.
WATER ANALYSIS MIN.	SAN.	H.M.	

POWER SOURCE WATER LEVELS AVAILABLE? ☐ YES ☐ NO

H.P.	MOTOR SERIAL NO	PERIOD OF RECORD BEGIN	END
ELEC. METER NO.	TRANSFORMER NO.	COLLECTING AGENCY	

SIZE OF DISCHARGE PIPE IN.

YIELD G.P.M.	PUMPING LEVEL FT.	PROD. REC.	PUMP TEST	YIELD

SKETCH

N

REMARKS

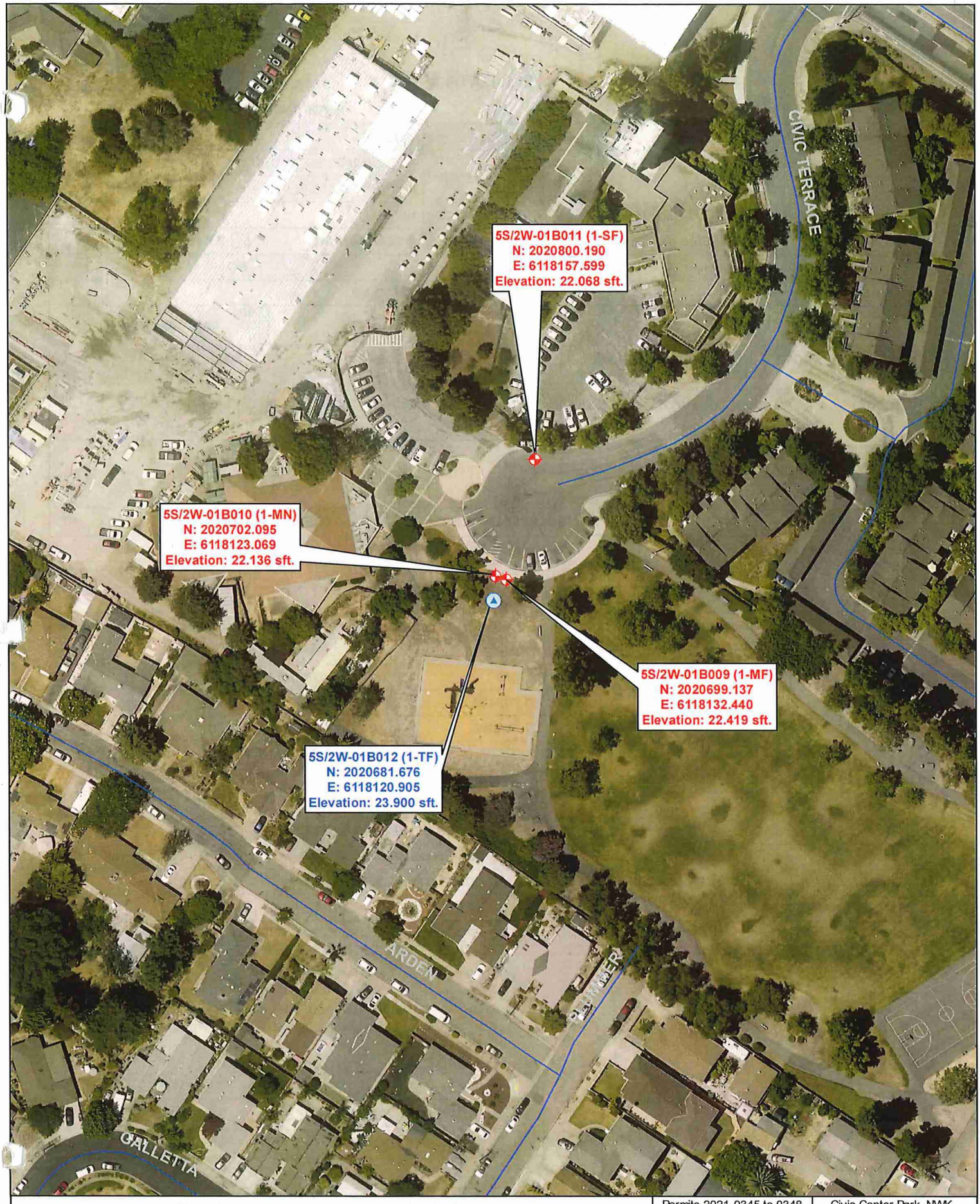
402' total depth of original borehole
12" round EMCO Wheaton christy box
0.5-300' – 2" blank Schedule 80 PVC casing
340-345' – 2" blank Schedule 80 PVC casing + end cap

PERMIT NO.: 2021-0347

SANITARY SEAL: 1-290' - Type II/V neat cement

RECORDED BY: Jeremy Bautista

DATE: 03-15-2022



ACWD
ALAMEDA COUNTY WATER DISTRICT

Well Location Map

Permits 2021-0345 to 0348	Civic Center Park, NWK
5S/2W-01B009 to B012	1:1200
Monitoring Well	03.10.2022
Water Well	Drawn By: Jeremy Bautista

WELL DATA

STATE WELL NO. 5S/2W-01B011

PERMIT NO. 2021-0347

OWNER: Alameda County Water District			SITE ID:	
ADDRESS: 43885 S. Grimmer Blvd, FMT			WELL NAME: 5S/2W-01B011	
TENANT:			OWNER NO.: 1-SF	
SITE ADDRESS Northwest side of Civic Center Park, NWK			1-SF	
TYPE OF WELL ☐ SPECIAL STUDIES	☐ MONTHLY	☐ SEMI ANNUAL	☐ WATER QUALITY	
LOCATION COUNTY: Alameda County	BASIN: Niles Cone		NO.	
U.S.G.S. QUAD.			QUAD NO.	
1/4 1/4 SECTION	TWP.	RGE.	☐MD ☐SB ☐H BASE & MERIDIAN	
COORDINATES (NAD83) NORTHING: 2020800.190	EASTING: 6118157.599		SOURCE Trimble R8	

DESCRIPTION:

Well is located in a 12" round EMCO Wheaton Christy Box at the north curve of Civic Terrace Ave. just south of the City Hall parking lot

REFERENCE POINT DESCRIPTION:

Top center of the christy box lid

WHICH IS FT. ABOVE ☐ BELOW ☐	LAND SURFACE DATUM		GROUND ELEVATION	FT.
REFERENCE POINT ELEVATION 22.068 FT.	DETERMINED FROM: Top center of the christy box lid			
WELL USE: Groundwater Monitoring	CONDITION: new		DEPTH: 352 FT.	
CASING, SIZE 2 IN., PVC	PERFORATIONS: 300-340'		SLOT SIZE: 0.020"	
MEASUREMENTS BY ☐ DWR ☐ USGS ☐ USBR ☐ COUNTY ☐ IRR. DIST. ☐ WATER DIST. ☐ CONS. DIST. ☐ OTHER				
GRAVEL PACK? ☑ YES ☐ NO	DEPTH TO TOP GR. 290'		DEPTH TO BOT GR. 352'	
TYPE OF MATERIAL: #3 Sand	PERM. RATING		THICKNESS	
CHIEF AQUIFER	DEPTH TO TOP AQ.		DEPTH TO BOT. AQ.	
SUPP. AQUIFER	DEPTH TO TOP AQ.		DEPTH TO BOT. AQ.	
DRILLER: Pitcher Serv. (Marcos/Andrew)	DATE DRILLED: 01-07-2022		LOG NUMBER (DWR 188)	
WELL PUMP TYPE	MAKE	MODEL	SERIAL NO.	
WATER ANALYSIS MIN.	SAN.	H.M.		
POWER SOURCE		WATER LEVELS AVAILABLE? ☐ YES ☐ NO		
H.P.	MOTOR SERIAL NO	PERIOD OF RECORD BEGIN	END	
ELEC. METER NO.	TRANSFORMER NO.	COLLECTING AGENCY		
SIZE OF DISCHARGE PIPE		IN.		
YIELD G.P.M.	PUMPING LEVEL FT.	PROD. REC.	PUMP TEST	YIELD

SKETCH



REMARKS

402' total depth of original borehole
12" round EMCO Wheaton christy box
0.5-300' – 2" blank Schedule 80 PVC casing
340-345' – 2" blank Schedule 80 PVC casing + end cap

PERMIT NO.: 2021-0347

SANITARY SEAL: 1-290' - Type II/V neat cement

RECORDED BY: Jeremy Bautista

DATE: 03-15-2022

Monitoring Well Construction

Inspector: Pablo Cortez
Job No.: 10097
Date: 1-14-22

Permit No.:
Well No.: 5S/2W-01B011
Other Well ID: ~~5S/2W-01B011~~ 1-SF

Job Location:
Contractor: Gregg/Pitcher Drilling

Major Equipment and Materials On-site

ITEM	MATERIALS RECEIVED TODAY
Well development rig	
Support truck	
Compressor	
Waste bins, water tank	

Contractor Arrival Time: 7:00
Contractor Departure Time: 16:00
Daily Start Depth: ft.
Daily Finish Depth: ft.
Daily Drill Bit Size(s):

Delays/Accidents:

ACWD Meter No.: **Beginning Meter Reading:** **End Meter Reading:**

Pictures Taken: ☐ YES ☐ NO

Visitors to Job Site:

Construction Details

Final Bit Size & Type:
Total Borehole Depth: ft.
Control Casing Size: in.
Control Casing Depth: ft. to ft.
Conductor Casing Size: in.
Conductor Casing Depth: ft. to ft.
Well Casing Diameter: in.
Completed Well Depth: ft.
Perforation Slot Size: in.
Perforation Interval: ft. to ft.
Sand Info.:
Sand Interval: ft. to ft.
and ft. to ft.
Grout Mix:
Grout Interval: ft. to ft.
Bottom Plug Info.:
*and** ft. to ft.

*Two grout intervals if bottom of borehole extended beyond completed well depth and was grouted prior to well construction.

Monitoring Well Construction Remarks

Inspector: **Permit No.:**

13:50 Arrived onsite. Kit Soo onsite with Gregg/Pitcher drill crew. Currently bailing well.

14:00 Kit Soo departs.

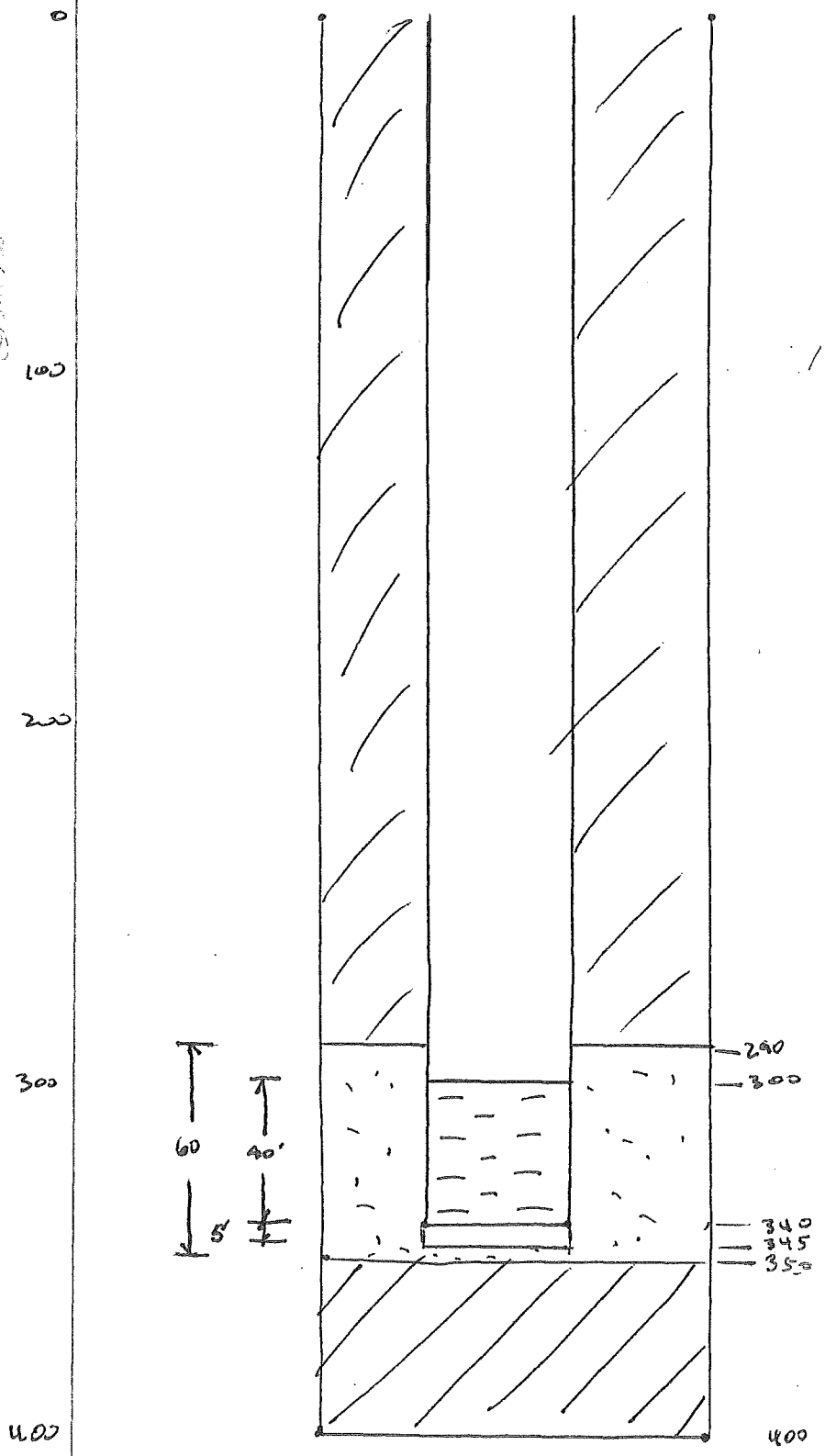
15:20 Bailing complete. Well is open down to bottom (345'). Water level tagged at 26.12'. Airlift purge will be completed next week.

16:00 Departed site with crew.

Well Site Eval Proj
10097

Proposed well completion
L-SF

1/5/2022



ALAMEDA COUNTY WATER DISTRICT

Monitoring Well Construction

Inspector: Brianna Thomas
Job No.: 10097
Date: 1/18/22

Permit No.:
Well No.: 5S/2W-01B011
Other Well ID: 1-SF

Job Location: End of Civic Terrace Ave, Newark
Contractor: Gregg / Pitcher

Major Equipment and Materials On-site

ITEM	MATERIALS RECEIVED TODAY
Development Rig	
support truck	
air compressor	
waste bins	

Contractor Arrival Time: 7:30
Contractor Departure Time: 1700

Daily Start Depth: ft.
Daily Finish Depth: ft.

Daily Drill Bit Size(s):

Delays/Accidents:

ACWD Meter No.: **Beginning Meter Reading:** **End Meter Reading:**

Pictures Taken: ☐ YES ☐ NO

Visitors to Job Site:

Construction Details

Final Bit Size & Type:
Total Borehole Depth: ft.

Control Casing Size: in.
Control Casing Depth: ft. to ft.

Conductor Casing Size: in.
Conductor Casing Depth: ft. to ft.

Well Casing Diameter: in.
Completed Well Depth: ft.

Perforation Slot Size: in.
Perforation Interval: ft. to ft.

Sand Info.:
Sand Interval: ft. to ft.

and ft. to ft.

Grout Mix:
Grout Interval: ft. to ft.

Bottom Plug Info.:
*and** ft. to ft.

*Two grout intervals if bottom of borehole extended beyond completed well depth and was grouted prior to well construction.

Monitoring Well Construction Remarks

Inspector: Brianna Thomas **Permit No.:**

0742- Arrive onsite, Pitcher services (Phil) onsite. 55/2W-01B011 will be developed today, waiting for development rig to arrive.

0817- Development Rig arrives onsite - Gregg Drilling (Lou). Well was bailed on Friday 1/14/22, crew will bail again today before beginning airlift purge.

0931- Tagged bottom of well at 345', depth to water before bailing was 25.88'

1133- Begin ~~air~~ air lift purge.

1210- Crew having issues with air compressor, working to correct issue.

1250- Begin air lift purge, issue was with pipes not compressor

1325- Pump drillers are using to move water to waste bins is not working, another is being delivered to site. Air lift purge paused.

1401- New pump arrives onsite.

1405- Resume airlift purge.

1515- Air lift purge ended, parameters stabilized. Well development complete. Crew cleaning up.

1620- Tagged water level at 26.11' and total depth at 345'.

1635- left site with crew

ALAMEDA COUNTY WATER DISTRICT

MONITORING WELL SAMPLING RECORD

WELL ID: 5S/2W-01B011
PROJECT NO: 10097
PROJECT NAME:
DATE: 1/18/2022
SAMPLED BY: BT

DEPTH TO WATER: 25.88' at 0822
TOTAL DEPTH OF WELL: 345'
WELL DIAMETER: 2"
CASING VOLUME:
METHOD OF PURGING: air lift

TIME	CUMULATIVE VOL. REMOVED (GALLONS)	TEMPERATURE (°C)	pH (UNITS)	SPECIFIC CONDUCTANCE (UMHOS/CM)	REMARKS (COLOR, TURBIDITY & SEDIMENT)
1320	365	19.6	7.08	3395	T = 132 NTU
1420	405	19.6	7.08	3526	T=2.38 NTU
1435	525	19.7	7.09	3558	T=1.36 NTU
1450	645	19.7	7.09	3579	T= 0.53 NTU
1505	765	19.7	7.10	3591	T = 0.46 NTU
1510	805	19.6	7.10	3590	T= 0.48 NTU
1515	845	19.5	7.10	3592	T= 0.46 NTU

NOTES: Began air lift purge at 1250 at 12gpm, purge paused to fix pump, resumed at about 1415 at 8gpm. Total depth before purge = 345', after purge = 345' DTW before purge = 25.88', after purge = 26.11' Stopped purge at 1515.

Daily Development Report

Well Location 5S/2W-01B011
Well Number 1-SF
Totalizer Start
End

Date 1/18/22
Measured by BT

Discharge Pressure

Remarks ~ 845 gallons pumped

TIME	FLOW RATE gpm	STATIC DTW ft.	~~PUMPING DTW~~ After pumping ft.	DRAWDOWN ft.	SPEC. CAPACITY gpm/ft.	NO. OF SURGES	SAND TESTER READ	SAND TESTER AMT	REMARKS
1400	8	25.88	26.11	0.23					

Site #1

ALAMEDA COUNTY WATER DISTRICT
43885 South Grimmer Blvd. • P.O. Box 5110
Fremont, CA 94537-5110
Permitting & Scheduling (510) 668-4460

APPLICATION FOR DRILLING PERMIT

ACWD ORDINANCE NO. 2010-01

COMPUTER POSTED

Application Received Date: 10/14/21 By: BS | Permit Issued Date: 12/7/21 | Permit Expiration Date: 2/7/22 | Job No. 1097 | Permit No. 2021-0348 | Well No. 5S/2W-01B012

JOB ADDRESS:
East Site of Civic Center Park
37101 Newark Boulevard, Newark Ca 94560

PROPERTY OWNER
NAME: City of Newark
ADDRESS: 37101 Newark Boulevard, Newark Ca 94560
TELEPHONE: (510) 578-4200

CONSULTING ENGINEER
NAME: Alameda County Water District
ADDRESS: 43885 South Grimmer Boulevard Fremont, CA 94538
TELEPHONE: (510) 68-4452 RG/CEG/RCE NO. PG 5859

DRILLING CONTRACTOR
NAME: Pitcher Services, LLC
ADDRESS: 218 Demeter Street East Palo Alto, CA 94303
E-MAIL ADDRESS: Terry Shewchuk <tshewchuk@pitcherservicesllc.com>
TELEPHONE: (650)328-8910 STATE LIC. NO. 1044895

When properly signed 1-TF

THIS APPLICATION IS A VALID PERMIT

to perform only work described below at the given job address, in accordance with ACWD Ordinance No. 2010-01 and all other applicable laws and regulations. Discontinuation of work may result in revocation of permit. ***Permittee must schedule the work in advance with ACWD.*** *ACWD's approval of drawings, designs, specifications, work plans, reports or incidental work and materials shall not relieve the permittee of responsibility for the technical adequacy of the work. Except for special circumstances, all work to be inspected must be performed within ACWD work hours – 7:00 a.m. to 4:30 p.m., Monday through Friday.*

PLEASE CHECK TYPE OF PROPOSED WORK

Each well or other excavation requires a separate permit application form unless otherwise indicated. Only one specific type of work can be checked per permit application.

WELLS	EXPLORATORY HOLES	OTHER EXCAVATIONS
☒ CONSTRUCTION ☐ REPAIR ☐ DESTRUCTION	☐ CONSTRUCT./DESTRUCT.	☐ CONSTRUCTION ☐ REPAIR ☐ DESTRUCTION
☐ Water Well	*Multiple exploratory holes of the same type may be grouped together on the same permit application form.*	☐ Cathodic Protection Well ☐ Inclinometer
Monitoring Well:		☐ Vibrating Wire Piezometer ☐ Elevator Shaft
☒ Chemical Investigation	☐ Chemical Investigation	*Multiple other excavations of the same type may be grouped together on the same permit application form for the following:*
☐ Injection Well (for Chemical Cleanup)	☐ Injection Boreholes	☐ Cleanup Site Excavation(s) ☐ Wick Drains
☒ Geotechnical Investigation	☐ Soil Vapor Sampling	☐ Shaft, Tunnel, or Directional Borehole (s) ☐ Support Piers, Piles, or Caissons
☐ Geothermal Heat Exchange Well	☐ Geotechnical Investigation	
☐ Dewatering Well *(Multiple dewatering wells may be grouped together on the same permit application form)*		
Quantity: _____	Quantity: _____	☐ Other: _____ Quantity: _____

DESCRIPTION OF PROPOSED WORK:
Installation of 6" diameter test well.
Well Name: Civic Center Park 1-TF

TOTAL ESTIMATED COST
$ _____

PERMIT CONDITIONS:
Monitoring Well Construction to comply with current ACWD Standards

FEES: ☐ Private ☐ City ☒ Governmental Agency

GUARANTEE OF PERFORMANCE: ☐ Cash Deposit ☐ Bond

REFUND: Amount $ _____ Reason: _____

FEES/ DEPOSIT: Date Received ~ Estimated Amount $ 5
Check No. _____ Actual Amount $ _____
Cash _____ Difference $ _____

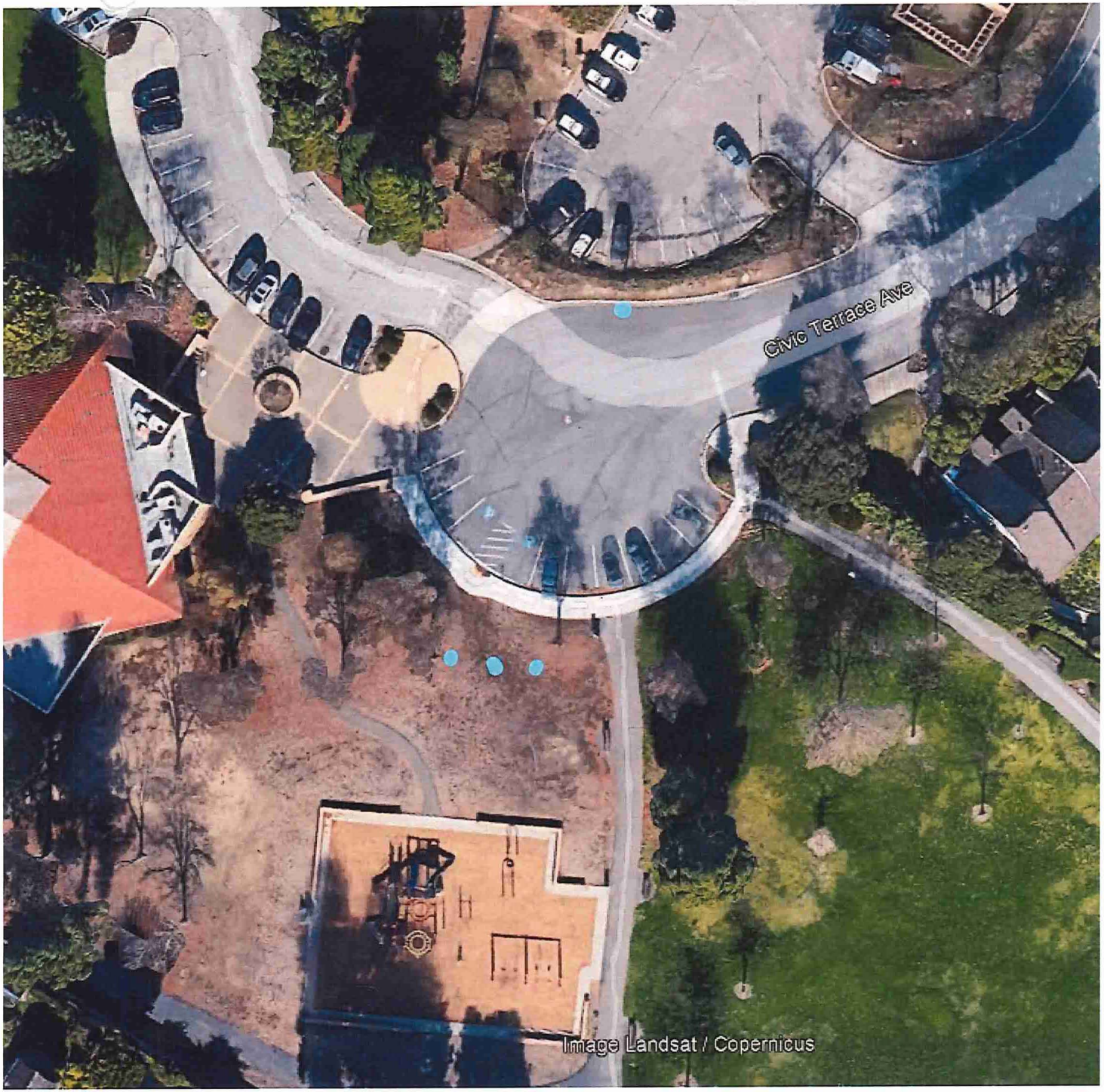
ACWD SITE NO. 6
APPROVED FOR SCHEDULING BY: _____ DATE: 12/7/2021
APPROVED BY: _____ DATE: 12/7/2021

I hereby agree to comply with all conditions of this permit in accordance with ACWD Ordinance No. 2010-01 and to furnish the District a completed copy of D.W.R. Drillers Report (form 188) within sixty (60) days after completion as well as any chemical testing results within thirty (30) days after completion.

Title: Associate Hydrogeologist Signature: _____ Date: 10/12/2021

Representing: Alameda County Water District Name (printed): Douglas Young

ACWD #458 11-12


Civic Terrace Ave
Image Landsat / Copernicus

ALAMEDA COUNTY WATER DISTRICT

Monitoring Well Construction

Inspector: Brianna Thomas
Permit No.: 2021-0345B
Job No.: 10097
Well No.: 5S/2W-01B0912
Date: 12/28/21
Other Well ID: ~~1-MF~~ 1-TF

Job Location: End of Civic Terrace Ave, Newark
Contractor: Pitcher Services LLC

Major Equipment and Materials On-site

ITEM	MATERIALS RECEIVED TODAY
Drill Rig	
Support truck	
Waste bins	
Fork lift	

Contractor Arrival Time: ~~0700~~ 0730
Contractor Departure Time: 1700
Daily Start Depth: 0 ft.
Daily Finish Depth: 40 ft.
Daily Drill Bit Size(s): 16" to set control casing, 14" to drill well boring

Work Completed Summary: Mobilizing to site and setting up to begin drilling test well, hand clear well location, set conductor casing, begin drilling

ACWD Meter No.: _____ **Beginning Meter Reading:** _____ **End Meter Reading:** _____

Pictures Taken: ☐ YES ☐ NO File Location: _____
Visitors to Job Site: _____
Delays/Accidents: _____

Construction Details

Final Bit Size & Type: _____
Total Borehole Depth: _____ ft.
Control Casing Size: _____ in.
Control Casing Depth: _____ ft. to _____ ft.
Conductor Casing Size: _____ in.
Conductor Casing Depth: _____ ft. to _____ ft.
Well Casing Diameter: _____ in.
Completed Well Depth: _____ ft.
Perforation Slot Size: _____ in.
Perforation Interval: _____ ft. to _____ ft.
Sand Info.: _____
Sand Interval: _____ ft. to _____ ft.
and _____ ft. to _____ ft.
Grout Mix: _____
Grout Interval: _____ ft. to _____ ft.
Bottom Plug Info.: _____
*and** _____ ft. to _____ ft.

*Two grout intervals if bottom of borehole extended beyond completed well depth and was grouted prior to well construction.

Monitoring Well Construction Remarks

Inspector: Brianna Thomas **Permit No.:** 2021-0348

0745- Arrive onsite, Gregg Drilling (~~Francisco~~ Francisco/Justin/Robert) and Doug Young onsite. They are mobilizing equipment to site and will begin set up for drilling.

0850- John with Gregg Drilling arrives onsite to drop off materials

1200 - Rig is having mechanical issues, working to resolve.

1345 - Well location has been hand augered to 8', crew begins drilling with 16" bit using mud rotary drill rig. They will set control casing, then switch to 14" bit.

1407 - Crew setting up mud pit over well location and setting 10' control casing

1530 - spoke with Doug Young, will remind Gregg Drilling again to put up fencing and clean up dirt clods off street at site 1 and 3.

1537 - Currently at 20' with 14" bit, conductor casing was set using a 16" bit and they then switched to 14" bit

1630- Reached 40', begin cleaning up for the day.

1648 - Boring has been secured and protected

1652- Left site

ALAMEDA COUNTY WATER DISTRICT

Monitoring Well Construction

Inspector: Brianna Thomas
Job No.: 10097
Date: 12/29/21

Permit No.: 2021-0348
Well No.: 5S/2W-01B009 12
Other Well ID: ~~LMF~~ 1-TF

Job Location: End of Civic Terrace Ave, Newark
Contractor: Pitcher Services LLC

Major Equipment and Materials On-site

ITEM	MATERIALS RECEIVED TODAY
Drill Rig & shaker	
Support Truck	
Waste bins	
Fork Lift	

Contractor Arrival Time: 0730
Contractor Departure Time: ~~1800~~ 1700
Daily Start Depth: 40 ft.
Daily Finish Depth: 300 ft.
Daily Drill Bit Size(s): 14"

Work Completed Summary: Continue drilling borehole for well - reached 300'.

ACWD Meter No.: _____ **Beginning Meter Reading:** _____ **End Meter Reading:** _____

Pictures Taken: ☐ YES ☐ NO File Location: _____
Visitors to Job Site: _____
Delays/Accidents: _____

Construction Details

Final Bit Size & Type: _____
Control Casing Size: _____ in.
Conductor Casing Size: _____ in.
Well Casing Diameter: _____ in.
Perforation Slot Size: _____ in.
Sand Info.: _____
_____
Grout Mix: _____
Bottom Plug Info.: _____

Total Borehole Depth: _____ ft.
Control Casing Depth: _____ ft. to _____ ft.
Conductor Casing Depth: _____ ft. to _____ ft.
Completed Well Depth: _____ ft.
Perforation Interval: _____ ft. to _____ ft.
Sand Interval: _____ ft. to _____ ft.
and _____ ft. to _____ ft.
Grout Interval: _____ ft. to _____ ft.
*and** _____ ft. to _____ ft.

*Two grout intervals if bottom of borehole extended beyond completed well depth and was grouted prior to well construction.

Monitoring Well Construction Remarks

Inspector: Brianna Thomas **Permit No.:** 2021-0348

0740- Arrive onsite, Gregg Drilling (Francisco/Justin/Robert) onsit. They are preparing to begin drilling - currently at 40'.

0758- Begin Drilling for the day, Justin is also cleaning up mud/debris from road left behind by mobilization activities yesterday.

1020- Currently at 100', continue drilling

1209- Andres Aguayo arrives onsite to cover my lunch break

1225- I leave site.

1255- Arrive onsite, Andres leaves site

1259- Currently at 200', continue drilling

1605- Reached 300', begin pulling rods and cleaning up.

1632- Borehole has been secured and ~~protected~~ protected - Gregg Drilling chose to leave 200' of rod in the ground.

1635- left site

ALAMEDA COUNTY WATER DISTRICT

Monitoring Well Construction

Inspector: Brianna Thomas
Job No.: 10097
Date: 12/30/21

Permit No.: 2021-0348
Well No.: 5S/2W-01B009 12
Other Well ID: ~~1-MF~~ 1-TF

Job Location: End of Civic Terrace Ave, Newark
Contractor: Pitcher Services LLC

Major Equipment and Materials On-site

ITEM	MATERIALS RECEIVED TODAY
Drill Rig & shaker	
Support Truck	
waste bins	
fork lift	

Contractor Arrival Time: 0730
Contractor Departure Time: 1330
Daily Start Depth: 300 ft.
Daily Finish Depth: 360 ft.
Daily Drill Bit Size(s): 14"

Work Completed Summary: Finish drilling borehole for well construction, clean up street and sidewalk.

ACWD Meter No.: _____ **Beginning Meter Reading:** _____ **End Meter Reading:** _____

Pictures Taken: ☑ YES ☐ NO File Location: _____
Visitors to Job Site: _____
Delays/Accidents: _____

Construction Details

Final Bit Size & Type: _____
Control Casing Size: _____ in.
Conductor Casing Size: _____ in.
Well Casing Diameter: _____ in.
Perforation Slot Size: _____ in.
Sand Info.: _____
_____
Grout Mix: _____
Bottom Plug Info.: _____

Total Borehole Depth: _____ ft.
Control Casing Depth: _____ ft. to _____ ft.
Conductor Casing Depth: _____ ft. to _____ ft.
Completed Well Depth: _____ ft.
Perforation Interval: _____ ft. to _____ ft.
Sand Interval: _____ ft. to _____ ft.
and _____ ft. to _____ ft.
Grout Interval: _____ ft. to _____ ft.
*and** _____ ft. to _____ ft.

*Two grout intervals if bottom of borehole extended beyond completed well depth and was grouted prior to well construction.

Monitoring Well Construction Remarks

Inspector: Brianna Thomas

Permit No.: 2021-~~0345~~ 0348 (BT)

0730 - Arrive onsite, Gregg Drilling (Francisco/Justin/Robert) onsite. Crew is preparing to begin drilling

0755 - Begin drilling.

0915 - Ponder arrives to empty waste bins

1035 - Reached 340', gravels began at 325'

1100 - Reached 360', gravels ended at 355'

1149 - Let Francisco know we need to clean mud off road and sidewalk, they will start clean up after they trip out of the borehole. Ponder off site.

1150 - Begin pulling rods from borehole

1238 - Borehole has been secured and protected, ~~Gregg Drilling left of rod in the ground.~~ (BT)

1316 - street and sidewalk have been cleaned, left site.

Monitoring Well Construction

Inspector: Jeremy Bautista | **Permit No.:** 2021-0347 JB

Job No.: 10097 | **Well No.:** 5S/2W-01B01 #2 JB

Date: 01-03-22 | **Other Well ID:** 1-SF JB TF

Job Location: End of Civic Terrace Avenue, Newark

Contractor: Pitcher Services LLC

Major Equipment and Materials On-site

ITEM	MATERIALS RECEIVED TODAY
GEFCO 40k Mud Rotary Drill Rig	
Water Truck	
Shaker	
Crew Truck	

Contractor Arrival Time: 0700 | Contractor Departure Time: 1700

Daily Start Depth: 60 ft. | Daily Finish Depth: 365 ft.

Daily Drill Bit Size(s): 16"

Work Completed Summary: cleaned and drilled to 365'; unloaded 8" steel casing; cleaned streets

ACWD Meter No.: _____ **Beginning Meter Reading:** _____ **End Meter Reading:** _____

Pictures Taken: ☑ YES ☐ NO File Location: _____

Visitors to Job Site: Doug Young

Delays/Accidents: _____

Construction Details

Final Bit Size & Type: _____ | Total Borehole Depth: _____ ft.

Control Casing Size: _____ in. | Control Casing Depth: _____ ft. to _____ ft.

Conductor Casing Size: _____ in. | Conductor Casing Depth: _____ ft. to _____ ft.

Well Casing Diameter: _____ in. | Completed Well Depth: _____ ft.

Perforation Slot Size: _____ in. | Perforation Interval: _____ ft. to _____ ft.

Sand Info.: _____ | Sand Interval: _____ ft. to _____ ft.

_____ | *and* _____ ft. to _____ ft.

Grout Mix: _____ | Grout Interval: _____ ft. to _____ ft.

Bottom Plug Info.: _____ | *and** _____ ft. to _____ ft.

*Two grout intervals if bottom of borehole extended beyond completed well depth and was grouted prior to well construction.

Monitoring Well Construction Remarks

Inspector: Jeremy Bautista **Permit No.:** 2021-0347

0800 - Arrive on site. Gregg Pitcher (Francisco/Robert/Jarred) on site with a GEFCO 40K mud rotary drill rig. Doug Young Arrives on site. They are mixing drilling mud. They have 160' of 8" steel blank well casing, 30' of 8" steel screen casing + a 5' welded silt trap on site mounted on their water truck. Also have 1x 20' length of 8" steel well casing on the ground.

1020 - currently @ 220' Cleaning out

1030 - Doug Young arrives on site

1050 - currently @ 300' cleaning out

1150 - Doug Young leaves site.

1240 - Francisco notifies me that they are 5' short of steel casing and tremie pipe. I notify Doug.

1310 - Doug Young calls me and notifies me of I-TF well design change.

1330 - Doug Young arrives on site and finds out that Francisco drilled to 365' Total Depth and therefore will be able to complete well as originally designed.

1340 - Francisco tells me that due to time constraints they won't do any more installing or reaming until 01.04.22

1420 - left site for lunch. Doug remains on site

1440 - arrive back on site. Doug asks me to get storm drain covers and gravel bags. left site

1520 - arrive on site w/ storm drain covers and gravel bags. cover the storm drains. Currently repairing/replacing their pump.

1430 - begin spraying down and sweeping the street

1440 - left site

1515 - City of Newark inspector (Kurt) observes site and requests to cover storm drains and clean streets.

Monitoring Well Construction

Inspector: Pablo Cortez | **Permit No.:** 2021-0348

Job No.: 10097 | **Well No.:** 5S/2W-01B012

Date: 1/4/22 | **Other Well ID:** 1-TF

Job Location: End of Civic Terrace Avenue, Newark

Contractor: Pitcher Services LLC

Major Equipment and Materials On-site

ITEM	MATERIALS RECEIVED TODAY
Drill rig	
Support truck	
Forklift	
Waste bins	

Contractor Arrival Time: 7:00 | Contractor Departure Time: _____

Daily Start Depth: _____ ft. | Daily Finish Depth: _____ ft.

Daily Drill Bit Size(s): _____

Work Completed Summary: Installed well casing.

ACWD Meter No.: _____ **Beginning Meter Reading:** _____ **End Meter Reading:** _____

Pictures Taken: ☑ YES ☐ NO File Location: _____

Visitors to Job Site: Doug Young

Delays/Accidents: _____

Construction Details

Final Bit Size & Type: _____ | Total Borehole Depth: _____ ft.

Control Casing Size: _____ in. | Control Casing Depth: _____ ft. to _____ ft.

Conductor Casing Size: _____ in. | Conductor Casing Depth: _____ ft. to _____ ft.

Well Casing Diameter: _____ in. | Completed Well Depth: _____ ft.

Perforation Slot Size: _____ in. | Perforation Interval: _____ ft. to _____ ft.

Sand Info.: _____ | Sand Interval: _____ ft. to _____ ft.

_____ | *and* _____ ft. to _____ ft.

Grout Mix: _____ | Grout Interval: _____ ft. to _____ ft.

Bottom Plug Info.: _____ | *and** _____ ft. to _____ ft.

*Two grout intervals if bottom of borehole extended beyond completed well depth and was grouted prior to well construction.

Monitoring Well Construction Remarks

Inspector: **Permit No.:** 2021-0348

7:50 Arrival onsite. Gregg Drilling crew onsite. Cleaning out hole.

9:52 Pulling out rods.

11:30 Preparing to set well casing. Slots on screen measured ~1/16" (~0.06"). 30' of screen. 5' blank at bottom.

11:45 Began lowering and welding casing. 8" steel casing.

1326 ANDRW ARRIVED ON SITE

ADDING ANOTHER STEEL JOINT SOLID

1400 ANDRW LEAVES SITE

14:00 Returned to site.

14:37 Confirmed with driller that they are putting centralizers every 30' and at top, middle, and bottom of screen.

17:30 All casing has been installed. Drillers stop work for today. Departed site.

Monitoring Well Construction

Inspector: Brianna Thomas | **Permit No.:** 2021-0348

Job No.: 10097 | **Well No.:** 5S/2W-01B012

Date: 1/5/22 | **Other Well ID:** 1-TF

Job Location: End of Civic Terrace Avenue, Newark

Contractor: Pitcher Services LLC

Major Equipment and Materials On-site

ITEM	MATERIALS RECEIVED TODAY
Drill Rig	
Support Truck	
Waste bins	
forklift	

Contractor Arrival Time: 0700 | Contractor Departure Time: 1700

Daily Start Depth: 365 ft. | Daily Finish Depth: 365 ft.

Daily Drill Bit Size(s): _____

Work Completed Summary: Place sand pack, bentonite spacer and 11-sack sand slurry cement seal.

ACWD Meter No.: _____ **Beginning Meter Reading:** _____ **End Meter Reading:** _____

Pictures Taken: ☐ YES ☐ NO File Location: _____

Visitors to Job Site: _____

Delays/Accidents: _____

Construction Details

Final Bit Size & Type: _____

Control Casing Size: _____ in.

Conductor Casing Size: _____ in.

Well Casing Diameter: _____ in.

Perforation Slot Size: _____ in.

Sand Info.: _____

_____

Grout Mix: _____

Bottom Plug Info.: _____

Total Borehole Depth: _____ ft.

Control Casing Depth: _____ ft. to _____ ft.

Conductor Casing Depth: _____ ft. to _____ ft.

Completed Well Depth: _____ ft.

Perforation Interval: _____ ft. to _____ ft.

Sand Interval: _____ ft. to _____ ft.

and _____ ft. to _____ ft.

Grout Interval: _____ ft. to _____ ft.

*and** _____ ft. to _____ ft.

*Two grout intervals if bottom of borehole extended beyond completed well depth and was grouted prior to well construction.

Monitoring Well Construction Remarks

Inspector: Brianna Thomas **Permit No.:** 2021-0348

0740 - Arrive onsite, Gregg Drilling onsite (Francisco/Jarred/Robert) they are preparing to sand well - casing loaded into borehole last night.

Well construction will be as follows:

0-305' grout

305-315' bentonite

315-365' sand pack

8" diameter steel casing, flush mount, blank casing 0-325' screened casing 325-355', silt trap 355-360'

1000 - Begin placing sand pack via tremie pipe, Pondr hauled off 2x waste bins and delivered two more.

1040 - Sand pack tagging at 315', crew will place bentonite chips now

1059 - Bentonite tagging at ~~314'~~ BT ~~316~~ 306' for total of 9' of bentonite - Doug Young approves.

1121 - Conco pumping arrives onsite, waiting for cement truck

1205 - Milpitas Materials arrives onsite with 11-sack sand slurry

1213 - Begin pumping cement downhole via tremie pipe set at 300'

1218 - Andres Aguayo arrives onsite to cover lunch break for me

1302 - Cement is at 18', more cement is on the way

1342 - Milpitas Materials arrives onsite with 2nd batch of 11-sack sand slurry

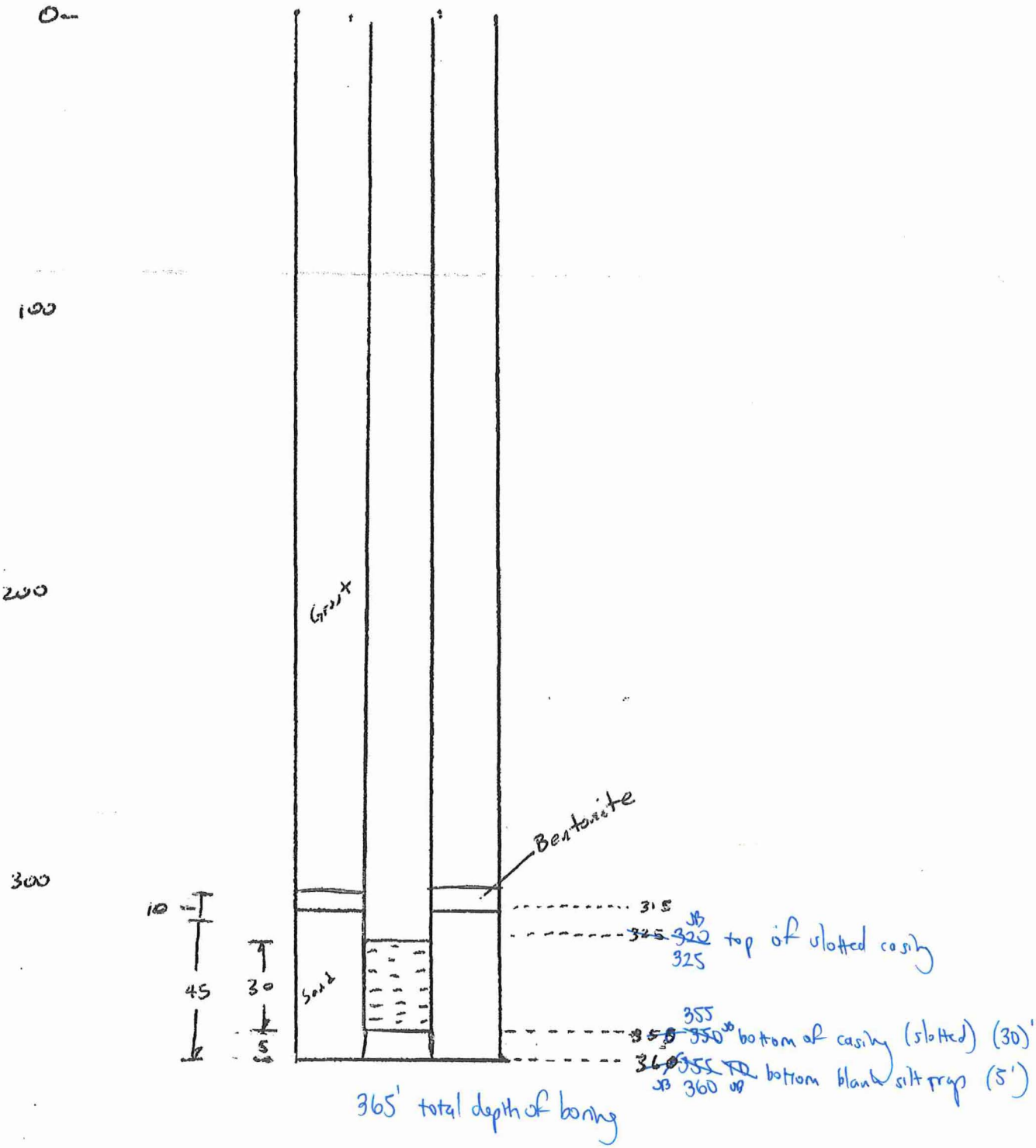
1408 - Well has been sealed from 0-306' with 11-sack sand slurry via tremie pipe

1505 - Control casing removed, surface completion will be done on a later date.

1630 - Well has been secured and protected, left site.

Proposed well comp Well site Eval Project
1-TF
10097

12-30-2021



1-TF well development

PERMIT NO. _____ WELL NO. ~~5/5~~ 55/2W-01B012 (1-TF)

INSPECTOR	DATE	TIME	REMARKS
J. Bautista	01.25.22	~~0800~~ 0830	Arrive on site. Gregg/Pitcher (Bernix/Phil) on site conducting small well development rig.
		0830	I tag well @ 331', but the mud at the bottom of the well casing is too thick. Water level is
		0845	begin bailing the well
		0930	Doug Young arrives on site
		1015	Doug Young leaves site.
		1135	still bailing. Left site for inspection
		1240	arrive on site
		1245	~~drive~~ Andres Aguayo arrives on site. Bernix tells me that they have hailed 25x 55 gallon drums. Now taking lunch
			Bernix plans to set 1" steel air line @ 150' and 4" discharge line to 320'. Doug Young wants Turbidity to be <50 and pH, conductivity, temp to have 3x readings consequetively within 10% of each other,
		1330	Jeremy left site
Andres Aguayo	1-25-22	1520	Finished loading discharge line (4") and began loading 1" steel airline.
			Per Bernix once setup is complete there will not be enough time for sampling, recommends to finish setup and begin sampling in the morning. Called Doug and he approves
		1605	Bernix & Phil have completed setting up to begin pumping. They are begining to pick up their equipment. Borehole is secure. Crew will secure site after equipment and tools have been picked up. Left Site.
Andres Aguayo	1-26-22	07:55	Arrive on site. Gregg/Pitcher (Bernix/Phil) already on site with a small development rig. They've completed setting up for pumping. Currently working on an attachment for easier sampling.

NUMBER OF EXPLORATORY HOLES _____

WORK COMPLETED _____ (DATE) OR PERMIT VOIDED _____ (DATE)

COPY OF PERMIT TO _____ (REVIEWING INDIVIDUAL) ON _____ (DATE) BY _____ (INITIALS)

1-TF Well Development

PERMIT NO. _____ WELL NO. _____

INSPECTOR	DATE	TIME	REMARKS
Andres Aguayo	1-26-22	09:00	1 x Ponder Environmental Waste bin full. Crew paused pumping to attach hose to second container.
		09:10	Resumed pumping
		11:15	Pumping paused, switched discharge hose from container 2 to container 3.
		11:25	Pumping resumed.
		11:30	Bernie contacted Ponder Environmental for Waste Bins specs. They told him it holds about ~3600gal. Container #2 took 2 hours to fill up from empty. 3600 gal / 120 min = ~ 30gal/min
		12:50	Pumping stopped. 3x waste bins filled to capacity. Waiting for Ponder Environmental to vacuum contents from bins. NTU is @ 228 and needs to be below 50 in order to discharge to sewer.
		1310	Pitcher (Terry) arrived on site to gauge the situation with the containers. Terry wanted to see last sample taken but advised after writing down metrics I disposed of the water.
		1330	Doug advised me that Terry is shutting down operation. Ponder environmental will arrive tomorrow @ 07:30.
		1340	Packed up tools. Left site.
A. Aguayo	1-27-2022	0743	Arrive on site. Pitcher + Gregg (Phil + Bernie) also on site. Ponder environmental arrived to vacuum contents of 3+ waste bins.
		0750	Water level for 1-TF: 29.03'
		0810	Airlifting began
		0815	First sample of the day taken / Ponder left site.
		0825	Bernie confirmed discharge pipes installed to 350'

NUMBER OF EXPLORATORY HOLES _____

WORK COMPLETED _____ (DATE) OR PERMIT VOIDED _____ (DATE)

COPY OF PERMIT TO _____ (REVIEWING INDIVIDUAL) ON _____ (DATE) BY _____ (INITIALS)

PERMIT NO. _____ ITF - Well Development WELL NO. 55/2W-01B012 (1-TF)

INSPECTOR	DATE	TIME	REMARKS
A. Aguayo	1-27-22	0935	Pumping paused. Switching containers for discharge hose
		0945	Pumping resumed. Terry S. arrives on site
			Ponder environment arrives on site to vacuum liquid
			Foram waste bins
		1115	Paused pumping to switch discharge hose
		1125	Resumed pumping
		1230	Ponder environmental left site.
		1250	Terry S. left site
		1350	Pumping paused
		1410	Pumping resumed
		1630	NTU's are still not below 50. All 3x waste bins
			are full. Ponder is suppose to come in the morning
			to vacuum.
		1640	After packing up equipment left site.
Andrew Aguayo	1/31/22	1320	ARRIVED ON SITE. PUBLIC CREW SETTING PUC
		1420	GENERATOR ARRIVED ON SITE.
Andres Aguayo	2/1/22	0750	Arrived on site. Pitcher/Gregg (Philmon/Bernix) on site
			setting up to begin pumping.
			Water level tagged @ 28.71'
		0815	Doug Young called. Advised Young Bernix plans to set
			pump at either 321' or 342' (Screen @ 325'-355')
			Doug says for well development it is up to them where
			they set pump.
			Doug also wants water level measurements for well
			on left (while looking towards playground) every hour to
			see if pumping 1-TF affects it.
		0948	Finished setting up pump + discharge pipes (4")
			Pump set at 347', pump intake @ 344'

NUMBER OF EXPLORATORY HOLES _____

WORK COMPLETED _____ (DATE) OR PERMIT VOIDED _____ (DATE)

COPY OF PERMIT TO _____ (REVIEWING INDIVIDUAL) ON _____ (DATE) BY _____ (INITIALS)

1-TF

PERMIT NO. _____ WELL NO. 5S/2W-01B012

INSPECTOR	DATE	TIME	REMARKS
A. Aguayo	2-1-22	1020	Held a 5 gal bucket at end of discharge pipe.
			Took 21.68 to fill. Flow rate is +/- 14 gal/min
		1045	Bernix + Philmon left for site 3.
			Pitcher (Phil) stayed on site
		1500	Reached <50 NTU's
			Per Doug if it stays below 50 NTU's ok to
			shut down @ 16:00.
		1600	Readings for turbidity stayed <50 NTU's. Pump
			shut down. Phil left site
			Per Doug Young took Water Level Measurements
			for 5S/2W-01B009 as follows:
			0830 -26.74
			0930 -26.74
			1010 -26.86
			1110 -26.91
			1210 -26.91
			1310 -26.40
			1410 -26.92
			1600 -26.94
		1615	Left site.

NUMBER OF EXPLORATORY HOLES _____

WORK COMPLETED _____ (DATE) OR PERMIT VOIDED _____ (DATE)

COPY OF PERMIT TO _____ (REVIEWING INDIVIDUAL) ON _____ (DATE) BY _____ (INITIALS)

ALAMEDA COUNTY WATER DISTRICT

MONITORING WELL SAMPLING RECORD

WELL ID: SS/2W-01B012 (1-TF)
PROJECT NO: 10097
PROJECT NAME:
DATE: 01.26.22
SAMPLED BY: Andres Aguayo

DEPTH TO WATER: 84.64' / 30.71' (before bail / after)
TOTAL DEPTH OF WELL: 360'
WELL DIAMETER: 8"
CASING VOLUME:
METHOD OF PURGING: Air Lift

TIME	CUMULATIVE VOL. REMOVED (GALLONS)	TEMPERATURE (°C)	(U		
08:10		17.9	7.		
08:40		18.2	7.		
09:20		19.5	7.		
09:50		19.9	7.		
10:20		19.8	7.		
10:50		19.7	7.		
11:13		19.7	7.		
11:43		19.9	7.		
12:13		19.8	7.		
12:43		20.1	7.		

1/27/22

① Terry S. would like to know if he can keep well metal lids we replace with plastic blue ACWD lids. AA

② Grab clear glass container from lab to have better observation for samples retrieved. AA

NOTES: ⊕ 40 min in between sampling due to switching discharge hose from container 1 to container 2 ⊛ 23 min in between sampling due to container 2 being full and crew are going to switch discharge hose to container 3. Ⓐ Pumping stopped, 3 containers are filled to the top.

ALAMEDA COUNTY WATER DISTRICT

MONITORING WELL SAMPLING RECORD

WELL ID: 5S/2W-01B012 (1-TF)
PROJECT NO: 10097
PROJECT NAME:
DATE: 1-27-22
SAMPLED BY: Andres Aguayo

DEPTH TO WATER: 29.03' before airlift
TOTAL DEPTH OF WELL: 360'
WELL DIAMETER: 8"
CASING VOLUME:
METHOD OF PURGING: Airlift

TIME	CUMULATIVE VOL. REMOVED (GALLONS)	TEMPERATURE (°C)	pH (UNITS)	SPECIFIC CONDUCTANCE (UMHOS/CM)	REMARKS (COLOR, TURBIDITY & SEDIMENT)
08:15		19.4	7.85	4057 uS	(640 NTU) / light greenish / some sediment
08:45		18.4	7.75	4110 uS	(319 NTU) / getting clear / light sediment
09:15		18.8	7.75	4214 uS	(206 NTU) / clearer
09:35		19.6	7.91	4140 uS	(333 NTU) / back to green, less clear
10:05		19.9	7.92	4151 uS	(261 NTU) / similar to last sample
10:35		20.7	7.93	4103 uS	(231 NTU) / clearer / less sediment
11:05		20.4	7.97	4089 uS	(129 NTU) / more clear / little sediment
11:15		20.3	8.01	4099 uS	(93.5 NTU) same as above
11:50		20.1	7.92	4137 uS	(102 NTU) more clear but still cloudy / very little sediment
12:20		20.2	7.92	4095 uS	(79.7 NTU) little cloudy /
12:50		20.2	7.93	4099 uS	(64.8 NTU) / clear / no sediment
13:20		20.3	7.82	4104 uS	(91.7 NTU) / cloudy / little sediment
13:45		20.3	7.92	4130 uS	(66.9 NTU) cloudy / clearer than last sample
14:30		20.3	7.93	4215 uS	(112 NTU) cloudy / no sediment
15:00		20.3	7.97	4203 uS	(61.3 NTU) less cloudy / no sediment

NOTES: ⊕ 20 min difference, airlifting stopped to change discharge hose to another waste bin. ⊖ 10 min in between, swithed discharge hose to empty bin. ⊛ Pumping stopped @ 1350 and resumed @ 1410.

ALAMEDA COUNTY WATER DISTRICT

MONITORING WELL SAMPLING RECORD

WELL ID: 5S/2W-01B012 (1-TF)
PROJECT NO: 10097
PROJECT NAME:
DATE: 1-27-22
SAMPLED BY: A. Aguayo

DEPTH TO WATER: 29.03' before airlift
TOTAL DEPTH OF WELL: 360'
WELL DIAMETER: 8"
CASING VOLUME:
METHOD OF PURGING: Airlift

TIME	CUMULATIVE VOL. REMOVED (GALLONS)	TEMPERATURE (°C)	pH (UNITS)	SPECIFIC CONDUCTANCE (UMHOS/CM)	REMARKS (COLOR, TURBIDITY & SEDIMENT)
15:15		20.4	7.99	4185 uS	(64.7 NTU) same as prior sample
15:30		20.4	7.90	4169 uS	(91.0 NTU) clear / no sediment
15:45		19.9	7.72	4189 uS	(71.6 NTU) same as above
16:00		19.7	7.95	4227 uS	(98.5 NTU) back to cloudy / no sediment
16:15		19.7	7.91	4192 uS	(104 NTU) same as above
16:30		20.1	7.86	4230 uS	(91.3) cloudy / no sediment

NOTES:

ALAMEDA COUNTY WATER DISTRICT

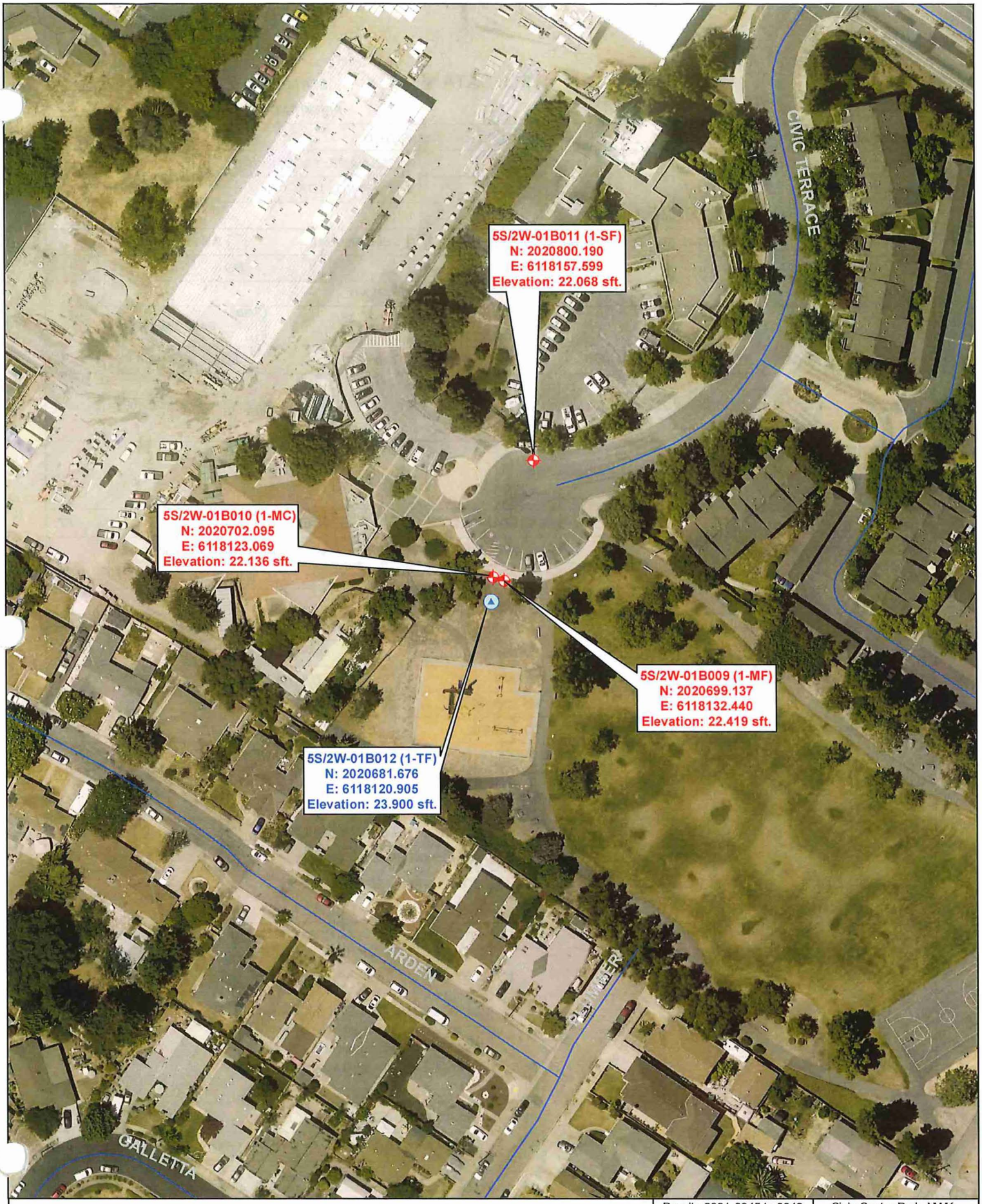
MONITORING WELL SAMPLING RECORD

WELL ID: 5S/2W-01B012 (1FF) | DEPTH TO WATER: 27.81 SOUNDED
PROJECT NO: 10097 | TOTAL DEPTH OF WELL: 360 FT
PROJECT NAME: | WELL DIAMETER: 8"
DATE: 1/1/2022 | CASING VOLUME:
SAMPLED BY: ANDRES AGUAYO | METHOD OF PURGING:

TIME	CUMULATIVE VOL. REMOVED (GALLONS)	TEMPERATURE (°C)	pH (UNITS)	SPECIFIC CONDUCTANCE (UMHOS/CM)	REMARKS (COLOR, TURBIDITY & SEDIMENT)
10:00		~~18.1~~ AA 19.1	7.52	3687	NTU - OVERRANGE! / MURKY WATER
10:30		21.1	7.57	3640	NTU - OVERRANGE / MURKY WATER
11:00		22.1	7.70	3578	SAME AS ABOVE
11:30		21.9	7.63	3705	SAME AS ABOVE
12:00		22.0	7.63	3655	(398 NTU) STILL MURKY / SUSPENDED SEDIMENT
12:30		22.1	7.69	3770	(398 NTU) SAME AS ABOVE
13:00		21.0	7.64	3830	(300 NTU) Getting Clear with little sediment
13:30		21.7	7.71	3760	(276 NTU) BIT MORE CLEAR / SOME SEDIMENT
14:00		20.0	7.57	3820	(211 NTU) SAME AS ABOVE
14:30		21.5	7.67	3808	(99.6 NTU) CLEAR / W/ VERY LITTLE SEDIMENT
15:00		20.9	7.55	3807	(33.3 NTU) CLEAR W/ VERY LITTLE SEDIMENT
~~15:30~~ AB	15:10	20.2	7.50	3810	(24.7 NTU) CLEAR / SEDIMENT AT BOTTOM OF ~~GLASS~~
(A) ~~16:00~~ AM	15:20	19.2	7.52	3820	(32.5 NTU) CLEAR / VERY LITTLE SEDIMENT
~~15:30~~ PM	15:30	20.5	7.41	3820	(25.2 NTU) CLEAR / LITTLE TO NO SEDIMENT
15:45		20.3	7.52	3830	(99.8 NTU) CLOUDY / SEDIMENTS SUSPENDED
15:50		20.1	7.50	3802	(17.7 NTU) CLEAR / LITTLE SEDIMENT AT BOTTOM

NOTES: (A) Grabbed sample from end of discharge pipe. All others through faucet installed near well.

16:00	20.5	7.37	3810	(20.9 NTU)	CLEAR / LITTLE TO NO SEDIMENT



ACWD
ALAMEDA COUNTY WATER DISTRICT

Well Location Map

Permits 2021-0345 to 0348	Civic Center Park, NWK
5S/2W-01B009 to B012	1:1200
Monitoring Well	03.10.2022
Water Well	Drawn By: Jeremy Bautista

WELL DATA

STATE WELL NO. 5S/2W-01B012

PERMIT NO. 2021-0348

OWNER: Alameda County Water District	SITE ID:
ADDRESS: 43885 S. Grimmer Blvd, FMT	WELL NAME: 5S/2W-01B012
TENANT:	OWNER NO.: 1-TF
SITE ADDRESS Northwest side of Civic Center Park, NWK	1-TF

TYPE OF WELL ☐ SPECIAL STUDIES ☐ MONTHLY ☐ SEMI ANNUAL ☐ WATER QUALITY

LOCATION COUNTY: Alameda County BASIN: Niles Cone NO.

U.S.G.S. QUAD. QUAD NO.

1/4 1/4 SECTION TWP. RGE. ☐MD ☐SB ☐H BASE & MERIDIAN

COORDINATES (NAD83) NORTHING: 20200681.676 EASTING: 6118120.905 SOURCE Trimble R8

DESCRIPTION:

Well is located in a 12" round EMCO Wheaton Christy Box at the south curve of Civic Terrace Ave. just north of the playground area (center well when facing play area).

REFERENCE POINT DESCRIPTION:

Top center of the christy box lid

WHICH IS FT. ABOVE ☐ BELOW ☐ LAND SURFACE DATUM GROUND ELEVATION FT.

REFERENCE POINT ELEVATION 23.900 FT.	DETERMINED FROM: Top center of the christy box lid
WELL USE: Production Well Testing	CONDITION: new
DEPTH: 365 FT.	
CASING, SIZE 8 IN., Steel	PERFORATIONS: 325-355'
SLOT SIZE: 0.060"	

MEASUREMENTS BY ☐ DWR ☐ USGS ☐ USBR ☐ COUNTY ☐ IRR. DIST. ☐ WATER DIST. ☐ CONS. DIST. ☐ OTHER

GRAVEL PACK? ☑ YES ☐ NO	DEPTH TO TOP GR. 315'	DEPTH TO BOT GR. 365'
TYPE OF MATERIAL: #3 Sand	PERM. RATING	THICKNESS
CHIEF AQUIFER	DEPTH TO TOP AQ.	DEPTH TO BOT. AQ.
SUPP. AQUIFER	DEPTH TO TOP AQ.	DEPTH TO BOT. AQ.

DRILLER: Pitcher Serv. (Francisco/Jared)	DATE DRILLED: 01-05-2022	LOG NUMBER (DWR 188)

WELL PUMP TYPE	MAKE	MODEL	SERIAL NO.
WATER ANALYSIS MIN.	SAN.	H.M.	

POWER SOURCE		WATER LEVELS AVAILABLE? ☐ YES ☐ NO	
H.P.	MOTOR SERIAL NO	PERIOD OF RECORD BEGIN	END
ELEC. METER NO.	TRANSFORMER NO.	COLLECTING AGENCY	
SIZE OF DISCHARGE PIPE		IN.	
YIELD G.P.M.	PUMPING LEVEL FT.	PROD. REC.	PUMP TEST / YIELD

SKETCH

N

REMARKS

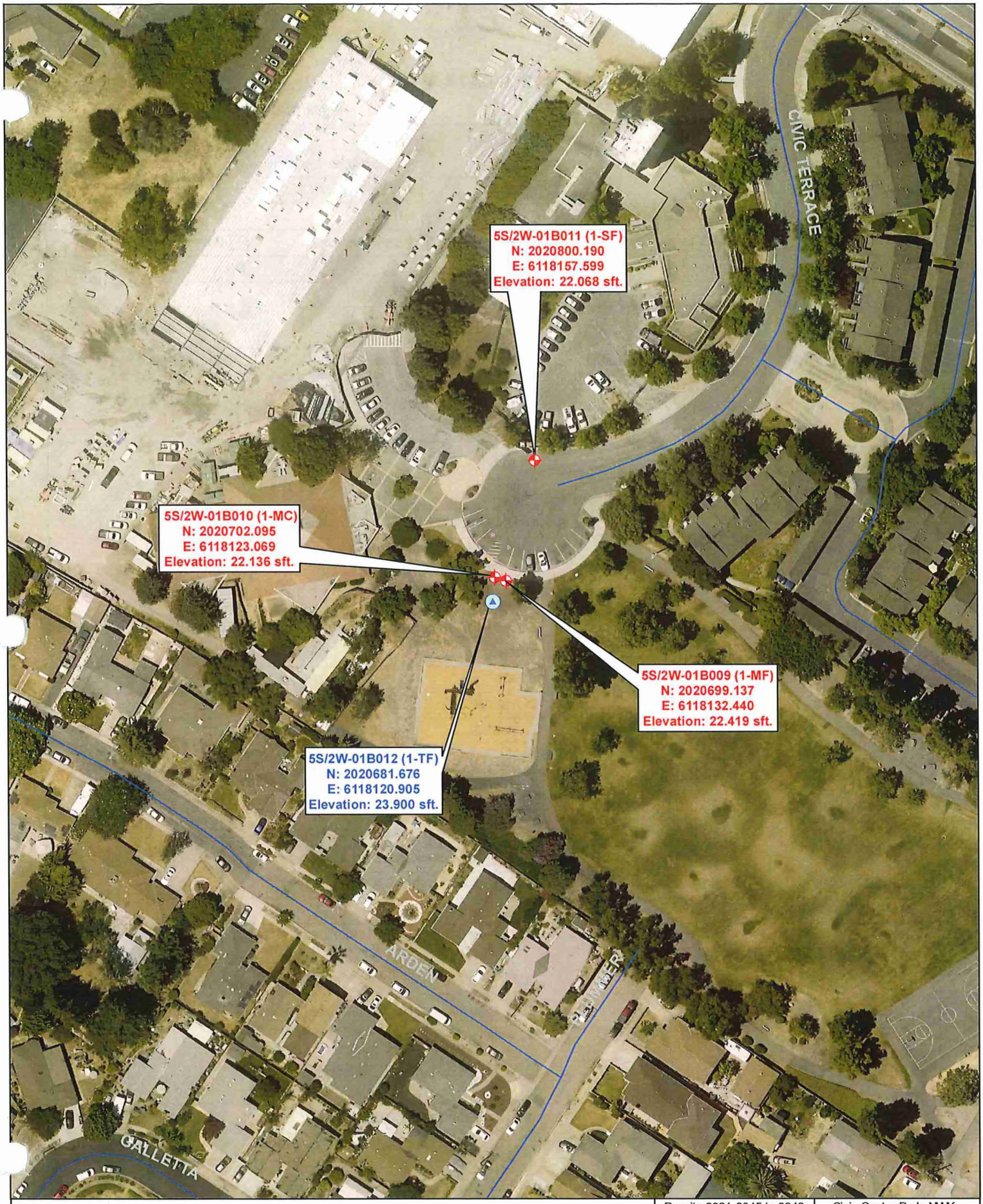
365' total depth of original borehole
14" diameter borehole
12" round EMCO Wheaton christy box
306-315' - hydrated bentonite chips
0.5-325' – 8" blank steel casing
355-360' – 8" blank steel casing + end cap

PERMIT NO.: 2021-0348

SANITARY SEAL: 1-306' - 11-sack Sand Slurry (Milpitas Materials)

RECORDED BY: Jeremy Bautista

DATE: 03-15-2022



ACWD
ALAMEDA COUNTY WATER DISTRICT

Well Location Map

Permits 2021-0345 to 0348	Civic Center Park, NWK
5S/2W-01B009 to B012	1:1200
Monitoring Well	03.10.2022
Water Well	Drawn By: Jeremy Bautista

WELL DATA

STATE WELL NO. 5S/2W-01B012

PERMIT NO. 2021-0348

OWNER: Alameda County Water District	SITE ID:
ADDRESS: 43885 S. Grimmer Blvd, FMT	WELL NAME: 5S/2W-01B012
TENANT:	OWNER NO.: 1-TF
SITE ADDRESS Northwest side of Civic Center Park, NWK	1-TF

TYPE OF WELL ☐ SPECIAL STUDIES ☐ MONTHLY ☐ SEMI ANNUAL ☐ WATER QUALITY

LOCATION COUNTY: Alameda County BASIN: Niles Cone NO.

U.S.G.S. QUAD. QUAD NO.

1/4 1/4 SECTION TWP. RGE. ☐MD ☐SB ☐H BASE & MERIDIAN

COORDINATES (NAD83) NORTHING: 20200681.676 EASTING: 6118120.905 SOURCE Trimble R8

DESCRIPTION:

Well is located in a 12" round EMCO Wheaton Christy Box at the south curve of Civic Terrace Ave. just north of the playground area (center well when facing play area).

REFERENCE POINT DESCRIPTION:

Top center of the christy box lid

WHICH IS FT. ABOVE ☐ BELOW ☐	LAND SURFACE DATUM GROUND ELEVATION FT.
REFERENCE POINT ELEVATION 23.900 FT.	DETERMINED FROM: Top center of the christy box lid
WELL USE: Production Well Testing	CONDITION: new DEPTH: 365 FT.
CASING, SIZE 8 IN., Steel	PERFORATIONS: 325-355' SLOT SIZE: 0.060"

MEASUREMENTS BY ☐ DWR ☐ USGS ☐ USBR ☐ COUNTY ☐ IRR. DIST. ☐ WATER DIST. ☐ CONS. DIST. ☐ OTHER

GRAVEL PACK? ☑ YES ☐ NO	DEPTH TO TOP GR. 315'	DEPTH TO BOT GR. 365'
TYPE OF MATERIAL: #3 Sand	PERM. RATING	THICKNESS
CHIEF AQUIFER	DEPTH TO TOP AQ.	DEPTH TO BOT. AQ.
SUPP. AQUIFER	DEPTH TO TOP AQ.	DEPTH TO BOT. AQ.

DRILLER: Pitcher Serv. (Francisco/Jared)	DATE DRILLED: 01-05-2022	LOG NUMBER (DWR 188)

WELL PUMP TYPE	MAKE	MODEL	SERIAL NO.
WATER ANALYSIS MIN.	SAN.	H.M.	

POWER SOURCE		WATER LEVELS AVAILABLE? ☐ YES ☐ NO	
H.P.	MOTOR SERIAL NO	PERIOD OF RECORD BEGIN	END
ELEC. METER NO.	TRANSFORMER NO.	COLLECTING AGENCY	
SIZE OF DISCHARGE PIPE		IN.	
YIELD G.P.M.	PUMPING LEVEL FT.	PROD. REC. / PUMP TEST / YIELD	

SKETCH



REMARKS

365' total depth of original borehole
14" diameter borehole
12" round EMCO Wheaton christy box
306-315' - hydrated bentonite chips
0.5-325' – 8" blank steel casing
355-360' – 8" blank steel casing + end cap

PERMIT NO.: 2021-0348

SANITARY SEAL: 1-306' - 11-sack Sand Slurry (Milpitas Materials)

RECORDED BY: Jeremy Bautista

DATE: 03-15-2022

Monitoring Well Construction

Inspector: D. Young
Job No.: 10097
Date: 03.25.22

Permit No.: 2021-0348
Well No.: 5S/2W-01B012
Other Well ID: 1-TF

Job Location: Northwest Side of Civic Center Park, NWK
Contractor: Pitcher Services LLC

Major Equipment and Materials On-site

ITEM	MATERIALS RECEIVED TODAY
Drill rig	Aqua Clear
Support trucks	

Contractor Arrival Time: 7:00
Contractor Departure Time: 16:00
Daily Start Depth: ft.
Daily Finish Depth: ft.
Daily Drill Bit Size(s):

Work Completed Summary: Injected Aqua Clear solution, swabbed well.

ACWD Meter No.: **Beginning Meter Reading:** **End Meter Reading:**

Pictures Taken: ☐ YES ☐ NO File Location:
Visitors to Job Site:
Delays/Accidents:

Construction Details

Final Bit Size & Type:
Total Borehole Depth: ft.
Control Casing Size: in.
Control Casing Depth: ft. to ft.
Conductor Casing Size: in.
Conductor Casing Depth: ft. to ft.
Well Casing Diameter: in.
Completed Well Depth: ft.
Perforation Slot Size: in.
Perforation Interval: ft. to ft.
Sand Info.:
Sand Interval: ft. to ft.
and ft. to ft.
Grout Mix:
Grout Interval: ft. to ft.
Bottom Plug Info.:
*and** ft. to ft.

*Two grout intervals if bottom of borehole extended beyond completed well depth and was grouted prior to well construction.

Monitoring Well Construction Remarks

Inspector: D. Young **Permit No.:** 2021-0348

3/25/2022	7:30	arrived at site water level 29.5 feet bgs
	7:43	drillers arrive bringing equipment and fencing from site 3.
	8:30	injection piping & Swab set in 1-TI=
	9:19	100' of pipe in hole
	9:35	255' of pipe in hole adding 5gal of Aqua Clear
	9:59	355' of pipe in hole
	10:13	injecting and swabbing 335-355
	10:35	injecting and swabbing 325-345
		Total Injected 152 gallons of Mixture
		used all 5 gallons
	11:00	Injection of 300 gallons of pure water to force residual mix from injection pipe into the casing and formation
Pablo Cortez	11:05	Arrival onsite.
	11:33	Doug Young departs site.
	11:55	Depart site.
	12:20	Returned to site. Drill crew switched rigs. Swabbing well.
	12:59	Tagged water level at 22.5'.
	14:16	Water tagged at 16.2'.
	16:00	Swabbing of the entire screen interval is complete. Final water level tagged at 18'. Fencing put up around site and locked. Hole secured. Depart site with crew.

Monitoring Well Construction

Inspector: A. Shorno/D. Young
Job No.: 10097
Date: 03.28.22

Permit No.: 2021-0348
Well No.: 5S/2W-01B012
Other Well ID: 1-TF

Job Location: Northwest Side of Civic Center Park, NWK
Contractor: Pitcher Services LLC

Major Equipment and Materials On-site

ITEM	MATERIALS RECEIVED TODAY

Contractor Arrival Time: _____ Contractor Departure Time: _____

Daily Start Depth: 36.5 ft. DTW from Pad Daily Finish Depth: _____ ft.

Daily Drill Bit Size(s): _____

Work Completed Summary: _____

ACWD Meter No.: _____ **Beginning Meter Reading:** _____ **End Meter Reading:** _____

Pictures Taken: ☐ YES ☐ NO File Location: _____

Visitors to Job Site: _____

Delays/Accidents: _____

Construction Details

Final Bit Size & Type: _____
Control Casing Size: _____ in.
Conductor Casing Size: _____ in.
Well Casing Diameter: _____ in.
Perforation Slot Size: _____ in.
Sand Info.: _____
_____
Grout Mix: _____
Bottom Plug Info.: _____

Total Borehole Depth: _____ ft.
Control Casing Depth: _____ ft. to _____ ft.
Conductor Casing Depth: _____ ft. to _____ ft.
Completed Well Depth: _____ ft.
Perforation Interval: _____ ft. to _____ ft.
Sand Interval: _____ ft. to _____ ft.
and _____ ft. to _____ ft.
Grout Interval: _____ ft. to _____ ft.
*and** _____ ft. to _____ ft.

*Two grout intervals if bottom of borehole extended beyond completed well depth and was grouted prior to well construction.

Monitoring Well Construction Remarks

Inspector: A. Shorno/D. Young **Permit No.:** 2021-0348

0756 ARRIVED ON SITE. PHIL FROM DITCHER TAGGED WELL AT 36.5FT. HE ADDED 150 GALLONS OF WATER BROUGHT WATER LEVEL TO SURFACE AND STOPPED. 27.28 DTW @ IMP

0805 LEFT SITE, PLAN TO BE ON SITE 11am FOR AIR LIFTING.

1150 ARRIVED ON SITE. TANKS ON SITE.

1303 BEGAN TO AIRLIFT AT 280 FT 1" 4" PLACED TO 347 FT. PHILLIP TAGS BOTTOM 350FT.

1310 (1st) COLLECTED WATER SAMPLE LOOKS LIKE 10% SEDIMENT

1326 (2nd) COLLECTED WATER SAMPLE LOOKS MUDDY STILL 5% SEDIMENTS

1342 (3rd) COLLECTED SAMPLE STILL MUDDY

1405 (4th) SAMPLE COLLECTED MUDDY - SWITCH TANKS 1hr = 2,000 gallons PUMP RATE 33 GALLONS PER MINUTE.

1425 (5th) SAMPLE COLLECTED

1440 (6th) SAMPLE COLLECTED NTU @ 195

1500 (7th) SAMPLE COLLECTED STILL CLOUDY H_2O 100 FT Plus

1515 (8th) SAMPLE NTU @ 55.3 DTW AT IMP 27.52

1530 (9th) SAMPLE NTU @ 45.3

1545 (10th) SAMPLE COLLECTED NTU @ 28.6 NTU

1600 TURNED OF COMPRESSOR - CLOSE UP FENCE LEAVE SITE

Monitoring Well Construction

Inspector: A. Shorno
Job No.: 10097
Date: 03.29.22

Permit No.: 2021-0348
Well No.: 5S/2W-01B012
Other Well ID: 1-TF

Job Location: Northwest Side of Civic Center Park, NWK
Contractor: Pitcher Services LLC

Major Equipment and Materials On-site

ITEM	MATERIALS RECEIVED TODAY

Contractor Arrival Time: _____ Contractor Departure Time: _____

Daily Start Depth: _____ ft. Daily Finish Depth: _____ ft.

Daily Drill Bit Size(s): _____

Work Completed Summary: _____

ACWD Meter No.: _____ **Beginning Meter Reading:** _____ **End Meter Reading:** _____

Pictures Taken: ☐ YES ☐ NO File Location: _____

Visitors to Job Site: _____

Delays/Accidents: _____

Construction Details

Final Bit Size & Type: _____ Total Borehole Depth: _____ ft.

Control Casing Size: _____ in. Control Casing Depth: _____ ft. to _____ ft.

Conductor Casing Size: _____ in. Conductor Casing Depth: _____ ft. to _____ ft.

Well Casing Diameter: _____ in. Completed Well Depth: _____ ft.

Perforation Slot Size: _____ in. Perforation Interval: _____ ft. to _____ ft.

Sand Info.: _____ Sand Interval: _____ ft. to _____ ft.

and _____ ft. to _____ ft.

Grout Mix: _____ Grout Interval: _____ ft. to _____ ft.

Bottom Plug Info.: _____ *and** _____ ft. to _____ ft.

*Two grout intervals if bottom of borehole extended beyond completed well depth and was grouted prior to well construction.

Monitoring Well Construction Remarks

Inspector: A. Shorno **Permit No.:** 2021-0348

0740 ARRIVED ON SITE. 758 PITCHER MOVES TRUCK OFF WELL
0800 IMF H_2O LEVEL AT 27.45FT BEFORE AIR LIFTING
ITF H_2O LEVEL AT 29.2FT PRIOR TO TOP OF
0815 SCREEN AIR LIFT
0838 PITCHER TURNS ON AIR TO PUMP WELL
0900 (1ST) WATER SAMPLE COLLECTED 84.4 NTU
0925 (2ND) WATER SAMPLE COLLECTED 76.0 NTU DTW IMF 27.55FT
DTW 206.8FT DRAWDOWN = MEASURED BY PITCHER
1005 (3RD) WATER SAMPLE 35.7 NTU
1020 DTW IMF 27.65FT
1030 (4TH) WATER SAMPLE 28.7 NTU WATER LEVEL 206.7FT
1035 PITCHER WILL TURN OFF AIR AND INSTALL PUMP.
DOUG CALLED ASKED TO MONITOR WELL FOR
COMMUNICATION.
1430 METER AT 40724 READ. PUMP SET 282FT
1500 ITF H_2O @ 29.3FT - BEGIN TO PUMP
1520 PUMP SHUT OFF WATER LEVEL DRAWED TO 280FT
NOW AT ABOUT 265FT AND PUMPING 4.5 GALLONS
A MINUTE. ANY MORE STRESS OF PUMP.
DTW IMF @ 27.75FT. - SAME STEADY
1540 PUMP OFF NTU @ 11.7.
1600 LEAVE SITE. PITCHER CLEANS UP.

SPECIFIC CAPACITY DATA SHEET

Well Location: 1-TF
Well Number:
Totalizer Start: 040740 x100 → 040815 x100
End: @ 10:45
Remarks:
Numerous:
- Rate of pumping @ initiation of test - ≈ 40-45gpm
- DTW 29.8' (includes 2')
- ☆ pumping rate adjusted slightly
- End test @ 11 AM

Date: 3/30/2022
Measured By: KS/DY
Discharge Presuure: CONSTANT RATE PT

MINUTES	TIME	FLOW RATE (gpm)	STATIC DTW (ft)	PUMPING DTW (ft)	DRAWDOWN (ft)	SPECIFIC CAPCAITY (gpm/ft)
1	8:00 AM	40 - 45gpm	43.5			
2		Δ 51 - 52.5gpm	56.0			
3			68.0			
4			137.5			
5			180.5			
6			↓			
7						
8			181.0			
9			184.0			
10			184.0			
11			189.0			
12			187.2			
☆ 14			178.5			
16			195.9			
18			195.8			
20			196.8			
25			197.2		77.7 (@ 25 mins	
30					NTU	
35						
40			2[illegible]			
48 45					Δ pumping rate)	
52 50			2[illegible]			
60						
70						
80						
90						
100						

150 @ 150mins (10:30AM) Turbidity = 19 NTU

SPECIFIC CAPACITY DATA SHEET

Well Location: 1-TF
Well Number:
Totalizer Start:
End:
Remarks: Pump Shut off @ 11AM
initial DTW : 29.8'

Date: 3/30/2022
Measured By: KS | TJ
Discharge Presuure: RECOVERY TEST

MINUTES	TIME	FLOW RATE (gpm)	STATIC DTW (ft)	PUMPING DTW (ft)	DRAWDOWN (ft)	SPECIFIC CAPCAITY (gpm/ft)
1	11:03	0				
2	↓					
3	↓		261			
4	11:04		229			
5	11:04:30		215			
6	11:05		204			
7	11:05:30		193			
8	11:06:		185			
9	11:06:30		174			
10	11:07		162			
11	11:08		152			
12	11:09		136			
14	11:10		123			
16	11:11		105			
18	11:13		93			
20	11:14		78			
25	11:19		61			
30	11:20		48			
35	11:23		40			
40	11:26		34			
45	11:30		30			
50						
60						
70						
80						
90						
100						

Monitoring Well Construction Remarks

1-TF
3/30/22

Inspector: A. Shorno K. Soo **Permit No.:** 2021-0348

745 - arrive @ site, set up turbidity mtr.
800 Started pump @ 800
Test started
- See notes on data sheet for pumping rate, totalizer info, dtw measurements and other comments
- DY spoke to SY. Pump Test will end @ 1100 Am

1100 Am stopped test
- started collecting recovery test data.

1135 - left site.
- sketched Time vs drawdown graph on observation well for DY's data.

MILPITAS MATERIALS CO.

SOLD BY:
WEIGHED/
MEASURED AT:

MILPITAS MATERIALS COMPANY

1125 N. MILPITAS BLVD. MILPITAS, CA 95035 349957

PHONE: 408-262-0656 510-656-2619 650-969-4401
FAX: 408-942-0826

TRUCK #	DRIVER
26	ADIEL
TIME LOADED	11:28 AM
ARRIVE JOB	12:05
START POUR	
END POUR	
ARRIVE PLANT	

WE MAKE ALL DELIVERIES INSIDE CURB AND ON LOT AT CUSTOMERS RISK ONLY AND ACCEPT NO RESPONSIBILITY FOR DAMAGES RESULTING FROM SUCH DELIVERY.

IT IS CUSTOMERS RESPONSIBILITY TO HANDLE THESE MATERIALS SAFELY AND PROPERLY.

WARNING: Materials are irritating to the skin and eyes because they contain Portland Cement, so wear rubber boots and gloves. Prolonged contact may cause burns. Avoid contact with eyes and prolonged contact with skin. In case of contact with skin or eyes flush thoroughly with water. If irritation persists, get medical attention. Precaution must be observed because alkali burns occur with little warning and little heat is sensed.

DISCLAIMER - CURE ALL CONCRETE. PLACEMENT, CURING AND FINISHING ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. IMPROPERLY CURED COLORED CONCRETE WILL RESULT IN DISCOLORATION AND EFFLORESCENCE AND WILL NOT PRODUCE EXPECTED RESULTS.

WEIGHMASTER CERTIFICATE

THIS IS TO CERTIFY that the following described commodity was weighed, measured, or counted by a weighmaster, whose signature is on this certificate, who is a recognized authority of accuracy, as prescribed by Chapter 7 (commencing with Section 12700) of Division 5 of the California Business and Professions Code, administered by the Division of Measurement Standards of the California Department of Food and Agriculture.

WATER ADDED AT JOB: GALLONS

MILPITAS MATERIALS CO.
DEPUTY WEIGHMASTER 2 HECTOR NAREZ

CUSTOMER ID	PHONE NUMBER	JOB/P.O. NUMBER	DATE	TICKET
PITCHE	925-378-8973	/ 530-680-8714	01/05/2022	207920

SOLD TO	DELIVER TO
Pitcher Services LLC	6300 CIVIC TERRACE NEWARK NEWARK BLVD

LOAD #	SLUMP
1	8 in

QUANTITY THIS LOAD	QUANTITY DELIVERED	PRODUCT CODE	PRODUCT DESCRIPTION	UNIT OF MEASURE	UNIT PRICE	EXTENDED PRICE
9.00	9.00	11SK	11sk SAND SLURRY	yd3		
1.00	1.00	444	Environmental Fee	ea		

STAND BY CHARGE	TOTAL MINUTES	ALLOWED MINUTES	CHARGED MINUTES		
			@ 3.00/MINUTE	SUB TOTAL	
				SALES TAX	
				STAND BY	
				OTHER	
				TOTAL	

RETURNED CONCRETE CHARGE $

CONVENIENCE FEE $

Returned Check fee $25. Necessary Attorneys fees, collection and suit costs will be charged on any upaid bills.
Milpitas Materials will not be held liable or responsible for the removal or replacement of any material once it is accepted and placed at the jobsite.

RECEIVED BY: X

MILPITAS MATERIALS CO.

SOLD BY:
WEIGHED/
MEASURED AT:

MILPITAS MATERIALS COMPANY

1125 N. MILPITAS BLVD. MILPITAS, CA 95035 349957

PHONE: 408-262-0656 510-656-2619 650-969-4401
FAX: 408-942-0826

TRUCK #	DRIVER
41	MIKE

TIME LOADED: 1:08 PM

ARRIVE JOB:

START POUR:

END POUR:

ARRIVE PLANT:

WE MAKE ALL DELIVERIES INSIDE CURB AND ON LOT AT CUSTOMERS RISK ONLY AND ACCEPT NO RESPONSIBILITY FOR DAMAGES RESULTING FROM SUCH DELIVERY.

IT IS CUSTOMERS RESPONSIBILITY TO HANDLE THESE MATERIALS SAFELY AND PROPERLY.

WARNING: Materials are irritating to the skin and eyes because they contain Portland Cement, so wear rubber boots and gloves. Prolonged contact may cause burns. Avoid contact with eyes and prolonged contact with skin. In case of contact with skin or eyes flush thoroughly with water. If irritation persists, get medical attention. Precaution must be observed because alkali burns occur with little warning and little heat is sensed.

DISCLAIMER - CURE ALL CONCRETE. PLACEMENT, CURING AND FINISHING ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. IMPROPERLY CURED COLORED CONCRETE WILL RESULT IN DISCOLORATION AND EFFLORESCENCE AND WILL NOT PRODUCE EXPECTED RESULTS.

WEIGHMASTER CERTIFICATE

THIS IS TO CERTIFY that the following described commodity was weighed, measured, or counted by a weighmaster, whose signature is on this certificate, who is a recognized authority of accuracy, as prescribed by Chapter 7 (commencing with Section 12700) of Division 5 of the California Business and Professions Code, administered by the Division of Measurement Standards of the California Department of Food and Agriculture.

WATER ADDED AT JOB: GALLONS

MILPITAS MATERIALS CO.
DEPUTY WEIGHMASTER 2 HECTOR NAREZ

CUSTOMER ID	PHONE NUMBER	JOB/P.O. NUMBER	DATE	TICKET
PITCHE	925-378-8973 / 530-680-8714		01/05/2022	297925

SOLD TO: Pitcher Services LLC

DELIVER TO: 6300 CIVIC TERRACE
NEWARK NEWARK BLVD

LOAD #	SLUMP
2	8 in

QUANTITY THIS LOAD	QUANTITY DELIVERED	PRODUCT CODE	PRODUCT DESCRIPTION	UNIT OF MEASURE	UNIT PRICE	EXTENDED PRICE
3.00	12.00	11SK	11sk SAND SLURRY	yd3		
1.00	2.00	444	Environmental Fee	ea		
1.00	1.00	445	Clean Up =/< 3 yards	ea		

STAND BY CHARGE	TOTAL MINUTES	ALLOWED MINUTES	CHARGED MINUTES	
			@ 3.00/MINUTE	

SUB TOTAL	
SALES TAX	
STAND BY	
OTHER	
TOTAL	

RETURNED CONCRETE CHARGE $

CONVENIENCE FEE $

Returned Check fee $25. Necessary Attorneys fees, collection and suit costs will be charged on any upaid bills.
Milpitas Materials will not be held liable or responsible for the removal or replacement of any material once it is accepted and placed at the jobsite.

RECEIVED BY: X

Site #2

ALAMEDA COUNTY WATER DISTRICT
43885 South Grimmer Blvd. • P.O. Box 5110
Fremont, CA 94537-5110
Permitting & Scheduling (510) 668-4460

APPLICATION FOR DRILLING PERMIT

ACWD ORDINANCE NO. 2010-01

COMPUTER POSTED

Application Received Date: 10/4/21 By: AS	Permit Issued Date: 11/4/21	Permit Expiration Date: 1/4/22	Job No. 10097	Permit No. 2021-0291 Well No. 5S/1W-06H012

JOB ADDRESS:
End of Cedar Court
Newark, CA

PROPERTY OWNER
NAME: City of Newark
ADDRESS: 37101 Newark Blvd,
Newark, CA 94560
TELEPHONE: (510)578-4200

CONSULTING ENGINEER
NAME: Alameda County Water District
ADDRESS: 43885 South Grimmer Boulevard
Fremont, CA 94538
TELEPHONE: (510) 68-4452 RG/CEG/RCE NO. PG 5859

DRILLING CONTRACTOR
NAME: Pitcher Services, LLC
ADDRESS: 218 Demeter Street
East Palo Alto, CA 94303
E-MAIL ADDRESS: Terry Shewchuk <tshewchuk@pitcherservicesllc.com>
TELEPHONE: (650)328-8910 STATE LIC. NO. 1044895

When properly signed 2MF

THIS APPLICATION IS A VALID PERMIT

to perform only work described below at the given job address, in accordance with ACWD Ordinance No. 2010-01 and all other applicable laws and regulations. Discontinuation of work may result in revocation of permit. ***Permittee must schedule the work in advance with ACWD.*** *ACWD's approval of drawings, designs, specifications, work plans, reports or incidental work and materials shall not relieve the permittee of responsibility for the technical adequacy of the work. Except for special circumstances, all work to be inspected must be performed within ACWD work hours – 7:00 a.m. to 4:30 p.m., Monday through Friday.*

PLEASE CHECK TYPE OF PROPOSED WORK
Each well or other excavation requires a separate permit application form unless otherwise indicated.
Only one specific type of work can be checked per permit application.

WELLS
☒ CONSTRUCTION ☐ REPAIR ☐ DESTRUCTION
☐ Water Well
Monitoring Well:
☒ Chemical Investigation
☐ Injection Well (for Chemical Cleanup)
☒ Geotechnical Investigation
☐ Geothermal Heat Exchange Well
☐ Dewatering Well *(Multiple dewatering wells may be grouped together on the same permit application form)*
Quantity: _____

EXPLORATORY HOLES
☐ CONSTRUCT./DESTRUCT.
Multiple exploratory holes of the same type may be grouped together on the same permit application form.
☐ Chemical Investigation
☐ Injection Boreholes
☐ Soil Vapor Sampling
☐ Geotechnical Investigation
Quantity: _____

OTHER EXCAVATIONS
☐ CONSTRUCTION ☐ REPAIR ☐ DESTRUCTION
☐ Cathodic Protection Well ☐ Inclinometer
☐ Vibrating Wire Piezometer ☐ Elevator Shaft
Multiple other excavations of the same type may be grouped together on the same permit application form for the following:
☐ Cleanup Site Excavation(s) ☐ Wick Drains
☐ Shaft, Tunnel, or Directional Borehole (s) ☐ Support Piers, Piles, or Caissons
☐ Other: _____ Quantity: _____

DESCRIPTION OF PROPOSED WORK:
Installation of 2" diameter monitoring well
Well Name: Cedar Court 2-MF

TOTAL ESTIMATED COST
$_____

PERMIT CONDITIONS:
Monitoring Well Construction to comply with current ACWD Standards

FEES: ☐ Private ☐ City ☒ Governmental Agency
GUARANTEE OF PERFORMANCE: ☐ Cash Deposit ☐ Bond
REFUND: Amount $ _____ Reason: _____

FEES/ DEPOSIT: Date Received _____ Estimated Amount $_____
Check No._____ Actual Amount $_____
Cash_____ Difference $ _____

ACWD SITE NO. MA
APPROVED FOR SCHEDULING BY: [signature] DATE: 12/9/2021 APPROVED BY: [signature] DATE: 12/9/2021

I hereby agree to comply with all conditions of this permit in accordance with ACWD Ordinance No. 2010-01 and to furnish the District a completed copy of D.W.R. Drillers Report (form 188) within sixty (60) days after completion as well as any chemical testing results within thirty (30) days after completion.

Title: Associate Hydrogeologist Signature: [signature] Date: 10/12/2021

Representing: Alameda County Water District Name (printed): Douglas Young

ACWD #458 11-12

Monitoring Well Construction

Inspector: Pablo Cortez
Job No.: 10097
Date: 1-25-22
Permit No.:
Well No.:
Other Well ID: 2 - MF

Job Location:
Contractor: Pitcher Drilling

Major Equipment and Materials On-site

ITEM	MATERIALS RECEIVED TODAY
Drill rig	
Support trucks	
Forklift	
Waste bins	

Contractor Arrival Time: 7:00
Contractor Departure Time: 5:30
Daily Start Depth: ft.
Daily Finish Depth: ft.
Daily Drill Bit Size(s):

Delays/Accidents:

ACWD Meter No.: **Beginning Meter Reading:** **End Meter Reading:**

Pictures Taken: ☐ YES ☐ NO
Visitors to Job Site:

Construction Details

Final Bit Size & Type:
Total Borehole Depth: ft.
Control Casing Size: in.
Control Casing Depth: ft. to ft.
Conductor Casing Size: in.
Conductor Casing Depth: ft. to ft.
Well Casing Diameter: in.
Completed Well Depth: ft.
Perforation Slot Size: in.
Perforation Interval: ft. to ft.
Sand Info.:
Sand Interval: ft. to ft.
and ft. to ft.
Grout Mix:
Grout Interval: ft. to ft.
Bottom Plug Info.:
*and** ft. to ft.

*Two grout intervals if bottom of borehole extended beyond completed well depth and was grouted prior to well construction.

Monitoring Well Construction Remarks

Inspector: **Permit No.:**

16:00 Onsite with Pitcher Drilling crew. Drilling with 8" mud rotary bit.

16:40 Drilled to 70'. Stopping there for today.

16:55 Departed site.

~~1/26/22~~ (PC)

~~10:35~~ ~~AA~~

Monitoring Well Construction

Inspector: Pablo Cortez
Job No.: 10097
Date: 1-26-22
Permit No.:
Well No.:
Other Well ID: 2-MF

Job Location:
Contractor: Pitcher Drilling

Major Equipment and Materials On-site

ITEM	MATERIALS RECEIVED TODAY
Drill rig	
Support trucks	
Waste bins	
Forklift	

Contractor Arrival Time: 7:00
Contractor Departure Time:
Daily Start Depth: ft.
Daily Finish Depth: ft.
Daily Drill Bit Size(s):

Delays/Accidents:

ACWD Meter No.: **Beginning Meter Reading:** **End Meter Reading:**

Pictures Taken: ☐ YES ☐ NO

Visitors to Job Site:

Construction Details

Final Bit Size & Type:
Total Borehole Depth: ft.
Control Casing Size: in.
Control Casing Depth: ft. to ft.
Conductor Casing Size: in.
Conductor Casing Depth: ft. to ft.
Well Casing Diameter: in.
Completed Well Depth: ft.
Perforation Slot Size: in.
Perforation Interval: ft. to ft.
Sand Info.:
Sand Interval: ft. to ft.
and ft. to ft.
Grout Mix:
Grout Interval: ft. to ft.
Bottom Plug Info.:
*and** ft. to ft.

*Two grout intervals if bottom of borehole extended beyond completed well depth and was grouted prior to well construction.

Monitoring Well Construction Remarks

Inspector: **Permit No.:**

8:05 Arrived onsite. Pitcher crew is onsite. Drilling is underway. Continuing from yesterday.

10:50 Doug Young arrives.

11:30 Laura Hidas arrives.

12:13 Laura Hidas and Doug Young depart.

13:55 Drillers are approaching 180' in depth.

16:08 Drilled to 190'. Stopping for the day and pulling out rods.

17:00 Departed site.

Monitoring Well Construction

Inspector: J. Bautista | **Permit No.:** 2021-0291

Job No.: 10097 | **Well No.:** 5S/1W-06H012

Date: 01.27.22 | **Other Well ID:** 2-MF

Job Location: End of Cedar Ct, NWK

Contractor: Pitcher Services LLC

Major Equipment and Materials On-site

ITEM	MATERIALS RECEIVED TODAY
Fraste Unimog Mud Rotary Drill Rig	
Water / Tool Truck	
Porta-potty	

Contractor Arrival Time: 0700 | Contractor Departure Time: _____

Daily Start Depth: 190 ft. | Daily Finish Depth: _____ ft.

Daily Drill Bit Size(s): 8"

Work Completed Summary: _____

ACWD Meter No.: _____ **Beginning Meter Reading:** _____ **End Meter Reading:** _____

Pictures Taken: ☑ YES ☐ NO File Location: _____

Visitors to Job Site: _____

Delays/Accidents: _____

Construction Details

Final Bit Size & Type: _____ | Total Borehole Depth: _____ ft.

Control Casing Size: _____ in. | Control Casing Depth: _____ ft. to _____ ft.

Conductor Casing Size: _____ in. | Conductor Casing Depth: _____ ft. to _____ ft.

Well Casing Diameter: _____ in. | Completed Well Depth: _____ ft.

Perforation Slot Size: _____ in. | Perforation Interval: _____ ft. to _____ ft.

Sand Info.: _____ | Sand Interval: _____ ft. to _____ ft.

_____ | *and* _____ ft. to _____ ft.

Grout Mix: _____ | Grout Interval: _____ ft. to _____ ft.

Bottom Plug Info.: _____ | *and** _____ ft. to _____ ft.

*Two grout intervals if bottom of borehole extended beyond completed well depth and was grouted prior to well construction.

Monitoring Well Construction Remarks

Inspector: J. Bautista **Permit No.:** 2021-0291

0740 - arrive on site. Pitcher Drilling (Marcos/Andrew) and Creative Security (Ron) on site with the Fraste Unimog Mud Rotary Drill Rig

0745 - power up the rig, and begin preparations for drilling

0845 - reach 190', begin drilling new hole.

1055 - currently @ 235'

1240 - currently @ 250'; Marcos leaves site to get fuel from site!

1340 - currently @ 260'

1425 - currently @ 270'

1545 - Marcos tells me they are stopping @ 280'. Begin rod pull.

1645 - all rods out. Boring opening secure. Left site

ALAMEDA COUNTY WATER DISTRICT

Monitoring Well Construction

Inspector: Andres Aguayo
Job No.: 10097
Date: 1-28-22

Permit No.: 2021-0291
Well No.: 5S/1W-06H012
Other Well ID: 2-MF

Job Location: End of Cedar Ct, NWK
Contractor: Pitcher Services LLC

Major Equipment and Materials On-site

ITEM	MATERIALS RECEIVED TODAY
Drill Rig / Fork lift	
Portable restroom	
Water / Tool truck	
Waste Bins 2x	

Contractor Arrival Time: 0700
Contractor Departure Time: 1700
Daily Start Depth: 280 ft.
Daily Finish Depth: 355 ft.
Daily Drill Bit Size(s): 8"
Work Completed Summary: Drilled to total depth (355')

ACWD Meter No.: _____ **Beginning Meter Reading:** _____ **End Meter Reading:** _____

Pictures Taken: ☐ YES ☐ NO File Location: _____
Visitors to Job Site: _____
Delays/Accidents: _____

Construction Details

Final Bit Size & Type: _____
Control Casing Size: _____ in.
Conductor Casing Size: _____ in.
Well Casing Diameter: _____ in.
Perforation Slot Size: _____ in.
Sand Info.: _____
Grout Mix: _____
Bottom Plug Info.: _____

Total Borehole Depth: _____ ft.
Control Casing Depth: _____ ft. to _____ ft.
Conductor Casing Depth: _____ ft. to _____ ft.
Completed Well Depth: _____ ft.
Perforation Interval: _____ ft. to _____ ft.
Sand Interval: _____ ft. to _____ ft.
and _____ ft. to _____ ft.
Grout Interval: _____ ft. to _____ ft.
*and** _____ ft. to _____ ft.

*Two grout intervals if bottom of borehole extended beyond completed well depth and was grouted prior to well construction.

Monitoring Well Construction Remarks

Inspector: **Permit No.:** 2021-0291

0745 - Arrive on site. Pitcher Drilling (Marcos/Andrew) & Creative Security (Ron) on site with Mud Rotary Drill Rig. Currently loading drill pipes to 280', then they will beging drilling. They plan to drill to depth and stop.

0830 - Completed loading drill pipes, began drilling.

0950 - Currently @ 290'

11:15 - Currently @ 310'

13:00 - Currently @ 330'

1315 - Per Marcos from 323' - 335' soil encountered is sand + gravel. Back to clay @ 335'

1400 - Current depth 340'

1445 - Current depth 350'

1530 - Reached Total Depth of 355'

1540 - Marcos + Andrew began removing drill pipes

1630 - All drill pipes removed. Borehole Secured. Left Site.

Monitoring Well Construction

Inspector: Jeremy Bautista
Job No.: 10097
Date: 01.31.22

Permit No.: 2021-0291
Well No.: 5S/1W-06H012
Other Well ID: 2-MF

Job Location: End of Cedar Ct, NWK
Contractor: Pitcher Services LLC

Major Equipment and Materials On-site

ITEM	MATERIALS RECEIVED TODAY

Contractor Arrival Time: _____ Contractor Departure Time: _____

Daily Start Depth: _____ ft. Daily Finish Depth: _____ ft.

Daily Drill Bit Size(s): _____

Work Completed Summary: _____

_____

ACWD Meter No.: _____ **Beginning Meter Reading:** _____ **End Meter Reading:** _____

Pictures Taken: ☐ YES ☐ NO File Location: _____

Visitors to Job Site: _____

Delays/Accidents: _____

Construction Details

Final Bit Size & Type: _____

Control Casing Size: _____ in.

Conductor Casing Size: _____ in.

Well Casing Diameter: _____ in.

Perforation Slot Size: _____ in.

Sand Info.: _____

_____

Grout Mix: _____

Bottom Plug Info.: _____

Total Borehole Depth: _____ ft.

Control Casing Depth: _____ ft. to _____ ft.

Conductor Casing Depth: _____ ft. to _____ ft.

Completed Well Depth: _____ ft.

Perforation Interval: _____ ft. to _____ ft.

Sand Interval: _____ ft. to _____ ft.

and _____ ft. to _____ ft.

Grout Interval: _____ ft. to _____ ft.

*and** _____ ft. to _____ ft.

*Two grout intervals if bottom of borehole extended beyond completed well depth and was grouted prior to well construction.

Monitoring Well Construction Remarks

Inspector: Jeremy Bautista 01.31.22 **Permit No.:** 2021-0291

0800 - arrive on site. Pitcher Drilling (Marcos/Andrew) on site with the Fraste Multidrill-XL

0815 - begin cleaning the boring @ 20' w/a 8.25" tricone bit

0920 - currently @ 70'

1000 - currently @ 100'

1030 - currently @ 230'

1130 - currently @ 330'.

1215 - cleaning out @ 350' now

1230 - reach 355' total depth and begin pulling drill pipe out. Have all 350' of 2" schedule 80 PVC well casing on site.

1245 - begin installing 2" PVC well casing. Centralizers placed at 340'

1250 - centralizers are the wrong size. Marcos is calling to have the correct ones brought out.

1300 - installing 1" PVC tremie pipe

1325 - Oskar from Pitcher delivers the new centralizers.

1330 - begin installing casing and centralizers. 340', 320', 295', 270', 245', 220', 195', 170', ~~245'~~ 145', 120', 95', 70', 45', 20'

1410 - casing installed to 350'. begin thing

1447 ~~1445~~ - begin pouring #3 sand

Well casing: 340-350' - 2" blank PVC (sch 80)

320-340' - 2" slotted PVC w/ 0.020" slots (sch. 80)

0.5-320' - 2" blank PVC (sch 80)

1750 - Marcos tags #3 sand at 310', but expects some settling overnight. Begin to clean up.

1820 - Left site. Boring secure after removing tremie pipe.

Monitoring Well Construction

Inspector: Jeremy Bautista
Job No.: 10097
Date: 02.01.22

Permit No.: 2021-0291
Well No.: 5S/1W-06H012
Other Well ID: 2-MF

Job Location: End of Cedar Ct, NWK
Contractor: Pitcher Services LLC

Major Equipment and Materials On-site

ITEM	MATERIALS RECEIVED TODAY
Fraste Multidrill XL Mud Rotary Drill Rig	
Water/Tool Truck / Crew truck	
Waste bins, Porto-let	

Contractor Arrival Time: 0700
Contractor Departure Time:
Daily Start Depth: 355 ft.
Daily Finish Depth: 355 ft.
Daily Drill Bit Size(s): 8.25"

Work Completed Summary:

ACWD Meter No.: **Beginning Meter Reading:** **End Meter Reading:**

Pictures Taken: ☑ YES ☐ NO File Location:
Visitors to Job Site: Creative Security
Delays/Accidents:

Construction Details

Final Bit Size & Type: 8.25" tricone mud rotary
Control Casing Size: in.
Conductor Casing Size: in.
Well Casing Diameter: 2 in.
Perforation Slot Size: 0.020 in.
Sand Info.: #3
Grout Mix: Type II/V neat cement
Bottom Plug Info.:

Total Borehole Depth: 355 ft.
Control Casing Depth: ft. to ft.
Conductor Casing Depth: ft. to ft.
Completed Well Depth: 350 ft.
Perforation Interval: 320 ft. to 340 ft.
Sand Interval: 308 ft. to 355 ft.
and ft. to ft.
Grout Interval: 1.0 ft. to 308 ft.
*and** ft. to ft.

*Two grout intervals if bottom of borehole extended beyond completed well depth and was grouted prior to well construction.

Monitoring Well Construction Remarks

Inspector: Jeremy Bautista 02.01.22 **Permit No.:** 2021-0291

0800- arrive on site. Pitcher Drilling (Marcos/Andrew) on site preparing to mix Type II/V neat cement sealing material

0815- They have lowered 305' of 1" PVC tremie pipe into the borehole. Marcos tags the sand depth @ 303'.

0825- begin mixing Type II/V neat cement

0835- begin tremie grouting 2-MF

55-gallon batches: ~~HHH HHH HHH~~ III I

1220- tremie grout to surface. Begin removing tremie pipe

1230- all tremie pipe removed and grout topped off to surface.

1455- completed circulating cold H_2O in the 2" PVC well casing to aid in controlling the heat from the curing neat cement. Begin pulling 1" PVC circulation pipe from well casing.

1515- they have removed the control casing

1630- Well box installed. Well construction complete. Left site

Well construction is as followed:

8.25" diameter borehole ; 355' total depth

340-350' - 2" blank PVC (schedule 80) + end cap

320-340' - 2" slotted PVC w/0.020" slots (schedule 80)

0.5' - 320' - 2" blank PVC (schedule 80)

308-355' - #3 sand

1' - 308' - Type II/V neat cement

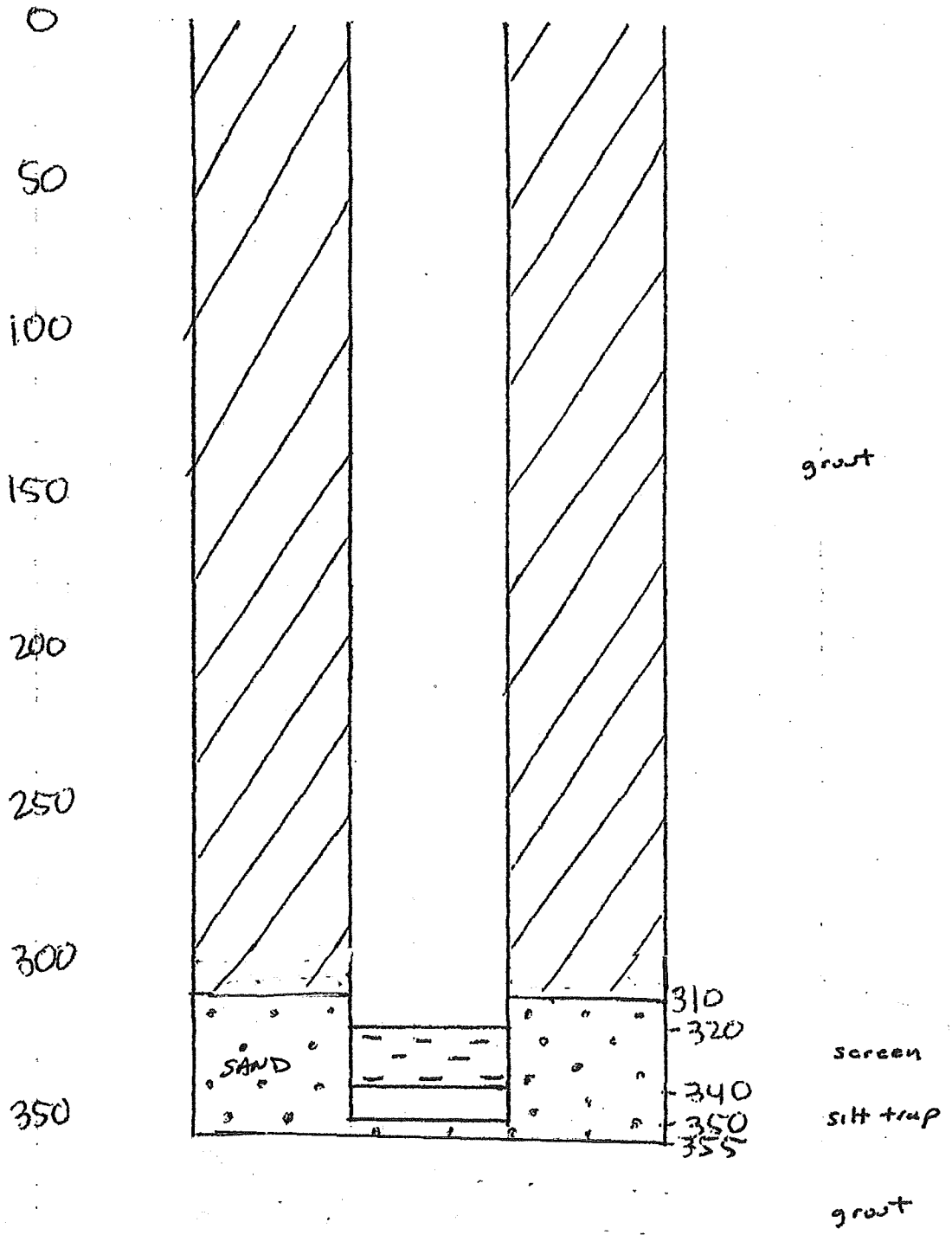
12" Round EMCO/Wheatly Christy box

Well Site Evaluation
Project
10097

Proposed Well
Completion

2-MF

1/25/2022



ALAMEDA COUNTY WATER DISTRICT

Monitoring Well Construction

Inspector: J. Bautista
Job No.: 10097
Date: 02.09.2022

Permit No.: 2021-0291
Well No.: 5S/1W-06H012
Other Well ID: 2-MF

Job Location: End of Cedar Ct, NWK
Contractor: Pitcher Services LLC

Major Equipment and Materials On-site

ITEM	MATERIALS RECEIVED TODAY
Smeal Well Development Rig	
Equipment Flat Bed Truck	
Crew Truck, Fork Lift	
Port-a-let, Waste Bins (3)	

Contractor Arrival Time: 730
Contractor Departure Time: _____
Daily Start Depth: 350 ft.
Daily Finish Depth: _____ ft.
Daily Drill Bit Size(s): _____

Work Completed Summary: _____

ACWD Meter No.: _____ **Beginning Meter Reading:** _____ **End Meter Reading:** _____

Pictures Taken: ☐ YES ☐ NO File Location: _____
Visitors to Job Site: _____
Delays/Accidents: _____

Construction Details

Final Bit Size & Type: _____
Control Casing Size: _____ in.
Conductor Casing Size: _____ in.
Well Casing Diameter: _____ in.
Perforation Slot Size: _____ in.
Sand Info.: _____
_____
Grout Mix: _____
Bottom Plug Info.: _____

Total Borehole Depth: _____ ft.
Control Casing Depth: _____ ft. to _____ ft.
Conductor Casing Depth: _____ ft. to _____ ft.
Completed Well Depth: _____ ft.
Perforation Interval: _____ ft. to _____ ft.
Sand Interval: _____ ft. to _____ ft.
and _____ ft. to _____ ft.
Grout Interval: _____ ft. to _____ ft.
*and** _____ ft. to _____ ft.

*Two grout intervals if bottom of borehole extended beyond completed well depth and was grouted prior to well construction.

Monitoring Well Construction Remarks

Inspector: J. Bautista **Permit No.:** 2021-0291

0845 - Arrive on site. Pitcher (Marcos/Phil) and Gregg Drilling (Bemix) on site with the Smeal Well Development Rig. They are moving equipment around.

1000 - mobe Smeal rig over the well and tower up. I tag:

H_2O @ 37.85' Depth to Water

350.75' total depth of the well from street surface.

1015 - begin bailing the well w/ a 8' long, 1.25" bailer

1030 - bail ~5 gallons out the begin lowering 1" steel airline

1100 - begin airlifting the well.

1230 - mobe Smeal rig over to well 2-SF

1330 - 3x continuous parameter samples taken where the requirements are met.

1345 - cease air lift compressor, begin clean-up and breakdown

1530 - remove all air lift pipe from the well and lock the lid.

1630 - site is cleared up and organized. Leave site.

2-MF

ALAMEDA COUNTY WATER DISTRICT

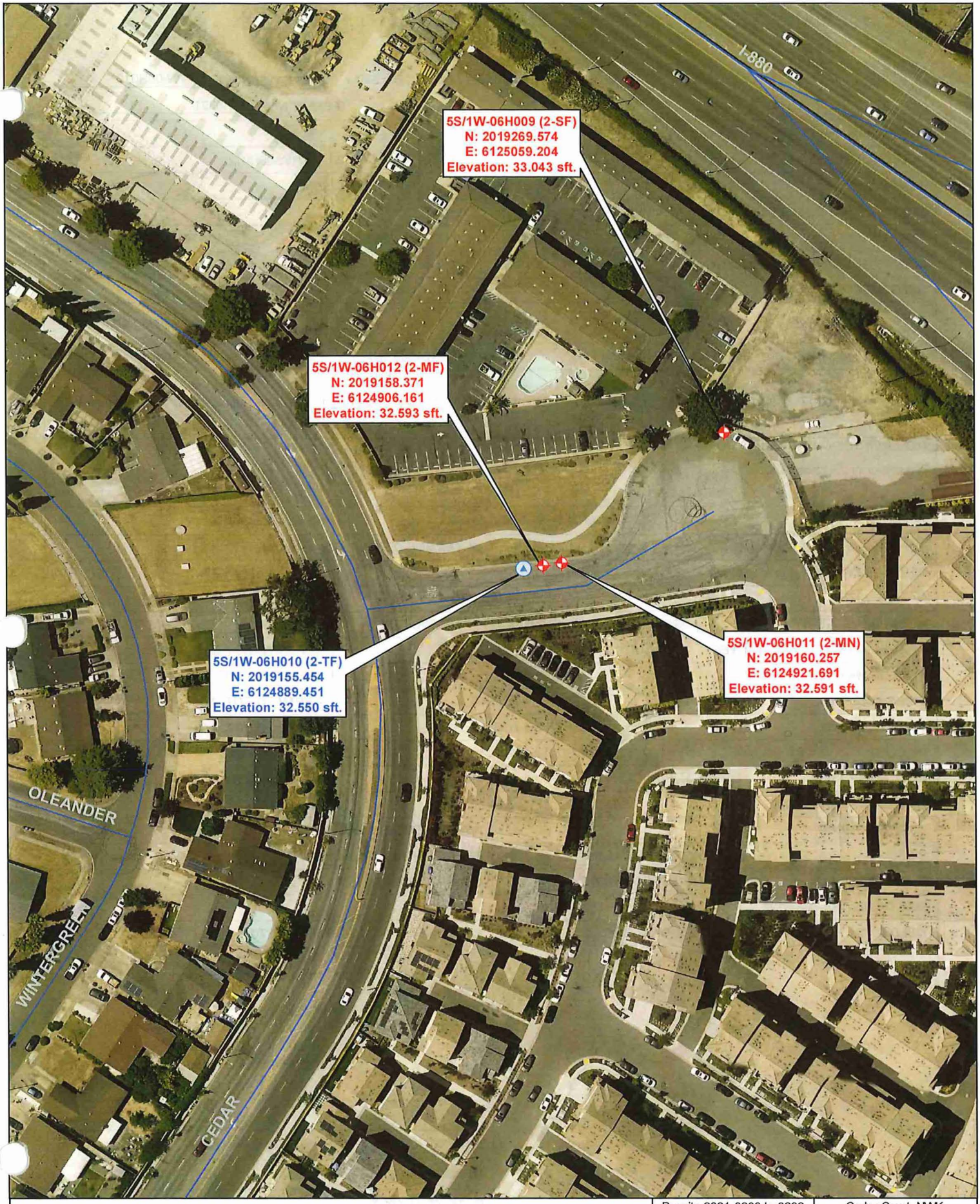
MONITORING WELL SAMPLING RECORD

WELL ID: 5S/1W-06H012 2-MF
PROJECT NO: 10097
PROJECT NAME:
DATE: 02-09-22
SAMPLED BY: J. Bautista

DEPTH TO WATER: 37.85'
TOTAL DEPTH OF WELL: 350.75'
WELL DIAMETER: 2"
CASING VOLUME:
METHOD OF PURGING: Air Lift

TIME	CUMULATIVE VOL. REMOVED (GALLONS)	TEMPERATURE (°C)	pH (UNITS)	SPECIFIC CONDUCTANCE (UMHOS/CM)	REMARKS (COLOR, TURBIDITY & SEDIMENT)
1118	∅	20.4	12.12	3928 uS	Brown, Turbidity over limit, bentonite fluid sediment
1200		19.4	8.14	2334 uS	54.1 NTU; Clear,
1230		19.8	8.12	2333 uS	22.6 NTU; Clear
1300		19.9	7.98	2362 uS	15.1 NTU; clear
1330	~1320	20.0	8.06	2389 uS	17.0 NTU; clear

NOTES: 1345 - Cease airlift compressor



ACWD
ALAMEDA COUNTY WATER DISTRICT

N
W E
S

Well Location Map

Permits 2021-0289 to 0292	Cedar Court, NWK
5S/1W-06H009 to 06H012	1:1200
Monitoring Well	03.10.2022
Water Well	Drawn By: Jeremy Bautista

WELL DATA

STATE WELL NO. 5S/1W-06H012

PERMIT NO. 2021-0291

OWNER: Alameda County Water District	SITE ID:
ADDRESS: 43885 S. Grimmer Blvd, FMT	WELL NAME: 5S/1W-06H012
TENANT:	OWNER NO.: 2-MF
SITE ADDRESS END OF CEDAR COURT, NEWARK	2-MF

TYPE OF WELL ☐ SPECIAL STUDIES ☐ MONTHLY ☐ SEMI ANNUAL ☐ WATER QUALITY

LOCATION COUNTY: Alameda County BASIN: Niles Cone NO.

U.S.G.S. QUAD. QUAD NO.

1/4 1/4 SECTION TWP. RGE. ☐MD ☐SB ☐H BASE & MERIDIAN

COORDINATES (NAD83) NORTHING: 2019158.371 EASTING: 6124906.161 SOURCE Trimble R8

DESCRIPTION:

Well is located in a 12" EMCO Wheaton Christy Box near the mid-point of Cedar Ct along the north curb. It is the center well when facing the north curb.

REFERENCE POINT DESCRIPTION:

Top center of the christy box lid

WHICH IS FT. ABOVE ☐ BELOW ☐ LAND SURFACE DATUM GROUND ELEVATION FT.

REFERENCE POINT ELEVATION 32.593 FT. DETERMINED FROM: Top center of the christy box lid

WELL USE: Groundwater Monitoring CONDITION: new DEPTH: 355 FT.

CASING, SIZE 2 IN., PVC PERFORATIONS: 320-340' SLOT SIZE: 0.020"

MEASUREMENTS BY ☐ DWR ☐ USGS ☐ USBR ☐ COUNTY ☐ IRR. DIST. ☐ WATER DIST. ☐ CONS. DIST. ☐ OTHER

GRAVEL PACK? ☑ YES ☐ NO	DEPTH TO TOP GR. 308'	DEPTH TO BOT GR. 355'
TYPE OF MATERIAL: #3 Sand	PERM. RATING	THICKNESS
CHIEF AQUIFER	DEPTH TO TOP AQ.	DEPTH TO BOT. AQ.
SUPP. AQUIFER	DEPTH TO TOP AQ.	DEPTH TO BOT. AQ.

DRILLER: Pitcher Serv. (Marcos/Andrew) DATE DRILLED: 02-01-2022 LOG NUMBER (DWR 188)

WELL PUMP TYPE	MAKE	MODEL	SERIAL NO.
WATER ANALYSIS MIN.	SAN.	H.M.	

POWER SOURCE		WATER LEVELS AVAILABLE? ☐ YES ☐ NO	
H.P.	MOTOR SERIAL NO	PERIOD OF RECORD BEGIN	END
ELEC. METER NO.	TRANSFORMER NO.	COLLECTING AGENCY	
SIZE OF DISCHARGE PIPE		IN.	
YIELD G.P.M.	PUMPING LEVEL FT.	PROD. REC. / PUMP TEST / YIELD	

SKETCH



REMARKS

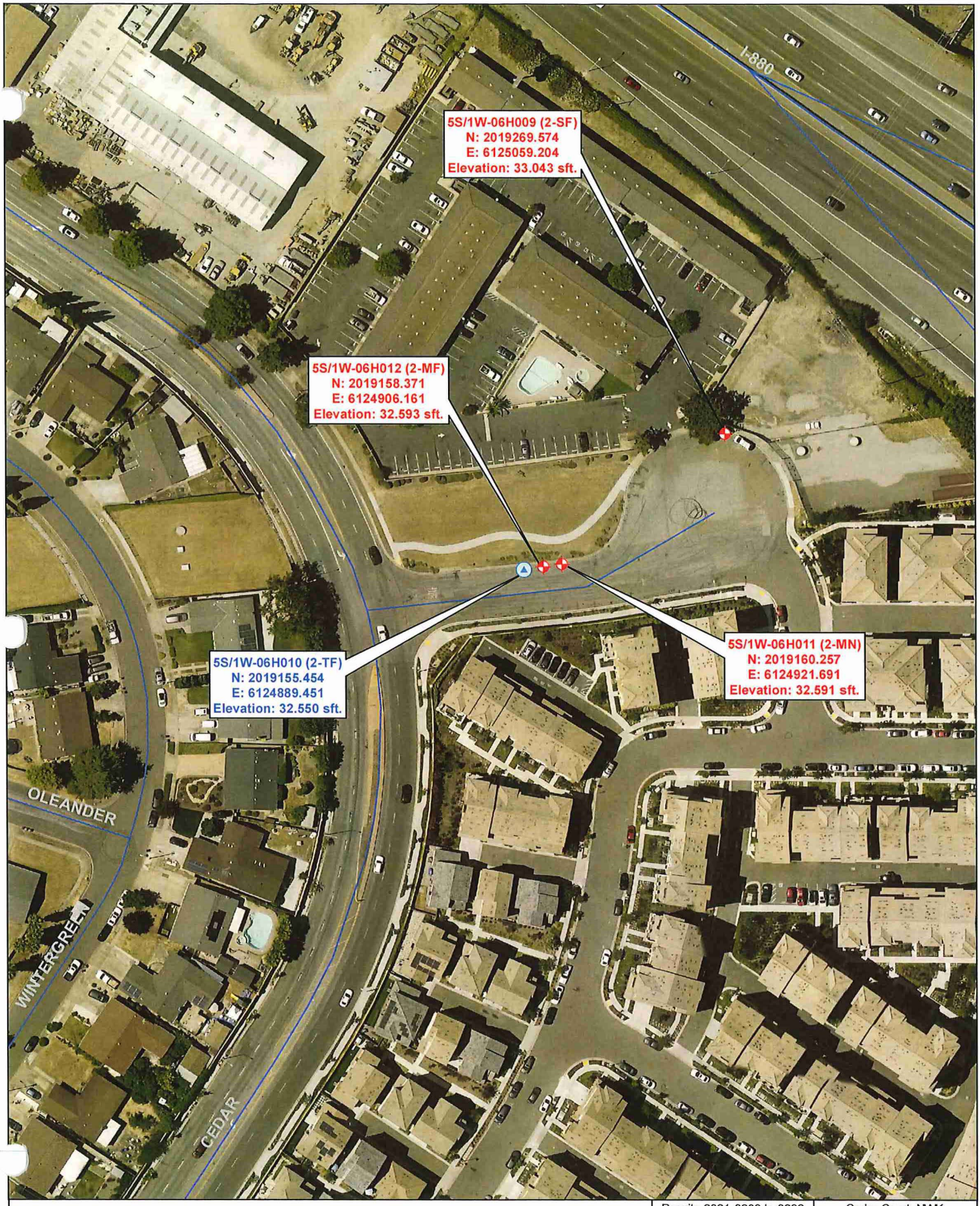
355' total depth of original borehole
8" Diameter Borehole
12" round EMCO Wheaton christy box
0.5-320' – 2" blank Schedule 80 PVC casing
320-340' – 2" slotted Schedule 80 PVC casing (0.020" slots)
340-350' – 2" blank Schedule 80 PVC casing + end cap

PERMIT NO.: 2021-0291

SANITARY SEAL: 1-308' - Type II/V neat cement

RECORDED BY: Jeremy Bautista

DATE: 03-15-2022



ACWD
ALAMEDA COUNTY WATER DISTRICT

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W E
S

Well Location Map

Permits 2021-0289 to 0292	Cedar Court, NWK
5S/1W-06H009 to 06H012	1:1200
Monitoring Well	03.10.2022
Water Well	Drawn By: Jeremy Bautista

WELL DATA

STATE WELL NO. 5S/1W-06H012

PERMIT NO. 2021-0291

OWNER: Alameda County Water District	SITE ID:
ADDRESS: 43885 S. Grimmer Blvd, FMT	WELL NAME: 5S/1W-06H012
TENANT:	OWNER NO.: 2-MF
SITE ADDRESS END OF CEDAR COURT, NEWARK	2-MF

TYPE OF WELL ☐ SPECIAL STUDIES ☐ MONTHLY ☐ SEMI ANNUAL ☐ WATER QUALITY

LOCATION COUNTY: Alameda County BASIN: Niles Cone NO.

U.S.G.S. QUAD. QUAD NO.

1/4 1/4 SECTION TWP. RGE. ☐MD ☐SB ☐H BASE & MERIDIAN

COORDINATES (NAD83) NORTHING: 2019158.371 EASTING: 6124906.161 SOURCE Trimble R8

DESCRIPTION:

Well is located in a 12" EMCO Wheaton Christy Box near the mid-point of Cedar Ct along the north curb. It is the center well when facing the north curb.

REFERENCE POINT DESCRIPTION:

Top center of the christy box lid

WHICH IS FT. ABOVE ☐ BELOW ☐ LAND SURFACE DATUM GROUND ELEVATION FT.

REFERENCE POINT ELEVATION 32.593 FT.	DETERMINED FROM: Top center of the christy box lid
WELL USE: Groundwater Monitoring	CONDITION: new / DEPTH: 355 FT.
CASING, SIZE 2 IN., PVC	PERFORATIONS: 320-340' / SLOT SIZE: 0.020"

MEASUREMENTS BY ☐ DWR ☐ USGS ☐ USBR ☐ COUNTY ☐ IRR. DIST. ☐ WATER DIST. ☐ CONS. DIST. ☐ OTHER

GRAVEL PACK? ☑ YES ☐ NO	DEPTH TO TOP GR. 308'	DEPTH TO BOT GR. 355'
TYPE OF MATERIAL: #3 Sand	PERM. RATING	THICKNESS
CHIEF AQUIFER	DEPTH TO TOP AQ.	DEPTH TO BOT. AQ.
SUPP. AQUIFER	DEPTH TO TOP AQ.	DEPTH TO BOT. AQ.

DRILLER: Pitcher Serv. (Marcos/Andrew)	DATE DRILLED: 02-01-2022	LOG NUMBER (DWR 188)

WELL PUMP TYPE	MAKE	MODEL	SERIAL NO.
WATER ANALYSIS MIN.	SAN.	H.M.	

POWER SOURCE		WATER LEVELS AVAILABLE? ☐ YES ☐ NO	
H.P.	MOTOR SERIAL NO	PERIOD OF RECORD BEGIN	END
ELEC. METER NO.	TRANSFORMER NO.	COLLECTING AGENCY	
SIZE OF DISCHARGE PIPE		IN.	
YIELD G.P.M.	PUMPING LEVEL FT.	PROD. REC. / PUMP TEST	YIELD

SKETCH

N

REMARKS

355' total depth of original borehole
8" Diameter Borehole
12" round EMCO Wheaton christy box
0.5-320' – 2" blank Schedule 80 PVC casing
320-340' – 2" slotted Schedule 80 PVC casing (0.020" slots)
340-350' – 2" blank Schedule 80 PVC casing + end cap

PERMIT NO.: 2021-0291

SANITARY SEAL: 1-308' - Type II/V neat cement

RECORDED BY: Jeremy Bautista

DATE: 03-15-2022

SPECIFIC CAPACITY DATA SHEET

Well Location: Site 2
Well Number: 5S/1W-06H012 (2-MF)
Totalizer Start: 04406400
End: 04443600
Remarks:

Date: 04-06-22 (07 JB)
Measured By: J. Bautista / P. Cortez
Discharge Presure:

MINUTES	TIME	FLOW RATE (gpm)	STATIC DTW (ft)	PUMPING DTW (ft)	DRAWDOWN (ft)	SPECIFIC CAPCAITY (gpm/ft)
0800 JB 1	0800 0804	~60 gpm	38.87' ~~38.52'~~ JB	39.16'		
2	0801 0805			39.17'		
3	0802 0806			39.21'		
4	0803 0807			39.25'		
5	0804 0808			39.27'		
6	0805 0809			39.27'		
7	0806 0810			↓		
8	0807 0811	↓		↓		
9	0812			↓		
10	0813			↓		
11	0814	↓		39.28'		
12	0815			↓		
14	0817			↓		
16	0819	↓		39.29'		
18	0821			39.31'		
20	0823			↓		
25	0828			↓		
30	0833			↓		
35	0838			39.32'		
40	0843			↓		
45	0848	↓		39.33'		
50	0853			↓		
60	0903			39.32'		
70	0913			39.30		
80	0923			39.29		
90	0933			39.32		
100	0943			39.34		

SPECIFIC CAPACITY DATA SHEET

Well Location: Site 2
Well Number: 5S/1W-06H012 (2-MF)
Totalizer Start: 04426400
End: 04443600
Remarks:

Date:
Measured By:
Discharge Presure:

MINUTES	TIME	FLOW RATE (gpm)	STATIC DTW (ft)	PUMPING DTW (ft)	DRAWDOWN (ft)	SPECIFIC CAPCAITY (gpm/ft)
1	9:53	60		39.32		
2	~~10:00~~	~~60~~	(Phone call w/Selim Zeynk)			
3	10:10	60		39.30		
4	10:20	60		39.28		
5	10:30	60		39.28		
6	10:40	60		39.28		
7	11:30	70		39.20		
8	11:38	70		39.10		
9	11:46	70		39.17		
10	12:47	50		39.08		
11						
12						
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18						
20						
25						
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35						
40						
45						
50						
60						
70						
80						
90						
100						

Site #2

ALAMEDA COUNTY WATER DISTRICT
43885 South Grimmer Blvd. • P.O. Box 5110
Fremont, CA 94537-5110
Permitting & Scheduling (510) 668-4460

APPLICATION FOR DRILLING PERMIT

ACWD ORDINANCE NO. 2010-01

COMPUTER POSTED

Application Received Date:	By:	Permit Issued Date:	Permit Expiration Date:	Job No.	Permit No.	Well No.
10/14/21	AS	11/4/21	1/4/22	10097	2021-0290	55/1W-06H01

JOB ADDRESS:
End of Cedar Court
Newark, CA

PROPERTY OWNER
NAME: City of Newark
ADDRESS: 37101 Newark Blvd,
Newark, CA 94560
TELEPHONE: (510) 578-4200

CONSULTING ENGINEER
NAME: Alameda County Water District
ADDRESS: 43885 South Grimmer Boulevard
Fremont, CA 94538
TELEPHONE: (510) 68-4452 RG/CEG/RCE NO. PG 5859

DRILLING CONTRACTOR
NAME: Pitcher Services, LLC
ADDRESS: 218 Demeter Street
East Palo Alto, CA 94303
E-MAIL ADDRESS: Terry Shewchuk <tshewchuk@pitcherservicesllc.com>
TELEPHONE: (650)328-8910 STATE LIC. NO. 1044895

When properly signed 2-MN

THIS APPLICATION IS A VALID PERMIT

to perform only work described below at the given job address, in accordance with ACWD Ordinance No. 2010-01 and all other applicable laws and regulations. Discontinuation of work may result in revocation of permit. ***Permittee must schedule the work in advance with ACWD.*** *ACWD's approval of drawings, designs, specifications, work plans, reports or incidental work and materials shall not relieve the permittee of responsibility for the technical adequacy of the work. Except for special circumstances, all work to be inspected must be performed within ACWD work hours – 7:00 a.m. to 4:30 p.m., Monday through Friday.*

PLEASE CHECK TYPE OF PROPOSED WORK
Each well or other excavation requires a separate permit application form unless otherwise indicated.
Only one specific type of work can be checked per permit application.

WELLS	EXPLORATORY HOLES	OTHER EXCAVATIONS
☒ CONSTRUCTION ☐ REPAIR ☐ DESTRUCTION	☐ CONSTRUCT./DESTRUCT.	☐ CONSTRUCTION ☐ REPAIR ☐ DESTRUCTION
☐ Water Well	*Multiple exploratory holes of the same type may be grouped together on the same permit application form.*	☐ Cathodic Protection Well ☐ Inclinometer
Monitoring Well:		☒ Vibrating Wire Piezometer ☐ Elevator Shaft
☒ Chemical Investigation	☐ Chemical Investigation	*Multiple other excavations of the same type may be grouped together on the same permit application form for the following:*
☐ Injection Well (for Chemical Cleanup)	☐ Injection Boreholes	☐ Cleanup Site Excavation(s) ☐ Wick Drains
☒ Geotechnical Investigation	☐ Soil Vapor Sampling	☐ Shaft, Tunnel, or Directional Borehole (s) ☐ Support Piers, Piles, or Caissons
☐ Geothermal Heat Exchange Well	☐ Geotechnical Investigation	
☐ Dewatering Well *(Multiple dewatering wells may be grouped together on the same permit application form)*		
Quantity:	Quantity:	☐ Other: Quantity:

DESCRIPTION OF PROPOSED WORK:
Installation of 2" diameter monitoring well
Well Name: Cedar Court 2-MN

TOTAL ESTIMATED COST
$

PERMIT CONDITIONS:
Monitoring Well Construction to comply with current ACWD Standards

FEES: ☐ Private ☐ City ☒ Governmental Agency

GUARANTEE OF PERFORMANCE: ☐ Cash Deposit ☐ Bond

REFUND: Amount $ Reason:

FEES/ DEPOSIT: Date Received Estimated Amount $
Check No. Actual Amount $
Cash Difference $

ACWD SITE NO. 0
APPROVED FOR SCHEDULING BY: DATE: 12/9/2021
APPROVED BY: DATE: 12/9/2021

I hereby agree to comply with all conditions of this permit in accordance with ACWD Ordinance No. 2010-01 and to furnish the District a completed copy of D.W.R. Drillers Report (form 188) within sixty (60) days after completion as well as any chemical testing results within thirty (30) days after completion.

Title: Associate Hydrogeologist Signature: Date: 10/12/2021

Representing: Alameda County Water District Name (printed): Douglas Young

ACWD #458 11-12

Monitoring Well Construction

Inspector: Pablo Cortez | **Permit No.:** 2021-0290

Job No.: 10097 | **Well No.:** 5S/1W-06H011

Date: 2-2-22 | **Other Well ID:** 2-MN

Job Location: End of Cedar Ct, NWK

Contractor: Pitcher Services LLC

Major Equipment and Materials On-site

ITEM	MATERIALS RECEIVED TODAY
Fraste Multidrill-XL Mud Rotary Drill Rig	
Water/Tooling Truck	
Crew Truck	
Porta-potty, Cuttings Bins	

Contractor Arrival Time: 7:00 | Contractor Departure Time: 5:00

Daily Start Depth: ft. | Daily Finish Depth: ft.

Daily Drill Bit Size(s):

Work Completed Summary: Drilled to 115' total depth.

ACWD Meter No.: **Beginning Meter Reading:** **End Meter Reading:**

Pictures Taken: ☐ YES ☐ NO File Location:

Visitors to Job Site:

Delays/Accidents:

Construction Details

Final Bit Size & Type:

Total Borehole Depth: ft.

Control Casing Size: in. | Control Casing Depth: ft. to ft.

Conductor Casing Size: in. | Conductor Casing Depth: ft. to ft.

Well Casing Diameter: in. | Completed Well Depth: ft.

Perforation Slot Size: in. | Perforation Interval: ft. to ft.

Sand Info.: | Sand Interval: ft. to ft.

and ft. to ft.

Grout Mix: | Grout Interval: ft. to ft.

Bottom Plug Info.: | *and** ft. to ft.

*Two grout intervals if bottom of borehole extended beyond completed well depth and was grouted prior to well construction.

Monitoring Well Construction Remarks

Inspector: **Permit No.:** 2021-0290

8:00 Arrived onsite. Pitcher Drilling crew is onsite. Borehole has been hand augered to 5'. Switching to mud rotary.

9:07 Began drilling with 8" mud rotary bit.

10:18 Approaching 20'.

15:00 Currently at 100'.

15:30 Drilled to 110'. Driller will drill additional 5' rat hole.

16:14 Drilled to 115' total depth. Pulling out rods.

16:40 Hole secured. Departed site.

Monitoring Well Construction

Inspector: Pablo Cortez | **Permit No.:** 2021-0290

Job No.: 10097 | **Well No.:** 5S/1W-06H011

Date: 2-3-22 | **Other Well ID:** 2-MN

Job Location: End of Cedar Ct, NWK

Contractor: Pitcher Services LLC

Major Equipment and Materials On-site

ITEM	MATERIALS RECEIVED TODAY
Fraste Multidrill-XL Mud Rotary Drill Rig	
Water/Tooling Truck	
Crew Truck	
Porta-potty, Cuttings Bins	

Contractor Arrival Time: 7:00 | Contractor Departure Time: 4:30

Daily Start Depth: ft. | Daily Finish Depth: ft.

Daily Drill Bit Size(s):

Work Completed Summary: Installed well materials and completed well construction.

ACWD Meter No.: **Beginning Meter Reading:** **End Meter Reading:**

Pictures Taken: ☑ YES ☐ NO File Location:

Visitors to Job Site:

Delays/Accidents:

Construction Details

Final Bit Size & Type: 8 in. | Total Borehole Depth: 115 ft.

Control Casing Size: in. | Control Casing Depth: ft. to ft.

Conductor Casing Size: in. | Conductor Casing Depth: ft. to ft.

Well Casing Diameter: 2 in. | Completed Well Depth: 110 ft.

Perforation Slot Size: 0.020 in. | Perforation Interval: 50 ft. to 100 ft.

Sand Info.: #3 | Sand Interval: 45 ft. to 115 ft.

and ft. to ft.

Grout Mix: Type I/II | Grout Interval: 0 ft. to 45 ft.

Bottom Plug Info.: | *and** ft. to ft.

*Two grout intervals if bottom of borehole extended beyond completed well depth and was grouted prior to well construction.

Monitoring Well Construction Remarks

Inspector: **Permit No.:** 2021-0290

7:30 Arrived onsite. Drill crew is set up over hole, preparing to install well materials.

8:00 cleaning out hole.

9:09 Hole cleaned out. Putting in well casing. 2" PVC (Sch. 80).

9:24 Well casing installed. Hole is open to 115'. Well casing is suspended at 110'. Installing #3 sand pack. Well casing has 10' blank PVC at bottom with 50' of screen (0.020" slots) and centralizers at bottom, middle, and top of screen and every 25'.

9:58 Sand is at 103'.

11:06 Sand is at 71'.

11:48 Sand brought up to 45'. 49 bags of sand were used.

11:53 Drillers stop for the moment and depart for lunch.

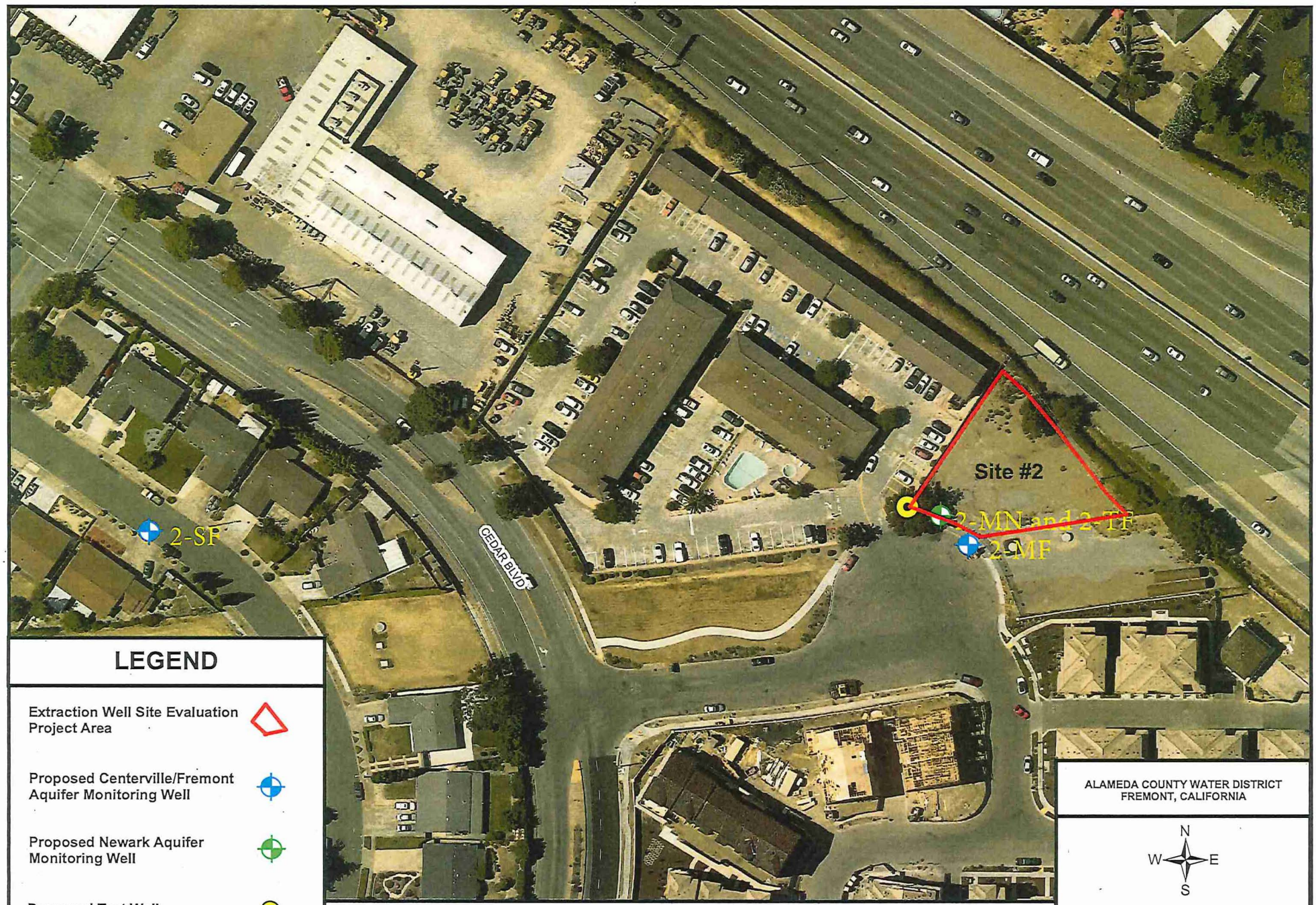
12:30 Drillers return.

12:46 1" PVC tremie pipe in place. Mixing grout (Type II/V neat cement).

13:11 Tremie grouted to surface.

13:30 Flushed inside of well with water.

15:50 Installed well box. Well construction complete.



LEGEND

- Extraction Well Site Evaluation Project Area
- Proposed Centerville/Fremont Aquifer Monitoring Well
- Proposed Newark Aquifer Monitoring Well
- Proposed Test Well

ALAMEDA COUNTY WATER DISTRICT
FREMONT, CALIFORNIA

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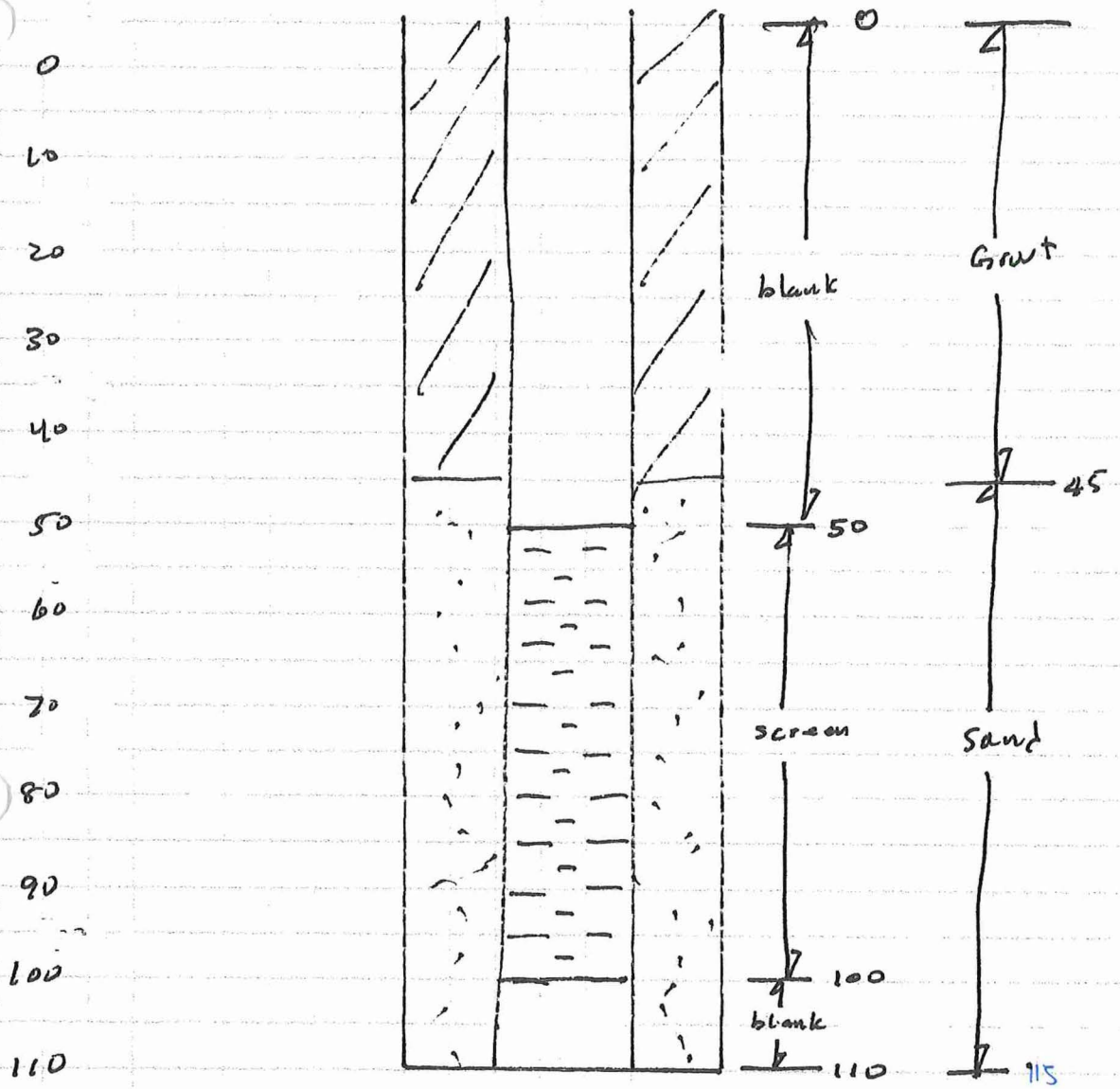
0 35 70 140 Feet.

FIGURE 5

Proposed Well Completion 2-MW



ALAMEDA COUNTY WATER DISTRICT

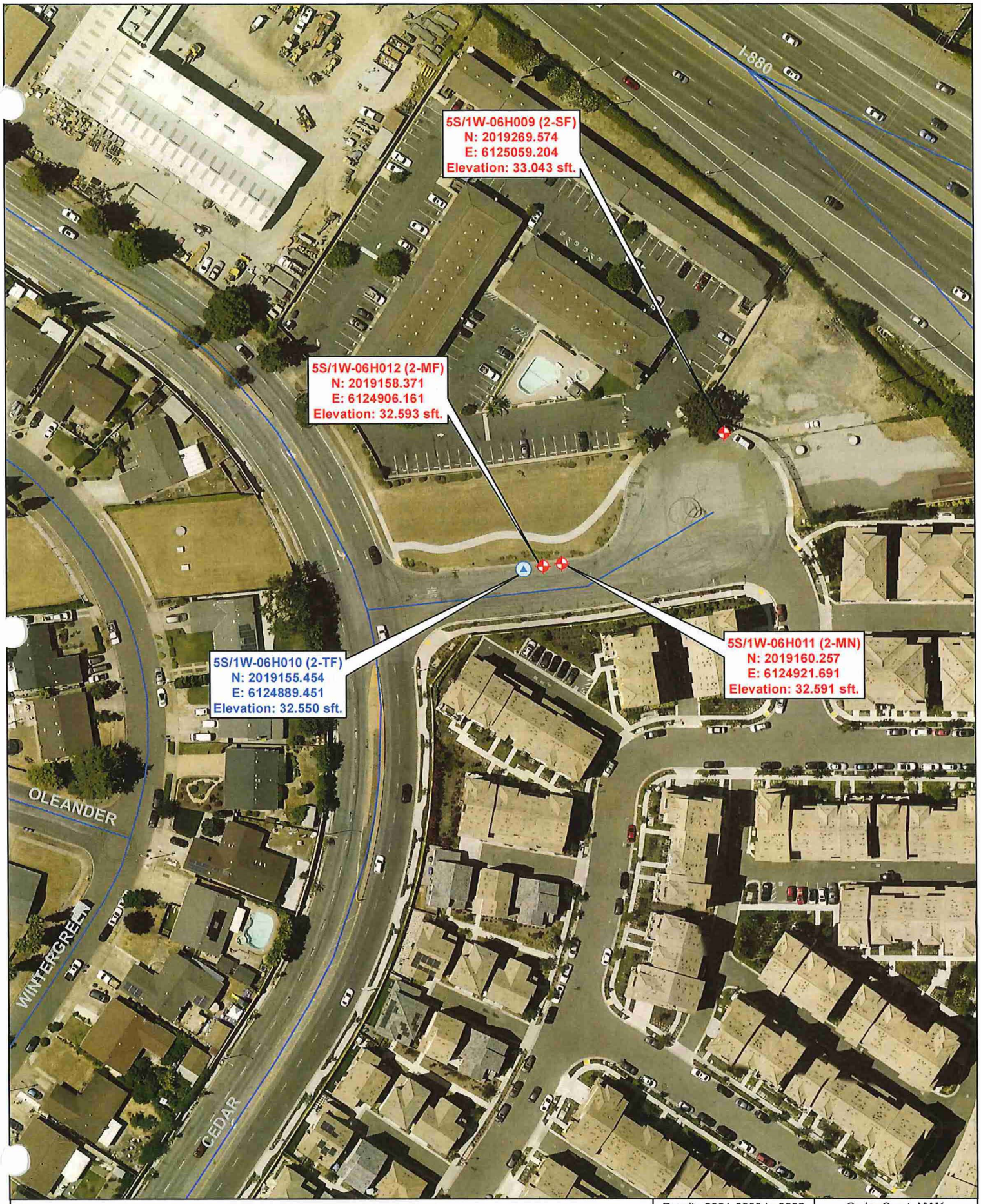
MONITORING WELL SAMPLING RECORD

WELL ID: 5S/1W-06H011 2-MN
PROJECT NO: 10097
PROJECT NAME: Site Well Evaluation
DATE: 02.07.22
SAMPLED BY: J. Bautista

DEPTH TO WATER: 23.7' (initial)
TOTAL DEPTH OF WELL: 110
WELL DIAMETER: 2"
CASING VOLUME: 152.9 ft³ / 1,144 gal
METHOD OF PURGING: Air Lift

TIME	CUMULATIVE VOL. REMOVED (GALLONS)	TEMPERATURE (°C)	pH (UNITS)	SPECIFIC CONDUCTANCE (UMHOS/CM)	REMARKS (COLOR, TURBIDITY & SEDIMENT)
1225	2	20.2	8.16	1592 uS	Brown, Turbidity is too high brown sediment @ bottom
1255	50	18.6	8.05	1541 uS	↓
1325	100	18.8	8.19	1571 uS	Slightly cloudy 132 NTU
1355		18.7	7.98	1575 uS	102 NTU / Cloudy
1425		18.6	8.14	1596 uS	61.8 NTU / Slightly cloudy
1455		18.6	8.18	1596 uS	46.3 NTU / less cloudy than prior sample
1525		18.4	8.19	1604 uS	34.5 NTU / slightly less cloudy than prior sample
1555		18.6	8.22	1593 uS	21.3 NTU / very slightly cloudy

NOTES: 1600 - cease airlift



ACWD
ALAMEDA COUNTY WATER DISTRICT

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Well Location Map

Permits 2021-0289 to 0292	Cedar Court, NWK
5S/1W-06H009 to 06H012	1:1200
Monitoring Well	03.10.2022
Water Well	Drawn By: Jeremy Bautista

WELL DATA

STATE WELL NO. 5S/1W-06H011

PERMIT NO. 2021-0290

OWNER: Alameda County Water District	SITE ID:
ADDRESS: 43885 S. Grimmer Blvd, FMT	WELL NAME: 5S/1W-06H011
TENANT:	OWNER NO.: 2-MN
SITE ADDRESS END OF CEDAR COURT, NEWARK	2-MN

TYPE OF WELL ☐ SPECIAL STUDIES ☐ MONTHLY ☐ SEMI ANNUAL ☐ WATER QUALITY

LOCATION COUNTY: Alameda County BASIN: Niles Cone NO.

U.S.G.S. QUAD. QUAD NO.

1/4 1/4 SECTION TWP. RGE. ☐MD ☐SB ☐H BASE & MERIDIAN

COORDINATES (NAD83) NORTHING: 2019160.257 EASTING: 6124921.691 SOURCE Trimble R8

DESCRIPTION:

Well is located in a 12" EMCO Wheaton Christy Box near the mid-point of Cedar Ct along the north curb. It is the right-most well when facing the north curb.

REFERENCE POINT DESCRIPTION:

Top center of the christy box lid

WHICH IS FT. ABOVE ☐ BELOW ☐ LAND SURFACE DATUM GROUND ELEVATION FT.

REFERENCE POINT ELEVATION 32.591 FT. DETERMINED FROM: Top center of the christy box lid

WELL USE: Groundwater Monitoring CONDITION: new DEPTH: 115 FT.

CASING, SIZE 2 IN., PVC PERFORATIONS: 50-100' SLOT SIZE: 0.020"

MEASUREMENTS BY ☐ DWR ☐ USGS ☐ USBR ☐ COUNTY ☐ IRR. DIST. ☐ WATER DIST. ☐ CONS. DIST. ☐ OTHER

GRAVEL PACK? ☑ YES ☐ NO	DEPTH TO TOP GR. 45'	DEPTH TO BOT GR. 115'
TYPE OF MATERIAL: #3 Sand	PERM. RATING	THICKNESS
CHIEF AQUIFER	DEPTH TO TOP AQ.	DEPTH TO BOT. AQ.
SUPP. AQUIFER	DEPTH TO TOP AQ.	DEPTH TO BOT. AQ.

DRILLER: Pitcher Serv. (Marcos/Andrew) DATE DRILLED: 02-03-2022 LOG NUMBER (DWR 188)

WELL PUMP TYPE	MAKE	MODEL	SERIAL NO.
WATER ANALYSIS MIN.	SAN.	H.M.	

POWER SOURCE		WATER LEVELS AVAILABLE? ☐ YES ☐ NO	
H.P.	MOTOR SERIAL NO	PERIOD OF RECORD BEGIN	END
ELEC. METER NO.	TRANSFORMER NO.	COLLECTING AGENCY	
SIZE OF DISCHARGE PIPE		IN.	
YIELD G.P.M.	PUMPING LEVEL FT.	PROD. REC. / PUMP TEST / YIELD	

SKETCH



REMARKS

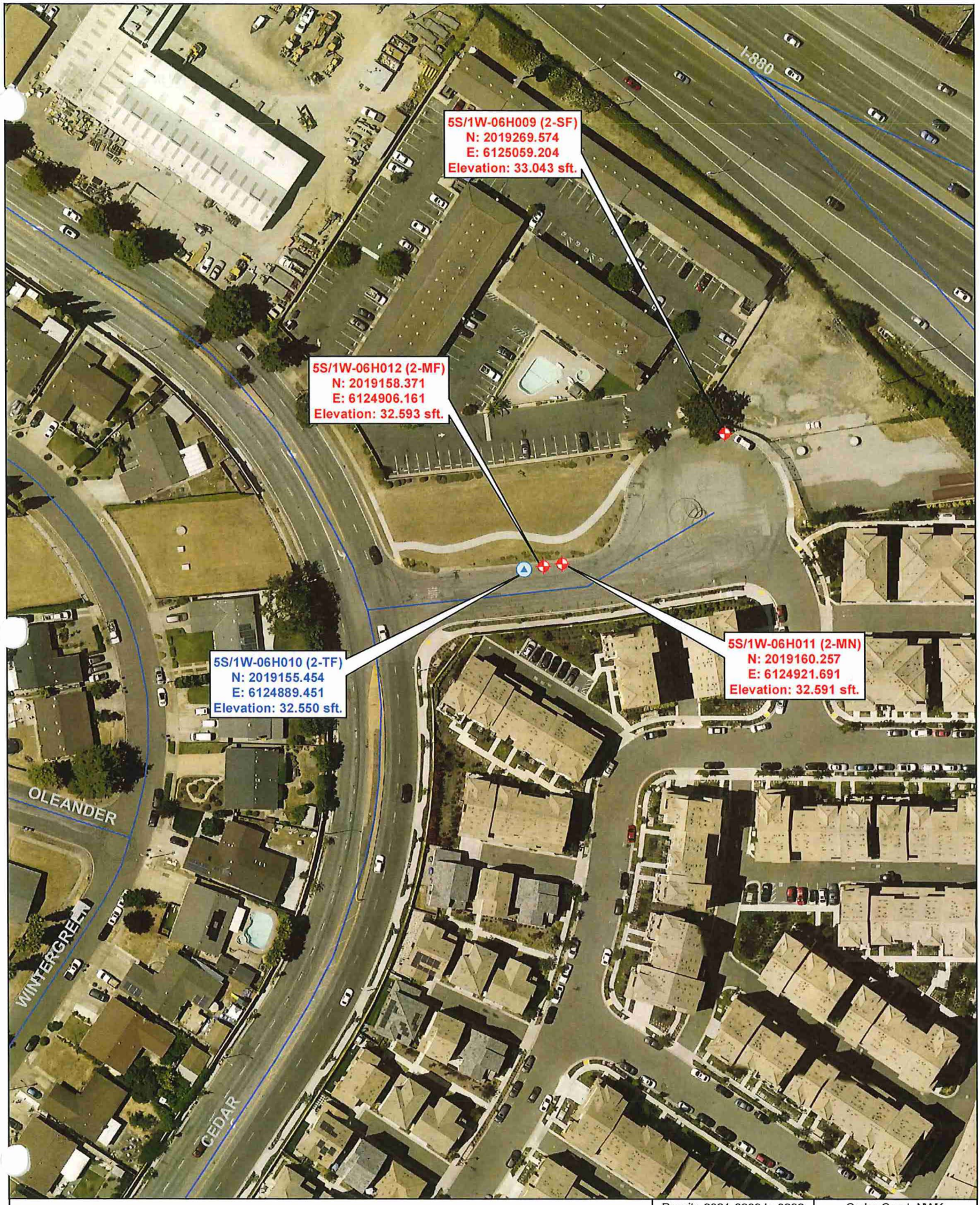
115' total depth of original borehole
8" Diameter Borehole
12" round EMCO Wheaton christy box
0.5-50' – 2" blank Schedule 80 PVC casing
50-100' – 2" slotted Schedule 80 PVC casing (0.020" slots)
100-110' – 2" blank Schedule 80 PVC casing + end cap

PERMIT NO.: 2021-0290

SANITARY SEAL: 1-45' - Type II/V neat cement

RECORDED BY: Jeremy Bautista

DATE: 03-15-2022



ACWD
ALAMEDA COUNTY WATER DISTRICT

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Well Location Map

Permits 2021-0289 to 0292	Cedar Court, NWK
5S/1W-06H009 to 06H012	1:1200
Monitoring Well	03.10.2022
Water Well	Drawn By: Jeremy Bautista

WELL DATA

STATE WELL NO. 5S/1W-06H011

PERMIT NO. 2021-0290

OWNER: Alameda County Water District			SITE ID:	
ADDRESS: 43885 S. Grimmer Blvd, FMT			WELL NAME: 5S/1W-06H011	
TENANT:			OWNER NO.: 2-MN	
SITE ADDRESS END OF CEDAR COURT, NEWARK			2-MN	
TYPE OF WELL ☐ SPECIAL STUDIES	☐ MONTHLY	☐ SEMI ANNUAL	☐ WATER QUALITY	
LOCATION COUNTY: Alameda County	BASIN: Niles Cone		NO.	
U.S.G.S. QUAD.			QUAD NO.	
1/4 1/4 SECTION	TWP.	RGE.	☐MD ☐SB ☐H BASE & MERIDIAN	
COORDINATES (NAD83) NORTHING: 2019160.257	EASTING: 6124921.691		SOURCE Trimble R8	

DESCRIPTION:

Well is located in a 12" EMCO Wheaton Christy Box near the mid-point of Cedar Ct along the north curb. It is the right-most well when facing the north curb.

REFERENCE POINT DESCRIPTION:

Top center of the christy box lid

WHICH IS FT. ABOVE ☐ BELOW ☐	LAND SURFACE DATUM	GROUND ELEVATION	FT.
REFERENCE POINT ELEVATION 32.591 FT.	DETERMINED FROM: Top center of the christy box lid		
WELL USE: Groundwater Monitoring	CONDITION: new	DEPTH: 115 FT.	
CASING, SIZE 2 IN., PVC	PERFORATIONS: 50-100'	SLOT SIZE: 0.020"	
MEASUREMENTS BY ☐ DWR ☐ USGS ☐ USBR ☐ COUNTY ☐ IRR. DIST. ☐ WATER DIST. ☐ CONS. DIST. ☐ OTHER			
GRAVEL PACK? ☑ YES ☐ NO	DEPTH TO TOP GR. 45'	DEPTH TO BOT GR. 115'	
TYPE OF MATERIAL: #3 Sand	PERM. RATING	THICKNESS	
CHIEF AQUIFER	DEPTH TO TOP AQ.	DEPTH TO BOT. AQ.	
SUPP. AQUIFER	DEPTH TO TOP AQ.	DEPTH TO BOT. AQ.	
DRILLER: Pitcher Serv. (Marcos/Andrew)	DATE DRILLED: 02-03-2022	LOG NUMBER (DWR 188)	
WELL PUMP TYPE	MAKE	MODEL	SERIAL NO.
WATER ANALYSIS MIN.	SAN.	H.M.	
POWER SOURCE		WATER LEVELS AVAILABLE? ☐ YES ☐ NO	
H.P.	MOTOR SERIAL NO	PERIOD OF RECORD BEGIN	END
ELEC. METER NO.	TRANSFORMER NO.	COLLECTING AGENCY	
SIZE OF DISCHARGE PIPE		IN.	
YIELD G.P.M.	PUMPING LEVEL FT.	PROD. REC.	PUMP TEST / YIELD

SKETCH



REMARKS

115' total depth of original borehole
8" Diameter Borehole
12" round EMCO Wheaton christy box
0.5-50' – 2" blank Schedule 80 PVC casing
50-100' – 2" slotted Schedule 80 PVC casing (0.020" slots)
100-110' – 2" blank Schedule 80 PVC casing + end cap

PERMIT NO.: 2021-0290

SANITARY SEAL: 1-45' - Type II/V neat cement

RECORDED BY: Jeremy Bautista

DATE: 03-15-2022

SPECIFIC CAPACITY DATA SHEET

Well Location: Site 2
Well Number: 55/1W-06H011 (2-MN)
Totalizer Start: 04426400
End: 04443600
Remarks:

Date: 07 JB 04.06.22
Measured By: J. Bautista / P. Cortez
Discharge Presure:

MINUTES	TIME	FLOW RATE (gpm)	STATIC DTW (ft)	PUMPING DTW (ft)	DRAWDOWN (ft)	SPECIFIC CAPCAITY (gpm/ft)
1	0804	~60 gpm	23.33' ~~23.25'~~ JB			
2	5					
3	6			3		
4	7			28.33' JB		
5	0808					
6	0809					
7	0810					
8	0811					
9	0812					
10	0813			23.33'		
11	0814					
12	0815					
14	0817					
16	0819			23.33'		
18	0821					
20	0823			23.32'		
25	0828					
30	0833			23.32'		
35	0838					
40	0843			23.32'		
45	0848			23.32'		
50	0853			23.32'		
60	0903			23.90'		
70	0913			23.30		
80	0923			23.32		
90	0933			23.30		
100	0943			23.30		

SPECIFIC CAPACITY DATA SHEET

Well Location: Site 2
Well Number: 55/1W-06H011 (2-MW)
Totalizer Start:
End:
Remarks:

Date: 4/7/22
Measured By: JB/PC
Discharge Presure:

MINUTES	TIME	FLOW RATE (gpm)	STATIC DTW (ft)	PUMPING DTW (ft)	DRAWDOWN (ft)	SPECIFIC CAPCAITY (gpm/ft)
1	9:53	60		23.30		
2		(Phone call w/Selim Zeyrek)				
3	10:10	60		23.30		
4	10:20	60		23.30		
5	10:45	60		23.29		
6						
7						
8						
9						
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11						
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16						
18						
20						
25						
30						
35						
40						
45						
50						
60						
70						
80						
90						
100						

Site #2

ALAMEDA COUNTY WATER DISTRICT
43885 South Grimmer Blvd. • P.O. Box 5110
Fremont, CA 94537-5110
Permitting & Scheduling (510) 668-4460

APPLICATION FOR DRILLING PERMIT

ACWD ORDINANCE NO. 2010-01

COMPUTER POSTED

Application Received Date: 10/4/21 By: AS | Permit Issued Date: 11/4/21 | Permit Expiration Date: 1/4/22 | Job No. 10097 | Permit No. 2021-0292 | Well No. 5S/1W-06H009

JOB ADDRESS: ~~Wintergreen Drive~~ Intersection End of Cedar Ct.
Newark Ca

PROPERTY OWNER
NAME: City of Newark
ADDRESS: 37101 Newark Blvd,
Newark, CA 94560
TELEPHONE: (510) 578-4200

CONSULTING ENGINEER
NAME: Alameda County Water District
ADDRESS: 43885 South Grimmer Boulevard
Fremont, CA 94538
TELEPHONE: (510) 68-4452 RG/CEG/RCE NO. PG 5859

DRILLING CONTRACTOR
NAME: Pitcher Services, LLC
ADDRESS: 218 Demeter Street
East Palo Alto, CA 94303
E-MAIL ADDRESS: Terry Shewchuk <tshewchuk@pitcherservicesllc.com>
TELEPHONE: (650)328-8910 STATE LIC. NO. 1044895

When properly signed 2-SF

THIS APPLICATION IS A VALID PERMIT

to perform only work described below at the given job address, in accordance with ACWD Ordinance No. 2010-01 and all other applicable laws and regulations. Discontinuation of work may result in revocation of permit. ***Permittee must schedule the work in advance with ACWD.*** *ACWD's approval of drawings, designs, specifications, work plans, reports or incidental work and materials shall not relieve the permittee of responsibility for the technical adequacy of the work. Except for special circumstances, all work to be inspected must be performed within ACWD work hours – 7:00 a.m. to 4:30 p.m., Monday through Friday.*

PLEASE CHECK TYPE OF PROPOSED WORK

Each well or other excavation requires a separate permit application form unless otherwise indicated.
Only one specific type of work can be checked per permit application.

WELLS	EXPLORATORY HOLES	OTHER EXCAVATIONS
☒ CONSTRUCTION ☐ REPAIR ☐ DESTRUCTION	☐ CONSTRUCT./DESTRUCT.	☐ CONSTRUCTION ☐ REPAIR ☐ DESTRUCTION
☐ Water Well	*Multiple exploratory holes of the same type may be grouped together on the same permit application form.*	☐ Cathodic Protection Well ☐ Inclinometer
Monitoring Well:		☐ Vibrating Wire Piezometer ☐ Elevator Shaft
☒ Chemical Investigation	☐ Chemical Investigation	*Multiple other excavations of the same type may be grouped together on the same permit application form for the following:*
☐ Injection Well (for Chemical Cleanup)	☐ Injection Boreholes	☐ Cleanup Site Excavation(s) ☐ Wick Drains
☒ Geotechnical Investigation	☐ Soil Vapor Sampling	☐ Shaft, Tunnel, or Directional Borehole (s) ☐ Support Piers, Piles, or Caissons
☐ Geothermal Heat Exchange Well	☐ Geotechnical Investigation	
☐ Dewatering Well *(Multiple dewatering wells may be grouped together on the same permit application form)*	Quantity:	☐ Other: Quantity:
Quantity:		

DESCRIPTION OF PROPOSED WORK:
Installation of 2" diameter monitoring well
Well Name: Cedar Court 2-SF

TOTAL ESTIMATED COST
$

PERMIT CONDITIONS:
Monitoring Well Construction to comply with current ACWD Standards

FEES: ☐ Private ☐ City ☑ Governmental Agency

GUARANTEE OF PERFORMANCE: ☐ Cash Deposit ☐ Bond

REFUND: Amount $ Reason:

FEES/ DEPOSIT: Date Received Estimated Amount $ Check No. Actual Amount $ Cash Difference $

ACWD SITE NO. MA

APPROVED FOR SCHEDULING BY: DATE: 12/9/2021 APPROVED BY: DATE: 12/9/2021

I hereby agree to comply with all conditions of this permit in accordance with ACWD Ordinance No. 2010-01 and to furnish the District a completed copy of D.W.R. Drillers Report (form 188) within sixty (60) days after completion as well as any chemical testing results within thirty (30) days after completion.

Title: Associate Hydrogeologist Signature: Date: 10/12/2021

Representing: Alameda County Water District Name (printed): Douglas Young

ACWD #458 11-12

ALAMEDA COUNTY WATER DISTRICT

Monitoring Well Construction

Inspector: Andres Aguayo
Permit No.: 2021-0292
Job No.: 10097
Well No.: 5S/1W-06H009
Date: 1-18-2022
Other Well ID: 2-SF

Job Location: End of Cedar Ct
Contractor: Pitcher Services

Major Equipment and Materials On-site

ITEM	MATERIALS RECEIVED TODAY
Drill Rig	
Water Truck	
Support Truck	
Forklift	

Contractor Arrival Time: 07:30
Contractor Departure Time: 1700
Daily Start Depth: 100 ft.
Daily Finish Depth: 172 ft.
Daily Drill Bit Size(s): 8"

Delays/Accidents:

ACWD Meter No.: **Beginning Meter Reading:** **End Meter Reading:**

Pictures Taken: ☑ YES ☐ NO

Visitors to Job Site: Doug Young

Construction Details

Final Bit Size & Type:
Total Borehole Depth: ft.
Control Casing Size: in.
Control Casing Depth: ft. to ft.
Conductor Casing Size: in.
Conductor Casing Depth: ft. to ft.
Well Casing Diameter: in.
Completed Well Depth: ft.
Perforation Slot Size: in.
Perforation Interval: ft. to ft.
Sand Info.:
Sand Interval: ft. to ft.
and ft. to ft.
Grout Mix:
Grout Interval: ft. to ft.
Bottom Plug Info.:
*and** ft. to ft.

*Two grout intervals if bottom of borehole extended beyond completed well depth and was grouted prior to well construction.

Monitoring Well Construction Remarks

(2-SF)

Inspector: Andres Aguayo **Permit No.:** 2021-0292

0745 - Arrive on site. Pitcher (Marcos/Andrew) also on site. They are setting up work area to begin drilling using an 8" bit. Advised Francisco to place 5-foot cuttings on the table for Doug to log.

0920 - Marco advised that @ 105' soil is gravel and @ 107' it goes to clay. ~ 112' clay goes from brown to gray.

1050 - Currently @ 117' soil goes back to gravel.

1100 - Doug Young arrives on site for logging.

1210 - Doug Young left site

1250 - Currently @ 140', soil is silty clay.

1330 - Soil @ 145' ~~is~~ blueish clay. (transitions to)

1555 - Doug arrives on site for logging

1615 - Crew is starting to pull out rods. Current depth is ~~170'~~ 172' AA

1640 - Borehole secure

1655 - Left site

PERMIT NO. _____ WELL NO. 5S/1W-06H009 2-SF

INSPECTOR	DATE	TIME	REMARKS
Thomas	1/19/22	0734	Arrive onsite, Pitcher services (Marcos/Andrew) onsite. They are starting to flush out borehole - reached 172' yesterday with 8" bit. Marcos will set aside cuttings every 5' for Doug Young/Ana Lazor to log.
		0756	Borehole collapsed at 100', drillers will begin cleaning out hole at this depth
		0851	Reached 172', started drilling now.
		1147	Currently at 210' - in gravel
		1245	Jeremy Bautista arrives onsite to cover my lunch break
		1250	Brianna Thomas leaves site
		1300	sieve out 235' catch sample.
		1320	240'. starting a clay transition
		1325	Brianna Thomas returns to site
		1340	Jeremy Bautista leaves site
		1440	Ana Lazor arrives onsite to log
		1531	Currently at 275' in clay - drillers preparing to take a drive sample
		1625	Drive sample taken, pulling rods
		1651	Capped sample for Doug Young, will leave on his desk.
		1706	Borehole secured and protected. left site

NUMBER OF EXPLORATORY HOLES _____

WORK COMPLETED _____ (DATE) OR PERMIT VOIDED _____ (DATE)

COPY OF PERMIT TO _____ (REVIEWING INDIVIDUAL) ON _____ (DATE) BY _____ (INITIALS)

Monitoring Well Construction

Inspector: Brianna Thomas
Permit No.:
Job No.: 10097
Well No.: 2-SF
Date: 1/20/22
Other Well ID:
Job Location: End of Cedar Ct, Newark
Contractor: Pitcher Services

Major Equipment and Materials On-site

ITEM	MATERIALS RECEIVED TODAY
Drill Rig	
Support Truck	
Wash bins	
fork lift	

Contractor Arrival Time: 0700
Contractor Departure Time:
Daily Start Depth: 275 ft.
Daily Finish Depth: ft.
Daily Drill Bit Size(s): 8"
Delays/Accidents:

ACWD Meter No.: **Beginning Meter Reading:** **End Meter Reading:**

Pictures Taken: ☐ YES ☐ NO
Visitors to Job Site:

Construction Details

Final Bit Size & Type:
Total Borehole Depth: ft.
Control Casing Size: in.
Control Casing Depth: ft. to ft.
Conductor Casing Size: in.
Conductor Casing Depth: ft. to ft.
Well Casing Diameter: in.
Completed Well Depth: ft.
Perforation Slot Size: in.
Perforation Interval: ft. to ft.
Sand Info.:
Sand Interval: ft. to ft.
and ft. to ft.
Grout Mix:
Grout Interval: ft. to ft.
Bottom Plug Info.:
*and** ft. to ft.

*Two grout intervals if bottom of borehole extended beyond completed well depth and was grouted prior to well construction.

2-SP

Monitoring Well Construction Remarks

Inspector: Brianna Thomas **Permit No.:** 2021-0292

0735- Arrive onsite, Pitcher Services (Marcos/Andrew) onsite. They will begin flushing out borehole to 275', then resume drilling - we will collect a bulk sample when ~~Centerville~~ Fremont aquifer is encountered.

0930 - Currently at 280'

1027 - Very stiff drilling at 286.5' - 500 psi downhole pressure

1233 - Reached 310', in a sandy clay. Confirmed that a bulk sample is not needed for this location.

~~1336 - BF BF~~

1310- Ava Lazor arrives onsite to log soil.

1525- Ava Lazor leaves site, Drillers are working on fixing an issue with the shaker

~~1122~~ 1622 Rig back up and running, reached 350'. Spoke to Doug Young and he approved to take a drive sample at 350'.

1645- Andrew Aguayo arrives onsite to take over inspection

1655 - Brianna Thomas left site

1725 - 30 / 50 for 5 / & 7 more loads for the drive sample

1800 - Got 350' drive sample and labeled the canister. Placed shoe in tray @ 350'

1805 - Borehole secured / Left site

Monitoring Well Construction

Inspector: Pablo Cortez **Permit No.:** _____

Job No.: 10097 **Well No.:** _____

Date: 1-21-22 **Other Well ID:** _____

Job Location: _____

Contractor: Pitcher Drilling

Major Equipment and Materials On-site

ITEM	MATERIALS RECEIVED TODAY

Contractor Arrival Time: _____ Contractor Departure Time: _____

Daily Start Depth: _____ ft. Daily Finish Depth: _____ ft.

Daily Drill Bit Size(s): _____

Delays/Accidents: _____

_____

ACWD Meter No.: _____ **Beginning Meter Reading:** _____ **End Meter Reading:** _____

Pictures Taken: ☐ YES ☐ NO

Visitors to Job Site: _____

_____

Construction Details

Final Bit Size & Type: _____ Total Borehole Depth: _____ ft.

Control Casing Size: _____ in. Control Casing Depth: _____ ft. to _____ ft.

Conductor Casing Size: _____ in. Conductor Casing Depth: _____ ft. to _____ ft.

Well Casing Diameter: _____ in. Completed Well Depth: _____ ft.

Perforation Slot Size: _____ in. Perforation Interval: _____ ft. to _____ ft.

Sand Info.: _____ Sand Interval: _____ ft. to _____ ft.

_____ *and* _____ ft. to _____ ft.

Grout Mix: _____ Grout Interval: _____ ft. to _____ ft.

Bottom Plug Info.: _____ *and** _____ ft. to _____ ft.

*Two grout intervals if bottom of borehole extended beyond completed well depth and was grouted prior to well construction.

Monitoring Well Construction Remarks

Inspector: **Permit No.:**

8:10 Arrived onsite. Pitcher Drilling is onsite. Currently drilling at 350'. Plan for today is to drill to 400' and grout the bottom.

13:04 At 395', drillers started having issues with the pumps on their rig. Stopped drilling at 395'. Waiting to hear from management if we could e-log to 395'.

13:10 Spoke to Doug Young. He is fine with e-logging to 395'.

13:50 E-logger arrives.

15:00 E-logging complete. Drillers will grout from bottom of hole to 350', per discussion with Doug Young.

15:38 Tremie grouted from bottom of boring to 350' with Type II/V neat cement.

Monitoring Well Construction

Inspector: J. Bautista
Job No.: 10097
Date: 01-24-22

Permit No.: ~~2021-0286~~
Well No.: ~~4S/1W-32N003~~
Other Well ID: ~~3-MN~~ 2-SF

Job Location: ~~Intersection of Blacow Rd and Brophy Dr~~ JB
Contractor: Pitcher Services LLC

Major Equipment and Materials On-site

ITEM	MATERIALS RECEIVED TODAY
Failing Hole Master Mud Rotary Drill Rig	
Water truck	
Crew truck	

Contractor Arrival Time: 0755
Contractor Departure Time: _____

Daily Start Depth: _____ ft.
Daily Finish Depth: _____ ft.

Daily Drill Bit Size(s): _____

Work Completed Summary: _____

ACWD Meter No.: _____ **Beginning Meter Reading:** _____ **End Meter Reading:** _____

Pictures Taken: ☑ YES ☐ NO File Location: _____

Visitors to Job Site: _____

Delays/Accidents: _____

Construction Details

Final Bit Size & Type: _____
Control Casing Size: _____ in.
Conductor Casing Size: _____ in.
Well Casing Diameter: _____ in.
Perforation Slot Size: _____ in.
Sand Info.: _____
_____
Grout Mix: _____
Bottom Plug Info.: _____

Total Borehole Depth: _____ ft.
Control Casing Depth: _____ ft. to _____ ft.
Conductor Casing Depth: _____ ft. to _____ ft.
Completed Well Depth: _____ ft.
Perforation Interval: _____ ft. to _____ ft.
Sand Interval: _____ ft. to _____ ft.
and _____ ft. to _____ ft.
Grout Interval: _____ ft. to _____ ft.
*and** _____ ft. to _____ ft.

*Two grout intervals if bottom of borehole extended beyond completed well depth and was grouted prior to well construction.

Monitoring Well Construction Remarks

2-SF

Inspector: J. Bautista **Permit No.:**

0730 - arrive on site

0755 - Ritcher Drilling (Marcos / Andrew) arrive on site. Sign in

0800 - begin setting up

1000 - Doug Young arrives on site. Delivers the well design.

1045 - Terry Shewchuck arrives on site

1135 - Doug Young leaves site.

1245 - reach 353' clean out of the 2-SF borehole.

1350 - completed thinning out the drilling mud. Setting up 2" well casing for installation (sch. 80)
I check casing on site; 350' total (330' blank + 20' slotted). Centralizers on site.

1355 - begin removing AWJ drilling rods.

1420 - Doug Young arrives on site. Begin installing 2" PVC casing w/ centralizers

1430 - Doug Young leaves site. Centralizers @ ~~345', 320', 305'~~ 350', 325', 300', 275', 250', 225', 200'
175', 150', 125', 100', 75', 50', 25'.

1530 - all well casing is installed with centralizers.

1545 - begin installing 1" PVC tremie pipe.

1545 - clear out the water in the boring, remove tremie pipe from 350'

1700 - begin pouring #3 sand

1740 - bridge of sand in the casing Begin repushing/installing tremie pipe.

1800 - Tremie pipe being used to flush the hole to open the bridge breaks. They are trying to fish it out now.

1930 - able to lower tremie to TD (total depth) now, but still have an obstruction at 20'. Marcos wants to try to send a 2" tremie pipe for sand to the bottom and install gravel pack like that.

1950 - Marcos tells me he doesn't have enough 2" pipe to be able to use as tremie. They will come back on 01-25-22 to continue construction.

Monitoring Well Construction

Inspector: Pablo Cortez
Permit No.: 2021-0292
Job No.: 10097
Well No.: 5S/1W-06H009
Date: 1-25-22
Other Well ID: 2-SF

Job Location:
Contractor: Pitcher Drilling

Major Equipment and Materials On-site

ITEM	MATERIALS RECEIVED TODAY
Drill rig	
Support truck	
Forklift	

Contractor Arrival Time: 7:00
Contractor Departure Time:
Daily Start Depth: ft.
Daily Finish Depth: ft.
Daily Drill Bit Size(s):

Delays/Accidents:

ACWD Meter No.: **Beginning Meter Reading:** **End Meter Reading:**

Pictures Taken: ☐ YES ☐ NO

Visitors to Job Site:

Construction Details

Final Bit Size & Type: 8"
Total Borehole Depth: ~~353~~ 395 ft.
Control Casing Size: in.
Control Casing Depth: ft. to ft.
Conductor Casing Size: in.
Conductor Casing Depth: ft. to ft.
Well Casing Diameter: 2 in.
Completed Well Depth: 350 ft.
Perforation Slot Size: 0.020 in.
Perforation Interval: 320 ft. to 340 ft.
Sand Info.: #3
Sand Interval: 297 ft. to 350 ft.
and ft. to ft.
Grout Mix: Type II/V cement
Grout Interval: 350 ft. to 400 ft.
Bottom Plug Info.:
and* 0 ft. to 297 ft.

*Two grout intervals if bottom of borehole extended beyond completed well depth and was grouted prior to well construction.

Monitoring Well Construction Remarks

Inspector: **Permit No.:**

7:45 Arrived onsite. Pitcher crew is attempting to flush annular space with tremie pipe.

8:43 Blockage cleared. Sand was brought up to 297'. 16 bags total.

9:35 Doug Young arrives. Drops off well construction diagrams for next wells.

9:40 Doug departs.

9:45 Tremie pipe in place. Began grouting.

15:00 Still grouting. 19.5 batches so far.

15:30 Tremie grouted to surface with Type II/V neat cement. Well construction complete.

Monitoring Well Construction

Inspector: J. Bautista
Job No.: 10097
Date: 02.09.2022

Permit No.: 2021-0292
Well No.: 5S/1W-06H009
Other Well ID: 2-SF

Job Location: End of Cedar Ct, NWK
Contractor: Pitcher Services LLC

Major Equipment and Materials On-site

ITEM	MATERIALS RECEIVED TODAY
Smeal Well Development Rig	
Equipment Flat Bed Truck	
Crew Truck, Fork Lift	
Port-a-let, Waste Bins (3)	

Contractor Arrival Time: 730
Contractor Departure Time:
Daily Start Depth: 350 ft.
Daily Finish Depth: ft.
Daily Drill Bit Size(s):

Work Completed Summary:

ACWD Meter No.: **Beginning Meter Reading:** **End Meter Reading:**

Pictures Taken: ☐ YES ☐ NO File Location:
Visitors to Job Site:
Delays/Accidents:

Construction Details

Final Bit Size & Type:
Control Casing Size: in.
Conductor Casing Size: in.
Well Casing Diameter: in.
Perforation Slot Size: in.
Sand Info.:
Grout Mix:
Bottom Plug Info.:

Total Borehole Depth: ft.
Control Casing Depth: ft. to ft.
Conductor Casing Depth: ft. to ft.
Completed Well Depth: ft.
Perforation Interval: ft. to ft.
Sand Interval: ft. to ft.
and ft. to ft.
Grout Interval: ft. to ft.
*and** ft. to ft.

*Two grout intervals if bottom of borehole extended beyond completed well depth and was grouted prior to well construction.

Monitoring Well Construction Remarks

Inspector: J. Bautista **Permit No.:** 2021-0292

0815 – Arrive on site. Pitcher Drilling (Marcos/Phil) and Gregg Drilling (Bernix) on site with a Smeal Well Development Rig. They are mobing equipment into place.

1230 – After setting up airlift on 2-MF, they mobe to 2-SF

1240 – begin bailing 2-SF with an 8' × 1.25" steel bailer.

1350 – they have bailed ~15 gallons and the solution is much thinner. They cease bailing and will air lift the well on 02.10.22

1410 – mobe the Smeal rig back to 2-MF site.

ALAMEDA COUNTY WATER DISTRICT

Monitoring Well Construction

Inspector: J. Bautista
Permit No.: 2021-0292
Job No.: 10097
Well No.: 5S/1W-06H009
Date: 02.10.2022
Other Well ID: 2-SF

Job Location: End of Cedar Ct, NWK
Contractor: Pitcher Services LLC

Major Equipment and Materials On-site

ITEM	MATERIALS RECEIVED TODAY
Smeal Well Development Rig	
Equipment Flat Bed Truck	
Crew Truck, Fork Lift	
Port-a-let, Waste Bins (3)	

Contractor Arrival Time: 730
Contractor Departure Time: 1450
Daily Start Depth: ft.
Daily Finish Depth: ft.
Daily Drill Bit Size(s):

Work Completed Summary: Developed 2-SF, cleaned/organized site.

ACWD Meter No.: **Beginning Meter Reading:** **End Meter Reading:**

Pictures Taken: ☐ YES ☐ NO File Location:
Visitors to Job Site:
Delays/Accidents:

Construction Details

Final Bit Size & Type:
Total Borehole Depth: ft.
Control Casing Size: in.
Control Casing Depth: ft. to ft.
Conductor Casing Size: in.
Conductor Casing Depth: ft. to ft.
Well Casing Diameter: in.
Completed Well Depth: ft.
Perforation Slot Size: in.
Perforation Interval: ft. to ft.
Sand Info.:
Sand Interval: ft. to ft.
and ft. to ft.
Grout Mix:
Grout Interval: ft. to ft.
Bottom Plug Info.:
*and** ft. to ft.

*Two grout intervals if bottom of borehole extended beyond completed well depth and was grouted prior to well construction.

Monitoring Well Construction Remarks

Inspector: J. Bautista **Permit No.:** 2021-0292

0815 - arrive on site. Pitcher Drilling (Phil) and Gregg Drilling (Bernie) are on site with a Sneal Well Development Rig.

0845 - begin setting up over well 2-SF

0910 - begin lowering 1" steel airline into the 2" PVC well casing

0940 - airline lowered to 320'.

1000 - begin airlifting 2-SF

1130 - all requirements met for well development completion.

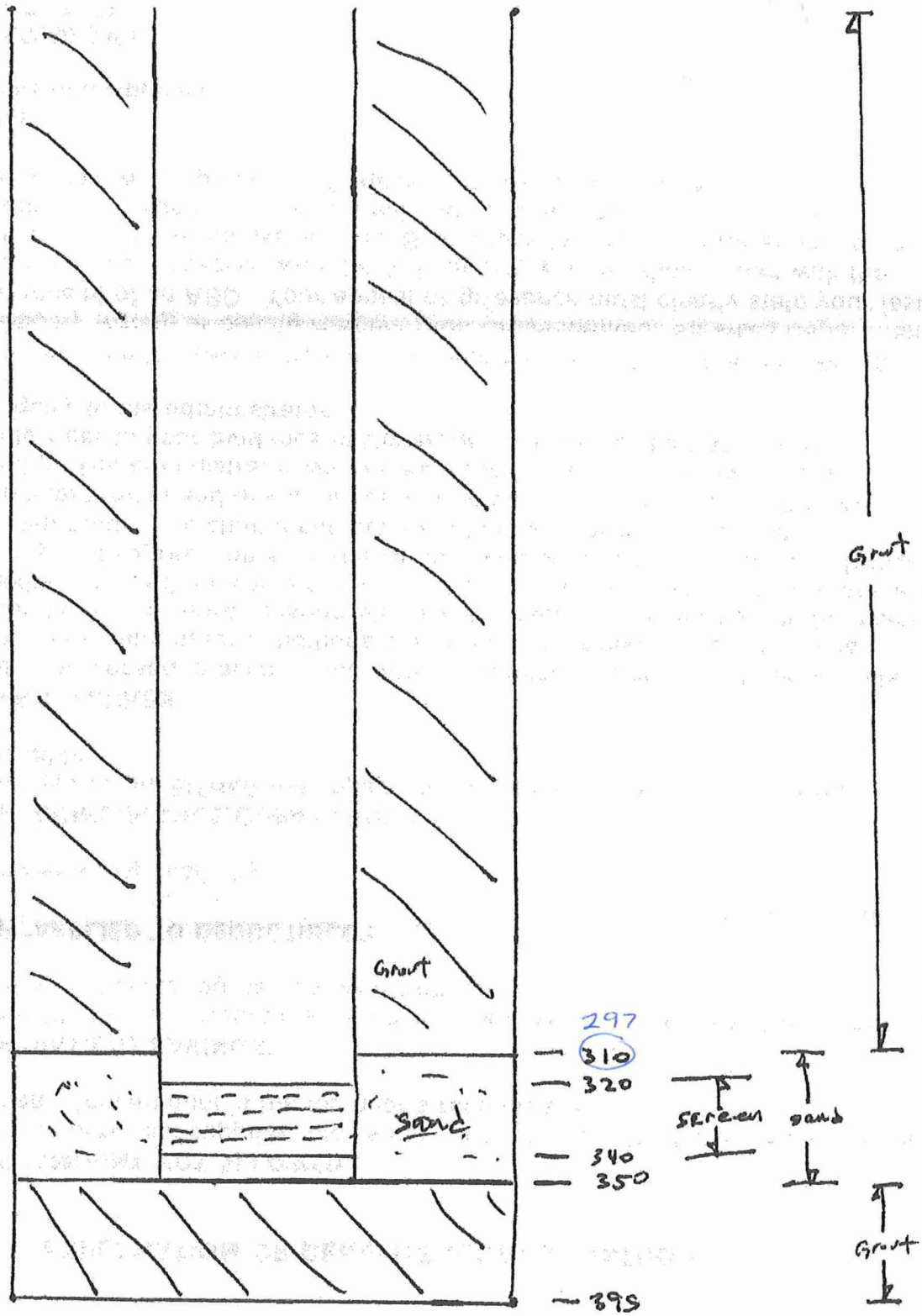
1140 - cease airlift.

1240 - all airlift pipe removed; tower down on Sneal Rig

1450 - Pitcher & Gregg leave site

1500 - I leave site

10097	2-SF	1/21/2022



ALAMEDA COUNTY WATER DISTRICT

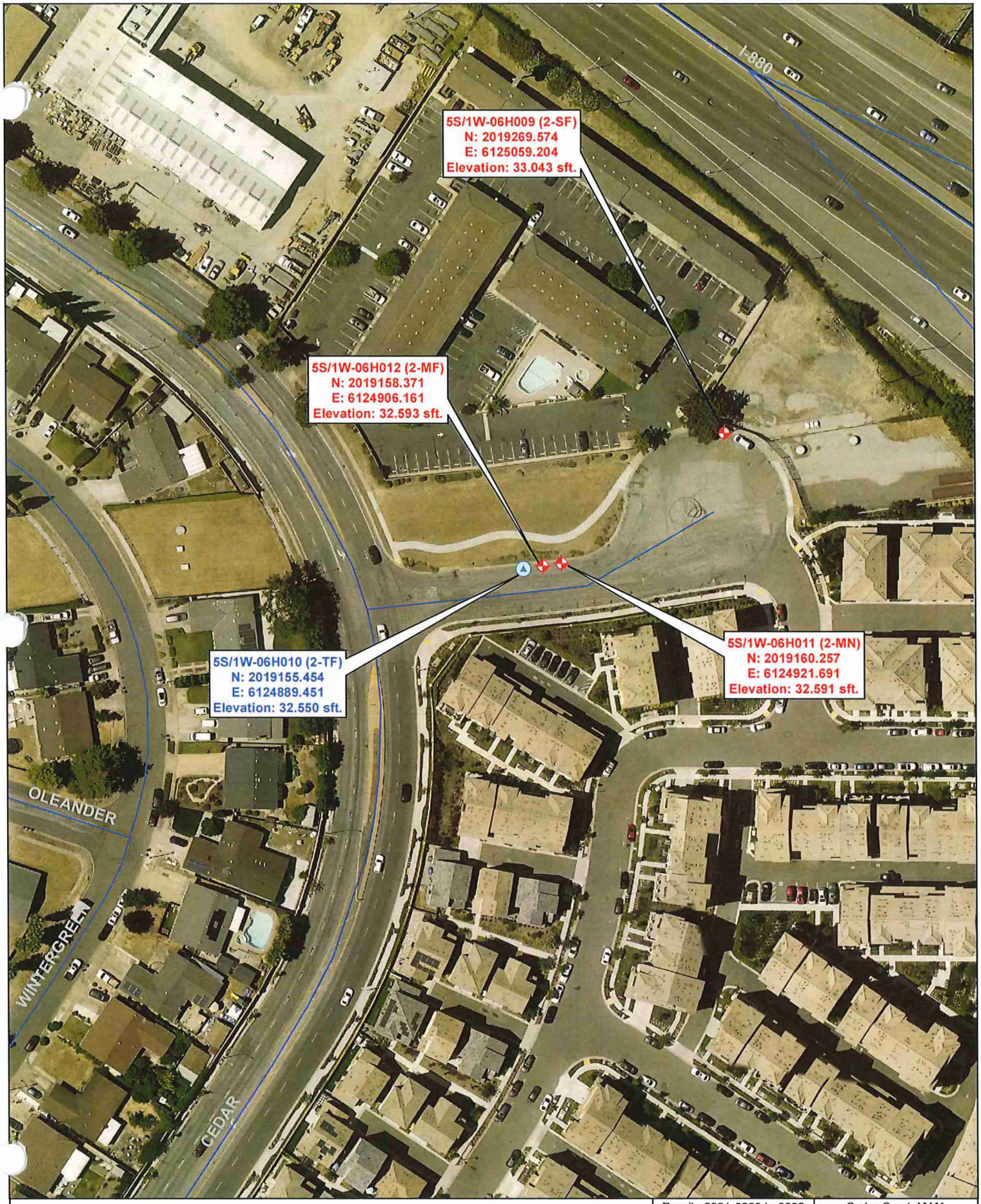
MONITORING WELL SAMPLING RECORD

WELL ID: 5S/1W-06H009 (2-SF)
PROJECT NO: 10097
PROJECT NAME:
DATE: 02.10.22
SAMPLED BY: J. Bautista

DEPTH TO WATER: 36.45'
TOTAL DEPTH OF WELL: 350.55'
WELL DIAMETER: 2"
CASING VOLUME:
METHOD OF PURGING:

TIME	CUMULATIVE VOL. REMOVED (GALLONS)	TEMPERATURE (°C)	pH (UNITS)	SPECIFIC CONDUCTANCE (UMHOS/CM)	REMARKS (COLOR, TURBIDITY & SEDIMENT)
1000	✓	19.3	9.23	1434 uS	Brown/Tan; Turbidity is out of range
1030	3000	~~20.6~~ 20.4	8.05	2326 uS	27.5 NTU; clear
1100	6000	20.6	8.10	2370 uS	17.7 NTU, clear
1130	9000	20.8	8.12	~~33~~ 2374 uS	7.8 NTU, clear
~~1140~~					

NOTES: 1140 - cease airlift



ACWD
ALAMEDA COUNTY WATER DISTRICT

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Well Location Map

Permits 2021-0289 to 0292	Cedar Court, NWK
5S/1W-06H009 to 06H012	1:1200
Monitoring Well	03.10.2022
Water Well	Drawn By: Jeremy Bautista

WELL DATA

STATE WELL NO. 5S/1W-06H009

PERMIT NO. 2021-0292

OWNER: Alameda County Water District	SITE ID:
ADDRESS: 43885 S. Grimmer Blvd, FMT	WELL NAME: 5S/1W-06H009
TENANT:	OWNER NO.: 2-SF
SITE ADDRESS North curve at eastern Cedar Ct, NWK	2-SF
TYPE OF WELL ☐ SPECIAL STUDIES ☐ MONTHLY ☐ SEMI ANNUAL ☐ WATER QUALITY	
LOCATION COUNTY: Alameda County BASIN: Niles Cone	NO.
U.S.G.S. QUAD.	QUAD NO.
1/4 1/4 SECTION TWP. RGE. ☐MD ☐SB ☐H BASE & MERIDIAN	
COORDINATES (NAD83) NORTHING: 2019269.574 EASTING: 6125059.204	SOURCE Trimble R8

DESCRIPTION:

Well is located in a 12" round EMCO Wheaton Christy Box at the north curve at the end of Cedar Ct. just south of the EZ-8 Motel

REFERENCE POINT DESCRIPTION:

Top center of the christy box lid

WHICH IS FT. ABOVE ☐ BELOW ☐ LAND SURFACE DATUM	GROUND ELEVATION FT.
REFERENCE POINT ELEVATION 33.043 FT.	DETERMINED FROM: Top center of the christy box lid
WELL USE: Groundwater Monitoring	CONDITION: new
DEPTH: 353 FT.	
CASING, SIZE 2 IN., PVC	PERFORATIONS: 320-340'
SLOT SIZE: 0.020"	
MEASUREMENTS BY ☐ DWR ☐ USGS ☐ USBR ☐ COUNTY ☐ IRR. DIST. ☐ WATER DIST. ☐ CONS. DIST. ☐ OTHER	
GRAVEL PACK? ☑ YES ☐ NO	DEPTH TO TOP GR. 297'
DEPTH TO BOT GR. 353'	
TYPE OF MATERIAL: #3 Sand	PERM. RATING
THICKNESS	
CHIEF AQUIFER	DEPTH TO TOP AQ.
DEPTH TO BOT. AQ.	
SUPP. AQUIFER	DEPTH TO TOP AQ.
DEPTH TO BOT. AQ.	
DRILLER: Pitcher Serv. (Marcos/Andrew)	DATE DRILLED: 01-25-2022
LOG NUMBER (DWR 188)	
WELL PUMP TYPE	MAKE
MODEL	SERIAL NO.
WATER ANALYSIS MIN.	SAN.
H.M.	
POWER SOURCE	WATER LEVELS AVAILABLE? ☐ YES ☐ NO
H.P.	MOTOR SERIAL NO
PERIOD OF RECORD BEGIN	END
ELEC. METER NO.	TRANSFORMER NO.
COLLECTING AGENCY	
SIZE OF DISCHARGE PIPE	IN.
YIELD G.P.M.	PUMPING LEVEL FT.
PROD. REC.	PUMP TEST
YIELD	

SKETCH



REMARKS

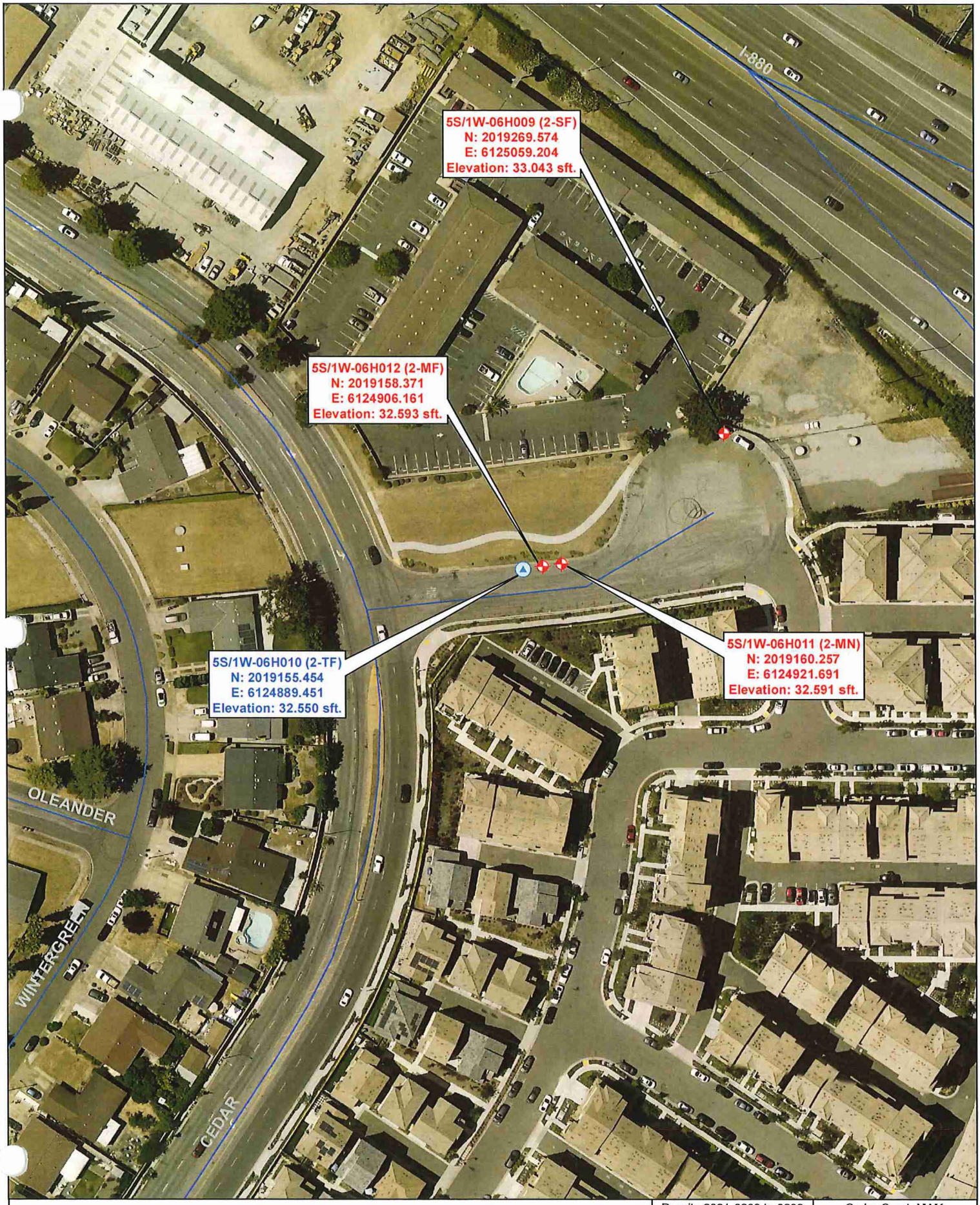
395' total depth of original borehole
8" Diameter Borehole
12" round EMCO Wheaton christy box
353-395' - Type II/V neat cement
0.5-320' – 2" blank Schedule 80 PVC casing
320-340' – 2" slotted Schedule 80 PVC casing (0.020" slots)
340-350' – 2" blank Schedule 80 PVC casing + end cap

PERMIT NO.: 2021-0292

SANITARY SEAL: 1-297' - Type II/V neat cement

RECORDED BY: Jeremy Bautista

DATE: 03-15-2022



ACWD
ALAMEDA COUNTY WATER DISTRICT

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Well Location Map

Permits 2021-0289 to 0292	Cedar Court, NWK
5S/1W-06H009 to 06H012	1:1200
Monitoring Well	03.10.2022
Water Well	Drawn By: Jeremy Bautista

WELL DATA

STATE WELL NO. 5S/1W-06H009

PERMIT NO. 2021-0292

OWNER: Alameda County Water District			SITE ID:
ADDRESS: 43885 S. Grimmer Blvd, FMT			WELL NAME: 5S/1W-06H009
TENANT:			OWNER NO.: 2-SF
SITE ADDRESS North curve at eastern Cedar Ct, NWK			2-SF
TYPE OF WELL ☐ SPECIAL STUDIES	☐ MONTHLY	☐ SEMI ANNUAL	☐ WATER QUALITY
LOCATION COUNTY: Alameda County	BASIN: Niles Cone		NO.
U.S.G.S. QUAD.			QUAD NO.
1/4 1/4 SECTION	TWP.	RGE.	☐MD ☐SB ☐H BASE & MERIDIAN
COORDINATES (NAD83) NORTHING: 2019269.574	EASTING: 6125059.204		SOURCE Trimble R8

DESCRIPTION:

Well is located in a 12" round EMCO Wheaton Christy Box at the north curve at the end of Cedar Ct. just south of the EZ-8 Motel

REFERENCE POINT DESCRIPTION:

Top center of the christy box lid

WHICH IS FT. ABOVE ☐ BELOW ☐	LAND SURFACE DATUM		GROUND ELEVATION FT.
REFERENCE POINT ELEVATION 33.043 FT.	DETERMINED FROM: Top center of the christy box lid		
WELL USE: Groundwater Monitoring	CONDITION: new		DEPTH: 353 FT.
CASING, SIZE 2 IN., PVC	PERFORATIONS: 320-340'		SLOT SIZE: 0.020"
MEASUREMENTS BY ☐ DWR ☐ USGS ☐ USBR ☐ COUNTY ☐ IRR. DIST. ☐ WATER DIST. ☐ CONS. DIST. ☐ OTHER			
GRAVEL PACK? ☑ YES ☐ NO	DEPTH TO TOP GR. 297'		DEPTH TO BOT GR. 353'
TYPE OF MATERIAL: #3 Sand	PERM. RATING		THICKNESS
CHIEF AQUIFER	DEPTH TO TOP AQ.		DEPTH TO BOT. AQ.
SUPP. AQUIFER	DEPTH TO TOP AQ.		DEPTH TO BOT. AQ.
DRILLER: Pitcher Serv. (Marcos/Andrew)	DATE DRILLED: 01-25-2022		LOG NUMBER (DWR 188)
WELL PUMP TYPE	MAKE	MODEL	SERIAL NO.
WATER ANALYSIS MIN.	SAN.		H.M.
POWER SOURCE		WATER LEVELS AVAILABLE? ☐ YES	☐ NO
H.P.	MOTOR SERIAL NO	PERIOD OF RECORD BEGIN	END
ELEC. METER NO.	TRANSFORMER NO.	COLLECTING AGENCY	
SIZE OF DISCHARGE PIPE		IN.	
YIELD G.P.M.	PUMPING LEVEL FT.	PROD. REC.	PUMP TEST / YIELD

SKETCH



REMARKS

395' total depth of original borehole
8" Diameter Borehole
12" round EMCO Wheaton christy box
353-395' - Type II/V neat cement
0.5-320' – 2" blank Schedule 80 PVC casing
320-340' – 2" slotted Schedule 80 PVC casing (0.020" slots)
340-350' – 2" blank Schedule 80 PVC casing + end cap

PERMIT NO.: 2021-0292

SANITARY SEAL: 1-297' - Type II/V neat cement

RECORDED BY: Jeremy Bautista

DATE: 03-15-2022

Site #2

ALAMEDA COUNTY WATER DISTRICT
43885 South Grimmer Blvd. • P.O. Box 5110
Fremont, CA 94537-5110
Permitting & Scheduling (510) 668-4460

APPLICATION FOR DRILLING PERMIT

ACWD ORDINANCE NO. 2010-01
COMPUTER POSTED

Application Received Date: 10/14/21 By: AS
Permit Issued Date: 11/4/21
Permit Expiration Date: 1/4/22
Job No. 10097
Permit No. 2021-0289
Well No. 5S/1W-06H010

JOB ADDRESS:
End of Cedar Court
Cedar Court, Newark

PROPERTY OWNER
NAME: City of Newark
ADDRESS: 37101 Newark Blvd,
Newark, CA 94560
TELEPHONE: (510) 578-4200

CONSULTING ENGINEER
NAME: Alameda County Water District
ADDRESS: 43885 South Grimmer Boulevard
Fremont, CA 94538
TELEPHONE: (510) 68-4452 RG/CEG/RCE NO. PG 5859

DRILLING CONTRACTOR
NAME: Pitcher Services, LLC
ADDRESS: 218 Demeter Street
East Palo Alto, CA 94303
E-MAIL ADDRESS: Terry Shewchuk <tshewchuk@pitcherservicesllc.com>
TELEPHONE: (650)328-8910 STATE LIC. NO. 1044895

When properly signed 2-TF

THIS APPLICATION IS A VALID PERMIT

to perform only work described below at the given job address, in accordance with ACWD Ordinance No. 2010-01 and all other applicable laws and regulations. Discontinuation of work may result in revocation of permit. ***Permittee must schedule the work in advance with ACWD.*** *ACWD's approval of drawings, designs, specifications, work plans, reports or incidental work and materials shall not relieve the permittee of responsibility for the technical adequacy of the work. Except for special circumstances, all work to be inspected must be performed within ACWD work hours – 7:00 a.m. to 4:30 p.m., Monday through Friday.*

PLEASE CHECK TYPE OF PROPOSED WORK
Each well or other excavation requires a separate permit application form unless otherwise indicated.
Only one specific type of work can be checked per permit application.

WELLS	EXPLORATORY HOLES	OTHER EXCAVATIONS
☒ CONSTRUCTION ☐ REPAIR ☐ DESTRUCTION	☐ CONSTRUCT./DESTRUCT.	☐ CONSTRUCTION ☐ REPAIR ☐ DESTRUCTION
☐ Water Well	*Multiple exploratory holes of the same type may be grouped together on the same permit application form.*	☐ Cathodic Protection Well ☐ Inclinometer
Monitoring Well:		☐ Vibrating Wire Piezometer ☐ Elevator Shaft
☒ Chemical Investigation	☐ Chemical Investigation	*Multiple other excavations of the same type may be grouped together on the same permit application form for the following:*
☐ Injection Well (for Chemical Cleanup)	☐ Injection Boreholes	☐ Cleanup Site Excavation(s) ☐ Wick Drains
☒ Geotechnical Investigation	☐ Soil Vapor Sampling	☐ Shaft, Tunnel, or Directional Borehole (s) ☐ Support Piers, Piles, or Caissons
☐ Geothermal Heat Exchange Well	☐ Geotechnical Investigation	
☐ Dewatering Well *(Multiple dewatering wells may be grouped together on the same permit application form)*		
Quantity: _____	Quantity: _____	☐ Other: _____ Quantity: _____

DESCRIPTION OF PROPOSED WORK:
Installation of 6" diameter test well
Well Name Cedar Court 2-TF

TOTAL ESTIMATED COST
$_____

PERMIT CONDITIONS:
Monitoring Well Construction to comply with current ACWD Standards

FEES: ☐ Private ☐ City ☒ Governmental Agency
GUARANTEE OF PERFORMANCE: ☐ Cash Deposit ☐ Bond
REFUND: Amount $ _____ Reason: _____

FEES/ DEPOSIT: Date Received _____ Estimated Amount $ —
Check No. _____ Actual Amount $ _____
Cash _____ Difference $ —

ACWD SITE NO. 6
APPROVED FOR SCHEDULING BY: _____ DATE: 12/9/2021
APPROVED BY: _____ DATE: 12/9/2021

I hereby agree to comply with all conditions of this permit in accordance with ACWD Ordinance No. 2010-01 and to furnish the District a completed copy of D.W.R. Drillers Report (form 188) within sixty (60) days after completion as well as any chemical testing results within thirty (30) days after completion.

Title: Associate Hydrogeologist Signature: _____ Date: 10/12/2021

Representing: Alameda County Water District Name (printed): Douglas Young

ACWD #458 11-12

ALAMEDA COUNTY WATER DISTRICT

43885 South Grimmer Blvd., P.O. Box 5110, Fremont, CA 94537 Tel. No. (510) 668-4460 Fax No. (510) 651-1760

SITE HAZARD INFORMATION

Please provide the following information for the site

Owner's Name: Alameda County Water District

Site Address: 43885 South Grimmer Bounevard

Fremont, CA 94538

Consultant on Site: Douglas Young Phone No. (510) 668-4452

Site Safety Officer: Douglas Young Phone No. (510) 668-4452

Type of Facility: City Right-of-Way

Anticipated Hazardous Substances - (Attach Additional Sheets if Necessary)
(Please include concentrations below. Note if free product historically on site)

Name	Expected Concentrations (ppm) (List medium – i.e. soil, water, air)	PEL (ppm)	Health Effects
☐ Gasoline			
☐ Diesel			
☐ Waste Oil			
None Expected			

District Use Only

Checked Against Reported Contaminants

12/9/2021

Site Safety Meeting Date: Time:

Level of Personal Protection Equipment ☐A ☐B ☐C ☑D

Personal Protective Equipment:
R = Required A = As Needed, with description of action concentrations)

R	A		R	A	
☑	☐	Hard Hat	☐	☐	Clothing (Type):
☑	☐	Safety Shoes	☐	☐	Respirator (Type):
☑	☐	Orange Traffic Vest	☐	☐	Cartridge (Type):
☐	☑	Hearing Protection	☐	☐	Gloves (Type):
☑	☐	Safety Eyewear	☐	☐	Other:

Site Hazard Information Provided By: Douglas Young Phone: (510) 668-4452
Print

ACWD / Associate Hydrogeologist Date: 10/12/21
Company name & title Signature

ACWD #173 (Revised 10/15/03)

GREGG DRILLING, LLC

Project Field Bill Todays Date: 1/18/22

950 Howe Road, Martinez, CA 94553
Ph: (925) 313-5800 www.greggdrilling.com

COMPANY NAME	ACWD
SITE NAME	ACWD
ADDRESS	5555 Cedar Ct. Newark , Ca.945
CROSS STREET	Cedar BLVD Newark ca
CITY	Newark
PROJECT MANAGEI	John C

GDT JOB NUMBER	D2212120
JOB START DATE	1/18/2022
JOB END DATE	1/24/2022
START TIME	0700
EQUIPMENT	D88 , Barco1 ,S179 , MR1
DRILLER/STAFF	John C
HELPER	Armando T and Peter

ITEM	UNITS	QUANTITY
RIG NO./TYPE	HOUR	7
MOB-DEMOB-TRAVEL/SERVICE RUN	HOUR	
PER DIEM	MAN/NGT	3 / 1
PREMIUM TIME	MAN/HR	
ADDITIONAL TECHNICIAN	HOUR	
STANDBY/MOVE TIME	HOUR	
STEAM CLEANING AT YARD	DAY	
GROUT PUMP/STEAM CLEANER	DAY	
MUD SYSTEM	DAY	1
FORKLIFT/BOBCAT/LOADER	DAY	1
WATER TRUCK TENDER	DAY	1
SERVICE TRUCK	DAY	1
LIFTGATE TRUCK	DAY	
CONST./HAND AUGER CREW (2 men)	HOUR	
CONCRETE CORING DIA.	EACH	
P.P.E. UPGRADE TIME	HOUR	

ORING #	DEPTH	INTERVAL/TYPE OF SAMPLING	SIZE OF WELL
100/1000	Ø	Key got pulled	out of P day
10:00/12:00	Trip	in tools & start	circulate
down	0/20'	get water	
1200/12:30	Lunch		
12:30/4:15		Ream 20/140	
4:15/5:00		Circulate & pull tools 5:00-5:30 secure & travel	

Time Leave Yard: 6:00 Time Arrive Site: 7:00

Time Return Yard: Mold 5:30 Time Leave Site: 5:15

Lunch Start: 12:00 - 1 Lunch Finish: 12:30

SUBCONTRACTOR - ADDITIONAL EQUIPMENT:

EQUIPMENT DAMAGE:

Had Safety Meeting 5:30/6:00

ITEMS	UNITS	QUANTITY
SEISMIC CPT (Interval Test)	TEST	
UVOST RENTAL	DAY	
BACKFILL TEST LOCATIONS	FOOT	
BENTONITE CHIPS	BAG	
BENTONITE PELLETS	PAIL	
BENTONITE DRILL MUD	BAG	10
BENTONITE GROUT	BAG	
FILTER SAND	BAG	
ASPHALT PATCH	BAG	
READY-MIX CONCRETE	BAG	
PORTLAND CEMENT/QUICK SET	BAG	
WOOD PLUGS	EACH	
DISPOSABLE BAILERS	EACH	
PVC CASING 3/4" 2" 4" OTHER	FOOT	
PVC SCREEN 3/4" 2" 4" OTHER	FOOT	
THREADED FITTINGS 3/4" 2" 4" OTHER	EACH	
SLIP FITTINGS 3/4" 2" 4" OTHER	EACH	
LOCKING CAPS 2" 4" OTHER	EACH	
MONITORING WELL BOX (WATERTIGHT)	EACH	
ANODIZED STAND PIPE / BOLLARDS	EACH	
GROUNDWATER SAMPLE CONSUMABLES	EACH	
1/4", 1/2" TUBING	FOOT	
DISPOSABLE TIPS	EACH	
SAMPLE RINGS & CAPS	EACH	
55-GALLON DRUM	EACH	
OTHER		

Section 13751 through 13754 of the California Water Code requires that a report be filed for every groundwater well installation or abandonment. If the client does not elect to submit this report, Gregg Drilling, LLC will complete the appropriate paperwork for a $20 fee per well.

Client to complete ☐ GD to complete ☐

The named parties are hereby notified that if charges for above labor, services, equipment or materials furnished or to be furnished are not paid for in full, the improved property referred to above may be subject to mechanics lien (per Section 1181, et. seq. to the California Code of Civil Procedure) and construction funds are subject to "Stop notice" action (per Section 1190.1, California Code of Civil Procedure).

TERMS: NET 30 days. 1.5% per month finance charge on accounts 30 days past due. The undersigned accepts the terms as stated above for services rendered.

WE CAN ASSUME NO RESPONSIBILITY FOR DAMAGE OF UNDERGROUND UTILITIES. In the event of adverse and/or hazardous drilling conditions, client will be informed if rate changes and/or responsibility for replacement of lost of damaged equipment. Minimum call $1200. Also applicable to cancellations within 24 hrs. of scheduled start.

USA Clearance No._____

Project Name: _____ P.O./Task #_____

Signature of Field Representative [signature]

Printed Name_____ Date_____

Monitoring Well Construction

Inspector: Andrés Aguayo
Permit No.: 2021-0289
Job No.: 10097
Well No.: 5S/1W-06H010
Date: 01-07-2022
Other Well ID: 2-TF

Job Location: End of Cedar Ct, Newark, CA
Contractor: Pitcher Services, LLC

Major Equipment and Materials On-site

ITEM	MATERIALS RECEIVED TODAY
Drill Rig, Water Truck, Support truck, Forklift	2x Waste Bins + 1x Waste bin
Mixer, Portable Restroom, Perimeter Fencing	

Contractor Arrival Time: 07:00
Contractor Departure Time: 1700
Daily Start Depth: 10 ft.
Daily Finish Depth: 245 ft.
Daily Drill Bit Size(s):

Delays/Accidents: Mixer not working.

ACWD Meter No.: **Beginning Meter Reading:** **End Meter Reading:**

Pictures Taken: ☑ YES ☐ NO
Visitors to Job Site: Ava Lazor

Construction Details

Final Bit Size & Type:
Total Borehole Depth: ft.
Control Casing Size: in.
Control Casing Depth: ft. to ft.
Conductor Casing Size: in.
Conductor Casing Depth: ft. to ft.
Well Casing Diameter: in.
Completed Well Depth: ft.
Perforation Slot Size: in.
Perforation Interval: ft. to ft.
Sand Info.:
Sand Interval: ft. to ft.
and ft. to ft.
Grout Mix:
Grout Interval: ft. to ft.
Bottom Plug Info.:
*and** ft. to ft.

*Two grout intervals if bottom of borehole extended beyond completed well depth and was grouted prior to well construction.

Monitoring Well Construction Remarks

Inspector: Andres Aguayo **Permit No.:** 2021-0289

0745 - Arrived on site. GREGG (Francisco, Jarred & Robert) also on site. They are currently 10' deep, per Doug, the will drill slowly to 20' to prevent damage to other utilities.

0800 - Currently crew is having mechanical problems with the mixer and are trying to resolve it. Ponder Environmental arrived to drop off 2x Waste Bins. Ava Lazor arrived on site to log, advised Ava drilling has not started due to mixer not working. Ava Lazor left site @ 08:10

0830 - Ponder Environmental left, but will be back with 1x more waste bin.

1030 - Mixer has been fixed, crew is adjusting other components and estimate they will begin drilling @ 11:30

1130 - Crew has finished fixing and adjusting mixer components and are going to begin drilling slowly AVA LAZOR arrives on site to log.

1145 - Crew slowly drills to 20 feet bgs, Ava confirms the cuttings are ~~AA~~ AL native material (no longer fill) & indicates it's OK to drill @ normal pace.

1213 - New length of control casing installed - 20 ft.

1306 - Crew from Site 3 drop by to deliver key to well ~~bolt~~ expansion plug

1310 - AVA LEFT SITE

1530 - AVA ARRIVED ON SITE TO LOG

1550 - Currently @ 245'. Crew are having mud pump problems, they've decided to stop drilling and are pulling out drill pipes.

16:20 - Crew started cleaning up and setting up perimeter fencing

1630 - Ava finishes logging

1640 - Crew and Ava stay on site / AA left site.

Monitoring Well Construction

Inspector: Brianna Thomas
Permit No.: 2021-~~0348~~ ~~0349~~ 0289

Job No.: 10097
Well No.: 5S/2W-01B0~~1~~2 10

Date: 1/10/2022
Other Well ID: ~~1-TF~~ 2-TF

Job Location: End of ~~Civic Terrace Avenue~~ Cedar Ct, Newark

Contractor: Pitcher Services LLC

Major Equipment and Materials On-site

ITEM	MATERIALS RECEIVED TODAY
Drill Rig	
Support Truck	
Waste bins	
fork lift	

Contractor Arrival Time: _____ Contractor Departure Time: _____

Daily Start Depth: _____ ft. Daily Finish Depth: _____ ft.

Daily Drill Bit Size(s): _____

Work Completed Summary: _____

ACWD Meter No.: _____ **Beginning Meter Reading:** _____ **End Meter Reading:** _____

Pictures Taken: ☐ YES ☐ NO File Location: _____

Visitors to Job Site: _____

Delays/Accidents: _____

Construction Details

Final Bit Size & Type: _____ Total Borehole Depth: _____ ft.

Control Casing Size: _____ in. Control Casing Depth: _____ ft. to _____ ft.

Conductor Casing Size: _____ in. Conductor Casing Depth: _____ ft. to _____ ft.

Well Casing Diameter: _____ in. Completed Well Depth: _____ ft.

Perforation Slot Size: _____ in. Perforation Interval: _____ ft. to _____ ft.

Sand Info.: _____ Sand Interval: _____ ft. to _____ ft.

_____ *and* _____ ft. to _____ ft.

Grout Mix: _____ Grout Interval: _____ ft. to _____ ft.

Bottom Plug Info.: _____ *and** _____ ft. to _____ ft.

*Two grout intervals if bottom of borehole extended beyond completed well depth and was grouted prior to well construction.

Monitoring Well Construction Remarks

0289
~~0348~~

Inspector: Brianna Thomas **Permit No.:** 2021-~~0348~~

0750 - Arrive onsite, Gregg Drilling onsite (Francisco/Jarrod/Robert). They are getting ready to begin drilling.
0812 - Crew is fixing a seal on their pump
0930 - Issue with pump resolved, begin drilling
1115 - Boring flushed out to 245', will begin sampling now for logging purposes, drive sample needed at about 250-260'
1200 - Hit clay at 258', Francisco will take a drive sample at 260'
1256 - Crew had to tower down rig to fix winch lines, preparing to take drive sample now
1343 - Drillers break for lunch
1455 - Doug Young arrives onsite, Drive sample was just collected, sample fell out of sampler as it was being pulled up - no recovery.
1510 - Terry from Pitcher Services arrives onsite, he contacts someone to bring out a catcher for sampler.
1556 - Drillers attempting to collect drive sample again. Doug leaves site
1612 - Doug arrives back onsite, Drillers are pushing drive sample
1644 - Drive sample collected, crew cleaning up.
Borehole protected and secured, left site

Monitoring Well Construction

Inspector: Brianna Thomas
Permit No.: 2021-~~0348~~ 0289
Job No.: 10097
Well No.: 5S/2W-01B0~~1~~210
Date: 1/11/2022
Other Well ID: ~~1-TF~~ 2-TF
Job Location: End of ~~Civic Terrace Avenue~~, Cedar Court, Newark
Contractor: Pitcher Services LLC / Gregg Drilling

Major Equipment and Materials On-site

ITEM	MATERIALS RECEIVED TODAY
Drill Rig	
Support Truck	
Waste bins	
Fork Lift	

Contractor Arrival Time: 0700
Contractor Departure Time: 1700
Daily Start Depth: 200 ft.
Daily Finish Depth: 380 ft.
Daily Drill Bit Size(s): 14" to 9 5/8"

Work Completed Summary: Collected bulk sample from 335-340', drilled and logged to 380'.

ACWD Meter No.: _____ **Beginning Meter Reading:** _____ **End Meter Reading:** _____

Pictures Taken: ☐ YES ☐ NO File Location: _____

Visitors to Job Site: _____

Delays/Accidents: _____

Construction Details

Final Bit Size & Type: _____
Total Borehole Depth: _____ ft.

Control Casing Size: _____ in.
Control Casing Depth: _____ ft. to _____ ft.

Conductor Casing Size: _____ in.
Conductor Casing Depth: _____ ft. to _____ ft.

Well Casing Diameter: _____ in.
Completed Well Depth: _____ ft.

Perforation Slot Size: _____ in.
Perforation Interval: _____ ft. to _____ ft.

Sand Info.: _____
Sand Interval: _____ ft. to _____ ft.

_____
and _____ ft. to _____ ft.

Grout Mix: _____
Grout Interval: _____ ft. to _____ ft.

Bottom Plug Info.: _____
*and** _____ ft. to _____ ft.

*Two grout intervals if bottom of borehole extended beyond completed well depth and was grouted prior to well construction.

Monitoring Well Construction Remarks

Inspector: Brianna Thomas **Permit No.:** 2021-0348

0750- Arrive onsite, Gregg Drilling (Francisco/Robert) onsite. They will begin drilling to flush out boring back down to 260' and continue drilling to 400', a drive sample will be taken at ~350' and a bulk sample will be collected from 300 - 350'.

0845 - Drillers lost circulation of drilling fluid, working to correct issue.

1016- Circulation issue fixed, resume drilling

1221 - Hit gravels at 340', begin collecting bulk sample

1225 - Drillers taking lunch break

1400 - Driller (Francisco) informed me the wires for his fan to cool pump melted and rig is over heating, he is trying to assess problem now to give me an idea of when drilling can resume - we are currently at 370'

1520 - Jeremy Bautista arrives onsite to take over inspection. Doug Young arrives on site

1530 - Brianna Thomas leaves site

1535 - Ara Lazor leaves site

1550 - Doug Young leaves site. Gregg gets the shaker operating again.

1610 - begin pulling up drill pipe after reaching 390'

1630- pulled out 120' of drill pipe and left 240' in the hole w/ 20' in the air

1635 - left site

Monitoring Well Construction

Inspector: Brianna Thomas
Permit No.: 2021-0348 0289
Job No.: 10097
Well No.: 5S/2W-01B0~~1~~210
Date: 1/12/22
Other Well ID: ~~1-TF~~ 2-TF
Job Location: End of ~~Civic Terrace Avenue,~~ Cedar Court Newark
Contractor: Pitcher Services LLC

Major Equipment and Materials On-site

ITEM	MATERIALS RECEIVED TODAY
Drill Rig	
Support Truck	
Waste bins	
~~forklift~~	

Contractor Arrival Time: 0700
Contractor Departure Time: 1630
Daily Start Depth: 380 ft.
Daily Finish Depth: 400 ft.
Daily Drill Bit Size(s): 9 5/8"

Work Completed Summary: Collect drive sample at 380', drill to 400', E-log borehole

ACWD Meter No.: _____ **Beginning Meter Reading:** _____ **End Meter Reading:** _____

Pictures Taken: ☐ YES ☐ NO File Location: _____

Visitors to Job Site: _____

Delays/Accidents: _____

Construction Details

Final Bit Size & Type: _____
Total Borehole Depth: _____ ft.
Control Casing Size: _____ in.
Control Casing Depth: _____ ft. to _____ ft.
Conductor Casing Size: _____ in.
Conductor Casing Depth: _____ ft. to _____ ft.
Well Casing Diameter: _____ in.
Completed Well Depth: _____ ft.
Perforation Slot Size: _____ in.
Perforation Interval: _____ ft. to _____ ft.
Sand Info.: _____
Sand Interval: _____ ft. to _____ ft.
and _____ ft. to _____ ft.
Grout Mix: _____
Grout Interval: _____ ft. to _____ ft.
Bottom Plug Info.: _____
*and** _____ ft. to _____ ft.

*Two grout intervals if bottom of borehole extended beyond completed well depth and was grouted prior to well construction.

Monitoring Well Construction Remarks

Inspector: Brianna Thomas Permit No.: 2021-~~0348~~ 0289

0745 - Arrive onsite, Greggs Drilling (Francisco/Robert) onsite. Doug Young would like a drive sample at 380', I informed Francisco. They will take sample once borehole has been flushed out to 380'.
0936 - Begin lowering sampler into borehole equipped with catcher
1105 - Drive sample collected and capped for Doug Young
1222 - Total depth of 400' reached, borehole will be E-logged at 1300 today
1245 - Doug Young arrives onsite
1300 - Ava Lazor arrives onsite, E-log company arrives onsite
1347 E-Log complete, E-logger leaves site
1430 - Ava Lazor and Doug Young leave site. Borehole will be grouted to 360'
1447 - Drillers setting tremie pipe in borehole, down to 400'.
1500 - Mixing type II neat cement.
1535 - Bottom of borehole has been tremie grouted, two drums of grout were used.
1610 - Borehole secured and protected, left site.

ACWD
ALAMEDA COUNTY WATER DISTRICT

Monitoring Well Construction

Inspector: Andres Aguayo
Permit No.: 2021-0289
Job No.: 10097
Well No.: 5S/1W-06H010
Date: 1-18-2022
Other Well ID: 2-TF

Job Location: End of Cedar Ct
Contractor: Pitcher Drilling (Gregg)

Major Equipment and Materials On-site

ITEM	MATERIALS RECEIVED TODAY
Drill Rig	
Forklift	
Water Truck	
Support Truck	

Contractor Arrival Time: 0730
Contractor Departure Time: 1700
Daily Start Depth: 0' ft.
Daily Finish Depth: 140' ft.
Daily Drill Bit Size(s): ~~8"~~ 14 3/4"

Delays/Accidents: Missing drill rig keys

ACWD Meter No.: _____ **Beginning Meter Reading:** _____ **End Meter Reading:** _____

Pictures Taken: ☑ YES ☐ NO
Visitors to Job Site: Doug Young

Construction Details

Final Bit Size & Type: _____
Total Borehole Depth: _____ ft.
Control Casing Size: _____ in.
Control Casing Depth: _____ ft. to _____ ft.
Conductor Casing Size: _____ in.
Conductor Casing Depth: _____ ft. to _____ ft.
Well Casing Diameter: _____ in.
Completed Well Depth: _____ ft.
Perforation Slot Size: _____ in.
Perforation Interval: _____ ft. to _____ ft.
Sand Info.: _____
Sand Interval: _____ ft. to _____ ft.
and _____ ft. to _____ ft.
Grout Mix: _____
Grout Interval: _____ ft. to _____ ft.
Bottom Plug Info.: _____
*and** _____ ft. to _____ ft.

*Two grout intervals if bottom of borehole extended beyond completed well depth and was grouted prior to well construction.

Monitoring Well Construction Remarks

(2-TF)

Inspector: Andres Aguayo **Permit No.:** 2021-0289

0745 - Arrive on site. Gregg (John/Armando/Peter) already on site. They are attempting to locate the keys for the drill rig. Armando left site to get keys. John and Peter stayed setting up work area. - Handed 2-TF Well Diagram to John.

0950 - Crew is still awaiting for Armando to come back with keys for rig.

1000 - Armando returns with keys. Crew start setting up to begin reaming

1105 - Crew is breaking for lunch.

1150 - Crew resumed reaming

1205- Ahern Rental picking up small forklift used by Gregg, they will now be sharing 1x Forklift w/Pitcher Services.

1555 - Advised John that I can be here on site until 1640. They are currently @ 140' with 14 3/4" reaming.

1630 - Crew begins to remove rods.

1655 - Borehole secured left site

PERMIT NO. _____ WELL NO. 55/1W-06H010 2-TF

INSPECTOR	DATE	TIME	REMARKS
D. Thomas	11/9/22	0734	Arrive onsite, Gregg Drilling (John Armandol/Peter) onsite. Borehole was reamed out with 14 3/4" bit to 148', they will continue reaming to total depth of 355' today.
		0938	Currently at 160'
		1245	Jeremy Bautista arrives onsite to cover my lunch break
		1250	Brianna Thomas leaves site
		1310	Currently @ 260' according to John
		1325	Brianna Thomas returns to site
		1340	Jeremy Bautista leaves site
		1510	Currently at 340'
		1600	Reached 355', Diller will start pulling rods. Well casing will be set tomorrow.
		1725	Borehole has been secured and protected

NUMBER OF EXPLORATORY HOLES _____

WORK COMPLETED _____ (DATE) OR PERMIT VOIDED _____ (DATE)

COPY OF PERMIT TO _____ (REVIEWING INDIVIDUAL) ON _____ (DATE) BY _____ (INITIALS)

ALAMEDA COUNTY WATER DISTRICT

Monitoring Well Construction

Inspector: Brianna Thomas
Permit No.:
Job No.: 10097
Well No.: 2-TF
Date: 1/20/22
Other Well ID:

Job Location: End of Cedar Ct, Newark
Contractor: Gregg Drilling

Major Equipment and Materials On-site

ITEM	MATERIALS RECEIVED TODAY
Drill Rig	Steel casing
Support Truck	
Waste bins	
Fork lift	

Contractor Arrival Time: 0710
Contractor Departure Time:
Daily Start Depth: 355 ft.
Daily Finish Depth: ft.
Daily Drill Bit Size(s): 14 3/4"

Delays/Accidents:

ACWD Meter No.: **Beginning Meter Reading:** **End Meter Reading:**

Pictures Taken: ☐ YES ☐ NO

Visitors to Job Site:

Construction Details

Final Bit Size & Type:
Control Casing Size: in.
Conductor Casing Size: in.
Well Casing Diameter: in.
Perforation Slot Size: in.
Sand Info.:
Grout Mix:
Bottom Plug Info.:

Total Borehole Depth: ft.
Control Casing Depth: ft. to ft.
Conductor Casing Depth: ft. to ft.
Completed Well Depth: ft.
Perforation Interval: ft. to ft.
Sand Interval: ft. to ft.
and ft. to ft.
Grout Interval: ft. to ft.
*and** ft. to ft.

*Two grout intervals if bottom of borehole extended beyond completed well depth and was grouted prior to well construction.

2-TF

Monitoring Well Construction Remarks

Inspector: Brianna Thomas **Permit No.:** 2021-0289

0735 - Arrive onsite, Gregg Drilling onsite (John/Armando/Peter) They will begin by flushing out hole to 355' and then start loading steel casing. Casing was delivered to the site this morning.

1047 - Currently at 330' - flushing out borehole.

1104 - Reached 355', crew will flush for 30 minutes to clean out borehole thoroughly

1146 - Pitcher arrives onsite to deliver the remaing steel casing for 2-TF.

1215 - Begin pulling rods

1336 - Begin placing tremie pipe in borehole, Ava Lazor arrived onsite at 1310.

1420 - Begin welding well casing

Well construction Details

8" Steel casing, blank 0-320', screens 320-340', blank 340-350'

0-300' grout

300-310' bentonite

310-355' sand pack

Flush mount round EMCO well box

Centralizers above, below and middle of screen, and every ~30' from 0-300'

1645 - Andres Aguayo arrives onsite to take over inspection

1800 - Completed loading well casing. Per John there is a 3'9" stick-up. Also, he advises he has left over centralizers. Installed centralizers ~30'/40'.

1805 - Left Site/Borehole is secured.

Monitoring Well Construction

Inspector: Pablo Cortez **Permit No.:** _____

Job No.: _____ **Well No.:** _____

Date: 1-21-22 **Other Well ID:** _____

Job Location: _____

Contractor: Gregg Drilling

Major Equipment and Materials On-site

ITEM	MATERIALS RECEIVED TODAY

Contractor Arrival Time: _____ Contractor Departure Time: _____

Daily Start Depth: _____ ft. Daily Finish Depth: _____ ft.

Daily Drill Bit Size(s): _____

Delays/Accidents: _____

_____

ACWD Meter No.: _____ **Beginning Meter Reading:** _____ **End Meter Reading:** _____

Pictures Taken: ☐ YES ☐ NO

Visitors to Job Site: _____

_____

Construction Details

Final Bit Size & Type: _____ Total Borehole Depth: _____ ft.

Control Casing Size: _____ in. Control Casing Depth: _____ ft. to _____ ft.

Conductor Casing Size: _____ in. Conductor Casing Depth: _____ ft. to _____ ft.

Well Casing Diameter: _____ in. Completed Well Depth: _____ ft.

Perforation Slot Size: _____ in. Perforation Interval: _____ ft. to _____ ft.

Sand Info.: _____ Sand Interval: _____ ft. to _____ ft.

_____ *and* _____ ft. to _____ ft.

Grout Mix: _____ Grout Interval: _____ ft. to _____ ft.

Bottom Plug Info.: _____ *and** _____ ft. to _____ ft.

*Two grout intervals if bottom of borehole extended beyond completed well depth and was grouted prior to well construction.

Monitoring Well Construction Remarks

Inspector: **Permit No.:**

8:10 Arrived onsite. Gregg Drilling crew onsite. Well casing has been installed. Plan for today is to sand and grout. Crew is waiting on a vacume truck.

11:23 Sanding is underway.

11:54 Sand is at 311' (#3 sand). Swabbing the well. 67 bags of sand used.

13:15 Bentonite chips placed in hole. Bentonite [299' - 310'] #3 sand [310' - 355'].

* Note: An unidentified man from the adjacent motel was harassing District staff yesterday. The same man was seen photographing the drilling equipment this morning and this afternoon. Onsite security staff is aware of the issue.

15:41 Tremie pipe in place. Awaiting cement truck.

16:14 Cement truck (Milpitas Materials) arrives. Verified 11-sack sand slurry on cement tag.

17:15 First cement truck ran out of cement. A second one (already onsite) moves in to continue grouting.

18:19 Tremie grouted to surface.

19:30 Hole secured. Departed site.

ALAMEDA COUNTY WATER DISTRICT

Monitoring Well Construction

Inspector: J. Bautista | **Permit No.:** 2021-0286

Job No.: 10097 | **Well No.:** ~~4S/1W-32N003~~

Date: 01.24.22 | **Other Well ID:** ~~3-MN~~ 2TF

Job Location: Intersection of Blacow Rd and Brophy Dr

Contractor: Pitcher Services LLC

Major Equipment and Materials On-site

ITEM	MATERIALS RECEIVED TODAY
GEFCO 40k Mud Rotary Drill Rig	
Water/Tooling truck	
Fork Lift & Crew Truck	
Portapotty	

Contractor Arrival Time: ~~0830~~ 0750 | Contractor Departure Time: 1355

Daily Start Depth: 350 ft. | Daily Finish Depth: 350 ft.

Daily Drill Bit Size(s):

Work Completed Summary: Topped off the well seal from 7' below grade

ACWD Meter No.: | **Beginning Meter Reading:** | **End Meter Reading:**

Pictures Taken: ☑ YES ☐ NO File Location:

Visitors to Job Site: Doug Young

Delays/Accidents:

Construction Details

Final Bit Size & Type:

Total Borehole Depth: ft.

Control Casing Size: in. | Control Casing Depth: ft. to ft.

Conductor Casing Size: in. | Conductor Casing Depth: ft. to ft.

Well Casing Diameter: in. | Completed Well Depth: ft.

Perforation Slot Size: in. | Perforation Interval: ft. to ft.

Sand Info.: | Sand Interval: ft. to ft.

and ft. to ft.

Grout Mix: | Grout Interval: ft. to ft.

Bottom Plug Info.: | *and** ft. to ft.

*Two grout intervals if bottom of borehole extended beyond completed well depth and was grouted prior to well construction.

Monitoring Well Construction Remarks

2-TF

Inspector: J. Bautista **Permit No.:**

0730 - arrive on site

0750 - Gregg Drilling (Francisco / Robert / Jarred) arrive on site. Sign in.

0800 - begin dismantling fence

1045 - rig lowers down and moves off the well. Begin cleaning up site.

1115 - grout is ~7' below grade. Terry Shewchuck is on site and tells me they'll bring it to surface.

1155 - begin mixing Type I/II neat cement.

1245 - 2-TF has been grouted to surface.

1345 - cleaned up site around the well and erected a triagle shaped cyclone-fence around it.

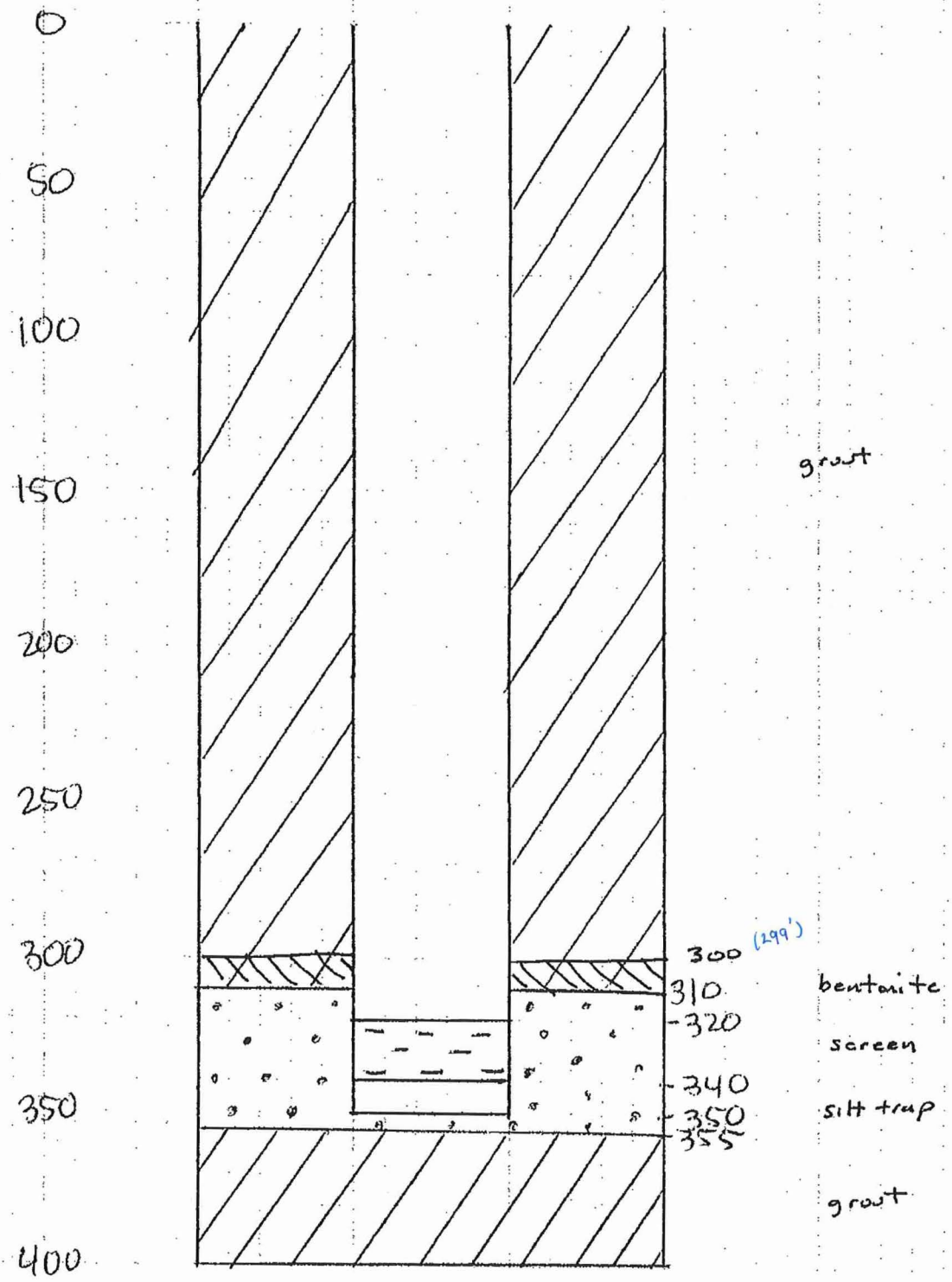
1355 - Gregg crew leaves site w/ rig, shaker, water truck, and crew truck.
Pitcher Drilling (Finé / Poesé) on site to cut (torch) top of the well casing to below grade and install well box.

Well Site Evaluation Project 10097

Proposed Well Completion

2-TF

1/12/2022



PERMIT NO. _____ Well 2-TF Development WELL NO. _____

INSPECTOR	DATE	TIME	REMARKS
Pablo Cortez	2-4-22	8:10	Arrived onsite. No one is here yet (except security guard).
		9:15	Well developers arrive. Water level = 78.26'. TD = 310'. (tagged); Completed well depth = 350.'
		10:00	Set up development rig over well. Began bailing.
		15:00	Bailing complete on 2-TF. Well is open down to 350'. Water is at 36.59'.
		15:10	Tagged well 2-MF. Water at 35.76'. Tagged well at 304'.
		15:30	Began bailing well 2-MF
		16:30	Bailing complete on 2-MF. Tagged bottom at 350'. Water level at 22.13.'
		16:45	Departed site. 2-TF and 2-MF ready for airlift.

NUMBER OF EXPLORATORY HOLES _____

WORK COMPLETED _____ (DATE) OR PERMIT VOIDED _____ (DATE)

COPY OF PERMIT TO _____ (REVIEWING INDIVIDUAL) ON _____ (DATE) BY _____ (INITIALS)

PERMIT NO. _____ WELL NO. _____

INSPECTOR	DATE	TIME	REMARKS
Jeremy Bautista	02.07.22	0830	Arrive on site @ Site 2 (Cedar Ct / NWK) and Pitcher Drilling (Phil / Marcos) on site with a Smeal development Rig and are bailing 2-MN using a 1.25" x 8' bailer Tagged H_2O depth at 23.7'. (showed me a video)
		0925	Joe from Pitcher & Bernix from Gregg arrive on site. Marcos leaves site.
		1030	cease bailing the well
		1045	begin setting up to air lift develop the well. 2-MN
		1345	Andres Aguayo arrives on site. Tag. TDepth of 2-TF @ 351.25' Depth to water – 36.2' for 2-TF
		1350	Setting up to begin bailing 2-TF while airlifting 2-MN.
		1405	Jeremy Bautista leaves site
Andres Aguayo		1420	Began setting up 4" Discharge pipes w/ 21' swab at the end
		1425	Bernix advises me they are loading 341' of discharge pipes including the swab tool. That puts the swab bottom at the bottom of the screen (341')
		1515	Finished loading 4" Discharge Pipes, Began loading 1" airlift pipe.
		1530	J.B. arrives on site. TS
		1550	Andres leaves site, Collect parameter sample from 2-MN and all criteria for cease-air have been met
		1555	cease airlift for 2-MN
		1635	2-MN has air lift pipe removed from 40' and lid secured. Will start airlifting 2-TF on 02-08-22. 2-TF is secured
		1640	Left site

23.7 DTW

NUMBER OF EXPLORATORY HOLES _____

WORK COMPLETED _____ (DATE) OR PERMIT VOIDED _____ (DATE)

COPY OF PERMIT TO _____ (REVIEWING INDIVIDUAL) ON _____ (DATE) BY _____ (INITIALS)

Monitoring Well Construction

Inspector: J. Bautista
Job No.: 10097
Date: 02.08.2022

Permit No.: 2021-0289
Well No.: 5S/1W-06H010
Other Well ID: 2-TF

Job Location: End of Cedar Ct, NWK
Contractor: Pitcher Services LLC

Major Equipment and Materials On-site

ITEM	MATERIALS RECEIVED TODAY
Smeal Well Development Rig	
Equipment Flat Bed Truck	
Crew Truck, Fork Lift	
Port-a-let, Waste Bins (3)	

Contractor Arrival Time: 730
Contractor Departure Time: _____
Daily Start Depth: _____ ft.
Daily Finish Depth: _____ ft.
Daily Drill Bit Size(s): _____

Work Completed Summary: _____

ACWD Meter No.: _____ **Beginning Meter Reading:** _____ **End Meter Reading:** _____

Pictures Taken: ☐ YES ☐ NO File Location: _____
Visitors to Job Site: _____
Delays/Accidents: _____

Construction Details

Final Bit Size & Type: _____
Control Casing Size: _____ in.
Conductor Casing Size: _____ in.
Well Casing Diameter: _____ in.
Perforation Slot Size: _____ in.
Sand Info.: _____
Grout Mix: _____
Bottom Plug Info.: _____

Total Borehole Depth: _____ ft.
Control Casing Depth: _____ ft. to _____ ft.
Conductor Casing Depth: _____ ft. to _____ ft.
Completed Well Depth: _____ ft.
Perforation Interval: _____ ft. to _____ ft.
Sand Interval: _____ ft. to _____ ft.
and _____ ft. to _____ ft.
Grout Interval: _____ ft. to _____ ft.
*and** _____ ft. to _____ ft.

*Two grout intervals if bottom of borehole extended beyond completed well depth and was grouted prior to well construction.

Monitoring Well Construction Remarks

Inspector: J. Bautista **Permit No.:** 2021-0289

0805 - arrive on site. Patcher Drilling (Marcos/Phil/Joe) and Gregg Drilling (Bernie) are on site w/ the Smeal Well Development Rig. They are currently moving equipment around and setting up site for airlift development of 2-TF.

0905 - set up over the well

0915 - begin airlifting the well

1045 - calculate flow rate @ ~60 GPM ; swab the screen

1145 - swab screen

1215 - swab screen

1315 - swab screen

1345 - swab screen

1420 - collect parameter sample and all is within finalizing parameters.

1515 - all parameters are within airlift shut down limits. Cease airlift.

1630 - site is clean and hoses wrapped. Left site.

ALAMEDA COUNTY WATER DISTRICT

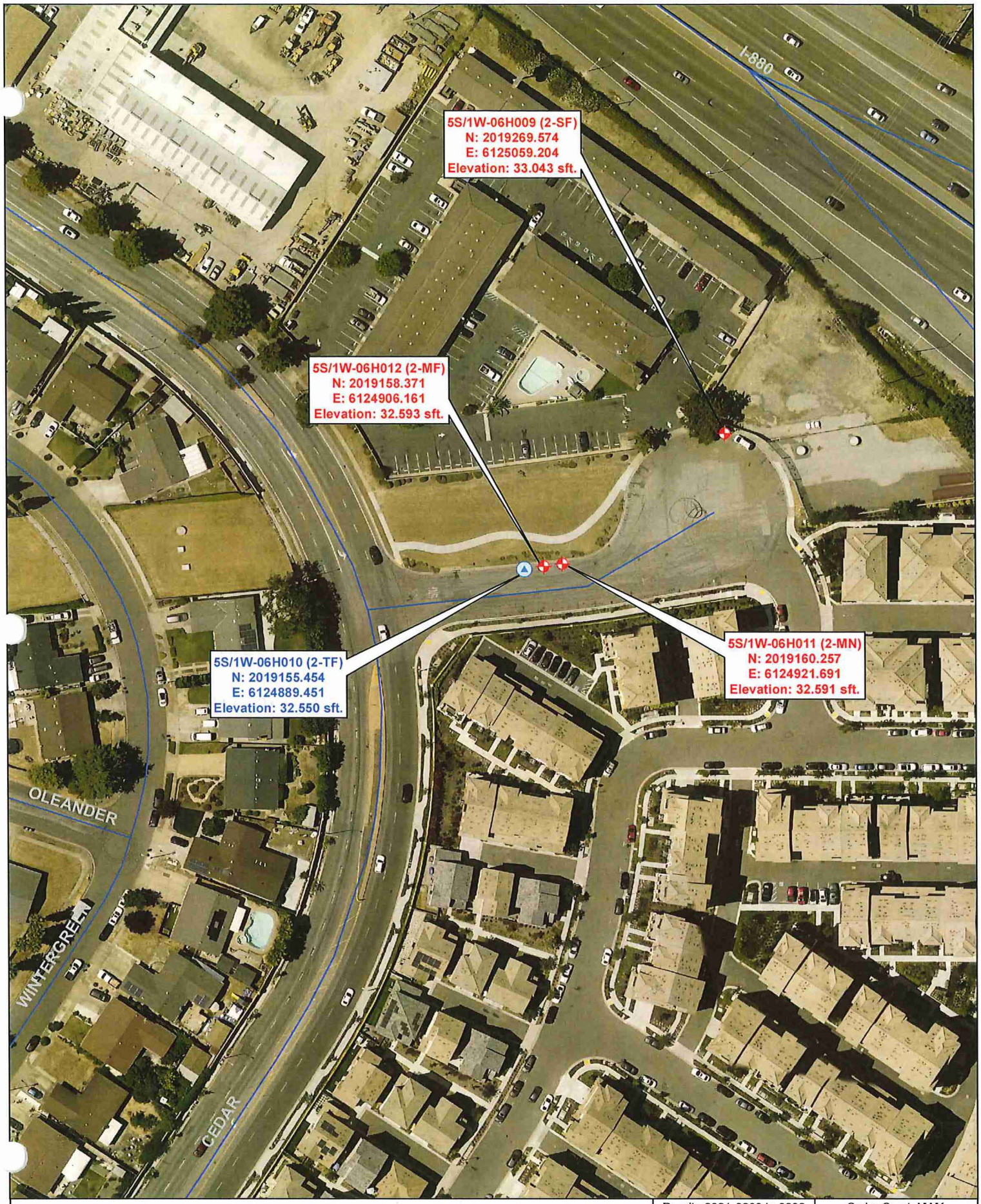
MONITORING WELL SAMPLING RECORD

WELL ID: 5S/1W- 2-TF
PROJECT NO: 10097
PROJECT NAME:
DATE: 02-08-22
SAMPLED BY: J. Bautista

DEPTH TO WATER:
TOTAL DEPTH OF WELL:
WELL DIAMETER: 8.0"
CASING VOLUME:
METHOD OF PURGING: Air Lift

TIME	CUMULATIVE VOL. REMOVED (GALLONS)	TEMPERATURE (°C)	pH (UNITS)	SPECIFIC CONDUCTANCE (UMHOS/CM)	REMARKS (COLOR, TURBIDITY & SEDIMENT)
0915	~10	18.1	8.01	2360 uS	very cloudy, brown sediment turbidity is out of range
0945		18.4	7.67	2387 uS	530 NTU; cloudy; tan
1015		18.2	7.72	2394 uS	84.8 NTU; slightly cloudy
1045	5500	18.4	7.82	2420 uS	71.1 NTU, " "
1115		18.6	7.90	2425 uS	28.5 NTU, clear
1145	10000	18.7	8.01	2405 uS	64.5 NTU, clear
JB ~~1325~~ 1225		19.0	8.03	2380 uS	501 NTU post swab; cloudy
1325		19.0	8.06	2384 uS	535 NTU post swab; cloudy
1355	16800	19.2	7.99	2364 uS	442 NTU post swab; cloudy
1420		19.5	8.03	2418 uS	14.1 NTU post; clear
1440		19.6	8.09	2424 uS	7.18 NTU, Clear
1510		19.8	8.12	2422 uS	7.02 NTU, Clear

NOTES: 0945 - switch to empty tank to measure flow rate; Swab 10x @ 1025, Swab @ 1045
Swab @ 1115; Swab @ 1215; Swab @ 1315; Swab @ 1345; cease airlift @ 1515



ACWD
ALAMEDA COUNTY WATER DISTRICT

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Well Location Map

Permits 2021-0289 to 0292	Cedar Court, NWK
5S/1W-06H009 to 06H012	1:1200
Monitoring Well	03.10.2022
Water Well	Drawn By: Jeremy Bautista

WELL DATA

STATE WELL NO. 5S/1W-06H010

PERMIT NO. 2021-0289

OWNER: Alameda County Water District	SITE ID:
ADDRESS: 43885 S. Grimmer Blvd, FMT	WELL NAME: 5S/1W-06H010
TENANT:	OWNER NO.: 2-TF
SITE ADDRESS North curb at central/western Cedar Ct, NWK	2-TF

TYPE OF WELL ☐ SPECIAL STUDIES ☐ MONTHLY ☐ SEMI ANNUAL ☐ WATER QUALITY

LOCATION COUNTY: Alameda County BASIN: Niles Cone NO.

U.S.G.S. QUAD. QUAD NO.

1/4 1/4 SECTION TWP. RGE. ☐MD ☐SB ☐H BASE & MERIDIAN

COORDINATES (NAD83) NORTHING: 2019155.454 EASTING: 6124889.451 SOURCE Trimble R8

DESCRIPTION:

Well is located in a 12" EMCO Wheaton Christy Box near the mid-point of Cedar Ct along the north curb. It is the left-most well when facing the north curb.

REFERENCE POINT DESCRIPTION:

Top center of the christy box lid

WHICH IS FT. ABOVE ☐ BELOW ☐ LAND SURFACE DATUM GROUND ELEVATION FT.

REFERENCE POINT ELEVATION 32.550 FT. DETERMINED FROM: Top center of the christy box lid

WELL USE: Groundwater Production Test CONDITION: new DEPTH: 355 FT.

CASING, SIZE 6 IN., Steel PERFORATIONS: 320-340' SLOT SIZE: 0.060"

MEASUREMENTS BY ☐ DWR ☐ USGS ☐ USBR ☐ COUNTY ☐ IRR. DIST. ☐ WATER DIST. ☐ CONS. DIST. ☐ OTHER

GRAVEL PACK? ☑ YES ☐ NO	DEPTH TO TOP GR. 310'	DEPTH TO BOT GR. 355'
TYPE OF MATERIAL: #3 Sand	PERM. RATING	THICKNESS
CHIEF AQUIFER	DEPTH TO TOP AQ.	DEPTH TO BOT. AQ.
SUPP. AQUIFER	DEPTH TO TOP AQ.	DEPTH TO BOT. AQ.

DRILLER: Pitcher Serv. (John/Armando)	DATE DRILLED: 01-24-2022	LOG NUMBER (DWR 188)

WELL PUMP TYPE	MAKE	MODEL	SERIAL NO.
WATER ANALYSIS MIN.	SAN.	H.M.	

POWER SOURCE		WATER LEVELS AVAILABLE? ☐ YES ☐ NO	
H.P.	MOTOR SERIAL NO	PERIOD OF RECORD BEGIN	END
ELEC. METER NO.	TRANSFORMER NO.	COLLECTING AGENCY	

SIZE OF DISCHARGE PIPE IN.

YIELD G.P.M.	PUMPING LEVEL FT.	PROD. REC.	PUMP TEST	YIELD

SKETCH



REMARKS

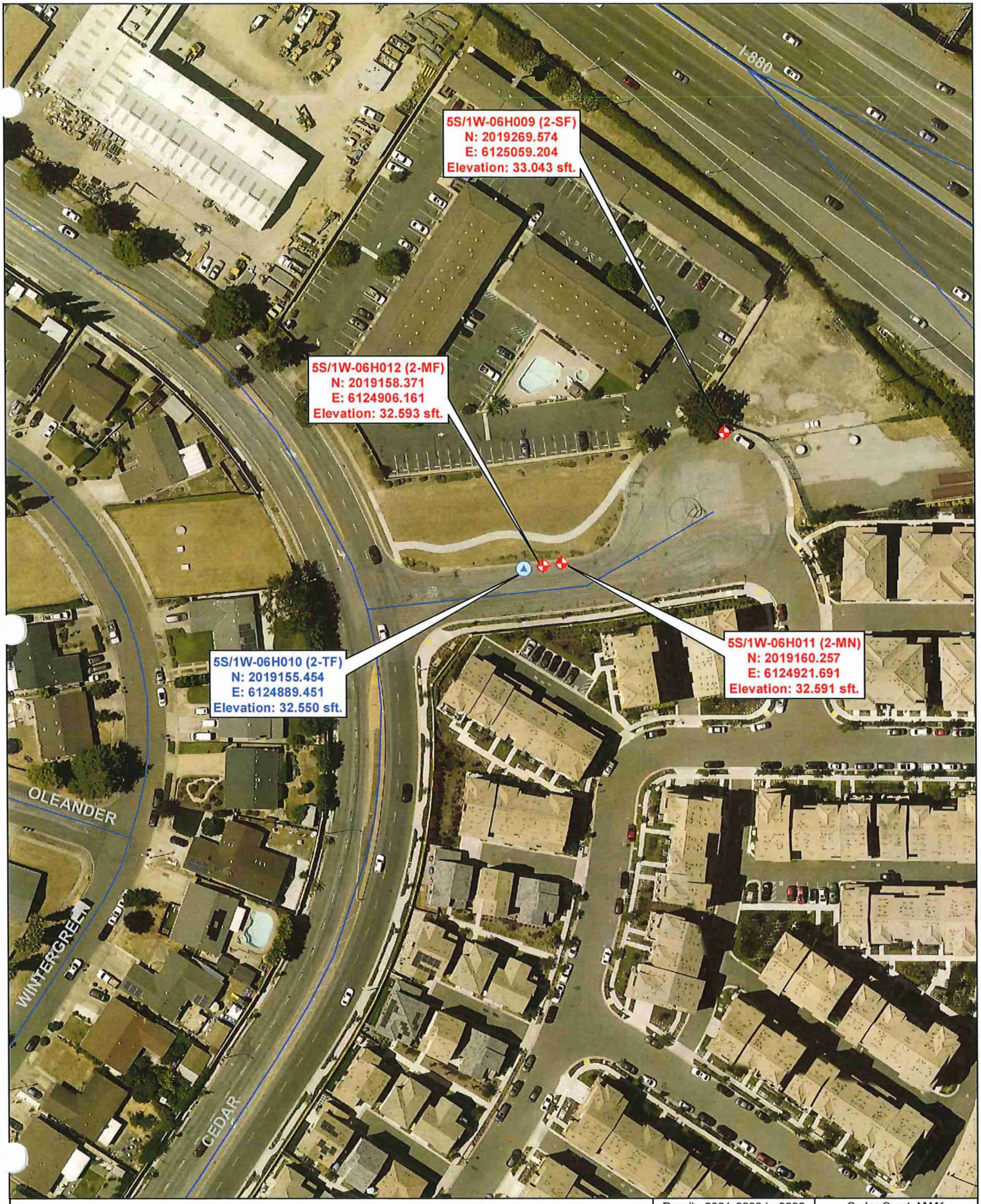
400' total depth of original borehole
355-400' – 9 5/8" diameter borehole
0-355' – 14 3/4" diameter borehole
12" round EMCO Wheaton christy box
355-400' - Type II/V neat cement
0.5-320' & 340-350' – 8" blank Steel casing
320-340' – 8" slotted Steel casing (0.060" slots)

PERMIT NO.: 2021-0289

SANITARY SEAL: 1-299' - 11-Sack Sand Slurry (Milpitas Materials)

RECORDED BY: Jeremy Bautista

DATE: 03-15-2022



ACWD
ALAMEDA COUNTY WATER DISTRICT

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Well Location Map

Permits 2021-0289 to 0292	Cedar Court, NWK
5S/1W-06H009 to 06H012	1:1200
Monitoring Well	03.10.2022
Water Well	Drawn By: Jeremy Bautista

WELL DATA

STATE WELL NO. 5S/1W-06H010

PERMIT NO. 2021-0289

OWNER: Alameda County Water District	SITE ID:
ADDRESS: 43885 S. Grimmer Blvd, FMT	WELL NAME: 5S/1W-06H010
TENANT:	OWNER NO.: 2-TF
SITE ADDRESS North curb at central/western Cedar Ct, NWK	2-TF

TYPE OF WELL ☐ SPECIAL STUDIES ☐ MONTHLY ☐ SEMI ANNUAL ☐ WATER QUALITY

LOCATION COUNTY: Alameda County BASIN: Niles Cone NO.

U.S.G.S. QUAD. QUAD NO.

1/4 1/4 SECTION TWP. RGE. ☐MD ☐SB ☐H BASE & MERIDIAN

COORDINATES (NAD83) NORTHING: 2019155.454 EASTING: 6124889.451 SOURCE Trimble R8

DESCRIPTION:

Well is located in a 12" EMCO Wheaton Christy Box near the mid-point of Cedar Ct along the north curb. It is the left-most well when facing the north curb.

REFERENCE POINT DESCRIPTION:

Top center of the christy box lid

WHICH IS FT. ABOVE ☐ BELOW ☐ LAND SURFACE DATUM GROUND ELEVATION FT.

REFERENCE POINT ELEVATION 32.550 FT. DETERMINED FROM: Top center of the christy box lid

WELL USE: Groundwater Production Test CONDITION: new DEPTH: 355 FT.

CASING, SIZE 6 IN., Steel PERFORATIONS: 320-340' SLOT SIZE: 0.060"

MEASUREMENTS BY ☐ DWR ☐ USGS ☐ USBR ☐ COUNTY ☐ IRR. DIST. ☐ WATER DIST. ☐ CONS. DIST. ☐ OTHER

GRAVEL PACK? ☑ YES ☐ NO	DEPTH TO TOP GR. 310'	DEPTH TO BOT GR. 355'
TYPE OF MATERIAL: #3 Sand	PERM. RATING	THICKNESS
CHIEF AQUIFER	DEPTH TO TOP AQ.	DEPTH TO BOT. AQ.
SUPP. AQUIFER	DEPTH TO TOP AQ.	DEPTH TO BOT. AQ.

DRILLER: Pitcher Serv. (John/Armando) DATE DRILLED: 01-24-2022 LOG NUMBER (DWR 188)

WELL PUMP TYPE	MAKE	MODEL	SERIAL NO.
WATER ANALYSIS MIN.	SAN.	H.M.	

POWER SOURCE		WATER LEVELS AVAILABLE? ☐ YES ☐ NO	
H.P.	MOTOR SERIAL NO	PERIOD OF RECORD BEGIN	END
ELEC. METER NO.	TRANSFORMER NO.	COLLECTING AGENCY	
SIZE OF DISCHARGE PIPE		IN.	

YIELD G.P.M.	PUMPING LEVEL FT.	PROD. REC.	PUMP TEST	YIELD

SKETCH



REMARKS

400' total depth of original borehole
355-400' – 9 5/8" diameter borehole
0-355' – 14 3/4" diameter borehole
12" round EMCO Wheaton christy box
355-400' - Type II/V neat cement
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PERMIT NO.: 2021-0289

SANITARY SEAL: 1-299' - 11-Sack Sand Slurry (Milpitas Materials)

RECORDED BY: Jeremy Bautista

DATE: 03-15-2022

Monitoring Well Construction

Inspector: J.Bautista/P. Cortez
Job No.: 10097
Date: 04.07.22

Permit No.: 2021-0289
Well No.: 5S/1W-06H010
Other Well ID: 2-TF

Job Location: North curb at central/western Cedar Ct,
Contractor: Pitcher Services LLC

Major Equipment and Materials On-site

ITEM	MATERIALS RECEIVED TODAY
Drill rig	
Support trucks	
Well pump	

Contractor Arrival Time: 0700
Contractor Departure Time: 15:00
Daily Start Depth: ft.
Daily Finish Depth: ft.
Daily Drill Bit Size(s):

Work Completed Summary: Completed pump test.

ACWD Meter No.: **Beginning Meter Reading:** **End Meter Reading:**

Pictures Taken: ☑ YES ☐ NO File Location:
Visitors to Job Site:
Delays/Accidents:

Construction Details

Final Bit Size & Type:
Total Borehole Depth: ft.
Control Casing Size: in.
Control Casing Depth: ft. to ft.
Conductor Casing Size: in.
Conductor Casing Depth: ft. to ft.
Well Casing Diameter: in.
Completed Well Depth: ft.
Perforation Slot Size: in.
Perforation Interval: ft. to ft.
Sand Info.:
Sand Interval: ft. to ft.
and ft. to ft.
Grout Mix:
Grout Interval: ft. to ft.
Bottom Plug Info.:
*and** ft. to ft.

*Two grout intervals if bottom of borehole extended beyond completed well depth and was grouted prior to well construction.

Monitoring Well Construction Remarks

Inspector: P. Cortez/J. Bautista 04.07.22 **Permit No.:** 2021-0289

0730 - Arrive on site. Pitcher Services (Phil/Andrew) on site.

0800 - Computer and water level indicators set. Selim Zeyrek wants to pump @ 60 gpm

0804 - begin continuous pump test @ 60 gpm

0835 - Turbidity = 45.1 NTU. Switch from discharging to the Roll Out bins (10 yds) to the storm drain

0920 - Jeremy Bautista leaves site

11:04 Stopped pumping at 60 gpm and began pumping at ~~120~~' 120 gpm. Water level dropped to 169'. Lowered pump rate to 70 gpm. Water level stabilized between 269.16' and 269.19'. Pump was barely able to yield water. Flow meter would occasionally fall to 0 gpm. Called Selim. He said to bring the flow back up to 60 gpm and see what happens. When we tried that, water level did not rise. Shut off pump to let water recover. At ~70', restarted pump again at 70 gpm to see if water level drops. It did. At ~205', dropped back down to 60 gpm. Water level was still dropping. Reduced flow to 50 gpm at ~230'. Water level was still dropping, but at a slower rate.

12:30 Spoke to Selim, and he said to continue to monitor at 50 gpm.

12:45 Selim called and said to get one more measurement from the well and the adjacent monitoring well and to shut off the pump. Final reading from the well was 256.22. Drillers shut off pump.

14:24 Transducer and well pump have been removed from well.

15:00 Departed site with crew. Crew will return later to pick up remaining equipment.

15:32 Returned to site with replacement bolts for well lid.

15:45 Well lid secured. Departed site.

SPECIFIC CAPACITY DATA SHEET

Well Location	Site 2	Date	04-06-22 (07 JP)
Well Number	SS/IW-06H010 (2-TF)	Measured By	J. Bautista / P. Cortez
Totalizer Start	04426400		
End	04437800	Discharge Presure	
Remarks	2.44' of PVC stick up		

MINUTES	TIME	FLOW RATE (gpm)	STATIC DTW (ft)	PUMPING DTW (ft)	DRAWDOWN (ft)	SPECIFIC CAPCAITY (gpm/ft)	Turbidity/Temp °C/pH
1	8:04	60	41.17 ~~38.52'~~ ~~40.85~~	~~41.23~~ 62.05			
2	8:06	60		64.90			
3	8:07	60		62.45			
4	8:08	60		62.04			
5	8:09	60		61.95			
6	8:10	60		61.88			
7	8:11	60		62.04			
8	8:12	60		62.10			
9	8:13	60		62.11			
10	8:14	60		62.19			
11	8:15	60		62.33			
12	8:16	60		62.69			248/~~20°~~/7.4
14	8:18	60		62.50			
16	8:20	60		62.45			
18	8:22	60		62.61			117/20.1/7.5
20	8:24	60		62.70			
25	8:26	60		62.80			
30	8:28	60		62.78			72/20/7.5
35	8:33	60		62.94		45.1	~~51.7~~/20.1/7.5
40	8:38	60		63.03			
45	8:43	60		63.13			~~20.3/7.5~~
50	8:48	60		63.18			21.5/20.3/7.5
60	8:58	60		63.16			9.50/20.5°/7.5
70	09:08	60		63.09			↓ ↓ ↓
80	9:18	60		63.14			
90	9:28	60		63.20			12.4 20.7 7.5
100	9:38	60		63.31			

SPECIFIC CAPACITY DATA SHEET

Well Location Site 2
Well Number 55/1W-06H010 (2-TF)
Totalizer Start 04426400
End 04437800
Remarks

Date 4/7/22
Measured By JB/PC
Discharge Presure

MINUTES	TIME	FLOW RATE (gpm)	STATIC DTW (ft)	PUMPING DTW (ft)	DRAWDOWN (ft)	SPECIFIC CAPCAITY (gpm/ft)	NTU °C Turb./Temp./pH
1	9:48	60		63.06			32.1/ 21/ 7.5
2	9:58	60		63.12			
3		(Phone call w/ Selim Zeyrek)					
4	10:08	60		63.08			
5	10:18	60		63.14			4.60/ 20.6/ 7.6
6	10:~~28~~30	60		63.18			
7	10:40	60		63.39			5.16/ 21.6/ 7.6
8	10:50	60		63.32			
9	11:00	60		63.39			10.6/ 20.9/ 7.5
10							
11							
12							
14							
16							
18							
20							
25							
30							
35							
40							
45							
50							
60							
70							
80							
90							
100							

SPECIFIC CAPACITY DATA SHEET

Well Location: Site 2
Well Number: 5S/W-06H010
Totalizer Start: 04437800
End: 04443600
Remarks: 2.44' of PVC stickup at surface.

Date: 4/7/22
Measured By: PC
Discharge Presure:

11:04 Start

MINUTES	TIME	FLOW RATE (gpm)	STATIC DTW (ft)	PUMPING DTW (ft)	DRAWDOWN (ft)	SPECIFIC CAPCAITY (gpm/ft)
1	~~11~~:05	120				
2						
3	11:07			119.0		
4						
5	11:09			153.		
6	11:10			181		
7	11:11			206		
8						
9						
10						
11	11:15	80		249		
12						
14	11:17	70		266		
16	~~[illegible]~~					
18	11:19	70		269.56		
20	11:20	70		~~[illegible]~~ 269.39		
25	11:21	70		269.19		
30	11:22	70		269.18		
35	11:23	70		269.18		
40	11:24	70		269.21		
45	11:25	70		269.16		
50	11:26	70		269.14		
60	11:27	70		269.18		
70	11:28	70		269.14		
80	11:30	70		269.15		
90	11:32	70		269.16		
100	11:34	70		269.16		

SPECIFIC CAPACITY DATA SHEET

Well Location: Site 2
Well Number: 55/1W-06H010
Totalizer Start: 04437800
End: 04443600
Remarks:

Date: 4/7/22
Measured By: PC
Discharge Presure:

MINUTES	TIME	FLOW RATE (gpm)	STATIC DTW (ft)	PUMPING DTW (ft)	DRAWDOWN (ft)	SPECIFIC CAPCAITY (gpm/ft)
1	11:36	70		269.16		
2	11:41	70		269.17		
3	11:46	70		269.17		
4	11:51	70		269.19		
5	11:56	70		269.17		
6						
7	12:08	* Stopped pump to allow for water recharge. *				
8	12:17	* Restarted pump at 70 gpm. Water levels never stabilized				
9		after this, even after switching to 60, then 50 gpm.				
10						
11	12:45	50		256.22		
12						
14		Stopped pump at 12:45				
16						
18						
20						
25						
30						
35						
40						
45						
50						
60						
70						
80						
90						
100						
	12:45	50		256.22		

Start time: 1022 AM

SPECIFIC CAPACITY DATA SHEET

Well Location
Well Number 3-MF (45/1W-32N002)
Totalizer Start 40821 x100 gal
End 40988 x100 gal
Remarks measurement from bottom of lid.

Date 4/4/2022
Measured By SZ & AL
Discharge Presure

27.64

MINUTES	TIME	FLOW RATE (gpm)	STATIC DTW (ft)	PUMPING DTW (ft)	DRAWDOWN (ft)	SPECIFIC CAPCAITY (gpm/ft)
1		150	42.42 (8:50)			
2	1024			42.72		
3	1025			42.82		
4	1026			42.85		
5	1027			42.85		
6	1028			42.86		
7	1029			42.86		
8						
9						
10						
11						
12	1034			42.87		
14						
16	1038			42.90		
18	1040			42.90		
~~20~~ 23	1045			42.91		
25	1047			42.91		
30	1052			42.90		
35	1057			42.94		
40						
~~45~~ 43	1105			42.96		
~~50~~ 48	1115 1110			42.93		
60	1122			42.92		
~~70~~ 71	1133			42.95		
~~80~~ 81	1143			42.92		
~~90~~ 91	1153			42.93		
100						

SPECIFIC CAPACITY DATA SHEET

Well Location
Well Number 3-MP (45/IW-32N002)
Totalizer Start 40988 x 100 gal
End 41203 x 100 gal
Remarks

Date 4/4/2022
Measured By BT SA
Discharge Presure

MINUTES	TIME	FLOW RATE (gpm)	STATIC DTW (ft)	PUMPING DTW (ft)	DRAWDOWN (ft)	SPECIFIC CAPCAITY (gpm/ft)
1	1203	200		43.00		
2	1204			43.10		
3	1205			43.12		
4	1206			43.16		
5	1207			43.16		
6	1208			43.15		
7	1209			43.15		
8	1210			43.19		
9	1211			43.14		
10	1212			43.17		
11	1213			43.15		
12	1214			43.19		
14	1216.			43.14		
16	1218.			43.16.		
18	1220			43.18		
20	1222			43.18.		
25	1227			43.17		
30	1232			43.18		
35	1237			43.20		
40	1242			43.16		
45	1247			43.19		
50	1252			43.18		
60	1302			43.20		
70	1312			43.20		
80	1322			43.20		
90	1332			43.20		
100						

SPECIFIC CAPACITY DATA SHEET

Well Location
Well Number 3-MF (4S/1W-32N002)
Totalizer Start 41203 x 100 gal
End 41464 x 100 gal
Remarks

Date 4/4/22
Measured By AC & SZ
Discharge Presure

MINUTES	TIME	FLOW RATE (gpm)	STATIC DTW (ft)	PUMPING DTW (ft)	DRAWDOWN (ft)	SPECIFIC CAPCAITY (gpm/ft)
1	1343	250		43.33		
2	1344.			43.41		
3	1345			43.41		
4	1346.			AC ~~43.42~~ 43.42		
5	1347			43.42		
6	1348			43.42		
7	1349			43.40		
8						
9	1351			43.43		
10	1352			43.43		
11						
12	1354			43.43		
14	1356			43.42		
16	1358			AC ~~43.43~~ 43.42		
18	1400			43.42		
20	1402			43.40.		
25	1407			43.43		
30	1412			43.40		
35	1417			43.41		
40	1422			43.42		
45	1427			43.44		
50	1432			43.43		
60	1442			43.43		
70	1452			43.43		
80	1502			43.44		
90	1512			43.44		
~~97~~ ~~100~~	1519			43.49		

SPECIFIC CAPACITY DATA SHEET

Well Location
Well Number 3-MF (45/1W-32N002)
Totalizer Start 41464 ~~gal~~ x100 gal
End 41793 x100 gal
Remarks Photos of totalizer not clear d/t scratched surface

Date 4/4/22
Measured By AL & SZ
Discharge Presure

MINUTES	TIME	FLOW RATE (gpm)	STATIC DTW (ft)	PUMPING DTW (ft)	DRAWDOWN (ft)	SPECIFIC CAPCAITY (gpm/ft)
1	1523	300		43.61		
2	1524			43.67		
3	1525			43.69		
4	1526			43.71		
5	1527			43.71		
6	1528			43.71		
7	1529			43.71		
8						
9	1531			43.70		
10						
11						
12	1534			43.71		
14	1536			43.74		
16	1538			43.70		
18	1540			43.71		
20	~~AL~~			~~43.70 AL~~		
25	1547			43.70		
30	1552			43.69		
35	1557			43.68		
40	1602			43.70		
45	1607			43.69		
51 ~~50~~	1613			43.68		
60	1622			43.70		
70	1632			43.70		
80	1642			43.71		
90	1652			43.69		
100	~~AL~~ 1702			43.78		

SPECIFIC CAPACITY DATA SHEET

Well Location _____ **Date** 04.05.22

Well Number 45/1W-32N002 **Measured By** J. Bautista

Totalizer **Start** _____

End _____ **Discharge Presure** _____

Remarks 42.32' DTW @ 0720

MINUTES	TIME	FLOW RATE (gpm)	STATIC DTW (ft)	PUMPING DTW (ft)	DRAWDOWN (ft)	SPECIFIC CAPCAITY (gpm/ft)
1	0751		42.32'			
2						
3						
4	0803		43.31'			
5	0804		43.42			
6	0805		43.43			
7	0807		43.41			
8	0809		43.48			
9	0810		43.51			
10	0811		43.48			
11	0813		43.51			
12	0815		43.51			
14	0817		43.51			
16	0819		43.54			
18	0824		43.58			
20	0829		43.67			
25	0834		43.73			
30	0839		43.69			
35	0844		43.72			
40	0849		43.79			
45	~~0854~~					
50	0859		43.88			
60	0909		43.89			
70	0919		43.93			
80	0929		43.94			
90	0939		44.02			
100	0949		44.01			

SPECIFIC CAPACITY DATA SHEET

Well Location
Well Number 4S/1W-32N002
Totalizer Start
End >04216800
Remarks

Date 04-05-22
Measured By J. Bautista
Discharge Presure

MINUTES		TIME	FLOW RATE (gpm)	STATIC DTW (ft)	PUMPING DTW (ft)	DRAWDOWN (ft)	SPECIFIC CAPCAITY (gpm/ft)
120	1	0959	~300GPM		44.01		
	2	10.09			44.15		
	3	1029			44.17		
165	4	1044			↓		
180	5	1059			44.21		
195	6	1114			44.25		
210	7	1129			44.29		
225	8	1144			44.30		
240	9	1159			44.32		
255	10	1214			44.34		
260	11	1229			44.32		
275	12	1244			44.35		
290	14	1259			44.47		
315	16	1314			44.49		
330	18	1329			44.51		
345	20	1344			44.56		
360	25	1359			44.57		
375	30	1414			44.58		
390	35	1429			44.61		
405	40	1444			44.62		
420	45	1459			44.61		
435	50	1514			44.67		
450	60	1529			44.68		
465	70	1544			44.69		
480	80	1559			44.70		
495	90	1614			44.67		
510	100	1629	↓		44.68		

SPECIFIC CAPACITY DATA SHEET

Well Location 3-MF (Blacow-F)
Well Number 4S/1W-32N002
Totalizer Start _____
End > 0435990
Remarks _____

Date 04-05-22
Measured By J. Bautista
Discharge Presure 0

MINUTES		TIME	FLOW RATE (gpm)	STATIC DTW (ft)	PUMPING DTW (ft)	DRAWDOWN (ft)	SPECIFIC CAPCAITY (gpm/ft)
525	1	1644			44.70		
540	2	1659			44.71		
555	3	1714			44.73		
570	4	1729			44.74		
585	5	1744			44.75		
600	6	1759			44.76		
615	7	1814			44.77		
630	8	1829			44.78		
645	9	1844			44.80		
660	10	1859			44.81		
675	11	1914			44.82		
690	12	1929			44.82		
705	14	1944			44.82		
720	16	1959			44.83		
	18						
	20						
	25						
	30						
	35						
	40						
	45						
	50						
	60						
	70						
	80						
	90						
	100						

Site #3

ALAMEDA COUNTY WATER DISTRICT
43885 South Grimmer Blvd. • P.O. Box 5110
Fremont, CA 94537-5110
Permitting & Scheduling (510) 668-4460

APPLICATION FOR DRILLING PERMIT

ACWD ORDINANCE NO. 2010-01

COMPUTER POSTED

Application Received Date: 10/14/21 By: AS	Permit Issued Date: 11/4/21	Permit Expiration Date: 1/4/22	Job No. 10097	Permit No. 2021-0286 Well No. 4S/1W-32N003

JOB ADDRESS:
Intersection of Blacow Road and Brophy Drive
Fremont, CA

PROPERTY OWNER
NAME: City of Fremont
ADDRESS: 3300 Capitol Avenue
Fremont, CA 94538
TELEPHONE: (510) 284-4000

CONSULTING ENGINEER
NAME: Alameda County Water District
ADDRESS: 43885 South Grimmer Boulevard
Fremont, CA 94538
TELEPHONE: (510) 68-4452 RG/CEG/RCE NO. PG 5859

DRILLING CONTRACTOR
NAME: Pitcher Services, LLC
ADDRESS: 218 Demeter Street
East Palo Alto, CA 94303
E-MAIL ADDRESS: Terry Shewchuk <tshewchuk@pitcherservicesllc.com>
TELEPHONE: (650)328-8910 STATE LIC. NO. 1044895

When properly signed 3-MW

THIS APPLICATION IS A VALID PERMIT

to perform only work described below at the given job address, in accordance with ACWD Ordinance No. 2010-01 and all other applicable laws and regulations. Discontinuation of work may result in revocation of permit. ***Permittee must schedule the work in advance with ACWD.*** *ACWD's approval of drawings, designs, specifications, work plans, reports or incidental work and materials shall not relieve the permittee of responsibility for the technical adequacy of the work. Except for special circumstances, all work to be inspected must be performed within ACWD work hours – 7:00 a.m. to 4:30 p.m., Monday through Friday.*

PLEASE CHECK TYPE OF PROPOSED WORK
Each well or other excavation requires a separate permit application form unless otherwise indicated.
Only one specific type of work can be checked per permit application.

WELLS	EXPLORATORY HOLES	OTHER EXCAVATIONS
☒ CONSTRUCTION ☐ REPAIR ☐ DESTRUCTION	☐ CONSTRUCT./DESTRUCT.	☐ CONSTRUCTION ☐ REPAIR ☐ DESTRUCTION
☐ Water Well	*Multiple exploratory holes of the same type may be grouped together on the same permit application form.*	☐ Cathodic Protection Well ☐ Inclinometer
Monitoring Well:		☐ Vibrating Wire Piezometer ☐ Elevator Shaft
☒ Chemical Investigation	☐ Chemical Investigation	*Multiple other excavations of the same type may be grouped together on the same permit application form for the following:*
☐ Injection Well (for Chemical Cleanup)	☐ Injection Boreholes	☐ Cleanup Site Excavation(s) ☐ Wick Drains
☐ Geotechnical Investigation	☐ Soil Vapor Sampling	☐ Shaft, Tunnel, or Directional Borehole (s) ☐ Support Piers, Piles, or Caissons
☐ Geothermal Heat Exchange Well	☐ Geotechnical Investigation	
☐ Dewatering Well *(Multiple dewatering wells may be grouped together on the same permit application form)*		
Quantity:	Quantity:	☐ Other: Quantity:

DESCRIPTION OF PROPOSED WORK:
Installation of 2" diameter monitoring well
Well Name: Blacow Road 3-MN

TOTAL ESTIMATED COST
$

PERMIT CONDITIONS:
Monitoring Well Construction to comply with current ACWD Standards

FEES: ☐ Private ☐ City ☒ Governmental Agency

GUARANTEE OF PERFORMANCE: ☐ Cash Deposit ☐ Bond

REFUND: Amount $ Reason:

FEES/ DEPOSIT: Date Received Estimated Amount $
Check No. Actual Amount $
Cash Difference $

ACWD SITE NO. Ø
APPROVED FOR SCHEDULING BY: DATE: 11/10/2021
APPROVED BY: DATE: 11/10/2021

I hereby agree to comply with all conditions of this permit in accordance with ACWD Ordinance No. 2010-01 and to furnish the District a completed copy of D.W.R. Drillers Report (form 188) within sixty (60) days after completion as well as any chemical testing results within thirty (30) days after completion.

Title: Associate Hydrogeologist Signature: Date: 10/12/2021

Representing: Alameda County Water District Name (printed): Douglas Young

ACWD #458 11-12

ALAMEDA COUNTY WATER DISTRICT

43885 South Grimmer Blvd., P.O. Box 5110, Fremont, CA 94537 Tel. No. (510) 668-4460 Fax No. (510) 651-1760

SITE HAZARD INFORMATION

Please provide the following information for the site

Owner's Name: Alameda County Water District

Site Address: 43885 South Grimmer Bounevard

Fremont, CA 94538

Consultant on Site: Douglas Young Phone No. (510) 668-4452

Site Safety Officer: Douglas Young Phone No. (510) 668-4452

Type of Facility: City Right-of-Way

Anticipated Hazardous Substances - (Attach Additional Sheets if Necessary)
(Please include concentrations below. Note if free product historically on site)

Name	Expected Concentrations (ppm) (List medium – i.e. soil, water, air)	PEL (ppm)	Health Effects
☐ Gasoline			
☐ Diesel			
☐ Waste Oil			
None Expected			

District Use Only
11/10/2021
Checked Against Reported Contaminants

Site Safety Meeting Date: Time:

Level of Personal Protection Equipment ☐A ☐B ☐C ☑D

Personal Protective Equipment:
R = Required A = As Needed, with description of action concentrations)

R	A		R	A	
☑	☐	Hard Hat	☐	☐	Clothing (Type):
☑	☐	Safety Shoes	☐	☐	Respirator (Type):
☑	☐	Orange Traffic Vest	☐	☐	Cartridge (Type):
☐	☑	Hearing Protection	☐	☐	Gloves (Type):
☑	☐	Safety Eyewear	☐	☐	Other:

Site Hazard Information Provided By: Douglas Young Phone: (510) 668-4452
Print

ACWD / Associate Hydrogeologist
Company name & title

Signature

Date: 10/12/21

ACWD #173 (Revised 10/15/03)

ALAMEDA COUNTY WATER DISTRICT

Monitoring Well Construction

Inspector: Jeremy Bautista | **Permit No.:** 2021-0286

Job No.: 10097 | **Well No.:** 4S/1W-32N003

Date: 01.10.22 | **Other Well ID:** 3-MN

Job Location: Intersection of Blacow Rd and Brophy Dr

Contractor: Pitcher Services LLC

Major Equipment and Materials On-site

ITEM	MATERIALS RECEIVED TODAY
Fraste Mud Rotary Drill Rig	
Water Support Truck	
Forklift / Porto-let	
Crew truck	

Contractor Arrival Time: 0730 | Contractor Departure Time: 1700

Daily Start Depth: 0 ft. | Daily Finish Depth: 100 ft.

Daily Drill Bit Size(s):

Work Completed Summary:

ACWD Meter No.: | **Beginning Meter Reading:** | **End Meter Reading:**

Pictures Taken: ☑ YES ☐ NO File Location:

Visitors to Job Site: Doug Young

Delays/Accidents:

Construction Details

Final Bit Size & Type: 8"

Total Borehole Depth: ft.

Control Casing Size: in. | Control Casing Depth: ft. to ft.

Conductor Casing Size: in. | Conductor Casing Depth: ft. to ft.

Well Casing Diameter: in. | Completed Well Depth: ft.

Perforation Slot Size: in. | Perforation Interval: ft. to ft.

Sand Info.: | Sand Interval: ft. to ft.

and ft. to ft.

Grout Mix: | Grout Interval: ft. to ft.

Bottom Plug Info.: | *and** ft. to ft.

*Two grout intervals if bottom of borehole extended beyond completed well depth and was grouted prior to well construction.

Monitoring Well Construction Remarks

Inspector: Jeany Bautista **Permit No.:**

0800 - Arrive on site; nobody is on site; drill rig is not set up over the well.
0805 - contact Pitcher Drilling (Marcos); he says that he is at site. I. I leave for site!
0940 - arrive back on site. Pitcher Drilling (Marcos/Andrew) are setting up to start drilling
1130 - start coring the top of the boring.
1200 - begin mixing drilling mud.
1245 - currently @ 20' w/ 8" tricone mud rotary drill bit
1400 - currently @ 45'
1445 - Doug Young and Terry Shewchuck on site.
1450 - Ponder Environmental arrives to vaccum out the waste tanks.
1530 - currently @ 80'
1605 - currently @ 100' and stopping for today.
1620 - Left site. Pitcher is locking up site.

ALAMEDA COUNTY WATER DISTRICT

Monitoring Well Construction

Inspector: Pablo Carter
Job No.: 10097
Date: 1-11-22

Permit No.: 2021-0286
Well No.: 4S/1W-32N003
Other Well ID: 3-MN

Job Location: Intersection of Blacow Rd and Brophy Dr
Contractor: Pitcher Services LLC

Major Equipment and Materials On-site

ITEM	MATERIALS RECEIVED TODAY
Drill rig	
Support truck	
Forklift	
Waste bins	

Contractor Arrival Time: 7:00
Contractor Departure Time: 4:30
Daily Start Depth: 100 ft.
Daily Finish Depth: 115 ft.
Daily Drill Bit Size(s):

Work Completed Summary: Grouted well to surface, installed all well materials.

ACWD Meter No.: **Beginning Meter Reading:** **End Meter Reading:**

Pictures Taken: ☑ YES ☐ NO File Location:
Visitors to Job Site:
Delays/Accidents:

Construction Details

Final Bit Size & Type:
Control Casing Size: in.
Conductor Casing Size: in.
Well Casing Diameter: in.
Perforation Slot Size: in.
Sand Info.:

Grout Mix:
Bottom Plug Info.:

Total Borehole Depth: ft.
Control Casing Depth: ft. to ft.
Conductor Casing Depth: ft. to ft.
Completed Well Depth: ft.
Perforation Interval: ft. to ft.
Sand Interval: ft. to ft.
and ft. to ft.
Grout Interval: ft. to ft.
*and** ft. to ft.

*Two grout intervals if bottom of borehole extended beyond completed well depth and was grouted prior to well construction.

Monitoring Well Construction Remarks

Inspector: **Permit No.:**

8:00 Arrived onsite. Pitcher Drilling crew onsite. Drilling already started.

9:28 Drilling completed. Drilled to ~~112'~~ 115' total depth. Setting 2" PVC well casing. 112' - 115' is sands and gravels that caved in. Setting well at 112'.

10:45 Well casing set at 111'4". Called Doug Young to check if he was okay with well being 8" short of bottom. He approved. Well casing set with 10' blank casing at the bottom with 50' of screen. Begin pouring #3 sand.

13:17 Sand brought up to 41'.

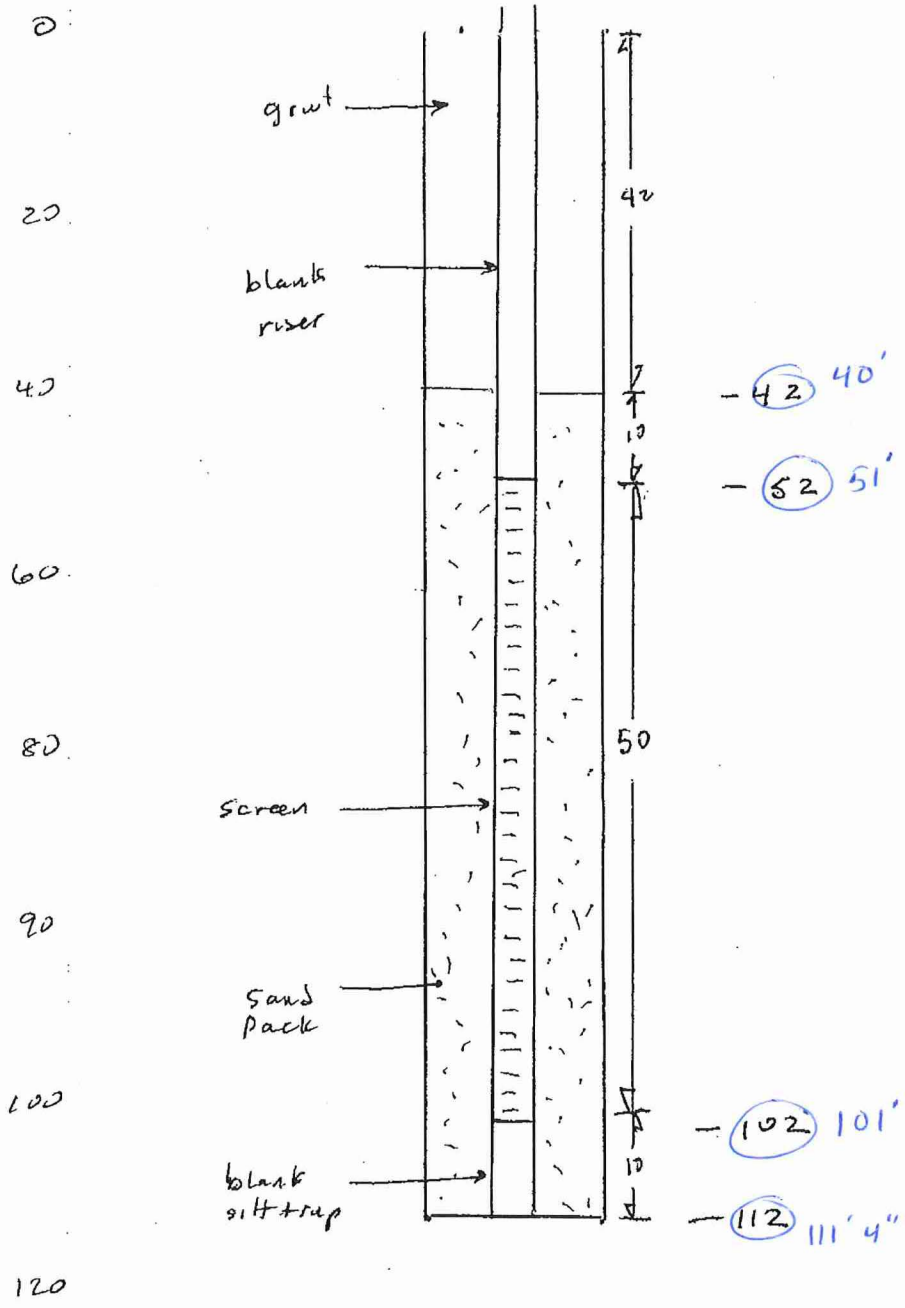
13:56 Sand tagged at 40'. Placed 35' of PVC 1" tremie pipe. Preparing to grout. Support truck departs to get water.

14:54 Support truck returns. Begin mixing grout.

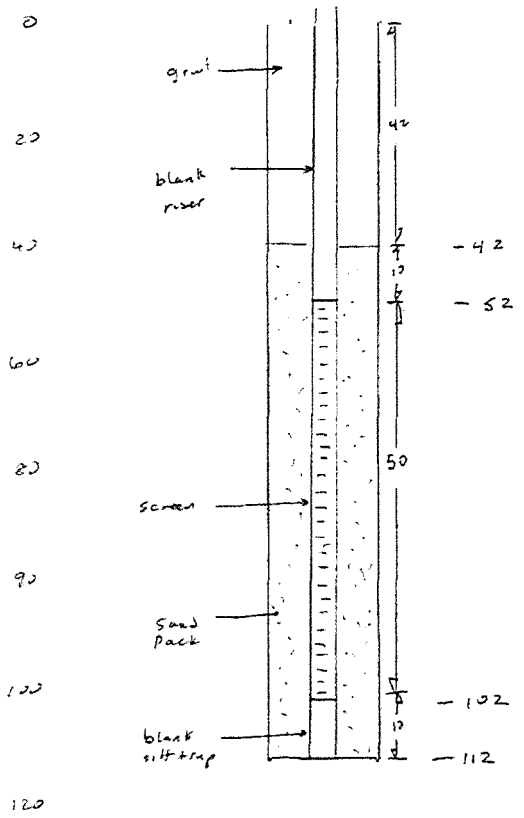
15:26 Tremie grouted to surface with Type II/V neat cement. It took 2½ batches and 44 bags of sand for sand pack.

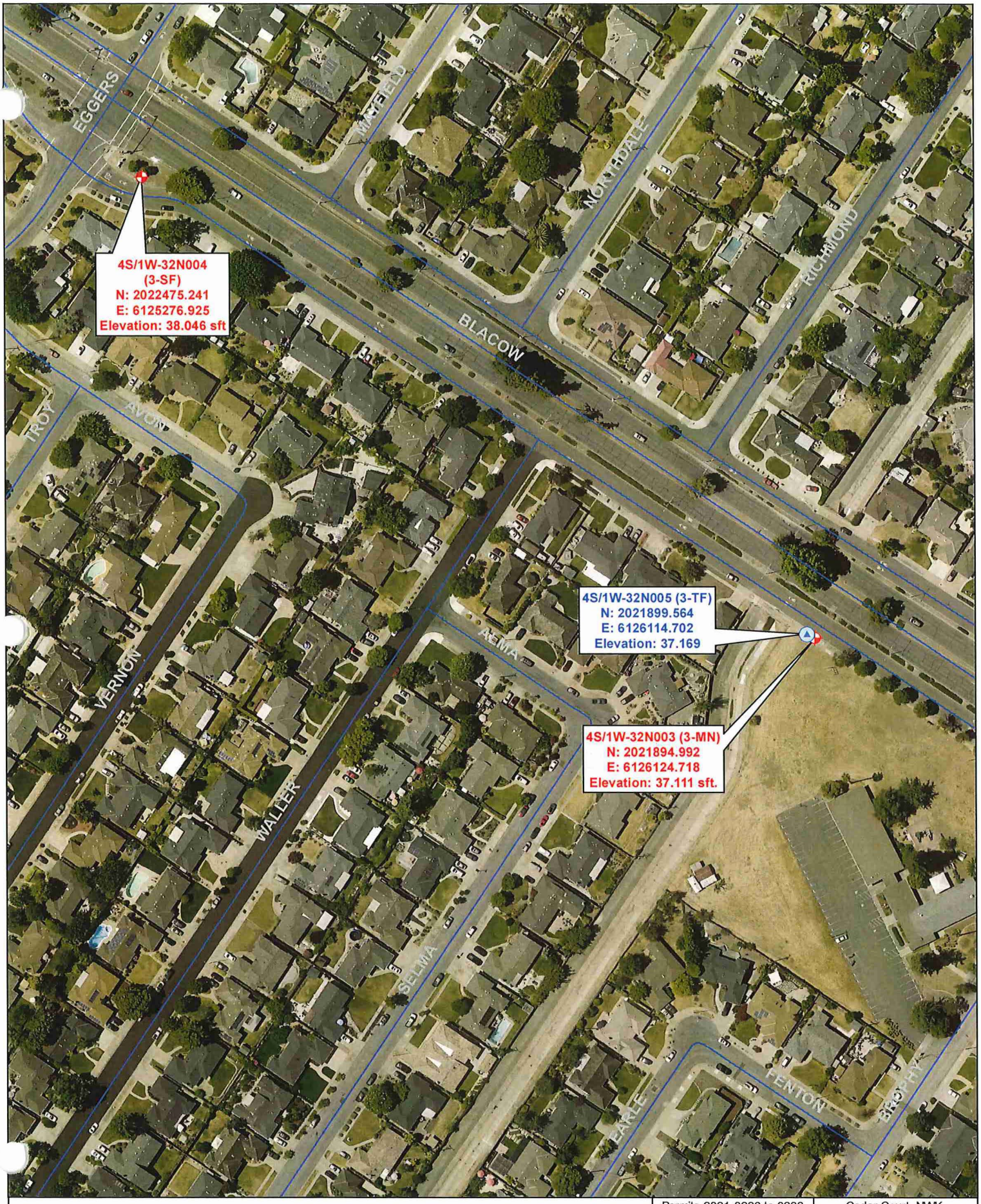
16:30 Departed site. Well construction complete.

10097 well Design 3-MN wellsite Eval Proj



10097 well Design 3-MN well site Eval Proj





ACWD
ALAMEDA COUNTY WATER DISTRICT

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Well Location Map

Permits 2021-0286 to 0288	Cedar Court, NWK
4S/1W-32N003 to N005	1:1800
Monitoring Well	03.10.2022
Water Well	Drawn By: Jeremy Bautista

WELL DATA

STATE WELL NO. 4S/1W-32N003

PERMIT NO. 2021-0286

OWNER: Alameda County Water District	SITE ID:
ADDRESS: 43885 S. Grimmer Blvd, FMT	WELL NAME: 4S/1W-32N003
TENANT:	OWNER NO.: 3-MN
SITE ADDRESS Near the INTERSECTION OF BLACOW ROAD AND BROPHY	3-MN
TYPE OF WELL ☐ SPECIAL STUDIES ☐ MONTHLY ☐ SEMI ANNUAL ☐ WATER QUALITY	
LOCATION COUNTY: Alameda County BASIN: Niles Cone	NO.
U.S.G.S. QUAD.	QUAD NO.
1/4 1/4 SECTION TWP. RGE. ☐MD ☐SB ☐H BASE & MERIDIAN	
COORDINATES (NAD83) NORTHING: 2021894.992 EASTING: 6126124.718	SOURCE Trimble R8

DESCRIPTION:

Well is in a 12" round EMCO Wheaton Christy box in the sidewalk at the northwest corner of 38801 Blacow Rd, Fremont, CA near the intersection of Blacow Rd and Brophy Dr.

REFERENCE POINT DESCRIPTION:

Top center of the christy box lid

WHICH IS FT. ABOVE ☐ BELOW ☐ LAND SURFACE DATUM	GROUND ELEVATION FT.
REFERENCE POINT ELEVATION 37.111 FT.	DETERMINED FROM: Top center of the christy box lid
WELL USE: Groundwater Monitoring	CONDITION: new
DEPTH: 115 FT.	
CASING, SIZE 2 IN., PVC	PERFORATIONS: 51-101'
SLOT SIZE: 0.020"	
MEASUREMENTS BY ☐ DWR ☐ USGS ☐ USBR ☐ COUNTY ☐ IRR. DIST. ☐ WATER DIST. ☐ CONS. DIST. ☐ OTHER	
GRAVEL PACK? ☑ YES ☐ NO	DEPTH TO TOP GR. 40'
DEPTH TO BOT GR. 111' 4"	
TYPE OF MATERIAL: #3 Sand	PERM. RATING
THICKNESS	
CHIEF AQUIFER	DEPTH TO TOP AQ.
DEPTH TO BOT. AQ.	
SUPP. AQUIFER	DEPTH TO TOP AQ.
DEPTH TO BOT. AQ.	
DRILLER: Pitcher Serv. (Marcos/Andrew)	DATE DRILLED: 01-11-2022
LOG NUMBER (DWR 188)	
WELL PUMP TYPE	MAKE
MODEL	SERIAL NO.
WATER ANALYSIS MIN.	SAN.
H.M.	
POWER SOURCE	WATER LEVELS AVAILABLE? ☐ YES ☐ NO
H.P.	MOTOR SERIAL NO
PERIOD OF RECORD BEGIN	END
ELEC. METER NO.	TRANSFORMER NO.
COLLECTING AGENCY	
SIZE OF DISCHARGE PIPE IN.	
YIELD G.P.M.	PUMPING LEVEL FT.
PROD. REC.	PUMP TEST
YIELD	

SKETCH



REMARKS

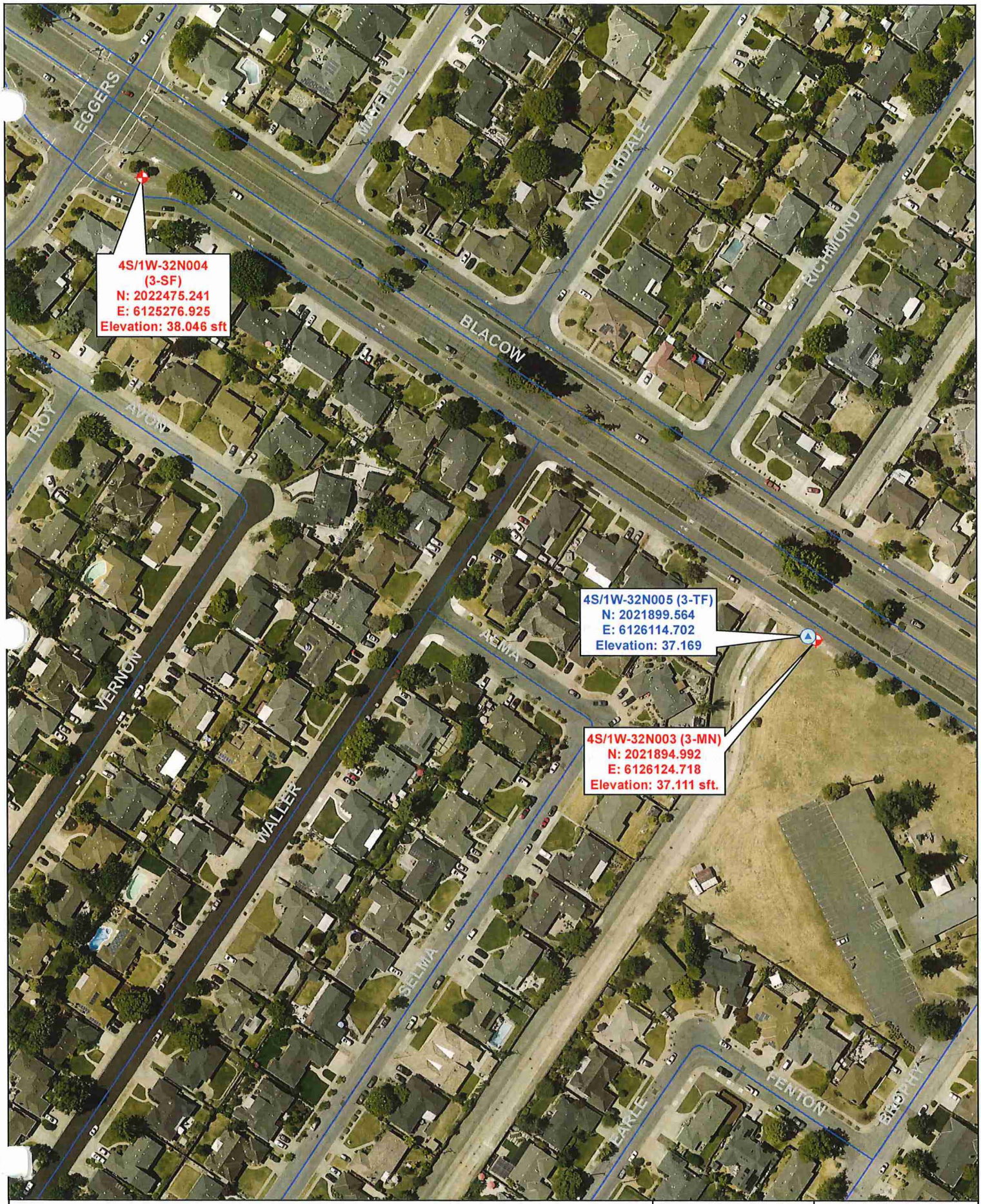
115' total depth of original borehole
8" diameter borehole
12" round EMCO Wheaton christy box
0.5-51' – 2" blank Schedule 80 PVC casing
51-101' – 2" slotted Schedule 80 PVC casing (0.020" slots)
101-111' 4" – 2" blank Schedule 80 PVC casing + end cap

PERMIT NO.: 2021-0286

SANITARY SEAL: 1-40' - Type II/V neat cement

RECORDED BY: Jeremy Bautista

DATE: 03-15-2022



ACWD
ALAMEDA COUNTY WATER DISTRICT

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Well Location Map

Permits 2021-0286 to 0288	Cedar Court, NWK
4S/1W-32N003 to N005	1:1800
Monitoring Well	03.10.2022
Water Well	Drawn By: Jeremy Bautista

WELL DATA

STATE WELL NO. 4S/1W-32N003

PERMIT NO. 2021-0286

OWNER: Alameda County Water District	SITE ID:
ADDRESS: 43885 S. Grimmer Blvd, FMT	WELL NAME: 4S/1W-32N003
TENANT:	OWNER NO.: 3-MN
SITE ADDRESS Near the INTERSECTION OF BLACOW ROAD AND BROPHY	3-MN
TYPE OF WELL ☐ SPECIAL STUDIES ☐ MONTHLY ☐ SEMI ANNUAL ☐ WATER QUALITY	
LOCATION COUNTY: Alameda County BASIN: Niles Cone	NO.
U.S.G.S. QUAD.	QUAD NO.
1/4 1/4 SECTION TWP. RGE. ☐MD ☐SB ☐H BASE & MERIDIAN	
COORDINATES (NAD83) NORTHING: 2021894.992 EASTING: 6126124.718	SOURCE Trimble R8

DESCRIPTION:

Well is in a 12" round EMCO Wheaton Christy box in the sidewalk at the northwest corner of 38801 Blacow Rd, Fremont, CA near the intersection of Blacow Rd and Brophy Dr.

REFERENCE POINT DESCRIPTION:

Top center of the christy box lid

WHICH IS FT. ABOVE ☐ BELOW ☐ LAND SURFACE DATUM	GROUND ELEVATION FT.
REFERENCE POINT ELEVATION 37.111 FT.	DETERMINED FROM: Top center of the christy box lid
WELL USE: Groundwater Monitoring	CONDITION: new DEPTH: 115 FT.
CASING, SIZE 2 IN., PVC	PERFORATIONS: 51-101' SLOT SIZE: 0.020"
MEASUREMENTS BY ☐ DWR ☐ USGS ☐ USBR ☐ COUNTY ☐ IRR. DIST. ☐ WATER DIST. ☐ CONS. DIST. ☐ OTHER	
GRAVEL PACK? ☑ YES ☐ NO	DEPTH TO TOP GR. 40' DEPTH TO BOT GR. 111' 4"
TYPE OF MATERIAL: #3 Sand	PERM. RATING THICKNESS
CHIEF AQUIFER	DEPTH TO TOP AQ. DEPTH TO BOT. AQ.
SUPP. AQUIFER	DEPTH TO TOP AQ. DEPTH TO BOT. AQ.
DRILLER: Pitcher Serv. (Marcos/Andrew)	DATE DRILLED: 01-11-2022 LOG NUMBER (DWR 188)
WELL PUMP TYPE / MAKE / MODEL / SERIAL NO.	
WATER ANALYSIS MIN. / SAN. / H.M.	
POWER SOURCE	WATER LEVELS AVAILABLE? ☐ YES ☐ NO
H.P. / MOTOR SERIAL NO	PERIOD OF RECORD BEGIN / END
ELEC. METER NO. / TRANSFORMER NO.	COLLECTING AGENCY
SIZE OF DISCHARGE PIPE IN.	
YIELD G.P.M. / PUMPING LEVEL FT.	PROD. REC. / PUMP TEST / YIELD

SKETCH



REMARKS

115' total depth of original borehole
8" diameter borehole
12" round EMCO Wheaton christy box
0.5-51' – 2" blank Schedule 80 PVC casing
51-101' – 2" slotted Schedule 80 PVC casing (0.020" slots)
101-111' 4" – 2" blank Schedule 80 PVC casing + end cap

PERMIT NO.: 2021-0286

SANITARY SEAL: 1-40' - Type II/V neat cement

RECORDED BY: Jeremy Bautista

DATE: 03-15-2022

Monitoring Well Construction

Inspector: Pablo Cortez
Permit No.:
Job No.:
Well No.: 4S/1W-32N003
Date: 1-19-22
Other Well ID: 3-MN

Job Location:
Contractor: Gregg/Pitcher Drilling

Major Equipment and Materials On-site

ITEM	MATERIALS RECEIVED TODAY
Well development rig	
Support truck	
Compressor	
Waste bin	

Contractor Arrival Time: 7:00
Contractor Departure Time: 17:00
Daily Start Depth: ft.
Daily Finish Depth: ft.
Daily Drill Bit Size(s):

Delays/Accidents:

ACWD Meter No.: **Beginning Meter Reading:** **End Meter Reading:**

Pictures Taken: ☐ YES ☐ NO
Visitors to Job Site:

Construction Details

Final Bit Size & Type:
Total Borehole Depth: ft.
Control Casing Size: in.
Control Casing Depth: ft. to ft.
Conductor Casing Size: in.
Conductor Casing Depth: ft. to ft.
Well Casing Diameter: in.
Completed Well Depth: ft.
Perforation Slot Size: in.
Perforation Interval: ft. to ft.
Sand Info.:
Sand Interval: ft. to ft.
and ft. to ft.
Grout Mix:
Grout Interval: ft. to ft.
Bottom Plug Info.:
*and** ft. to ft.

*Two grout intervals if bottom of borehole extended beyond completed well depth and was grouted prior to well construction.

Monitoring Well Construction Remarks

Inspector: **Permit No.:**

7:30 Arrived onsite. Met with Gregg/Pitcher crew. Set up development rig over well.

7:53 Began bailing well.

10:04 Bailing complete. Total depth tagged at 111'.

11:00 Began airlifting well. Flow rate = 6.25 gal/min.

14:10 Stopped pump. Water was still very silty. Attempting to adjust the flow. New flow rate = 4 gal/min.

16:00 Pumping complete.

16:45 Final depth to water tagged at 28.10'. Well is clear to total depth of 111'. Well development complete.

ALAMEDA COUNTY WATER DISTRICT

MONITORING WELL SAMPLING RECORD

WELL ID: 45/1W-32N003
PROJECT NO:
PROJECT NAME:
DATE: 1/19/22
SAMPLED BY: PC

DEPTH TO WATER: 28.22
TOTAL DEPTH OF WELL: 111'
WELL DIAMETER: 2"
CASING VOLUME:
METHOD OF PURGING: Air lift

TIME	CUMULATIVE VOL. REMOVED (GALLONS)	TEMPERATURE (°C)	pH (UNITS)	SPECIFIC CONDUCTANCE (UMHOS/CM)	REMARKS (COLOR, TURBIDITY & SEDIMENT)
11:30	187	17.4	7.63	1134	T = (Overrange)
12:00	375	18.2	8.29	1156	T = (Overrange)
12:30	562	18.5	8.21	1172	T = 725 NTU
13:36	975	19.7			T = 393 NTU
14:00	1,125	18.7			T = 338 NTU
15:00	1,325	19.2	7.27	1285	T = 14.6 NTU
15:15	1,385	18.5	7.60	1190	T = 6.90 NTU
15:30	1,445	18.2	7.75	1189	T = 6.52 NTU
15:45	1,505	18.4	7.87	1189	T = 4.46 NTU
16:00	1,565	18.5	7.85	1192	T = 4.03 NTU
Stopped pump at		16:00.	Final depth to water = 28.10'		
Well cleaned out		to bottom.			

NOTES: Total depth = 94' at start. Began air purge at 11:00. Flow rate = 6.25 gal/min. Stopped pump at 14:10 and restarted at 4 gal/min. due to high silt content. Readings from 15:00 at 4 gpm. Ph/Conductivity meter malfunctioned at 13:36 and 14:00.

Start time: 10:22 am

SPECIFIC CAPACITY DATA SHEET

Well Location
Well Number 3-MN (45/1W-32N003)
Totalizer Start 40821 x100 gal
End 40988 x100 gal
Remarks

Date 4/4/2022
Measured By SZS AL
Discharge Presure

MINUTES	TIME	FLOW RATE (gpm)	STATIC DTW (ft)	PUMPING DTW (ft)	DRAWDOWN (ft)	SPECIFIC CAPCAITY (gpm/ft)
1	1023	150	27.57'			
2			~~2~~ AL			
3						
4	~~1029~~ AL		~~27.64~~ AL			
5						
6						
7	1029		27.64			
8						
9						
10			~~2~~ AL			
11						
12	~~1037~~		27.57			
14						
16	1041		27.57			
18						
20	1045		27.57			
25						
30	1055		27.57			
35						
40	1105		27.57			
45	1110		~~27.57~~			
51 ~~50~~	1116		27.59			
60						
70						
80	1145		27.59			
90						
100						

SPECIFIC CAPACITY DATA SHEET 27.57 @ 1208

Well Location
Well Number 3-MN (45/1W-32N003)
Totalizer Start 40988 x 100 gal
End 41243 x 100 gal
Remarks @ ~~1236~~ 1239, 57 lowered transducer elevation so top was @ TOC, consistent w/ other two MWs.

Date 4/4/2022
Measured By AL
Discharge Presure

MINUTES	TIME	FLOW RATE (gpm)	STATIC DTW (ft)	PUMPING DTW (ft)	DRAWDOWN (ft)	SPECIFIC CAPCAITY (gpm/ft)
1		200				
2						
3						
4						
5						
6	1208			27.57		
7						
8						
9						
10						
11	1213			27.57		
12						
14	1216			27.57		
16	1218			27.57		
18						
20	1222			27.58		
25	1227			27.57		
30						
35	1237.			27.59		
40	1242			27.57		
45	1247			27.57.		
50	1252			27.57		
60	1302			27.56		
70	1312			27.56		
80	1322			27.56		
~~90~~ 92	1334			27.56		
100						

SPECIFIC CAPACITY DATA SHEET

Well Location ~~CC4S/1W-32N001~~ 3-MN (4S/1W-32N003)
Well Number
Totalizer Start 41203 x100 gal
End 41464 x100 gal
Remarks

Date 4/4/22
Measured By AL, JB
Discharge Presure

MINUTES	TIME	FLOW RATE (gpm)	STATIC DTW (ft)	PUMPING DTW (ft)	DRAWDOWN (ft)	SPECIFIC CAPCAITY (gpm/ft)
1		250				
2						
3						
4						
5						
6	1346			27.57		
7	1347.					
8						
9						
10	1350			27.56		
11						
12	1352			27.56		
14	1354			27.56		
16	~~1354~~ 1356			27.56		
18	1400			27.56.		
20						
25	1407			27.55		
30	1412			27.55		
35	1417			27.55		
40						
45	1427			27.52		
50	1432			27.57		
60	1442			27.55		
71 ~~70~~	1453			27.54		
80	1502			27.55		
90	1512			27.53		
~~100~~ 98	1520			27.55		

SPECIFIC CAPACITY DATA SHEET

Well Location
Well Number 3-MN (45/1W-32N003)
Totalizer Start 41464 x100 gal
End 41793 x100 gal
Remarks Photos of totalizer not very clear d/t scratched surface.

Date 4/4/22
Measured By AL, SZ, JB
Discharge Presure

MINUTES	TIME	FLOW RATE (gpm)	STATIC DTW (ft)	PUMPING DTW (ft)	DRAWDOWN (ft)	SPECIFIC CAPCAITY (gpm/ft)
1		300		27.55		
2	1524			~~27.55~~ 27.55		
3				~~27.55~~ AL		
4	1526			27.55		
5						
6	1528			27.50.		
7						
8						
9	1531			27.47		
10						
11						
12	1534			27.54		
14	1536			27.55		
16	1538			27.49		
18	1540.			27.48		
~~20~~ 22	1544			27.47		
25	1547			27.48		
30	1552			27.51		
35	1557			27.50		
40	1607			27.51		
45	1607			27.51		
~~50~~ 51	1613			27.51		
60	1622			27.48		
70	1632			27.50		
80	1642			27.52		
90	1652			27.52		
100	1702			27.52		

SPECIFIC CAPACITY DATA SHEET

Well Location 45/1W-32N001
Well Number 45/1W-32N003
Totalizer Start
End
Remarks

Date 04.05.22
Measured By J. Bautista / B. Thomas
Discharge Presure

32N003 / 32N001

MINUTES	TIME	FLOW RATE (gpm)	STATIC DTW (ft)	PUMPING DTW (ft)	DRAWDOWN (ft)	SPECIFIC CAPCAITY (gpm/ft)
1	0749		27.59' / 46.24'			
2						
3						
4	0803					
5						
6						
7						
8						
9						
10						
11						
12						
14						
16						
18						
20						
25	0824		~~46~~	27.61' / 46.34'		
30	0829					
35						
40	0846			27.52' / 46.38'		
45	0930			27.58 / 46.37		
50	0959			27.58 / 46.37		
60	1044			↓ / 46.38'		
70	1114			27.58 / 46.38'		
80	1144			27.57' / 46.38'		
90	1214			↓ / 46.40'		
100	1244			27.56' / 46.45'		

SPECIFIC CAPACITY DATA SHEET

Well Location _____
Well Number 4S/1W-32N001 / N003
Totalizer Start _____
End _____
Remarks _____

Date 04-05-22
Measured By J.Bautista/B.Thomas
Discharge Presure _____

4S/1W-32N003 / 4S/1W-32N001

MINUTES		TIME	FLOW RATE (gpm)	STATIC DTW (ft)	PUMPING DTW (ft)	DRAWDOWN (ft)	SPECIFIC CAPCAITY (gpm/ft)
115	1	1314			27.55 / 46.57		
145	2	1344			27.55 / 46.60		
215	3	1414			27.52 / 46.63		
245	4	1444			27.54 / 46.66		
315	5	1514			27.53 / 46.68		
345	6	1544			↓ / 46.69		
415	7	1614			27.52 / 46.71		
445	8	1644			27.51' / 46.71'		
515	9	1714			27.51' / 46.72'		
0545	10	1744			27.51 / 46.72		
~~0615~~	11	1814			27.51 / 46.77		
~~645~~	12	1844			27.50 / 46.79		
715 ~~660~~	14	~~1859~~ 1914			~~27.50~~ / 46.81		
745	16	1944			~~27.50~~ / 46.81		
0	18						
	20						
	25						
	30						
	35						
	40						
	45						
	50						
	60						
	70						
	80						
	90						
	100						

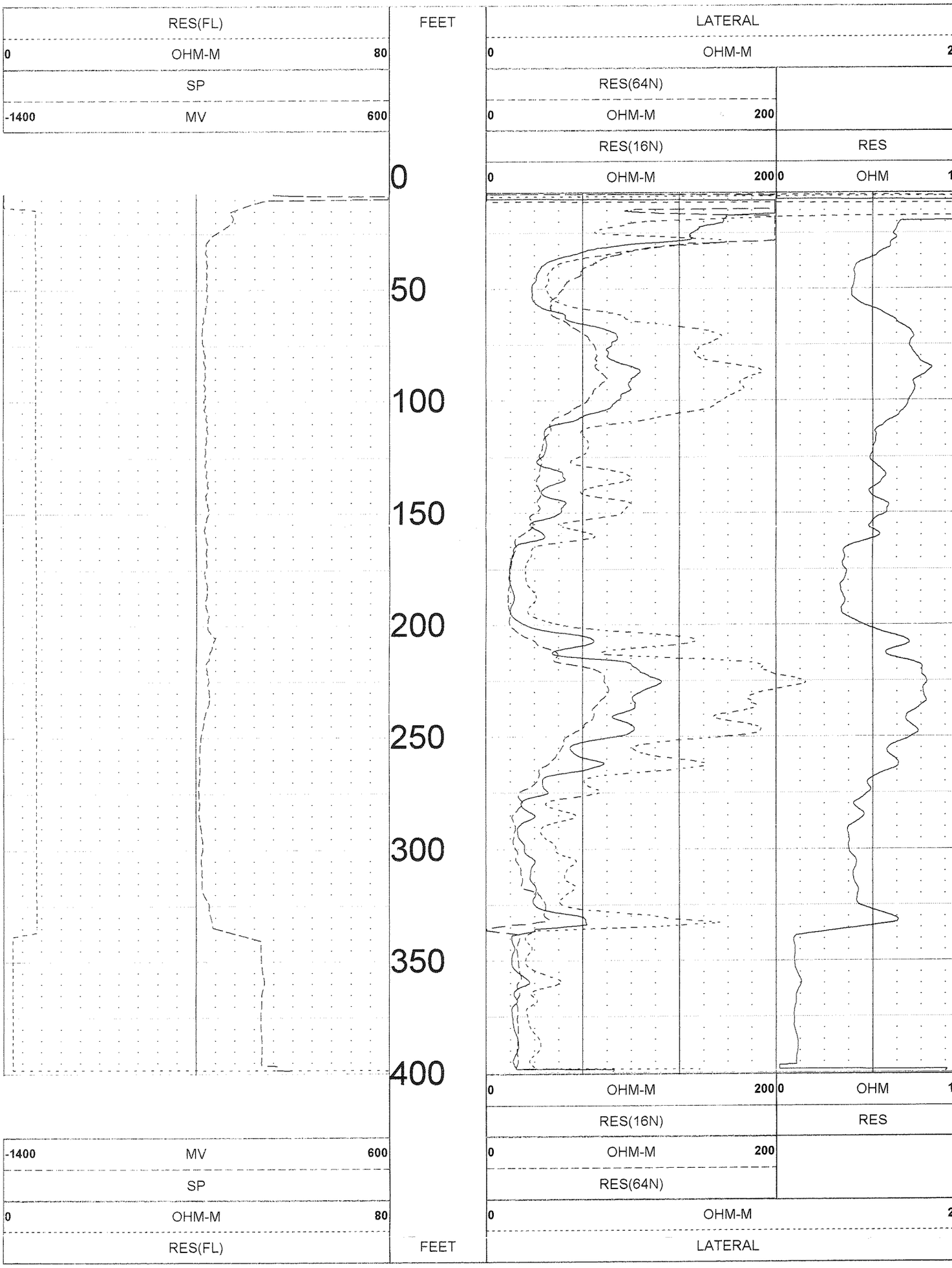
DEWEY DATA INC

3-SF

COMPANY	: 3- SF			OTHER SERVICES:	
WELL	: 3-SF			112221	
LOCATION/FIELD	: FREEMONT			N/A	
COUNTY	:				
LOCATION	: N/A				
SECTION	: N/A	TOWNSHIP	: N/A	RANGE	: N/A
DATE	: 11/22/21	PERMANENT DATUM	: N/A		
DEPTH DRILLER	: 400			KB	: N/A
LOG BOTTOM	: 400	LOG MEASURED FROM:	GND LVL	DF	: N/A
LOG TOP	: 7.2	DRL MEASURED FROM	: N/A	GL	: N/A
CASING DIAMETER	:	LOGGING UNIT	: 2		
CASING TYPE	: SURFACE	FIELD OFFICE	:		
CASING THICKNESS:		RECORDED BY	: KRW		
BIT SIZE	: 8	BOREHOLE FLUID	: MUD	FILE	: PROCESSED
MAGNETIC DECL.	: 11	RM	: .179	TYPE	: 9144A
MATRIX DENSITY	: 2.65	RM TEMPERATURE	: 68.5	LGDATE	: 11/22/21
NEUTRON MATRIX	: SANDSTONE	MATRIX DELTA T	: 54	LGTIME	: 13:53:
				THRESH:	0

PITCHER DRILLING
37.539751N -122.005313W

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS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LATERAL
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OHM-M
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OHM-M
80
RES(FL)
FEET
LATERAL
0
OHM-M

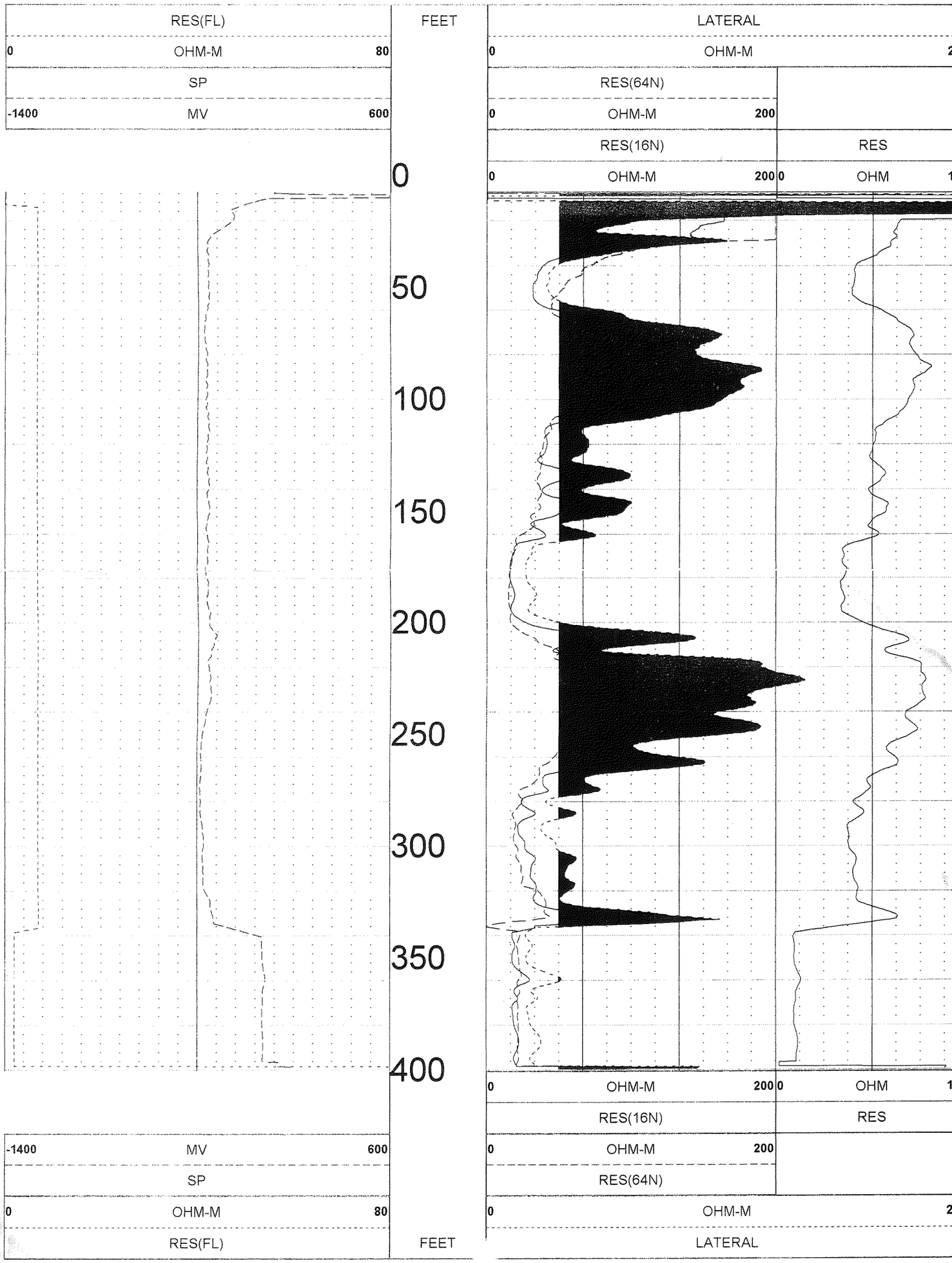
DEWEY DATA INC

3-SF

COMPANY	: 3- SF			OTHER SERVICES:	
WELL	: 3-SF			112221	
LOCATION/FIELD	: FREEMONT			N/A	
COUNTY	:				
LOCATION	: N/A				
SECTION	: N/A	TOWNSHIP	: N/A	RANGE	: N/A
DATE	: 11/22/21	PERMANENT DATUM	: N/A		
DEPTH DRILLER	: 400			KB	: N/A
LOG BOTTOM	: 400	LOG MEASURED FROM:	GND LVL	DF	: N/A
LOG TOP	: 7.2	DRL MEASURED FROM	: N/A	GL	: N/A
CASING DIAMETER	:	LOGGING UNIT	: 2		
CASING TYPE	: SURFACE	FIELD OFFICE	:		
CASING THICKNESS:		RECORDED BY	: KRW		
BIT SIZE	: 8	BOREHOLE FLUID	: MUD	FILE	: PROCESSED
MAGNETIC DECL.	: 11	RM	: .179	TYPE	: 9144A
MATRIX DENSITY	: 2.65	RM TEMPERATURE	: 68.5	LGDATE:	11/22/21
NEUTRON MATRIX	: SANDSTONE	MATRIX DELTA T	: 54	LGTIME :	13:53:
				THRESH:	0

PITCHER DRILLING
37.539751N -122.005313W

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS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RES(64N)
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OHM-M
LATERAL
-1400
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OHM-M
80
RES(FL)
FEET

S46#3

ALAMEDA COUNTY WATER DISTRICT
43885 South Grimmer Blvd. • P.O. Box 5110
Fremont, CA 94537-5110
Permitting & Scheduling (510) 668-4460

APPLICATION FOR DRILLING PERMIT

ACWD ORDINANCE NO. 2010-01

COMPUTER POSTED

Application Received		Permit Issued	Permit Expiration	Job No.	Permit No.
Date: 10/14/21	By: AS	Date: 11/4/21	Date: 1/4/22	10097	2021-0287
					Well No. 4S/1W-32N004

JOB ADDRESS:
Intersection of Blacow Road and Eggers Drive
Fremont, CA

PROPERTY OWNER
NAME: City of Fremont
ADDRESS: 3300 Capitol Avenue
Fremont, CA
TELEPHONE: (510) 284-4000

CONSULTING ENGINEER
NAME: Alameda County Water District
ADDRESS: 43885 South Grimmer Boulevard
Fremont, CA 94538
TELEPHONE: (510) 68-4452 RG/CEG/RCE NO. PG 5859

DRILLING CONTRACTOR
NAME: Pitcher Services, LLC
ADDRESS: 218 Demeter Street
East Palo Alto, CA 94303
E-MAIL ADDRESS: Terry Shewchuk <tshewchuk@pitcherservicesllc.com>
TELEPHONE: (650)328-8910 STATE LIC. NO. 1044895

When properly signed 3-SF

THIS APPLICATION IS A VALID PERMIT

to perform only work described below at the given job address, in accordance with ACWD Ordinance No. 2010-01 and all other applicable laws and regulations. Discontinuation of work may result in revocation of permit. ***Permittee must schedule the work in advance with ACWD.*** *ACWD's approval of drawings, designs, specifications, work plans, reports or incidental work and materials shall not relieve the permittee of responsibility for the technical adequacy of the work. Except for special circumstances, all work to be inspected must be performed within ACWD work hours – 7:00 a.m. to 4:30 p.m., Monday through Friday.*

PLEASE CHECK TYPE OF PROPOSED WORK
Each well or other excavation requires a separate permit application form unless otherwise indicated.
Only one specific type of work can be checked per permit application.

WELLS
☒ CONSTRUCTION ☐ REPAIR ☐ DESTRUCTION
☐ Water Well
Monitoring Well:
☒ Chemical Investigation
☐ Injection Well (for Chemical Cleanup)
☐ Geotechnical Investigation
☐ Geothermal Heat Exchange Well
☐ Dewatering Well *(Multiple dewatering wells may be grouped together on the same permit application form)*
Quantity: _____

EXPLORATORY HOLES
☐ CONSTRUCT./DESTRUCT.
Multiple exploratory holes of the same type may be grouped together on the same permit application form.
☐ Chemical Investigation
☐ Injection Boreholes
☐ Soil Vapor Sampling
☐ Geotechnical Investigation
Quantity: _____

OTHER EXCAVATIONS
☐ CONSTRUCTION ☐ REPAIR ☐ DESTRUCTION
☐ Cathodic Protection Well ☐ Inclinometer
☐ Vibrating Wire Piezometer ☐ Elevator Shaft
Multiple other excavations of the same type may be grouped together on the same permit application form for the following:
☐ Cleanup Site Excavation(s) ☐ Wick Drains
☐ Shaft, Tunnel, or Directional Borehole (s) ☐ Support Piers, Piles, or Caissons
☐ Other: _____ Quantity: _____

DESCRIPTION OF PROPOSED WORK:
Installation of 2" diameter monitoring well
Well Name: Blacow Road 3-SF

TOTAL ESTIMATED COST
$_____

PERMIT CONDITIONS:
Monitoring Well Construction to comply with current ACWD Standards

FEES: ☐ Private ☐ City ☒ Governmental Agency
GUARANTEE OF PERFORMANCE: ☐ Cash Deposit ☐ Bond
REFUND: Amount $ _____ Reason: _____

FEES/ DEPOSIT: Date Received _____ Estimated Amount $ _____
Check No. _____ Actual Amount $ _____
Cash _____ Difference $ _____

ACWD SITE NO. 0
APPROVED FOR SCHEDULING BY: [signature] DATE: 11/10/2021 APPROVED BY: [signature] DATE: 11/10/2021

I hereby agree to comply with all conditions of this permit in accordance with ACWD Ordinance No. 2010-01 and to furnish the District a completed copy of D.W.R. Drillers Report (form 188) within sixty (60) days after completion as well as any chemical testing results within thirty (30) days after completion.

Title: Associate Hydrogeologist Signature: [signature] Date: 10/12/2021

Representing: Alameda County Water District Name (printed): Douglas Young

ACWD #458 11-12

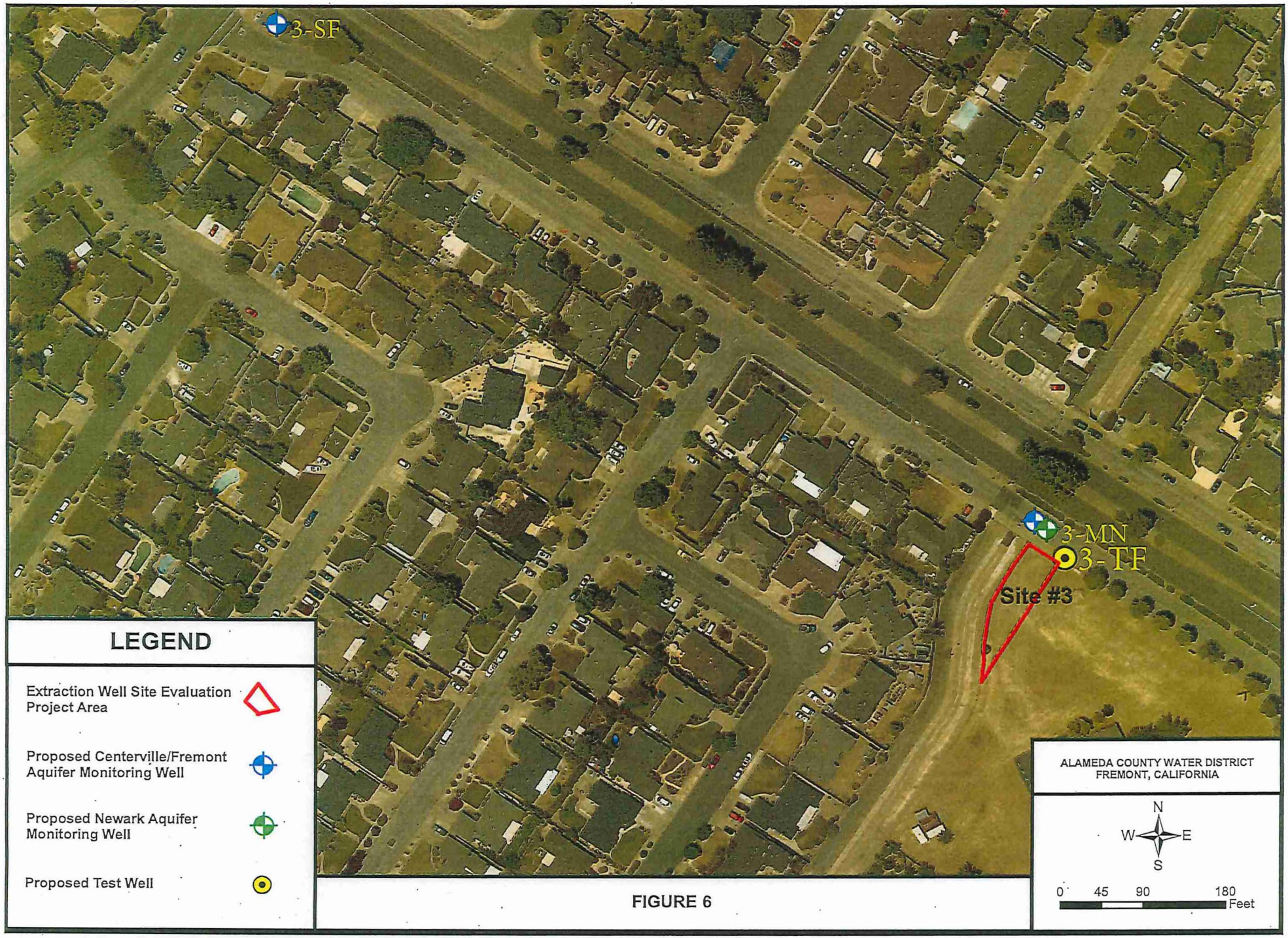

3-SF
3-MN
3-TF
Site #3
LEGEND
Extraction Well Site Evaluation Project Area
Proposed Centerville/Fremont Aquifer Monitoring Well
Proposed Newark Aquifer Monitoring Well
Proposed Test Well
ALAMEDA COUNTY WATER DISTRICT
FREMONT, CALIFORNIA
N
W
E
S
0
45
90
180
Feet

FIGURE 6

ALAMEDA COUNTY WATER DISTRICT

43885 South Grimmer Blvd., P.O. Box 5110, Fremont, CA 94537 Tel. No. (510) 668-4460 Fax No. (510) 651-1760

SITE HAZARD INFORMATION

Please provide the following information for the site

Owner's Name: Alameda County Water District

Site Address: 43885 South Grimmer Bounevard

Fremont, CA 94538

Consultant on Site: Douglas Young Phone No. (510) 668-4452

Site Safety Officer: Douglas Young Phone No. (510) 668-4452

Type of Facility: City Right-of-Way

Anticipated Hazardous Substances - (Attach Additional Sheets if Necessary)
(Please include concentrations below. Note if free product historically on site)

Name	Expected Concentrations (ppm) (List medium – i.e. soil, water, air)	PEL (ppm)	Health Effects
☐ Gasoline			
☐ Diesel			
☐ Waste Oil			
None Expected			

District Use Only
11/10/2021
Checked Against Reported Contaminants

Site Safety Meeting Date: Time:

Level of Personal Protection Equipment ☐A ☐B ☐C ☑D

Personal Protective Equipment:
R = Required A = As Needed, with description of action concentrations)

R	A		R	A	
☑	☐	Hard Hat	☐	☐	Clothing (Type):
☑	☐	Safety Shoes	☐	☐	Respirator (Type):
☑	☐	Orange Traffic Vest	☐	☐	Cartridge (Type):
☐	☑	Hearing Protection	☐	☐	Gloves (Type):
☑	☐	Safety Eyewear	☐	☐	Other:

Site Hazard Information Provided By: Douglas Young (Print) Phone: (510) 668-4452

ACWD / Associate Hydrogeologist (Company name & title) (Signature) Date: 10/12/21

ACWD #173 (Revised 10/15/03)

PERMIT NO. 2021-0287 WELL NO. 4S/1W-32N004 (3-SF)

INSPECTOR	DATE	TIME	REMARKS
Andres Aguayo	11-15-21	9:05	Arrived on Site.
			Pitcher drilling (Marco, Mike, Andre) on site with Tophead Mud Rotary Drill Rig Truck using 8" drill bits
			ACWD (Doug Young) also on site. Pitcher crew is currently setting up fenced area.
		9:20	Ponder environmental services arrived to drop off 2 dumpsters. One dumpster located near Eggers on Blacow Frontage Rd, close to drilling site for 3-SF.
			Second dumpster is located inside church property by fence, near the canal. Both locations are in good conditions
		10:10	Doug left site.
		10:20	Currently hand augering @ 8'
			0' - 3' clay
			3' - 8' silty SAND
		10:25	Mike left site
		11:20	Began loading 8" conductor casing
		11:40	Conductor casing loaded.
		11:50	Mike returned to site with supplies for Pitcher crew and a portable restroom.
		12:05	Began to drill using MUD rotary method with an 8" drill bit attached to the drill pipe.

NUMBER OF EXPLORATORY HOLES _____

WORK COMPLETED _____ (DATE) OR PERMIT VOIDED _____ (DATE)

COPY OF PERMIT TO _____ (REVIEWING INDIVIDUAL) ON _____ (DATE) BY _____ (INITIALS)

PERMIT NO. 2021-0287 WELL NO. 4S/1W-32N004 (3-5F)

INSPECTOR	DATE	TIME	REMARKS
Andres Aguayo	11-15-21	12:30	Crew setting cuttings^samples aside every 5ft for soil assesment (10' is missing)
		14:40	Doug arrived on site and began classifying the soil retrieved from the borehole (3-5f)
		16:15	Reached 90' depth. Crew began to remove drill pipes and drill bit from borehole.
		16:30	All 90' of drill pipe and drill bit removed from borehole and set aside. Borehole seared.
		16:35	Doug allowed Marco to come in tomorrow @ 7:00 but to not drill until after 7:30.
		16:40	Doug left site
		16:45	Left site Pitcher crew were still picking up their tools.

NUMBER OF EXPLORATORY HOLES _____

WORK COMPLETED _____ (DATE) OR PERMIT VOIDED _____ (DATE)

COPY OF PERMIT TO _____ (REVIEWING INDIVIDUAL) ON _____ (DATE) BY _____ (INITIALS)

Monitoring Well Construction

Inspector: Pablo Cortez
Job No.: 10097
Date: 11/16/21

Permit No.: 2021-0287
Well No.: 4S/1W-32N004
Other Well ID: 3-SF

Job Location: Intersection of Blacow Rd and Brophy Dr
Contractor: Pitcher Services LLC

Major Equipment and Materials On-site

ITEM	MATERIALS RECEIVED TODAY
Drill rig	
Support truck	
Waste bin	
Forklift	

Contractor Arrival Time: 7:00
Contractor Departure Time: 5:00 pm
Daily Start Depth: 90 ft.
Daily Finish Depth: 190 ft.
Daily Drill Bit Size(s): 8"

Work Completed Summary: Drilled to 190'.

ACWD Meter No.: _____ **Beginning Meter Reading:** _____ **End Meter Reading:** _____

Pictures Taken: ☑ YES ☐ NO File Location: _____
Visitors to Job Site: Doug Young, Russ Broeckel
Delays/Accidents: _____

Construction Details

Final Bit Size & Type: _____
Control Casing Size: _____ in.
Conductor Casing Size: _____ in.
Well Casing Diameter: _____ in.
Perforation Slot Size: _____ in.
Sand Info.: _____
_____
Grout Mix: _____
Bottom Plug Info.: _____

Total Borehole Depth: _____ ft.
Control Casing Depth: _____ ft. to _____ ft.
Conductor Casing Depth: _____ ft. to _____ ft.
Completed Well Depth: _____ ft.
Perforation Interval: _____ ft. to _____ ft.
Sand Interval: _____ ft. to _____ ft.
and _____ ft. to _____ ft.
Grout Interval: _____ ft. to _____ ft.
*and** _____ ft. to _____ ft.

*Two grout intervals if bottom of borehole extended beyond completed well depth and was grouted prior to well construction.

Monitoring Well Construction Remarks

Inspector: **Permit No.:**

7:30 Arrived onsite. Pitcher Drilling crew is onsite. Currently at 90'.

7:45 Commence ~~drilling~~ lowering rods (PC). Target depth is 400'.

8:00 Commence drilling.

9:00 Currently at 118'.

10:00 Drill rig is having technical issues. They need to replace a valve. One of the drillers departed to get a part they need. Drilling halted for now. At 120'.

10:52 Driller returns with part.

11:09 Rig is fixed. Resume drilling activity. Also, Doug Young arrives.

12:05 Doug Young departs.

13:00 Russ Broeckel (City of Fremont) arrives.

13:10 Russ Broeckel departs.

15:30 Doug Young returns.

16:00 Drilling stops for today. Stopped at 190'.

16:20 Pulled out rods. Hole covered and secured. Doug Young departs site.

16:30 I depart site. Crew remains to barricade the site.

*Note: Someone broke into the portable bathroom onsite last night.

Monitoring Well Construction

Inspector: Pablo Cortez | **Permit No.:** 2021-0287

Job No.: 10097 | **Well No.:** 4S/1W-32N004

Date: 11/17/21 | **Other Well ID:** 3-SF

Job Location: Intersection of Blacow Rd and Brophy Dr

Contractor: Pitcher Services LLC

Major Equipment and Materials On-site

ITEM	MATERIALS RECEIVED TODAY
Drill rig	
Support truck	
Waste bin	
Forklift	

Contractor Arrival Time: 12:30 | Contractor Departure Time: 5:00

Daily Start Depth: 190 ft. | Daily Finish Depth: 250 ft.

Daily Drill Bit Size(s): 8"

Work Completed Summary: Drilled to 250'.

ACWD Meter No.: _____ **Beginning Meter Reading:** _____ **End Meter Reading:** _____

Pictures Taken: ☑ YES ☐ NO File Location: _____

Visitors to Job Site: Doug Young

Delays/Accidents: _____

Construction Details

Final Bit Size & Type: _____ | Total Borehole Depth: _____ ft.

Control Casing Size: _____ in. | Control Casing Depth: _____ ft. to _____ ft.

Conductor Casing Size: _____ in. | Conductor Casing Depth: _____ ft. to _____ ft.

Well Casing Diameter: _____ in. | Completed Well Depth: _____ ft.

Perforation Slot Size: _____ in. | Perforation Interval: _____ ft. to _____ ft.

Sand Info.: _____ | Sand Interval: _____ ft. to _____ ft.

_____ | *and* _____ ft. to _____ ft.

Grout Mix: _____ | Grout Interval: _____ ft. to _____ ft.

Bottom Plug Info.: _____ | *and** _____ ft. to _____ ft.

*Two grout intervals if bottom of borehole extended beyond completed well depth and was grouted prior to well construction.

Monitoring Well Construction Remarks

Inspector: Pablo Cortez **Permit No.:**

12:30 Arrived onsite. Pitcher Drilling crew onsite. Had to take the drill rig back to the shop earlier this morning for maintenance on the pumps. Rig is back onsite and the crew is getting set up.

12:51 Lowering rods back down the hole.

13:24 Began drilling.

13:15 Doug Young arrives.

16:00 Drilled to 250'. Stopped there for the day.

16:50 Hole secured. Departed site.

ALAMEDA COUNTY WATER DISTRICT

Monitoring Well Construction

Inspector: Pablo Cortez | **Permit No.:** 2021-0287

Job No.: 10097 | **Well No.:** 4S/1W-32N004

Date: 11/18/21 | **Other Well ID:** 3-SF

Job Location: Intersection of Blacow Rd and Brophy Dr

Contractor: Pitcher Services LLC

Major Equipment and Materials On-site

ITEM	MATERIALS RECEIVED TODAY
Drill rig	
Forklift	
Waste bin	
Support truck	

Contractor Arrival Time: 7:00 | Contractor Departure Time: 5:00

Daily Start Depth: 250 ft. | Daily Finish Depth: 345 ft.

Daily Drill Bit Size(s): 8"

Work Completed Summary: Drilled to 345'. Rig broke down. Made repairs for the latter half of the day.

ACWD Meter No.: _____ **Beginning Meter Reading:** _____ **End Meter Reading:** _____

Pictures Taken: ☐ YES ☑ NO File Location: _____

Visitors to Job Site: _____

Delays/Accidents: _____

Construction Details

Final Bit Size & Type: _____ | Total Borehole Depth: _____ ft.

Control Casing Size: _____ in. | Control Casing Depth: _____ ft. to _____ ft.

Conductor Casing Size: _____ in. | Conductor Casing Depth: _____ ft. to _____ ft.

Well Casing Diameter: _____ in. | Completed Well Depth: _____ ft.

Perforation Slot Size: _____ in. | Perforation Interval: _____ ft. to _____ ft.

Sand Info.: _____ | Sand Interval: _____ ft. to _____ ft.

_____ | *and* _____ ft. to _____ ft.

Grout Mix: _____ | Grout Interval: _____ ft. to _____ ft.

Bottom Plug Info.: _____ | *and** _____ ft. to _____ ft.

*Two grout intervals if bottom of borehole extended beyond completed well depth and was grouted prior to well construction.

Monitoring Well Construction Remarks

Inspector: Pablo Cortez **Permit No.:**

7:35 Arrived onsite. Pitcher Drilling crew onsite.

8:15 Lowering rods down the hole.

8:19 Driller says there is an obstruction at 20'. Attempting to clear it out.

8:34 Made it past the obstruction.

8:55 Another obstruction at 235'.

9:00 Hole caved in at 235', but they are drilling past it.

9:16 Drilled to 255'.

13:00 Doug Young arrives. Currently at 345'. Drillers are preparing to take a drive sample at this depth.

13:43 Terry Shewchuk (Pitcher) arrives onsite.

14:00 Pulled out rods. Drill rig broke one of its pullies. Drillers will have to make repairs. They will not be able to collect the sample today or advance the hole any farther.

14:14 Towered down the rig. Attempting to make repairs.

14:30 Hole has been secured. No more drilling for today. Departed site with Doug Young.

Monitoring Well Construction

Inspector: Pablo Cortez | **Permit No.:** 2021-0287

Job No.: 10097 | **Well No.:** 4S/1W-32N004

Date: 11/19/21 | **Other Well ID:** 3-SF

Job Location: Intersection of Blacow Rd and Brophy Dr

Contractor: Pitcher Services LLC

Major Equipment and Materials On-site

ITEM	MATERIALS RECEIVED TODAY
Drill rig	
Support truck	
Forklift	
Waste bin	

Contractor Arrival Time: 7:00 | Contractor Departure Time: _____

Daily Start Depth: _____ ft. | Daily Finish Depth: _____ ft.

Daily Drill Bit Size(s): _____

Work Completed Summary: Took soil sample at 345'.

ACWD Meter No.: _____ **Beginning Meter Reading:** _____ **End Meter Reading:** _____

Pictures Taken: ☐ YES ☑ NO File Location: _____

Visitors to Job Site: _____

Delays/Accidents: _____

Construction Details

Final Bit Size & Type: _____ | Total Borehole Depth: _____ ft.

Control Casing Size: _____ in. | Control Casing Depth: _____ ft. to _____ ft.

Conductor Casing Size: _____ in. | Conductor Casing Depth: _____ ft. to _____ ft.

Well Casing Diameter: _____ in. | Completed Well Depth: _____ ft.

Perforation Slot Size: _____ in. | Perforation Interval: _____ ft. to _____ ft.

Sand Info.: _____ | Sand Interval: _____ ft. to _____ ft.

_____ | *and* _____ ft. to _____ ft.

Grout Mix: _____ | Grout Interval: _____ ft. to _____ ft.

Bottom Plug Info.: _____ | *and** _____ ft. to _____ ft.

*Two grout intervals if bottom of borehole extended beyond completed well depth and was grouted prior to well construction.

Monitoring Well Construction Remarks

Inspector: **Permit No.:**

7:30 Arrived onsite. Pitcher Drilling crew onsite. Made repairs to cable pully. Driller says groundwater is at 24'.

8:08 Sending down rods.

8:45 Doug Young arrives onsite.

9:00 Cleaning out hole. 233' of rods in the hole at this time.

9:05 Doug Young departs.

9:26 Cleaned out hole. Removing rods.

9:40 Pulled out rods. Going back down with sampler.

34
45
50/3" } Blow counts

10:04 Pulling out sampler.

10:25 Collected sample. Sample depth = 345' - 346' 3".

11:20 Rods have been pulled out and hole is secured. Departed site.

32N004 - Depth

ALAMEDA COUNTY WATER DISTRICT

Monitoring Well Construction

Inspector: Brianna Thomas
Permit No.: 2021-0287
Job No.: 10097
Well No.: 4S/1W-32N004
Date: 11/22/21
Other Well ID: 3-SF

Job Location: Intersection of Blacow Rd and Brophy Dr
Contractor: Pitcher Services LLC

Major Equipment and Materials On-site

ITEM	MATERIALS RECEIVED TODAY
Drill rig	
Support truck	
forklift	
Waste bin	

Contractor Arrival Time: 0700
Contractor Departure Time: 1645
Daily Start Depth: 346 ft.
Daily Finish Depth: 400 ft.
Daily Drill Bit Size(s): 8"

Work Completed Summary: reach 400' TD; E-logged boring; grouted bottom 50'

ACWD Meter No.: **Beginning Meter Reading:** **End Meter Reading:**

Pictures Taken: ☑ YES ☐ NO File Location:
Visitors to Job Site: Doug Young
Delays/Accidents:

Construction Details

Final Bit Size & Type:
Control Casing Size: in.
Conductor Casing Size: in.
Well Casing Diameter: in.
Perforation Slot Size: in.
Sand Info.:
Grout Mix:
Bottom Plug Info.:

Total Borehole Depth: ft.
Control Casing Depth: ft. to ft.
Conductor Casing Depth: ft. to ft.
Completed Well Depth: ft.
Perforation Interval: ft. to ft.
Sand Interval: ft. to ft.
and ft. to ft.
Grout Interval: ft. to ft.
*and** ft. to ft.

*Two grout intervals if bottom of borehole extended beyond completed well depth and was grouted prior to well construction.

Monitoring Well Construction Remarks

Inspector: Brianna Thomas Permit No.: 2021-0287

0730 Arrive onsite, Pitcher drilling onsite - crew tells me they are at 346', groundwater is at 24'.
0805 Begin drilling at 260', boring needs to be cleaned out.
0900 Boring cleaned out to 345', continue drilling
1051 Reached 380', will notify Doug Young when 390' is reached.
1057 Jeremy Bautista arrives onsite to take over inspection
1055 Arrive on site
1059 Brianna Thomas leaves site.
1106 currently @ 385'
1110 reach 390', I call Doug Young. He is coming on site to log. Rig is shuddering
1122 391.5' shuddering ceases
1135 Doug Young arrives on site.
1145 currently @ 395'
1155 reach 400' total depth
1220 after circulating and cleaning the boring, begin pulling out AWJ rods.
1235 E-logger arrives on site.
1320 Pitcher completes pulling out casing (pic)
1330 E-logger backs into position and loads the sensors (pic)
1340 begin lowering sensors into the borehole.
1400 retract sensors
1420 E logger hands over E log report printouts.
1440 Pitcher begins lowering AWJ rods backinto the boring as tremie pipe.
1520 reach 400' w/ AWJ rods. begin setting up for grout.
1530 Doug Young tells me to let the drillers know to grout from 350-400'.
1535 Begin mixing Type II/V neat cement. (23x gallons / 10x 47# sacks)
1540 1st batched pumped ; begin mixing 2nd batch
1554 Doug leaves site
1600 pumped in 2x barrels. Terry Stewchuk calculated this to be ~50'. Begin pulling casing
1640 all pipe removed and hole secure. Left site

ALAMEDA COUNTY WATER DISTRICT

Monitoring Well Construction

Inspector: Pablo Cortez
Permit No.: 2021-0287
Job No.: 10097
Well No.: 4S/1W-32N004
Date: 11/23/21
Other Well ID: 3-SF

Job Location: Intersection of Blacow Rd and Brophy Dr
Contractor: Pitcher Services LLC

Major Equipment and Materials On-site

ITEM	MATERIALS RECEIVED TODAY
Drill rig	
Forklift	
Waste bin	
Support truck	

Contractor Arrival Time: 7:00
Contractor Departure Time: 7:45
Daily Start Depth: ft.
Daily Finish Depth: ft.
Daily Drill Bit Size(s):

Work Completed Summary: Installed well casing and sandpack

ACWD Meter No.: **Beginning Meter Reading:** **End Meter Reading:**

Pictures Taken: ☑ YES ☐ NO File Location:
Visitors to Job Site: Doug Young
Delays/Accidents:

Construction Details

Final Bit Size & Type:
Total Borehole Depth: ft.
Control Casing Size: in.
Control Casing Depth: ft. to ft.
Conductor Casing Size: in.
Conductor Casing Depth: ft. to ft.
Well Casing Diameter: in.
Completed Well Depth: ft.
Perforation Slot Size: in.
Perforation Interval: ft. to ft.
Sand Info.:
Sand Interval: ft. to ft.
and ft. to ft.
Grout Mix:
Grout Interval: ft. to ft.
Bottom Plug Info.:
*and** ft. to ft.

*Two grout intervals if bottom of borehole extended beyond completed well depth and was grouted prior to well construction.

Monitoring Well Construction Remarks

Inspector: **Permit No.:**

8:10 Arrived onsite. Drill crew is flushing out the borehole.

9:05 Driller notices little streaks of grout coming out while flushing the hole. At 280'.

9:13 Encountering a hard obstruction at 312'.

10:06 Made it past obstruction. ~~Cleaned out hole. Preparing to get well materials.~~ Still cleaning out hole. (PC)

10:44 Still cleaning out hole. Driller said grout was sitting at 335'. Will clean hole out to 355'.

10:51 Doug Young arrives.

11:34 Cleaned out hole to 356'.

11:40 Flushing out ~~well~~ hole (PC) with water.

12:45 Finished flushing. Pulled out rods.

13:00 Began installing well casing.

15:00 Doug Young departs.

15:16 Installed 2" Sch. 80 PVC casing to 356'.

16:02 Began pouring sandpack (#3 sand).

17:18 Still pouring sandpack. Kit See approved overtime.

17:41 Sand is at 325.5'.

19:00 Sand brought up to 290'. Took 54 bags of #3 sand.

19:15 Departed site.

10' blank PVC silt trap at bottom

0.20" slotted screen (305'-345')

ACWD
ALAMEDA COUNTY WATER DISTRICT

Monitoring Well Construction

Inspector: Anton Shorno
Permit No.: 2021-0287
Job No.: 10097
Well No.: 4S/1W-32N004
Date: 11/24/21
Other Well ID: 3-SF

Job Location: Intersection of Blacow Rd and Brophy Dr
Contractor: Pitcher Services LLC

Major Equipment and Materials On-site

ITEM	MATERIALS RECEIVED TODAY
Drill Rig (2)	
Forklift	
(2) Roll off waste bins	
Support Truck	

Contractor Arrival Time: 0700
Contractor Departure Time: _____
Daily Start Depth: _____ ft.
Daily Finish Depth: _____ ft.
Daily Drill Bit Size(s): _____

Work Completed Summary: _____

ACWD Meter No.: _____ **Beginning Meter Reading:** _____ **End Meter Reading:** _____

Pictures Taken: ☒ YES ☐ NO File Location: _____
Visitors to Job Site: _____
Delays/Accidents: _____

Construction Details

Final Bit Size & Type: _____
Total Borehole Depth: _____ ft.
Control Casing Size: _____ in.
Control Casing Depth: _____ ft. to _____ ft.
Conductor Casing Size: _____ in.
Conductor Casing Depth: _____ ft. to _____ ft.
Well Casing Diameter: _____ in.
Completed Well Depth: _____ ft.
Perforation Slot Size: _____ in.
Perforation Interval: _____ ft. to _____ ft.
Sand Info.: _____
Sand Interval: _____ ft. to _____ ft.
and _____ ft. to _____ ft.
Grout Mix: _____
Grout Interval: _____ ft. to _____ ft.
Bottom Plug Info.: _____
*and** _____ ft. to _____ ft.

*Two grout intervals if bottom of borehole extended beyond completed well depth and was grouted prior to well construction.

Monitoring Well Construction Remarks

Inspector: Ann Sterno **Permit No.:**

0730 Arrived on site. Drill crew setting up to cement well.

0815 Doug called HC said they will circulate water 2-3 hours prior completing grout to surface due to heat of hydration. Setting up system to circulate and grout.

0900 Mix first batch of neat cement type II/V Tremie is set to ~~bottom~~ top of sand pack a few feet of ~~the bottom~~ top to not blow out sand pack. 3/4" PVC PVC also set inside well to 280 ft to circulate water inside well. 3/4" PVC.

0915 Begin to pump neat cement. Tremie pipe is blocked, remove all PVC to clear PVC.

1000 First 50 gallons is pumped to Bottom via tremie pipe.

1015 Second batch added / 10:24 third batch pump'd Fourth batch added 10:35 Pulled out 50ft of tremie pipe Phillips said he has pumped 5 drums and he got alot of the plugged material in the seal. 10:45 sixth drum tremied, 10:55 am pulling seventh drum, 11:05 8th drum pumped

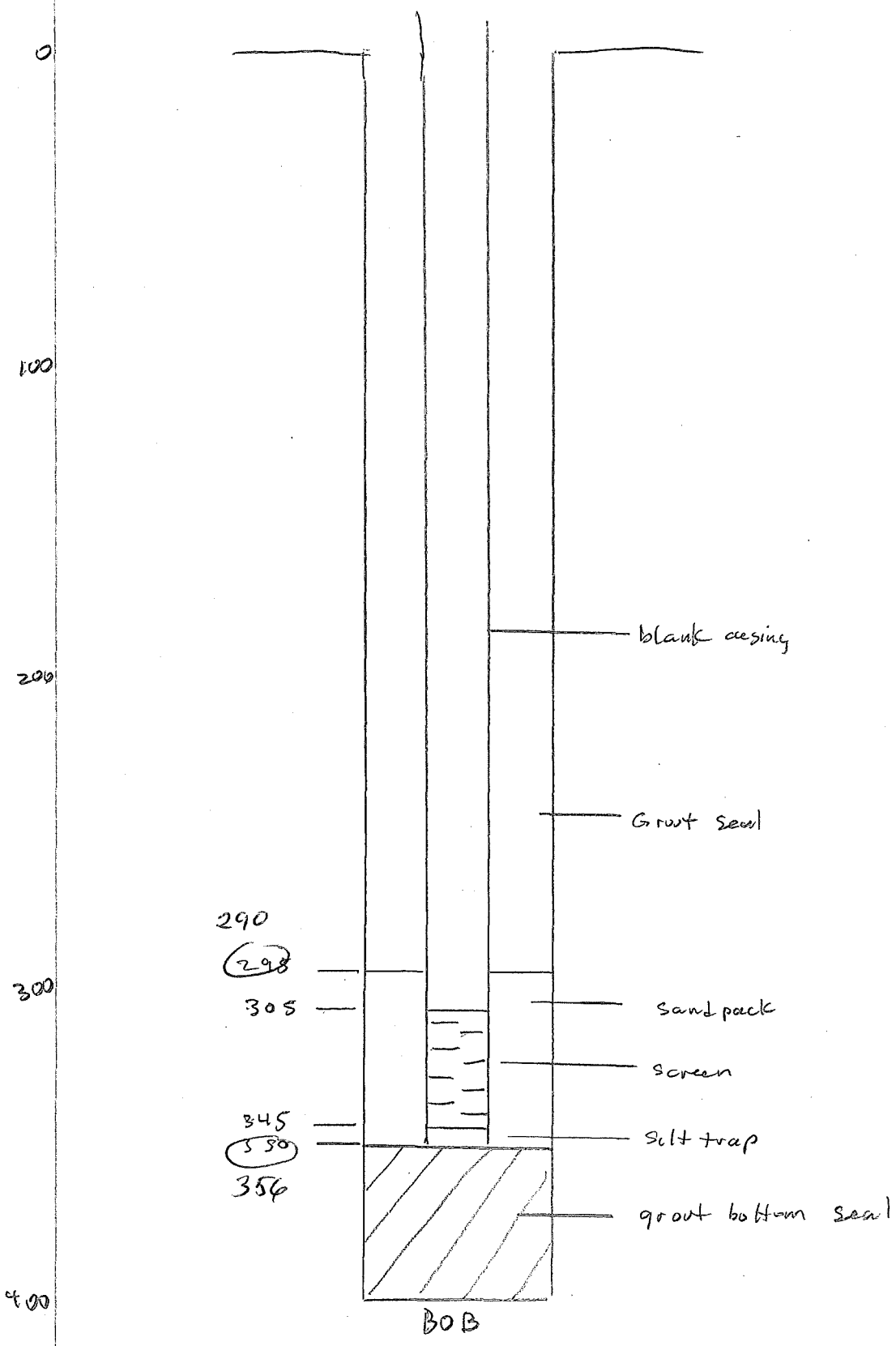
1105 Remove another 50 ft of PVC tremie

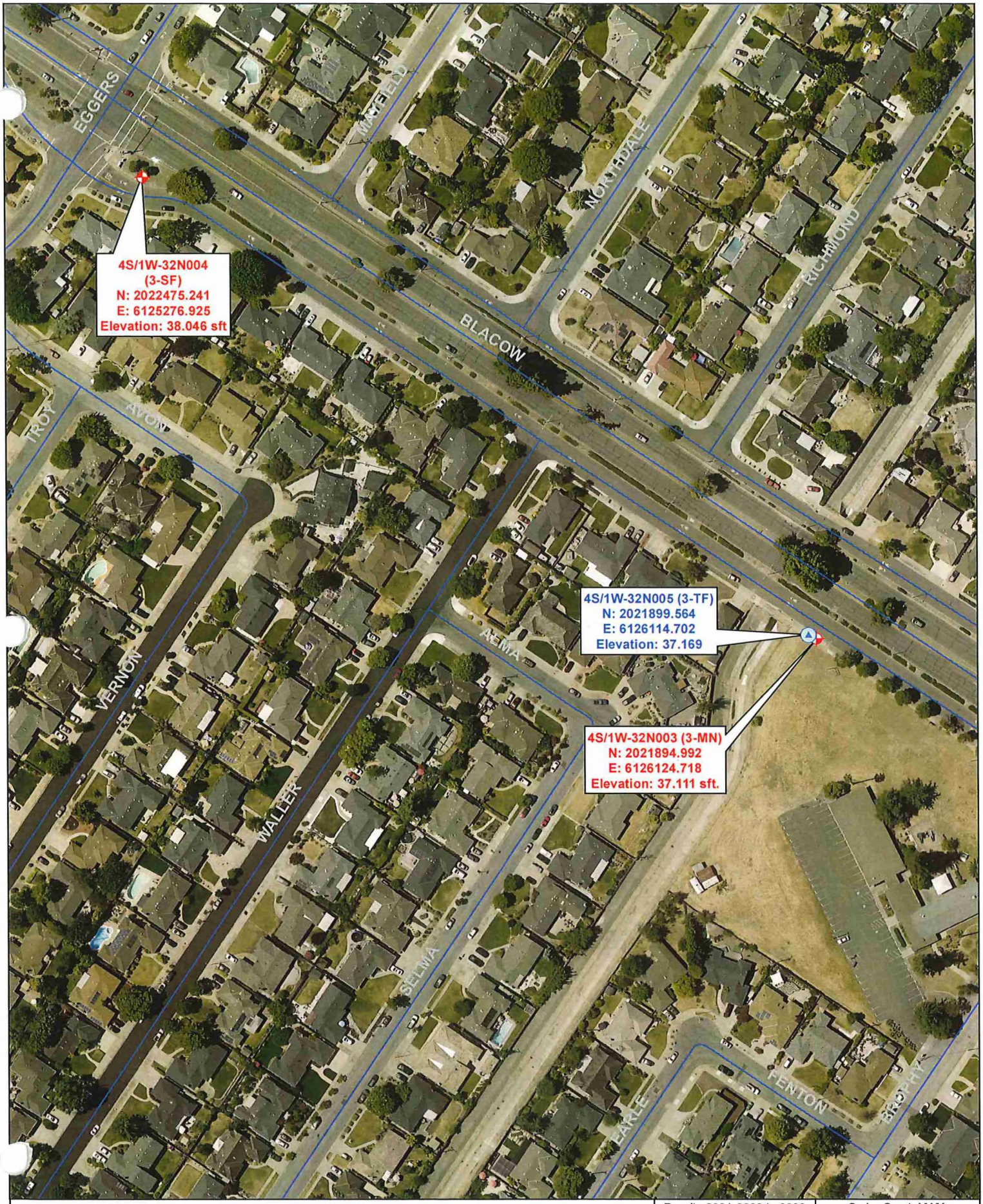
1115 9th Drum Pumped, 10th Drum pumped @ 11:20, 11:26 11:26 11th Drum added 11:34 12th drum and 50ft PVC Removed 1145 13th Drum added, 12:35 - Get mixed water and cement 14th Drum added 12:45 15th Drum added Have Grout Return.

1252 Left site

Proposed
well completion

35F





ACWD
ALAMEDA COUNTY WATER DISTRICT

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Well Location Map

Permits 2021-0286 to 0288	Cedar Court, NWK
4S/1W-32N003 to N005	1:1800
Monitoring Well	03.10.2022
Water Well	Drawn By: Jeremy Bautista

WELL DATA

STATE WELL NO. 4S/1W-32N004

PERMIT NO. 2021-0287

OWNER: Alameda County Water District	SITE ID:
ADDRESS: 43885 S. Grimmer Blvd, FMT	WELL NAME: 4S/1W-32N004
TENANT:	OWNER NO.: 3-SF
SITE ADDRESS Near the INTERSECTION OF BLACOW Rd and Egger Dr	3-SF

TYPE OF WELL ☐ SPECIAL STUDIES ☐ MONTHLY ☐ SEMI ANNUAL ☐ WATER QUALITY

LOCATION COUNTY: Alameda County BASIN: Niles Cone NO.

U.S.G.S. QUAD. QUAD NO.

1/4 1/4 SECTION TWP. RGE. ☐MD ☐SB ☐H BASE & MERIDIAN

COORDINATES (NAD83) NORTHING: 2022475.241 EASTING: 6125276.925 SOURCE Trimble R8

DESCRIPTION:

Well is in a 12" round EMCO Wheaton Christy box in the planter at the southwest corner of the intersection of Blacow Rd and Eggers Dr.

REFERENCE POINT DESCRIPTION:

Top center of the christy box lid

WHICH IS FT. ABOVE ☐ BELOW ☐ LAND SURFACE DATUM GROUND ELEVATION FT.

REFERENCE POINT ELEVATION 38.046 FT.	DETERMINED FROM: Top center of the christy box lid
WELL USE: Groundwater Monitoring	CONDITION: new
DEPTH: 355 FT.	
CASING, SIZE 2 IN., PVC	PERFORATIONS: 305-345'
SLOT SIZE: 0.020"	

MEASUREMENTS BY ☐ DWR ☐ USGS ☐ USBR ☐ COUNTY ☐ IRR. DIST. ☐ WATER DIST. ☐ CONS. DIST. ☐ OTHER

GRAVEL PACK? ☑ YES ☐ NO	DEPTH TO TOP GR. 290'	DEPTH TO BOT GR. 355'
TYPE OF MATERIAL: #3 Sand	PERM. RATING	THICKNESS
CHIEF AQUIFER	DEPTH TO TOP AQ.	DEPTH TO BOT. AQ.
SUPP. AQUIFER	DEPTH TO TOP AQ.	DEPTH TO BOT. AQ.

DRILLER: Pitcher Serv. (Marcos/Andrew)	DATE DRILLED: 11-24-2021	LOG NUMBER (DWR 188)

WELL PUMP TYPE	MAKE	MODEL	SERIAL NO.
WATER ANALYSIS MIN.	SAN.	H.M.	

POWER SOURCE		WATER LEVELS AVAILABLE? ☐ YES ☐ NO	
H.P.	MOTOR SERIAL NO	PERIOD OF RECORD BEGIN	END
ELEC. METER NO.	TRANSFORMER NO.	COLLECTING AGENCY	
SIZE OF DISCHARGE PIPE		IN.	

YIELD G.P.M.	PUMPING LEVEL FT.	PROD. REC.	PUMP TEST	YIELD

SKETCH



REMARKS

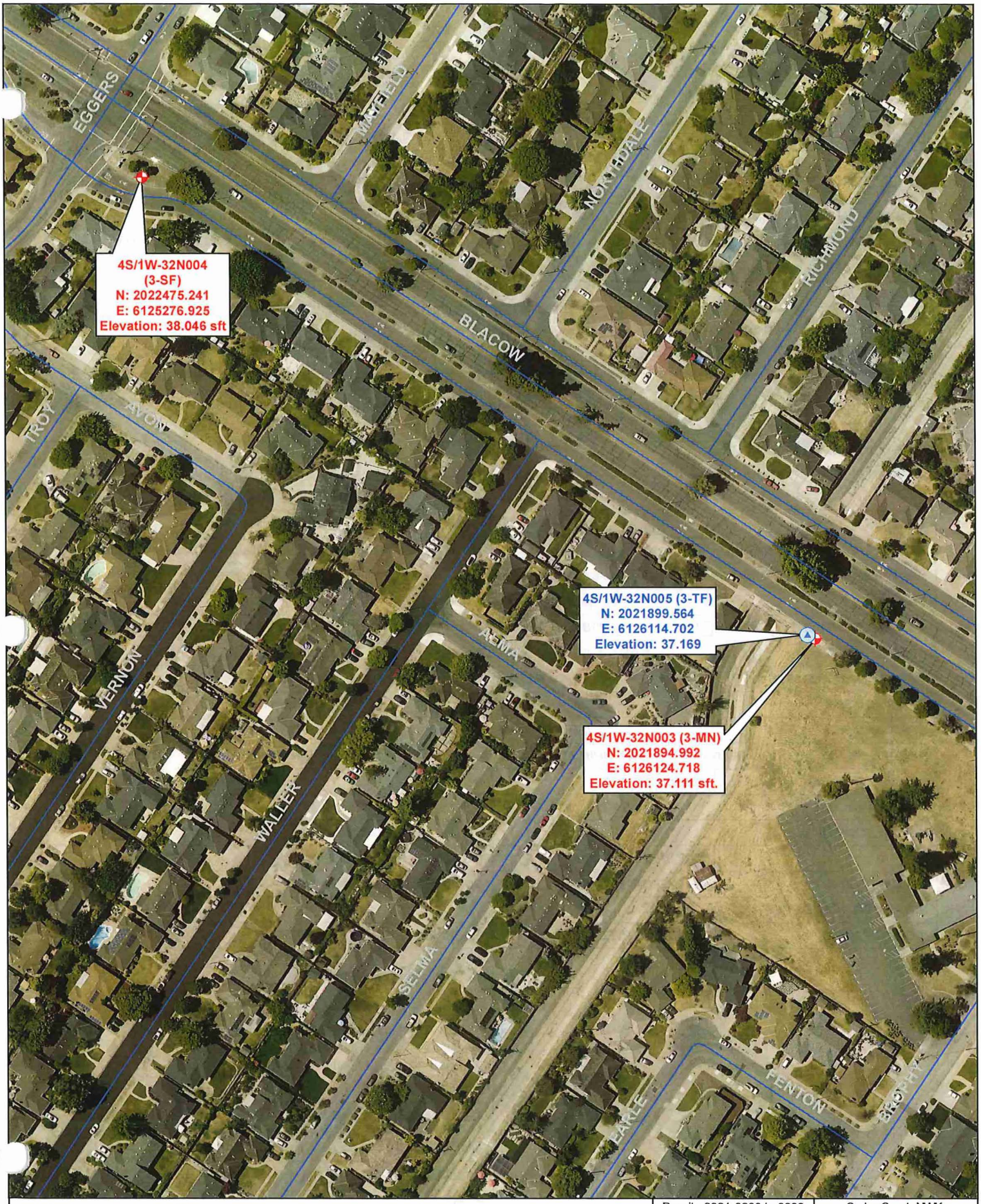
400' Total depth of borehole
8" diameter
355-400' – Type II/V neat cement
0.5-305' – 2" blank Schedule 80 PVC casing
305-345' – 2" slotted Schedule 80 PVC casing (0.020" slots)
345-355' – 2" blank Schedule 80 PVC casing + end cap
Well Centralizers every 25'

PERMIT NO.: 2021-0287

SANITARY SEAL: 1-290' - Type II/V neat cement

RECORDED BY: Jeremy Bautista

DATE: 03-15-2022



ACWD
ALAMEDA COUNTY WATER DISTRICT

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Well Location Map

Permits 2021-0286 to 0288	Cedar Court, NWK
4S/1W-32N003 to N005	1:1800
Monitoring Well	03.10.2022
Water Well	Drawn By: Jeremy Bautista

WELL DATA

STATE WELL NO. 4S/1W-32N004

PERMIT NO. 2021-0287

OWNER: Alameda County Water District	SITE ID:
ADDRESS: 43885 S. Grimmer Blvd, FMT	WELL NAME: 4S/1W-32N004
TENANT:	OWNER NO.: 3-SF
SITE ADDRESS Near the INTERSECTION OF BLACOW Rd and Egger Dr	3-SF

TYPE OF WELL ☐ SPECIAL STUDIES ☐ MONTHLY ☐ SEMI ANNUAL ☐ WATER QUALITY

LOCATION COUNTY: Alameda County BASIN: Niles Cone NO.

U.S.G.S. QUAD. QUAD NO.

1/4 1/4 SECTION TWP. RGE. ☐MD ☐SB ☐H BASE & MERIDIAN

COORDINATES (NAD83) NORTHING: 2022475.241 EASTING: 6125276.925 SOURCE Trimble R8

DESCRIPTION:

Well is in a 12" round EMCO Wheaton Christy box in the planter at the southwest corner of the intersection of Blacow Rd and Eggers Dr.

REFERENCE POINT DESCRIPTION:

Top center of the christy box lid

WHICH IS FT. ABOVE ☐ BELOW ☐ LAND SURFACE DATUM GROUND ELEVATION FT.

REFERENCE POINT ELEVATION 38.046 FT. DETERMINED FROM: Top center of the christy box lid

WELL USE: Groundwater Monitoring CONDITION: new DEPTH: 355 FT.

CASING, SIZE 2 IN., PVC PERFORATIONS: 305-345' SLOT SIZE: 0.020"

MEASUREMENTS BY ☐ DWR ☐ USGS ☐ USBR ☐ COUNTY ☐ IRR. DIST. ☐ WATER DIST. ☐ CONS. DIST. ☐ OTHER

GRAVEL PACK? ☑ YES ☐ NO	DEPTH TO TOP GR. 290'	DEPTH TO BOT GR. 355'
TYPE OF MATERIAL: #3 Sand	PERM. RATING	THICKNESS
CHIEF AQUIFER	DEPTH TO TOP AQ.	DEPTH TO BOT. AQ.
SUPP. AQUIFER	DEPTH TO TOP AQ.	DEPTH TO BOT. AQ.

DRILLER: Pitcher Serv. (Marcos/Andrew) DATE DRILLED: 11-24-2021 LOG NUMBER (DWR 188)

WELL PUMP TYPE	MAKE	MODEL	SERIAL NO.
WATER ANALYSIS MIN.	SAN.	H.M.	
POWER SOURCE		WATER LEVELS AVAILABLE? ☐ YES ☐ NO	
H.P.	MOTOR SERIAL NO	PERIOD OF RECORD BEGIN	END
ELEC. METER NO.	TRANSFORMER NO.	COLLECTING AGENCY	
SIZE OF DISCHARGE PIPE		IN.	
YIELD G.P.M.	PUMPING LEVEL FT.	PROD. REC. / PUMP TEST / YIELD	

SKETCH



REMARKS

400' Total depth of borehole
8" diameter
355-400' – Type II/V neat cement
0.5-305' – 2" blank Schedule 80 PVC casing
305-345' – 2" slotted Schedule 80 PVC casing (0.020" slots)
345-355' – 2" blank Schedule 80 PVC casing + end cap
Well Centralizers every 25'

PERMIT NO.: 2021-0287

SANITARY SEAL: 1-290' - Type II/V neat cement

RECORDED BY: Jeremy Bautista

DATE: 03-15-2022

Monitoring Well Construction

Inspector: Pablo Cortez
Permit No.:
Job No.: 10097
Well No.: 4S/1W-32N004
Date: 1-20-22
Other Well ID: 3-SF

Job Location:
Contractor: Gregg/Pitcher Drilling

Major Equipment and Materials On-site

ITEM	MATERIALS RECEIVED TODAY
Well development rig	
Support truck	
Compressor	
Waste bin	

Contractor Arrival Time: 7:00
Contractor Departure Time:
Daily Start Depth: ft.
Daily Finish Depth: ft.
Daily Drill Bit Size(s):

Delays/Accidents:

ACWD Meter No.: **Beginning Meter Reading:** **End Meter Reading:**

Pictures Taken: ☐ YES ☐ NO

Visitors to Job Site:

Construction Details

Final Bit Size & Type:
Total Borehole Depth: ft.
Control Casing Size: in.
Control Casing Depth: ft. to ft.
Conductor Casing Size: in.
Conductor Casing Depth: ft. to ft.
Well Casing Diameter: in.
Completed Well Depth: ft.
Perforation Slot Size: in.
Perforation Interval: ft. to ft.
Sand Info.:
Sand Interval: ft. to ft.
and ft. to ft.
Grout Mix:
Grout Interval: ft. to ft.
Bottom Plug Info.:
*and** ft. to ft.

*Two grout intervals if bottom of borehole extended beyond completed well depth and was grouted prior to well construction.

Monitoring Well Construction Remarks

Inspector: **Permit No.:**

7:45 Arrived onsite. Gregg/Pitcher Drilling crew onsite.

8:25 Setting up on well. Depth tagged at 352' with DTW at 41.53'.

9:34 Bailing complete. Could not bail much due to there being so little sediments at the bottom. Putting in pump rods.

10:35 Attempted to pump well, but water was not coming out. Pulling 10' of rods out to see if that will help.

11:38 still having trouble getting returns on water. Pulling more rods out.

12:40 Began pumping again. This time, they got returns on water. They had to pull out 50' of rods in order to do so.

15:25 Pump complete. All readings stabilized.

17:00 Final DTW = 42.52. Well tagged at 452'. ~4' of sediment remains at the bottom. Called Doug Young to let him know, and he said this was okay. Well development complete. Departed site.

ALAMEDA COUNTY WATER DISTRICT

MONITORING WELL SAMPLING RECORD

WELL ID: 4S/1W-32N004 — DEPTH TO WATER: 41.53'
PROJECT NO: — TOTAL DEPTH OF WELL: 356'
PROJECT NAME: — WELL DIAMETER: 2"
DATE: 1-20-22 — CASING VOLUME:
SAMPLED BY: PC — METHOD OF PURGING: Air Lift

TIME	CUMULATIVE VOL. REMOVED (GALLONS)	TEMPERATURE (°C)	pH (UNITS)	SPECIFIC CONDUCTANCE (UMHOS/CM)	REMARKS (COLOR, TURBIDITY & SEDIMENT)
13:10	300	18.7	7.44	1798	10.6 NTU
13:40	600	18.7	7.97	1858	T = 11.5 NTU
14:10	900	18.5	8.09	1841	T = 8.85 NTU
14:25	1,050	18.2	8.07	1844	T = 6.26 NTU
14:40	1,200	18.9	8.10	1856	T = 5.13 NTU
14:50	1,300	18.4	8.11	1856	T = 4.56 NTU
15:00	1,400	18.9	8.12	1853	T = 3.60 NTU
15:10	1,500	18.7	8.10	1857	T = 3.36 NTU
15:20	1,600	18.7	8.16	1861	T = 3.65 NTU
Stopped pump at		15:25.	~1,650 gallons total		pumped.

NOTES: TD at start = 352'. Began pump at 12:40. Flow rate = 10 gal/min.
Final depth to water = 42.52'

SPECIFIC CAPACITY DATA SHEET

Well Location
Well Number 3-SF (45/1W-32N004)
Totalizer Start
End
Remarks measurements from bottom of lid.

Date 4/4/2022
Measured By
Discharge Presure

MINUTES	TIME	FLOW RATE (gpm)	STATIC DTW (ft)	PUMPING DTW (ft)	DRAWDOWN (ft)	SPECIFIC CAPCAITY (gpm/ft)
1			43.11'			
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
14						
16						
18						
20						
25						
30						
35						
40						
45						
50						
60	1121		43.30			
70	1615		43.82			
80						
90						
100						

DEWEY DATA INC

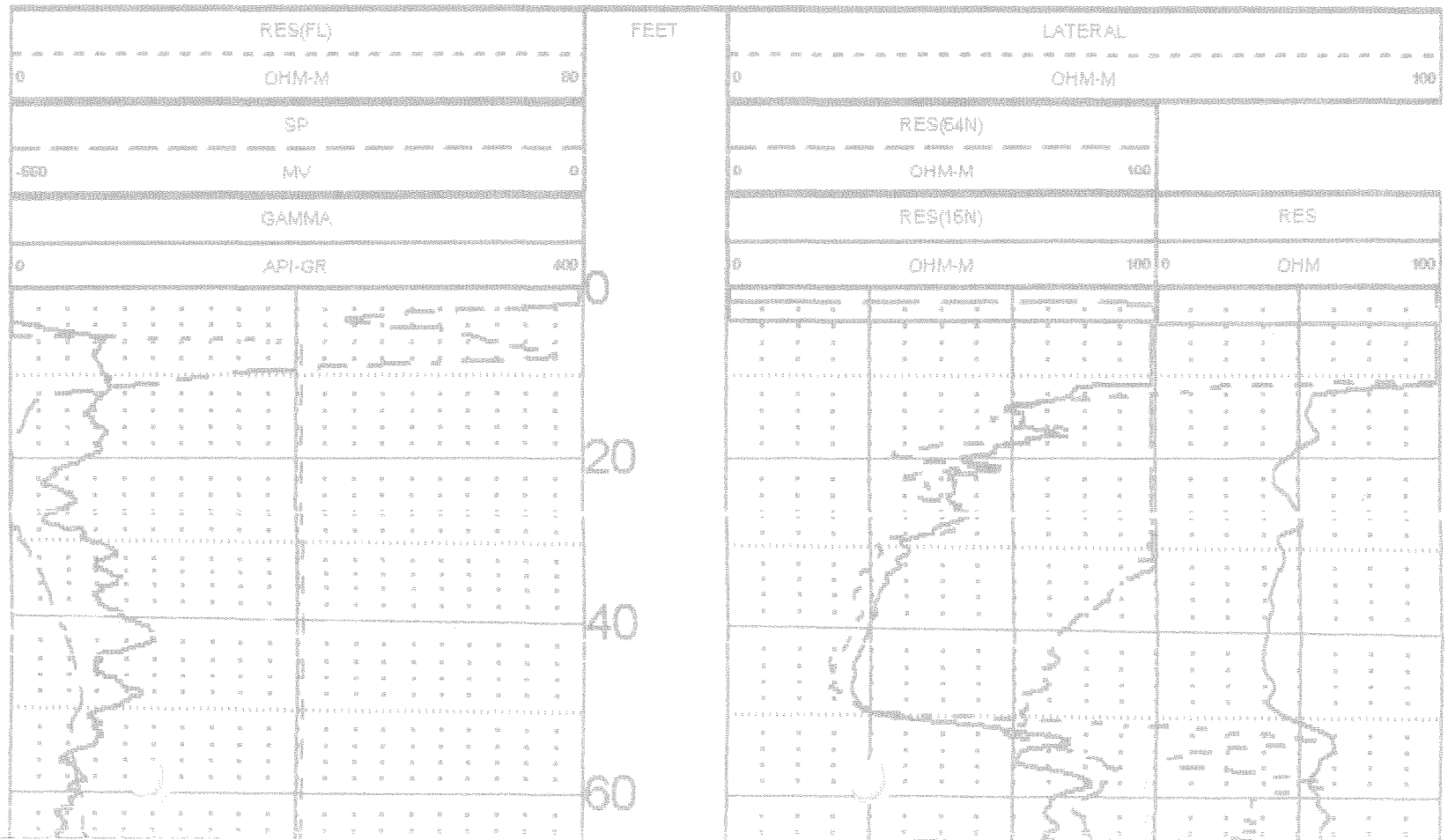
ACWD 3-TF

COMPANY	: ACWD				
WELL	: ACWD 3-TF				
LOCATION/FIELD	: FREMONT				
COUNTY	: ALAMEDA				
LOCATION	: CA				
SECTION	: NA	TOWNSHIP	: NA	RANGE	: NA
DATE	: 12/06/21	PERMANENT DATUM	: G.L.		
DEPTH DRILLER	: 400			KB	: NA
LOG BOTTOM	: 401.80	LOG MEASURED FROM	: G.L.	DF	: NA
LOG TOP	: -0.50	DRL MEASURED FROM	: G.L.	GL	: NA
CASING DIAMETER	:	LOGGING UNIT	: 1		
CASING TYPE	: STEEL	FIELD OFFICE	:		
CASING THICKNESS	:	RECORDED BY	: DEWEY		
BIT SIZE	: 5	BOREHOLE FLUID	: CLAY GE	FILE	: ORIGINAL
MAGNETIC DECL.	: 11	RM	: 79	TYPE	: 8144A
MATRIX DENSITY	: 2.65	RM TEMPERATURE	: 89	LGDATE	: 12/06/21
NEUTRON MATRIX	: DOLOMITE	MATRIX DELTA T	: 44		
				THRESH	: 2500

OTHER SERVICES:
INVOICE
120621
500 PPM

PITCHER
37.537949 -122.002244

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS



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120

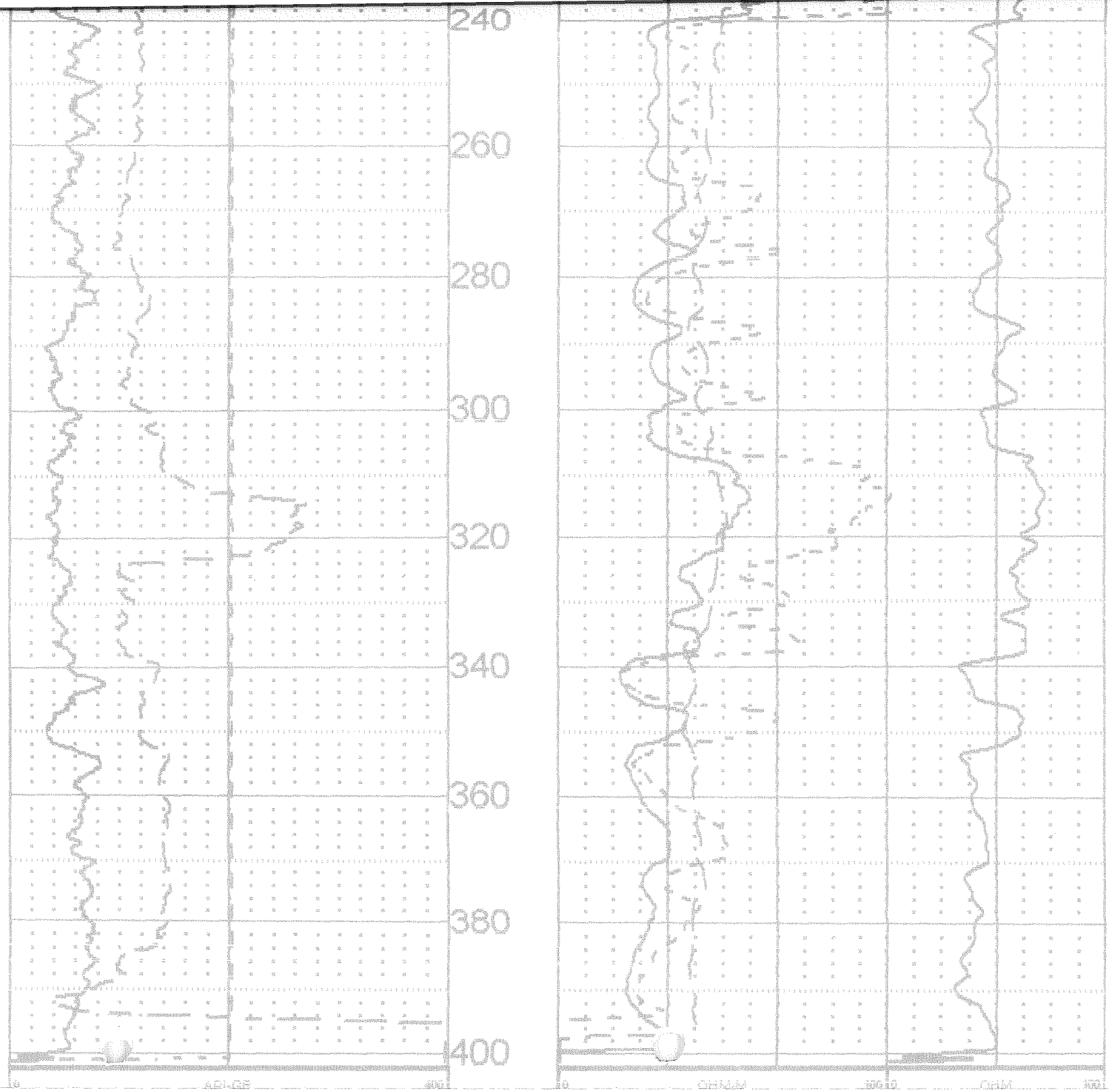
140

160

180

200

220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OHM
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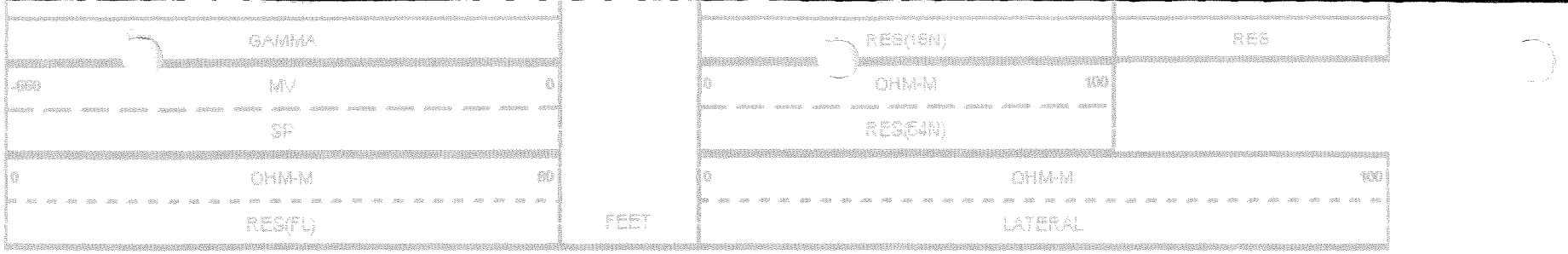
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FEET
RES(16N)
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OHM-M
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RES(64N)
0
OHM-M
100
LATERAL

S/L #3

ALAMEDA COUNTY WATER DISTRICT
43885 South Grimmer Blvd. • P.O. Box 5110
Fremont, CA 94537-5110
Permitting & Scheduling (510) 668-4460

APPLICATION FOR DRILLING PERMIT

ACWD ORDINANCE NO. 2010-01

Application Received Date:	By:	Permit Issued Date:	Permit Expiration Date:	Job No.	Permit No. / Well No.
10/14/21	AS	11/4/21	1/4/22	10097	2021-0288 / 4S/1W-32N005

JOB ADDRESS:
Intersection of Blacow Road and Brophy Drive
Fremont, CA

PROPERTY OWNER
NAME: City of Fremont
ADDRESS: 3300 Capitol Avenue
Fremont, CA 94538
TELEPHONE: (510) 284-4000

CONSULTING ENGINEER
NAME: Alameda County Water District
ADDRESS: 43885 South Grimmer Boulevard
Fremont, CA 94538
TELEPHONE: (510) 68-4452 RG/CEG/RCE NO. PG 5859

DRILLING CONTRACTOR
NAME: Pitcher Services, LLC
ADDRESS: 218 Demeter Street
East Palo Alto, CA 94303
E-MAIL ADDRESS: Terry Shewchuk <tshewchuk@pitcherservicesllc.com>
TELEPHONE: (650)328-8910 STATE LIC. NO. 1044895

When properly signed (3-TF)

THIS APPLICATION IS A VALID PERMIT

to perform only work described below at the given job address, in accordance with ACWD Ordinance No. 2010-01 and all other applicable laws and regulations. Discontinuation of work may result in revocation of permit. ***Permittee must schedule the work in advance with ACWD.*** *ACWD's approval of drawings, designs, specifications, work plans, reports or incidental work and materials shall not relieve the permittee of responsibility for the technical adequacy of the work. Except for special circumstances, all work to be inspected must be performed within ACWD work hours – 7:00 a.m. to 4:30 p.m., Monday through Friday.*

PLEASE CHECK TYPE OF PROPOSED WORK
Each well or other excavation requires a separate permit application form unless otherwise indicated.
Only one specific type of work can be checked per permit application.

WELLS	EXPLORATORY HOLES	OTHER EXCAVATIONS
☒ CONSTRUCTION ☐ REPAIR ☐ DESTRUCTION	☐ CONSTRUCT./DESTRUCT.	☐ CONSTRUCTION ☐ REPAIR ☐ DESTRUCTION
☐ Water Well	*Multiple exploratory holes of the same type may be grouped together on the same permit application form.*	☐ Cathodic Protection Well ☐ Inclinometer
Monitoring Well:		☐ Vibrating Wire Piezometer ☐ Elevator Shaft
☒ Chemical Investigation	☐ Chemical Investigation	*Multiple other excavations of the same type may be grouped together on the same permit application form for the following:*
☐ Injection Well (for Chemical Cleanup)	☐ Injection Boreholes	☐ Cleanup Site Excavation(s) ☐ Wick Drains
☐ Geotechnical Investigation	☐ Soil Vapor Sampling	☐ Shaft, Tunnel, or Directional Borehole (s) ☐ Support Piers, Piles, or Caissons
☐ Geothermal Heat Exchange Well	☐ Geotechnical Investigation	
☐ Dewatering Well *(Multiple dewatering wells may be grouped together on the same permit application form)*	Quantity:	☐ Other: Quantity:
Quantity:		

DESCRIPTION OF PROPOSED WORK:
Installation of 6" diameter test well
Well Name: Blacow Road 3-TF

TOTAL ESTIMATED COST
$

PERMIT CONDITIONS:
Monitoring Well Construction to comply with current ACWD Standards

FEES: ☐ Private ☐ City ☒ Governmental Agency
GUARANTEE OF PERFORMANCE: ☐ Cash Deposit ☐ Bond
REFUND: Amount $ Reason:

FEES/ DEPOSIT: Date Received Estimated Amount $
Check No. Actual Amount $
Cash Difference $

ACWD SITE NO. Ø
APPROVED FOR SCHEDULING BY: DATE: 11/10/2021
APPROVED BY: DATE: 11/10/2021

I hereby agree to comply with all conditions of this permit in accordance with ACWD Ordinance No. 2010-01 and to furnish the District a completed copy of D.W.R. Drillers Report (form 188) within sixty (60) days after completion as well as any chemical testing results within thirty (30) days after completion.

Title: Associate Hydrogeologist Signature: Date: 10/12/2021

Representing: Alameda County Water District Name (printed): Douglas Young

ACWD #458 11-12

ALAMEDA COUNTY WATER DISTRICT

43885 South Grimmer Blvd., P.O. Box 5110, Fremont, CA 94537 Tel. No. (510) 668-4460 Fax No. (510) 651-1760

SITE HAZARD INFORMATION

Please provide the following information for the site

Owner's Name: Alameda County Water District

Site Address: 43885 South Grimmer Bounevard

Fremont, CA 94538

Consultant on Site: Douglas Young Phone No. (510) 668-4452

Site Safety Officer: Douglas Young Phone No. (510) 668-4452

Type of Facility: City Right-of-Way

Anticipated Hazardous Substances - (Attach Additional Sheets if Necessary)
(Please include concentrations below. Note if free product historically on site)

Name	Expected Concentrations (ppm) (List medium – i.e. soil, water, air)	PEL (ppm)	Health Effects
☐ Gasoline			
☐ Diesel			
☐ Waste Oil			
None Expected			

District Use Only
Checked Against Reported Contaminants 11/10/2021

Site Safety Meeting Date: Time:

Level of Personal Protection Equipment ☐A ☐B ☐C ☑D

Personal Protective Equipment:
R = Required A = As Needed, with description of action concentrations)

R	A		R	A	
☑	☐	Hard Hat	☐	☐	Clothing (Type):
☑	☐	Safety Shoes	☐	☐	Respirator (Type):
☑	☐	Orange Traffic Vest	☐	☐	Cartridge (Type):
☐	☑	Hearing Protection	☐	☐	Gloves (Type):
☑	☐	Safety Eyewear	☐	☐	Other:

Site Hazard Information Provided By: Douglas Young (Print) Phone: (510) 668-4452

ACWD / Associate Hydrogeologist (Company name & title) (Signature) Date: 10/12/21

ACWD #173 (Revised 10/15/03)

ALAMEDA COUNTY WATER DISTRICT

Monitoring Well Construction

Inspector: Jeremy Bautista | **Permit No.:** 2021-0288

Job No.: 10097 | **Well No.:** 4S/1W-32N005

Date: 11.29.21 | **Other Well ID:** 3-TF

Job Location: Intersection of Blacow Rd and Brophy Dr

Contractor: Pitcher Services LLC

Major Equipment and Materials On-site

ITEM	MATERIALS RECEIVED TODAY
Unimog Fraste Mud Rotary Drill Rig	
Water Truck	
Crew Support Truck	
Fork Lift	

Contractor Arrival Time: 0700 | Contractor Departure Time: 1730

Daily Start Depth: 0 ft. | Daily Finish Depth: 10 ft.

Daily Drill Bit Size(s):

Work Completed Summary:

ACWD Meter No.: | **Beginning Meter Reading:** | **End Meter Reading:**

Pictures Taken: ☑ YES ☐ NO File Location:

Visitors to Job Site: Doug Young

Delays/Accidents:

Construction Details

Final Bit Size & Type:

Control Casing Size: in.

Conductor Casing Size: in.

Well Casing Diameter: in.

Perforation Slot Size: in.

Sand Info.:

Grout Mix:

Bottom Plug Info.:

Total Borehole Depth: ft.

Control Casing Depth: ft. to ft.

Conductor Casing Depth: ft. to ft.

Completed Well Depth: ft.

Perforation Interval: ft. to ft.

Sand Interval: ft. to ft.

and ft. to ft.

Grout Interval: ft. to ft.

*and** ft. to ft.

*Two grout intervals if bottom of borehole extended beyond completed well depth and was grouted prior to well construction.

Monitoring Well Construction Remarks

Inspector: Jeremy Bautista - 11.29.21 **Permit No.:**

0955 - arrive on site. Doug Young and Pitcher Drilling (Marcos / Andrew / Joe) on site cutting the side walk for hand clearance to 10'.

1925 - left site

1130 - arrive on site. Still cutting the concrete in the sidewalk.

1205 - they break through the sidewalk (pic)

1355 - arrive on site. Marcos has left site to go back to shop to pick up control casing. they have hand-cleared to 10' and then over-drilled to 10' w/ 14" bit.

1405 - left site.

1615 - arrive on site. Doug Young on site. They have installed control casing to ~9' below grade.

1640 - control casing installed and hole is covered and protected.

1645 - left site

ALAMEDA COUNTY WATER DISTRICT

Monitoring Well Construction

Inspector: Brianna Thomas
Permit No.: 2021-0288
Job No.: 10097
Well No.: 4S/1W-32N005
Date: 11/30/2021
Other Well ID: 3-TF

Job Location: Intersection of Blacow Rd and Brophy Dr
Contractor: Pitcher Services LLC

Major Equipment and Materials On-site

ITEM	MATERIALS RECEIVED TODAY
Drill rig	
support truck x2	
waste bin	
fork lift	

Contractor Arrival Time: 0700
Contractor Departure Time: 17:00
Daily Start Depth: 10 ft.
Daily Finish Depth: 95 ft.
Daily Drill Bit Size(s): 6" pilot hole

Work Completed Summary: 6" pilot hole drilled to 95', waste bin emptied

ACWD Meter No.: _____ **Beginning Meter Reading:** _____ **End Meter Reading:** _____

Pictures Taken: ☐ YES ☒ NO File Location: _____

Visitors to Job Site: _____

Delays/Accidents: _____

Construction Details

Final Bit Size & Type: _____
Total Borehole Depth: _____ ft.
Control Casing Size: _____ in.
Control Casing Depth: _____ ft. to _____ ft.
Conductor Casing Size: _____ in.
Conductor Casing Depth: _____ ft. to _____ ft.
Well Casing Diameter: _____ in.
Completed Well Depth: _____ ft.
Perforation Slot Size: _____ in.
Perforation Interval: _____ ft. to _____ ft.
Sand Info.: _____
Sand Interval: _____ ft. to _____ ft.
and _____ ft. to _____ ft.
Grout Mix: _____
Grout Interval: _____ ft. to _____ ft.
Bottom Plug Info.: _____
*and** _____ ft. to _____ ft.

*Two grout intervals if bottom of borehole extended beyond completed well depth and was grouted prior to well construction.

Monitoring Well Construction Remarks

Inspector: Brianna Thomas 11/30/21 Permit No.: 2021-0288

1335 - Arrive onsite, Pitcher Drilling onsite (Marcos/ Andrew) 6" pilot hole boring will contiue to be drilled, currently at 10'. Spoke with Doug Young, he wants to make sure core samples are taken at 280' and 380' as well as a bulk sample at 300'.

1443 - Currently at 40'

1558 - Ava Lazor and Doug Young arrive onsite. Drillers are currently at 85'.

1630 - stopped drilling at 95', drill rods removed from boring and hole secured.

1635 - left site

Monitoring Well Construction

Inspector: Brianna Thomas | **Permit No.:** 2021-0288

Job No.: 10097 | **Well No.:** 4S/1W-32N005

Date: 12/1/2021 | **Other Well ID:** 3-TF

Job Location: Intersection of Blacow Rd and Brophy Dr

Contractor: Pitcher Services LLC

Major Equipment and Materials On-site

ITEM	MATERIALS RECEIVED TODAY
Drill rig	
support truck x2	
Waste bin	
forklift	

Contractor Arrival Time: 07:00 | Contractor Departure Time: 17:00

Daily Start Depth: 95 ft. | Daily Finish Depth: 250 ft.

Daily Drill Bit Size(s): 6"

Work Completed Summary: 6" pilot hole drilled to 250'

ACWD Meter No.: _____ **Beginning Meter Reading:** _____ **End Meter Reading:** _____

Pictures Taken: ☒ YES ☐ NO File Location: _____

Visitors to Job Site: _____

Delays/Accidents: _____

Construction Details

Final Bit Size & Type: _____ | Total Borehole Depth: _____ ft.

Control Casing Size: _____ in. | Control Casing Depth: _____ ft. to _____ ft.

Conductor Casing Size: _____ in. | Conductor Casing Depth: _____ ft. to _____ ft.

Well Casing Diameter: _____ in. | Completed Well Depth: _____ ft.

Perforation Slot Size: _____ in. | Perforation Interval: _____ ft. to _____ ft.

Sand Info.: _____ | Sand Interval: _____ ft. to _____ ft.

_____ | *and* _____ ft. to _____ ft.

Grout Mix: _____ | Grout Interval: _____ ft. to _____ ft.

Bottom Plug Info.: _____ | *and** _____ ft. to _____ ft.

*Two grout intervals if bottom of borehole extended beyond completed well depth and was grouted prior to well construction.

Monitoring Well Construction Remarks

Inspector: Brianna Thomas 12/1/21 Permit No.: 2021-0288

0745 - Arrive onsite, Pitcher Drilling (Marcos/Andrew) onsite - they are finishing off the well box for 3-SF.

0840 - Drillers tells me the boring has bridged at 25', he will clean out hole before continuing to drill.

0920 - Cleared boring to 90', continue drilling

1100 - Ava Lazor arrives onsite to log soil

1155 - Doug Young arrives onsite to log soil

1232 - Doug and Ava depart site, boring is currently at 170'

1545 - Doug Young arrives onsite. Drillers are at 250', we need to take a drive sample - this will be done tomorrow morning after boring is cleared out.

1602 - Ava Lazor arrives onsite

1623 - Boring has been secured and protected.

1630 - left site

Monitoring Well Construction

Inspector: Brianna Thomas | **Permit No.:** 2021-0288

Job No.: 10097 | **Well No.:** 4S/1W-32N005

Date: 12/2/21 | **Other Well ID:** 3-TF

Job Location: Intersection of Blacow Rd and Brophy Dr

Contractor: Pitcher Services LLC

Major Equipment and Materials On-site

ITEM	MATERIALS RECEIVED TODAY
Drill Rig	
Support Truck x2	
Waste bin	
forklift	

Contractor Arrival Time: 0700 | Contractor Departure Time: 1700

Daily Start Depth: 250 ft. | Daily Finish Depth: 310 ft.

Daily Drill Bit Size(s): 6"

Work Completed Summary: 6" pilot hole drilled to 310', drive sample collected at 250'

ACWD Meter No.: _____ **Beginning Meter Reading:** _____ **End Meter Reading:** _____

Pictures Taken: ☐ YES ☒ NO File Location: _____

Visitors to Job Site: _____

Delays/Accidents: _____

Construction Details

Final Bit Size & Type: _____ | Total Borehole Depth: _____ ft.

Control Casing Size: _____ in. | Control Casing Depth: _____ ft. to _____ ft.

Conductor Casing Size: _____ in. | Conductor Casing Depth: _____ ft. to _____ ft.

Well Casing Diameter: _____ in. | Completed Well Depth: _____ ft.

Perforation Slot Size: _____ in. | Perforation Interval: _____ ft. to _____ ft.

Sand Info.: _____ | Sand Interval: _____ ft. to _____ ft.

_____ | *and* _____ ft. to _____ ft.

Grout Mix: _____ | Grout Interval: _____ ft. to _____ ft.

Bottom Plug Info.: _____ | *and** _____ ft. to _____ ft.

*Two grout intervals if bottom of borehole extended beyond completed well depth and was grouted prior to well construction.

Monitoring Well Construction Remarks

Inspector: Brianna Thomas Permit No.: 2021-0288

0730 - Arrive onsite, Pitcher Drilling onsite (Marcos/Andrew) - crew is setting up to begin drilling 90'

0840 - Hole bridged at ~~115~~ 100' (BT) and ~~120~~ 100' (BT) - Drillers continuing to clean out hole. Once we get to 250', a drive sample will be collected. Marcos told me water was at 17.5' before they started drilling.

0857 - Bridge at 133', continuing to clean out boring.

1012 - Boring has been cleaned out to 251', I called Doug to let him know so he can be onsite for drive sample collection

1028 - Doug Young arrives onsite

1045 - Drive sample being collected, Blow counts: 12/26/38

1310 - Drill rods clogged, crew working to correct problem

1350 - Problem resolved, begin drilling at 250'

1415 - Jeremy Bautista arrives onsite to cover lunch break for me

1418 - Brianna leaves site for lunch. Marcos delivers 270' catch sample of sandy gravel

1425 - collect 275' catch sample

1438 - Marcos lets me know that @ 281', he is seeing clay in the cuttings

1448 - @ 287' Marcos comments that they are in a hard material again; Brianna back on site

1455 - Brianna takes over again; Jeremy out.

1540 - Reached 300', begin ~~collecting~~ (BT) collecting bulk sample

1635 - Reached 310', hole has been protected and secured.

1637 - left site

ALAMEDA COUNTY WATER DISTRICT

Monitoring Well Construction

Inspector: Brianna Thomas | **Permit No.:** 2021-0288

Job No.: 10097 | **Well No.:** 4S/1W-32N005

Date: 12/3/21 | **Other Well ID:** 3-TF

Job Location: Intersection of Blacow Rd and Brophy Dr

Contractor: Pitcher Services LLC

Major Equipment and Materials On-site

ITEM	MATERIALS RECEIVED TODAY
Drill Rig	
Support truck x2	
waste bin	
forklift	

Contractor Arrival Time: 0700 | Contractor Departure Time: 1700

Daily Start Depth: 360 ft. | Daily Finish Depth: 400 ft.

Daily Drill Bit Size(s): 6"

Work Completed Summary: 6" pilot hole drilled to 400', drive sample collected at 360'.

ACWD Meter No.: _____ **Beginning Meter Reading:** _____ **End Meter Reading:** _____

Pictures Taken: ☐ YES ☐ NO File Location: _____

Visitors to Job Site: _____

Delays/Accidents: _____

Construction Details

Final Bit Size & Type: _____ | Total Borehole Depth: _____ ft.

Control Casing Size: _____ in. | Control Casing Depth: _____ ft. to _____ ft.

Conductor Casing Size: _____ in. | Conductor Casing Depth: _____ ft. to _____ ft.

Well Casing Diameter: _____ in. | Completed Well Depth: _____ ft.

Perforation Slot Size: _____ in. | Perforation Interval: _____ ft. to _____ ft.

Sand Info.: _____ | Sand Interval: _____ ft. to _____ ft.

_____ | *and* _____ ft. to _____ ft.

Grout Mix: _____ | Grout Interval: _____ ft. to _____ ft.

Bottom Plug Info.: _____ | *and** _____ ft. to _____ ft.

*Two grout intervals if bottom of borehole extended beyond completed well depth and was grouted prior to well construction.

Monitoring Well Construction Remarks

Inspector: Brianna Thomas Permit No.: 2021-0288

0749 - Arrive onsite, Pitcher Drilling onsite (Marcos/Andrew) Crew will begin drilling shortly.

0845 - Begin drilling, once boring is cleared out to 310', driller will continue collecting cuttings for bulk sample.

0847 - Pitcher damaged a sign on the church property and will be fixing it.

1148 - Reached 360', sandy clay - confirmed with Doug Young we want to collect drive sample at this depth, Crew preparing to sample.

1302 - Drive sample collected from 360-361'

1600 - Reached 400', Crew pulling rods to secure boring. Boring will be E-logged on Monday morning

1630 - Boring has been protected and secured, left site.

ALAMEDA COUNTY WATER DISTRICT

Monitoring Well Construction

Inspector: Jeremy Bautista | **Permit No.:** 2021-0288

Job No.: 10097 | **Well No.:** 4S/1W-32N005

Date: 12.06.21 | **Other Well ID:** 3-TF

Job Location: Intersection of Blacow Rd and Brophy Dr

Contractor: Pitcher Services LLC

Major Equipment and Materials On-site

ITEM	MATERIALS RECEIVED TODAY
Fraste Unimog Drill Rig	
Water Truck	
Fork Lift	
Support Truck	

Contractor Arrival Time: 0700 | Contractor Departure Time: _____

Daily Start Depth: 400 ft. | Daily Finish Depth: _____ ft.

Daily Drill Bit Size(s): _____

Work Completed Summary: _____

ACWD Meter No.: _____ **Beginning Meter Reading:** _____ **End Meter Reading:** _____

Pictures Taken: ☑ YES ☐ NO File Location: _____

Visitors to Job Site: _____

Delays/Accidents: _____

Construction Details

Final Bit Size & Type: _____

Control Casing Size: _____ in.

Conductor Casing Size: _____ in.

Well Casing Diameter: _____ in.

Perforation Slot Size: _____ in.

Sand Info.: _____

_____

Grout Mix: _____

Bottom Plug Info.: _____

Total Borehole Depth: _____ ft.

Control Casing Depth: _____ ft. to _____ ft.

Conductor Casing Depth: _____ ft. to _____ ft.

Completed Well Depth: _____ ft.

Perforation Interval: _____ ft. to _____ ft.

Sand Interval: _____ ft. to _____ ft.

and _____ ft. to _____ ft.

Grout Interval: _____ ft. to _____ ft.

*and** _____ ft. to _____ ft.

*Two grout intervals if bottom of borehole extended beyond completed well depth and was grouted prior to well construction.

Monitoring Well Construction Remarks

Inspector: Jeremy Bautista **Permit No.:**

0800- Arrive on site. Pitcher (Marcos/Andrew) already on site moving 20' stems of pipe into position to install to 400' to flush the well.

0900 - Left site.

1000 - Arrive on site. They have inserted 2.5" flushing pipe in 20' lengths and are flushing out the boring.

1025 - E-logger (Dewey) arrives on site

1055 - Doug Young arrives on site and signs in.

1200 - completed flushing the well boring and begin pulling flushing pipe.

1230 - remove all flushing pipe.

1240 - begin E-logging 3-TF boring

1255 - complete E-logging

1315 - E-logger gives ACWD, 3x copies of the log. E-logger leaves site. Doug & Selim agree to grout the bottom of the boring from 355-400'. I notify Marcos.

1330 - Doug leaves site. Begin lowering flushing rods as tremie pipe. (2.5" outside diameter steel)

1400 - tremie pipe down to 398'. Begin mixing Type II/V neat cement.

1410 - Pitcher decides to pump 1x 55-gallon drum.

1440 - Pitcher still pulling tremie pipe. A welder is on the way to tac weld a steel plate to the top of the control casing. Doug Young ok's me to leave site.

1445 - left site.

1630 - arrive on site. Pitcher is off site now. They have welded a lid to the steel control casing (pic)

1635 Left site.

Monitoring Well Construction

Inspector: Andres Aguayo | **Permit No.:** 2021-0288

Job No.: 10097 | **Well No.:** 4S/1W-32N005

Date: 12-14-21 | **Other Well ID:** 3-TF

Job Location: Intersection of Blacow Rd and Brophy Dr

Contractor: Pitcher Services LLC

Major Equipment and Materials On-site

ITEM	MATERIALS RECEIVED TODAY
Drill rig, water truck, fork lift, support truck, 3 waste bins, portable restroom	10 Trench Plates from ~~NSF~~ NTS

Contractor Arrival Time: 0700 | Contractor Departure Time: 1700

Daily Start Depth: 75 ft. | Daily Finish Depth: 220 ft.

Daily Drill Bit Size(s): 14"

Work Completed Summary: Drilled to 220' depth

ACWD Meter No.: _____ **Beginning Meter Reading:** _____ **End Meter Reading:** _____

Pictures Taken: ☑ YES ☐ NO File Location: _____

Visitors to Job Site: _____

Delays/Accidents: Delay - Site area is muddy, hard to maneuver forklift.

Construction Details

Final Bit Size & Type: _____ | Total Borehole Depth: _____ ft.

Control Casing Size: _____ in. | Control Casing Depth: _____ ft. to _____ ft.

Conductor Casing Size: _____ in. | Conductor Casing Depth: _____ ft. to _____ ft.

Well Casing Diameter: _____ in. | Completed Well Depth: _____ ft.

Perforation Slot Size: _____ in. | Perforation Interval: _____ ft. to _____ ft.

Sand Info.: _____ | Sand Interval: _____ ft. to _____ ft.

_____ | *and* _____ ft. to _____ ft.

Grout Mix: _____ | Grout Interval: _____ ft. to _____ ft.

Bottom Plug Info.: _____ | *and** _____ ft. to _____ ft.

*Two grout intervals if bottom of borehole extended beyond completed well depth and was grouted prior to well construction.

Monitoring Well Construction Remarks

Inspector: Andres Aguayo **Permit No.:**

08:07 Arrived on site. Gregg drilling (Francisco, Robert, Jer) also on site. Per Francisco, they reached 75' yesterday 12/13/21. Currently setting up to begin drilling.

08:56 Robert & Sean w/Gregg arrived on site. Sean is Gregg's Health + Safety officer.

09:20 Drilling operations have stopped. Gregg crew is trying to move hopper box, but ground is very muddy and forklift inoperable in this conditions.

09:50 Doug Young arrived on site.

09:50 Robert & Sean left site

10:03 Gregg crew moving perimeter fence to make room to install steel trench plates on muddy area.

10:08 Doug Young left site.

10:30 Trench plates have not arrived, but crew managed to move hopper box and resumed drilling.

11:45 Crew was advised trench plates are on the way. They have stopped drilling and are preparing for the arrival of trench plates. Current depth 120'

12:15 Resumed drilling while awaiting for trench plates.

12:45 National Trench Safety arrived w/steel trench plates Qty: 10

13:15 NTS left site

13:24 Doug Young Arrived on site

13:25 Gregg crew started setting up trench plates

13:55 10x trench plates have been set up on-site and drilling was resumed. Currently @ 160'

14:25 Left site for restroom use

14:40 Returned to site. Current depth 180'

16:02 Crew was having mechanical issues with the drill rig for about 30 min. They have resolved the problems they were having. Advised Francisco to remove drill pipes and secure hole by 16:30

16:15 Started removing drill pipes

16:40 Crew removed drilled pipes and left 100' of pipes in hole. Called Doug, and he left it up to the drillers. Advised to secure hole. They will be at site @ 07:00 tomorrow but know not to make noise until after 07:30.

16:43 Left Site

Monitoring Well Construction

Inspector: Andrés Aguayo | **Permit No.:** 2021-0288

Job No.: 10097 | **Well No.:** 4S/1W-32N005

Date: 12-15-2021 | **Other Well ID:** 3-TF

Job Location: Intersection of Blacow Rd and Brophy Dr

Contractor: Pitcher Services LLC

Major Equipment and Materials On-site

ITEM	MATERIALS RECEIVED TODAY
Drill rig, water truck, support truck, fork lift, hopper,	
10x trench plates, 3 waste bins, portable restroom	

Contractor Arrival Time: 0700 | Contractor Departure Time: 15:45

Daily Start Depth: 100 ft. | Daily Finish Depth: 345' ft.

Daily Drill Bit Size(s): 14"

Work Completed Summary: Drilled down to total depth of 345'

ACWD Meter No.: _____ **Beginning Meter Reading:** _____ **End Meter Reading:** _____

Pictures Taken: ☑ YES ☐ NO File Location: _____

Visitors to Job Site: _____

Delays/Accidents: _____

Construction Details

Final Bit Size & Type: _____

Control Casing Size: _____ in.

Conductor Casing Size: _____ in.

Well Casing Diameter: _____ in.

Perforation Slot Size: _____ in.

Sand Info.: _____

_____

Grout Mix: _____

Bottom Plug Info.: _____

Total Borehole Depth: _____ ft.

Control Casing Depth: _____ ft. to _____ ft.

Conductor Casing Depth: _____ ft. to _____ ft.

Completed Well Depth: _____ ft.

Perforation Interval: _____ ft. to _____ ft.

Sand Interval: _____ ft. to _____ ft.

and _____ ft. to _____ ft.

Grout Interval: _____ ft. to _____ ft.

*and** _____ ft. to _____ ft.

*Two grout intervals if bottom of borehole extended beyond completed well depth and was grouted prior to well construction.

Monitoring Well Construction Remarks

Inspector: Andres Aguayo **Permit No.:**

0725 - Arrived on site. Gregg (Francisco, Robert & Jared) also on site. Crew is setting up equipment to begin drilling after 07:30. Advised to keep/practice COVID-19 protocols. Per Francisco well construction will most likely begin tomorrow.

07:34 - Called Doug Young and advised that work is about to begin, and drillers inquired on well's total depth.

07:45 - Doug called and informed total depth for this well is 345', informed crew on total depth, and that we would like to collect sample from hopper at ~300'.

09:35 - Doug arrived on site, D.Y. requested to take project binder. Also advised Doug borehole depth currently @ 240'

09:45 - Doug left site

09:49 - Asked Robert to flush some water behind waste bins to wash some of the mud leaking from it.

10:20 - Ava Lazor arrived on site.

11:07 - Retrieved gravel sample @ 300' from hopper in a sand bag (to leave at Doug's desk)

11:20 - Doug, State Board (Diana + Robin) arrived on site

11:37 - Doug, Ava, Diana and Robin left site.

12:38 - Currently @ 340'. Driller experiencing mechanical difficulties w/hopper. Braking for lunch

13:08 - Drilling resumed

13:11 - Total Depth (TD) of 345' has been reached. Driller to leave everything ready for well construction tomorrow.

14:26 - Started removing drill pipes

15:15 - All drill pipes + drill bit removed. Francisco wants to leave 100' drill pipe+bit to have a faster clean up tomorrow before well construction. Called Doug and he leaves it up to them.

15:30 - 100' re-inserted into hole. Hole secured. Gregg crew cleaning up and re-setting perimeter fencing.

1540 - Left site

ALAMEDA COUNTY WATER DISTRICT

Monitoring Well Construction

Inspector: Andrés Aguayo
Permit No.: 2021-0288
Job No.: 10097
Well No.: 4S/1W-32N005
Date: 12-16-2021
Other Well ID: 3-TF

Job Location: Intersection of Blacow Rd and Brophy Dr
Contractor: Pitcher Services LLC

Major Equipment and Materials On-site

ITEM	MATERIALS RECEIVED TODAY
Drill rig, hopper, water truck, waste bins, fork-lift,	Steel casing (8")
portable restroom, truck w/steel casing, welding equipment	1x waste bin

Contractor Arrival Time: 07:00
Contractor Departure Time: 17:00
Daily Start Depth: 100 ft.
Daily Finish Depth: 60 ft.
Daily Drill Bit Size(s): 14"

Work Completed Summary: Crew has to re-rim borehole. The 8" steel casing got stuck during installation @ ≈ 40'. Removed casing, tremie pipe and reinserted drill bit + drill pipes to 60'.

ACWD Meter No.: _____ **Beginning Meter Reading:** _____ **End Meter Reading:** _____

Pictures Taken: ☑ YES ☐ NO File Location: _____

Visitors to Job Site: _____

Delays/Accidents: Well 8" casing got stuck during install.

Construction Details

Final Bit Size & Type: _____
Total Borehole Depth: _____ ft.

Control Casing Size: _____ in.
Control Casing Depth: _____ ft. to _____ ft.

Conductor Casing Size: _____ in.
Conductor Casing Depth: _____ ft. to _____ ft.

Well Casing Diameter: _____ in.
Completed Well Depth: _____ ft.

Perforation Slot Size: _____ in.
Perforation Interval: _____ ft. to _____ ft.

Sand Info.: _____
Sand Interval: _____ ft. to _____ ft.

_____
and _____ ft. to _____ ft.

Grout Mix: _____
Grout Interval: _____ ft. to _____ ft.

Bottom Plug Info.: _____
*and** _____ ft. to _____ ft.

*Two grout intervals if bottom of borehole extended beyond completed well depth and was grouted prior to well construction.

Monitoring Well Construction Remarks

Inspector: Andrés Aguayo **Permit No.:**

07:25 - Arrived on site. GREGG (Francisco, Robert & Jared) also on site. They are setting things up to get started. Plan for today is to bypass and clean out the borehole, insert tremie pipe and get mud out, start installing/welding 8" casing, insert sand-pack + chips. Grout tomorrow. Approx. 195' of 8" casing on-site, they have to pick up the rest.

09:00 - Robert and Jared are setting ≈ 195' of 8" steel casing near borehole, and left to pick up the rest of steel casing.

09:25 - Doug Young arrived on site. Doug advised there may not be enough centralizers to set them every 25'. He wants us to set centralizers below and above screen and divide equally the amount of centralizers left with the amount of ft between 10' bgs and the centralizer at top of screen

09:35 - John w/ GREGG arrives on site for welding, he is also the P.M. for Gregg.

09:45 - John left site, but will be back soon.

10:07 - Doug Young left site

10:25 - Ponder environmental services arrived to drop off 1x waste bin

10:35 - Drillers are done with bypass and cleaning out hole. The have removed all drill pipes + drill bit from hole.

11:50 - 345' of 2" steel tremie pipe inserted into borehole

12:10 - John w/Gregg began welding centralizers below screen.

12:10 - Doug arrived on site

12:15 - Kit Soo arrived on site to cover AA for lunch.

12:30 - IP Welding 20' slotted screen section onto installed (5' trap + 10' screen)

13:10 - AA back from lunch.

13:10 - Kit & Doug leave site. Also John w/ GREGG leaves site.

13:10 - Per Kit & Doug, installation of steel casing stopped due to blockage in borehole. Drillers need to cut welding, remove installed casing and re-rim borehole

13:40 - Bryce + Adalid w/ Pitcher Drilling arrive to cut weldings.

14:40 - Weldings have been cut, and steel casing removed from borehole and set aside inside site. Bryce + Adalid left site

15:20 - 345' of 2" steel tremie pipe removed, crew inserting 14" drill bit into borehole

16:20 - Customer who lives nearby came to complain about noise and not receiving notice of what work is being done. Advised customer our purpose for drilling a well and that we are following city's noise ordinance. She requested more information on the project but only gave me her address. Forwarded info. to Doug

16:45 - Crew drilled to 60' using dual bit on first rod. Hole secured, Left site. Crew stayed fencing + locking up.

ALAMEDA COUNTY WATER DISTRICT

Monitoring Well Construction

Inspector: Andres Aguayo
Permit No.: 2021-0288
Job No.: 10097
Well No.: 4S/1W-32N005
Date: 12/17/2021
Other Well ID: 3-TF

Job Location: Intersection of Blacow Rd and Brophy Dr
Contractor: Pitcher Services LLC

Major Equipment and Materials On-site

ITEM	MATERIALS RECEIVED TODAY
Drill rig, Hopper, Water Truck, Support Truck, Fork Lift,	3 drums of material for mud mix
Portable Restroom, Truck w/steel casing (8"), 8" steel casing	
inside site, Waste Bins, 10x Trench Plates, Welding	
Equipment	

Contractor Arrival Time: 07:00
Contractor Departure Time: 14:40
Daily Start Depth: 60 ft.
Daily Finish Depth: 140 ft.
Daily Drill Bit Size(s): 14"

Work Completed Summary: Rimming boring until mud pump broke. Reached 140'. Removed pump and will make repairs Monday 12/20/21.

ACWD Meter No.: _____ **Beginning Meter Reading:** _____ **End Meter Reading:** _____

Pictures Taken: ☑ YES ☐ NO File Location: _____
Visitors to Job Site: Doug Young, Kyt Soo
Delays/Accidents: Mud pump broke

Construction Details

Final Bit Size & Type: _____
Total Borehole Depth: _____ ft.
Control Casing Size: _____ in.
Control Casing Depth: _____ ft. to _____ ft.
Conductor Casing Size: _____ in.
Conductor Casing Depth: _____ ft. to _____ ft.
Well Casing Diameter: _____ in.
Completed Well Depth: _____ ft.
Perforation Slot Size: _____ in.
Perforation Interval: _____ ft. to _____ ft.
Sand Info.: _____
Sand Interval: _____ ft. to _____ ft.
and _____ ft. to _____ ft.
Grout Mix: _____
Grout Interval: _____ ft. to _____ ft.
Bottom Plug Info.: _____
*and** _____ ft. to _____ ft.

*Two grout intervals if bottom of borehole extended beyond completed well depth and was grouted prior to well construction.

Monitoring Well Construction Remarks

Inspector: Andrés Aguayo **Permit No.:**

07:35 - Arrived on site. Gregg (Robert, Francisco, Jared) also on site. Drill rig started up and they are ready to start rimming from 60' to 345' Total Depth (TD)

08:55 - Currently rimming @ 120'. Robert & Jared are smoothing out welding cuts on 8" steel casing.

09:35 - 3 drums of material for mud mix was delivered by Pitcher Drilling.

10:20 - Doug Young arrived on site. He is headed across the street to address neighbors concerns on work being done @ this site. No answer @ door. →38772 Blacow Rd←

10:30 - Doug left site.

11:25 - Kit Soo arrives on site to cover AA for lunch.

N:55 - AA returns from lunch

12:20 - Rimming the boring has currently stopped. Mud pump is broken and crew is cleaning the mess it made.

12:45 - Clean-up completed. Crew ordered a new pump and it will take ≈ 2hrs to arrive. They have begun removing broken pump.

13:30 - Francisco tells me pump will take +/- 3 hours to arrive and asks if they can make repairs tomorrow (Saturday). Advised most likely not, but that I would ask Doug. Crew started cleaning up site and setting up fenced area.

1400 - Doug arrived on site. He tells Francisco that repairs will have to be made on Monday 12/20/21.

14:20 - Borehole secured, waste bins closed, 1x waste bin outside site next to water truck also outside site fenced area. Crew leaves 120' of rods inside boring.

14:30 - Signed Francisco, Jared & Robert's timecard (F.B.O. Pitcher) as requested for time verification only.

14:40 - Doug left site to attempt to make contact with neighbor/customer @ 38772 Blacow. Gregg crew also left site

14:41 - AA Left site.

	3TF	12/20/2021

Field Notes

7:30 Drillers on site repairing mud pump
8:54 Begin reaming
10:00 Down to 220'
10:14 Down to 240'
10:34 Down to 260'

10:45 KS Arrived @ Site, DY leaves

11:00 Down to 280'

12:15 Down to 300'

1:30 Almost down to 340'
1:45 KS Leaves site
2:00 TD 345

2:43 Pull rod

3:38 Trip rods back into hole to wipe the side of the holes

3:45 met with neighbor from 38772 Blacow Rd to answer questions about the project

358 met with neighbor from 38768 Blacow Rd to answer questions about project

~~4~~ 450 Completed downhole wiping Begin pulling rods

500 Shutdown left 300' in hole, left site

well site Evaluation Project	Field Notes 3TP	12/21/2021

10097

7:30 arrive @ site. Drillers present & starting equipment
8:00 Trip out ~~cas~~ drill rod, prepare hole for casing
8:20 Remaining 180' casing arrives @ site
9:00 all drive rod equip removed
9:15 installing Tremie
9:50 installing slotted w/ 1 10' of slotted casing centralizers at top, middle, bottom of screen
10:15 30' of screen installed
Centralizers every 30'
11:00 95' of Casing in hole
11:25 115' " "
11:45 Drillers take lunch
12:05 " Back to work
12:35 135' in the hole
1:50 195' "

P. Carter
14:35 Arrival onsite. Drillers are putting in steel casing.
14:59 Doug Young departs.
16:13 Doug Young returns.
16:20 Casing installed to 345' total depth.
17:20 Drillers decide they will not be able to install sand pack tonight. Doug Young and I depart site. Will sand and grout tomorrow.

Notes from Site 3. Please include in binder.

PC

Wellsite Eval Project	Field Notes	12/22/2021 10097

7:30 arrive on-site Brillers already on-site

7:45 Ponder vac truck arrives to remove drill cuttys from dumpsters.

7:50 Shaker springs leak but appears to be contained under the shaker and drilling. Ponder is using vac system to clean it up

9:10 Begin Sanding

9:25 Remove 20 feet of Tremie

9:36 " " " "

9:40 Ponder leaves site

9:46 Remove 20 feet of Tremie

10:10

10:20 AA arrives on site.

10:30 Crew is getting ready to insert swab into boreing

10:40 - Begin Swabbing casing.

11:20 - Swab has been pulled out of casing.

11:30 - Started pouring Bentonite Chips. Per Doug, 10# of bentonite OK to use.

11:45 - Finished pouring bentonite chips. Tagged @ 270'

11:55 - Milpitas material arrived. Delivered 11sk Sand Slurry. (Witnessed Tag)

12:05 - Begin pumping 11sk Slurry via tremie pipe. (2" steel pipe)

12:30 - Removed 100' of tremie pipe.

9 yd³ 12:32 - Resumed pumping of 11 sk Slurry.

13:07 - Henry Mol w/ Milpitas Material left site. Francisco w/Gregg is going to order more cement. ≈ 80' left to grout.

13:15 - While waiting to have more cement delivered crew is cleaning up site.

5 yd³ 13:45 - Milpitas Material (1Yd) arrives with more 11sk Sand Slurry. Started pouring via tremie. Witnessed tag

14:30 - Ran out of 11-sk slurry. Still need ≈ 25' to go. Francisco called to order more.

14:50 - Crew started using the bailer to clean out well in the meantime that Milpitas Material arrives with more 11 sack Slurry

3 yd³ 15:25 - Moises/ with Milpitas Material arrives. Started pouring 11 sk Slurry

15:45 - Milpitas Material left site. 3yd³ delivered.

≈ 18' left to grout, pump still has cement left, will tag after all has been poured.

16:00 - After pouring cement From whats left in the pump. They've tagged 11sk @ 6' bgs. Advised we'd like it to be 3' minimum

They will mix 2 bags of type 1/11 neat cement above 11sk slurry.

16:05 - All 260' of tremie pipe (2") has been removed,

16:20 - 10' control casing removed.

Conco (Joseph Dillon) left site.

16:30 - Crew started cleaning up site

16:45 - Francisco remembered he didn't leave enough room for well-box Started removing about a 1' of neat cement from boring.

17:00 - Hole Secured. Left Site.

Gregg Crew still on-site finishing picking up.

Monitoring Well Construction

Inspector: Andres Aguayo | **Permit No.:** 2021-0288

Job No.: 10097 | **Well No.:** 4S/1W-32N005

Date: 12-27-21 | **Other Well ID:** 3-TF

Job Location: Intersection of Blacow Rd and Brophy Dr

Contractor: Pitcher Services LLC

Major Equipment and Materials On-site

ITEM	MATERIALS RECEIVED TODAY
Drill rig, Hopper Box	
4x Waste Bins	
Forklift, Portable Restroom	
Support Truck 2x	

Contractor Arrival Time: _____ Contractor Departure Time: _____

Daily Start Depth: _____ ft. Daily Finish Depth: _____ ft.

Daily Drill Bit Size(s): _____

Work Completed Summary: Packed up and cleaned site.

ACWD Meter No.: _____ **Beginning Meter Reading:** _____ **End Meter Reading:** _____

Pictures Taken: ☑ YES ☐ NO File Location: _____

Visitors to Job Site: _____

Delays/Accidents: _____

Construction Details

Final Bit Size & Type: _____ Total Borehole Depth: _____ ft.

Control Casing Size: _____ in. Control Casing Depth: _____ ft. to _____ ft.

Conductor Casing Size: _____ in. Conductor Casing Depth: _____ ft. to _____ ft.

Well Casing Diameter: _____ in. Completed Well Depth: _____ ft.

Perforation Slot Size: _____ in. Perforation Interval: _____ ft. to _____ ft.

Sand Info.: _____ Sand Interval: _____ ft. to _____ ft.

_____ *and* _____ ft. to _____ ft.

Grout Mix: _____ Grout Interval: _____ ft. to _____ ft.

Bottom Plug Info.: _____ *and** _____ ft. to _____ ft.

*Two grout intervals if bottom of borehole extended beyond completed well depth and was grouted prior to well construction.

Monitoring Well Construction Remarks

Inspector: Andres Aguayo **Permit No.:**

07:35 - Arrived on site. Gregg (Francisco, Justin, Robert) also on site. They have started packing up their equipment and cleaning up site to move to site 1.

07:42 - Left to site 1 to check in with drillers

08:10 - Arrived on site. Ponder (Mitch) also on site. Vacuuming waste from bins.

08:50 - Mitch w/ Ponder environmental leaves site.

09:32 - Gregg crew packed up majority of tools to take to site-1, I'll be escorting them to site 1. Doug will tell Francisco + Robert where to set up.

09:50 Returned to site 3, Justin is packing up more equipment to have it ready for when support truck returns from site-1.

10:24 - Francisco + Robert return from site-1

10:26 - Left site.

12:50 - Returned to site. Gregg crew on site. Most of their equipment/tools have been taken to site-1.

12:55 - Left site

14:50 - Arrived on site. Francisco, Robert + Justin cleaning site. Advised sidewalk should be open to public since it will be a couple of weeks until we are back at site. They will hose it down to clean mud and prevent slips.

16:20 - Sidewalk was hose down and cleaned. Perimeter fence was set up along church property leaving sidewalk open.

8" Casing still needs to be grinded down. It was covered with plastic bag and bucket over.

16:25 Left site

PERMIT NO. _____ 3-TF well Development WELL NO. 45/1W-32N005 3-TF

INSPECTOR	DATE	TIME	REMARKS
Indrés Aguayo	2-1-22	07:45	Arrive on site. Pitcher/Gregg (Phil / Bernix) on site currently setting up to continue bailing 3-TF.
		08:00	Began bailing well.
Assuming TD is 346'			Water Level @ 46.78'
60' of screen 340'-280'		08:05	Per Ava Lazor, Bernix tags the well @~346' which is almost 10' less of construction design. Bernix has checked w/Terry S. and there was last minute well construction change the day of casing installation.
Swab every 20'			
Amount of 4" discharge pipe 20'		0845	Began loading 4" swab pipe 20' length, followed by regular 4" discharge pipes 20' in length.
		0850	Doug Young arrives on site. Advised him of 3-TF being tagged @~346'. DY tells me to assume that is the depth. With ~~50~~ 60' of screen, Screen intervals then are from ~~280'~~ 290' AA - 340'
		0915	DY leaves site.
		1120	Finished loading 4" Discharge Pipes + 1" Airlift pipe
			Discharge pipes set @~339'
			Airlift pipes set @ ~200'
		1145	Currently setting up discharge hoses to waste bins
		1150	Airlift began
		1155	Took 1st water sample
		1315	First container filled to capacity (3,600 gal)
			Fill time 11:50 to 13:15 = 85 min
			Q = ~42gpm
		1320	Bernix + Phil switched discharge hoses to empty containers.
			Also began swabbing in screen area. Per Bernix swab will cover approx. ~294' to 339'
		1400	Bernix shut off airlift for 1 min, lowered swab to 339', turned air lift on.

NUMBER OF EXPLORATORY HOLES _____

WORK COMPLETED _____ (DATE) OR PERMIT VOIDED _____ (DATE)

COPY OF PERMIT TO _____ (REVIEWING INDIVIDUAL) ON _____ (DATE) BY _____ (INITIALS)

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PERMIT NO. _____ WELL NO. 45/1W-32N005 (3-TF)

INSPECTOR	DATE	TIME	REMARKS
A. Aguayo	2-2-22	1530	Bernix swabbed well from ~294' to ~339' several times
		1620	Container reached capacity. Airlift shutdown
			Crew started shutting down + closing up the site.
	2/3/22	0900	Arrive on site. Per Bernix's call this morning they were
			going to bring pump from site #1. Called Bernix
			and its going to take them an hour or so longer.
			Doug Young advises me to head over to site 1 and
			make sure well is locked. Left site #3
		0920	Arrive on Site #1. Bernix + Phil currently unloading pipes
			and pump from 1-TF
		1030	All pipes, and pump removed From 1-TF. Expandable cap
			on, but no lock (I have big locks, and will not fit through cap hole).
			Leaving for Site #3. Will come back to place lock on
			1-TF.
		1045	Arrive on Site #3.
		1050	Water level for 3-TF = 42.41'
		1100	Crew will break for lunch before they begin
			pumping well. Advised Bernix of 2" sounding tube
			is preffered. Transducent size is 1.0" and cable is 0.5".
			Also advised him that per Doug we'd like pump
			as close to the top of the screen as possible ~ 290'
			and the sounding tube 10' above the pump.
		1145	Crew currently removing 200' of 1" airlift pipe
		12:05	Finished unloading airlift pipes, began unloading 4"
			discharge pipes (339') from well
		1300	Finished unloading discharge pipes (4")
		1305	Tagged bottom of well @ 346'
		1315	Advised Bernix to set pump as close to 291'.

NUMBER OF EXPLORATORY HOLES _____

WORK COMPLETED _____ (DATE) OR PERMIT VOIDED _____ (DATE)

COPY OF PERMIT TO _____ (REVIEWING INDIVIDUAL) ON _____ (DATE) BY _____ (INITIALS)

PERMIT NO. _____ 3-TF WELL NO. 45/IW-32N005

INSPECTOR	DATE	TIME	REMARKS
	2-3-22	1315	The closest Bernix can set pump is 280'. Called Doug he approves to set pump @ 280'
			Crew began loading 6" pump + 1' coupling + 3" discharge pipes 21' in length
		1430	Completed loading pump + discharge piper
		1435	Pump started
		1445	Flow = 50gpm
			(WL) Water level for 3-TF dropped to 160', 5 min after 192'
			WL - 32N002 = 41.24'
			WL - 32N001 = 45.44'
		1455	3-TF W/L dropped to 245'
		1505	5 gal bucket test took 5 seconds to fill
		1520	WL - 32N002 = 41.24'
			WL - 32N001 = 45.04'
		1525	Per Dougs request crew will lower pump to the bottom of the screen @ 341'
		1600	WL - 32N002 - 41.24
			WL - 32N001 - 45.44
		1630	Took water sample NTU @ 18.2
		1640	Crew shutdown pump. Started Closing site. Hole secured Left site

NUMBER OF EXPLORATORY HOLES _____

WORK COMPLETED _____ (DATE) OR PERMIT VOIDED _____ (DATE)

COPY OF PERMIT TO _____ (REVIEWING INDIVIDUAL) ON _____ (DATE) BY _____ (INITIALS)

3-TF

PERMIT NO. _____ WELL NO. 45/1W-32N005

INSPECTOR	DATE	TIME	REMARKS
A. Aguayo	2-4-22	0750	Arrive on site. Pitcher/Gregg (Phil/Bernix & Joe) also on site. They have taken down fencing + began setting up to start pumping. Generator turned on, Bernix will turn on pump for 10 min, and turn off for 10 min.
			3-TF Water Level (W/L) before pump started: 41.16
			45/1W-32N002 W/L = 41.27'
			45/1W-32N001 W/L = 45.08'
		0810	Before Bernix turned on pump again W/L rose to 90'
			10 min w/ pump on W/L - 3-TF @ 265.85'
		0827	W/L 32N002 = 41.33'
			32N001 = 45.07
		0833	Performed bucket test to determine flow. I took 4.17 secs to fill 5 gal bucket. Q = +/- ~~17gpm~~ AA 71gpm
		0845	Water in 3-TF rose to 80' after pump being turned off for 10 min.
		0855	After 10 min of pump being on W/L dropped to 271.8'
		0900	Bernix + Phil left for site #2
		0905	W/L - 32N002 - 41.33'
			- 32N001 - 45.08'
		0915	Pump turned off. W/L for 3-TF before unknown (W/L only goes to 100')
		0923	W/L in 3-TF reached 80' - Pump turned on again
		0935	w/l - 32N002 = 41.31'
			w/l - 32N001 = 45.08'
		0937	5gal bucket Test Q = ~ 66 gpm
		1005	w/L - 32N002 41.38'
			w/L - 32N001 45.08
			5gal bucket test Q ~ 58gpm
		1015	Turned off pump. Will turn back on once it recovers all the way 1040 recovered

NUMBER OF EXPLORATORY HOLES _____

WORK COMPLETED _____ (DATE) OR PERMIT VOIDED _____ (DATE)

COPY OF PERMIT TO _____ (REVIEWING INDIVIDUAL) ON _____ (DATE) BY _____ (INITIALS)

PERMIT NO. _____ WELL NO. 45/1W-32N005

3-TF

INSPECTOR	DATE	TIME	REMARKS
A. Aguayo	2/4/22	1040	3-TF Fully recovered to 41' Water Level. Pump turned back on. Water coming out of discharge ppes is clear
		1045	W/L 45/1W-32N002 - 41.32
			45/1W 32N001 - 45.05
		1050	5gal Bucket Test Q = ~56gpm
		1115	W/L 45/1W-32N002 ~ 41.33
			-32N001 - 45.08
			5gal Test Q = ~ 56gpm
		1119	PUMP TURNED OFF. WILL LET IT RECOVER
		1144	Well 3-TF recovered to 41' Pump turned ON
		1200	W/L 32N002 = 41.35
			32N001 = 45.05
		1215	Q ~ 65gpm
		1245	W/L 32N002 = 41.33
			32N001 = 45.08
			Q ~ 54gpm
		1252	Shut pump off. Will let it recover
		1317	3-TF recovered to 41'. Pump turned ON
		1325	W/L 32N002 = 41.30'
			32N001 = 45.08'
		1335	Q ~ 70gpm

NUMBER OF EXPLORATORY HOLES _____

WORK COMPLETED _____ (DATE) OR PERMIT VOIDED _____ (DATE)

COPY OF PERMIT TO _____ (REVIEWING INDIVIDUAL) ON _____ (DATE) BY _____ (INITIALS)

PERMIT NO. _____ 3-TF WELL NO. 45/1W-32N005

INSPECTOR	DATE	TIME	REMARKS
A. Agoviyo	2-4-22	1405	W/L 32N002 - 41.29
			32N001 - 45.05
		1408	Q ~ 54 gpm
		1408	Turned off pump. Will let well (3-TF) fully recover
		1434	3-TF Recovered to 41'
		1435	W/L - 32N002 - 41.29
			32N001 - 45.10
		1440	Q ~ 66 gpm
		1510	Collected last sample. Terry S. called and feels wells has been develop and wants to shut pump down. He will talk to Doug about well production.
			Called Doug and he said OK to shut it down
		1535	Joe is setting up fence perimeter and locking up Left site.

NUMBER OF EXPLORATORY HOLES _____

WORK COMPLETED _____ (DATE) OR PERMIT VOIDED _____ (DATE)

COPY OF PERMIT TO _____ (REVIEWING INDIVIDUAL) ON _____ (DATE) BY _____ (INITIALS)

ALAMEDA COUNTY WATER DISTRICT

MONITORING WELL SAMPLING RECORD

WELL ID: 4S/1W-32N005
PROJECT NO: 10097
PROJECT NAME:
DATE: 2-2-22
SAMPLED BY: A. Aguayo

DEPTH TO WATER: 46.78'
TOTAL DEPTH OF WELL: 346'
WELL DIAMETER: 8"
CASING VOLUME: 150.7 ft³ / 1,127 gal
METHOD OF PURGING: Air Lift

TIME	CUMULATIVE VOL. REMOVED (GALLONS)	TEMPERATURE (°C)	pH (UNITS)	SPECIFIC CONDUCTANCE (UMHOS/CM)	REMARKS (COLOR, TURBIDITY & SEDIMENT)
1155		18.3	8.07	2182 uS	Green Murky / unable to get a reading from meter /
1290		18.7	7.98	2903 uS	TURBIDITY OVERRANGE+! / LESS MURKY / GREEN COLOR WATER
1300		18.7	7.98	2946 uS	(917 NTU) / CLOUDY / GREENISH COLOR
(X) 1315		18.7	7.87	2984 uS	(615 NTU) / CLOUDY / GREEN
1345		18.0	8.09	2946 uS	(125 NTU) / LESS CLOUDY / LITTLE SEDIMENT
(A) 1415		17.7	8.14	2987 uS	(826 NTU) / CLOUDY w/SEDIMENT / BACK TO GREENISH COLOR
1445		17.9	8.10	3000 uS	(376 NTU) / CLOUDY w/sediments / Green color
1510		18.2	8.02	2996 uS	(294 NTU) SAME AS ABOVE
1530		17.9	8.23	2976 uS	(292) NTU AS ABOVE
(B) 1550		18.7	8.09	3008 uS	~~(276 NTU)~~ AA (262 NTU) CLOUDY + GREEN COLOR
1610		19.0	8.08	2950 uS	(290 NTU) CLOUDY w/SEDIMENT / GREEN COLOR
1620		18.0	8.02	2982 uS	(335 NTU) CLOUDY w/SEDIMENT / GREEN COLOR

NOTES: (X) 1st CONTAINER FULL, BERNIX WILL STOP AIRLIFT TO SWITCH DISCHARGE HOSES. (A) Swab lowered, after AIRLIFT WAS OFF FOR 1 MIN. (B) Began swabing again.

ALAMEDA COUNTY WATER DISTRICT

MONITORING WELL SAMPLING RECORD

WELL ID: 4S/1W-32N005
PROJECT NO: 10097
PROJECT NAME:
DATE: 2-3-22
SAMPLED BY: A. Aguayo

DEPTH TO WATER: 42.41'
TOTAL DEPTH OF WELL: 346'
WELL DIAMETER: 8"
CASING VOLUME: 150.7 ft^3 / 1,127 gal
METHOD OF PURGING: Pump

TIME	CUMULATIVE VOL. REMOVED (GALLONS)	TEMPERATURE (°C)	pH (UNITS)	SPECIFIC CONDUCTANCE (UMHOS/CM)	REMARKS (COLOR, TURBIDITY & SEDIMENT)
1455		19.5	7.85	2915 NS	MURKY / GREEN / CAN'T SEE THROUGH
1600		20.1	7.77	3062 NS	340 NTU / Cloudy
1615		20.2	7.48	3086 NS	124 NTU / Cloudy / getting clear
1630		18.7	7.59	3137 NS	18.2 NTU / Clear

NOTES: Pump turned on @ 1435. Flow rate +/- 60gpm. Per Doug Well lowered to bottom of screen @ 341'.

ALAMEDA COUNTY WATER DISTRICT

MONITORING WELL SAMPLING RECORD

WELL ID: 4S/1W-32N005
PROJECT NO: 10097
PROJECT NAME:
DATE: 2/4/22
SAMPLED BY: A. Aguayo

DEPTH TO WATER: 41.16'
TOTAL DEPTH OF WELL: 346'
WELL DIAMETER: 8"
CASING VOLUME: 150.7 ft³ / 1,127 gal
METHOD OF PURGING: Pump

	TIME	CUMULATIVE VOL. REMOVED (GALLONS)	TEMPERATURE (°C)	pH (UNITS)	SPECIFIC CONDUCTANCE (UMHOS/CM)	REMARKS (COLOR, TURBIDITY & SEDIMENT)
	0815		17.3	7.70	3133 uS	10.9 NTU / CLEAR / NO SEDIMENT
	0845		17.1	7.40	3117 uS	11.7 / CLEAR / NO SEDIMENT
	0915		17.3	7.36	3127 uS	19.9 NTU / CLEAR / NO SEDIMENT NOTED
	0945		18.5	7.29	3121 uS	14.8 NTU / CLEAR / NO SEDIMENT NOTED
	1015		18.5	7.27	3130 uS	7.37 NTU / CLEAR / NO SEDIMENT NOTED
*	1045		18.6	7.29	3102 uS	68.9 NTU / CLOUDY / NOT SO CLEAR
	1115		18.2	7.25	3102 uS	14.4 NTU / CLEAR / NO SEDIMENT
*	1150		18.9	7.36	3040 uS	92.3 NTU / CLOUDY / NO SEDIMENT
	1215		19.7	7.43	3058 uS	12.1 NTU / CLEAR / NO SEDIMENT
	1250		19.8	7.46	3075 uS	6.56 NTU / CLEAR / NO SEDIMENT
*	1320		19.9	7.58	3072 uS	78.1 NTU / CLOUDY / NO SEDIMENT
	1335		20.3	7.56	3060 uS	25.5 NTU / CLEAR / NO SEDIMENT
	1405		20.5	7.77	3061 uS	9.94 NTU / CLEAR / NO SEDIMENTS
*	1440		19.4	7.62	3004 uS	47.0 NTU / CLOUDY / NO SEDIMENT
	1510		19.5	7.42	3090 uS	12.5 NTU / CLEAR / NO SEDIMENT

NOTES: * The NTU levels rose after pump was turned on.

Monitoring Well Construction

Inspector: Andres Aguayo
Job No.: 10097
Date: 12-14-2021

Permit No.: 2021-0287
Well No.: 4S/1W-32N004
Other Well ID: 3-SF

Job Location: Intersection of Blacow Rd and Brophy Dr
Contractor: Pitcher Services LLC

Major Equipment and Materials On-site

ITEM	MATERIALS RECEIVED TODAY

Contractor Arrival Time: _____ Contractor Departure Time: _____

Daily Start Depth: _____ ft. Daily Finish Depth: _____ ft.

Daily Drill Bit Size(s): _____

Work Completed Summary: _____

_____

ACWD Meter No.: _____ **Beginning Meter Reading:** _____ **End Meter Reading:** _____

Pictures Taken: ☐ YES ☐ NO File Location: _____

Visitors to Job Site: _____

Delays/Accidents: _____

Construction Details

Final Bit Size & Type: _____

Control Casing Size: _____ in.

Conductor Casing Size: _____ in.

Well Casing Diameter: _____ in.

Perforation Slot Size: _____ in.

Sand Info.: _____

_____

Grout Mix: _____

Bottom Plug Info.: _____

Total Borehole Depth: _____ ft.

Control Casing Depth: _____ ft. to _____ ft.

Conductor Casing Depth: _____ ft. to _____ ft.

Completed Well Depth: _____ ft.

Perforation Interval: _____ ft. to _____ ft.

Sand Interval: _____ ft. to _____ ft.

and _____ ft. to _____ ft.

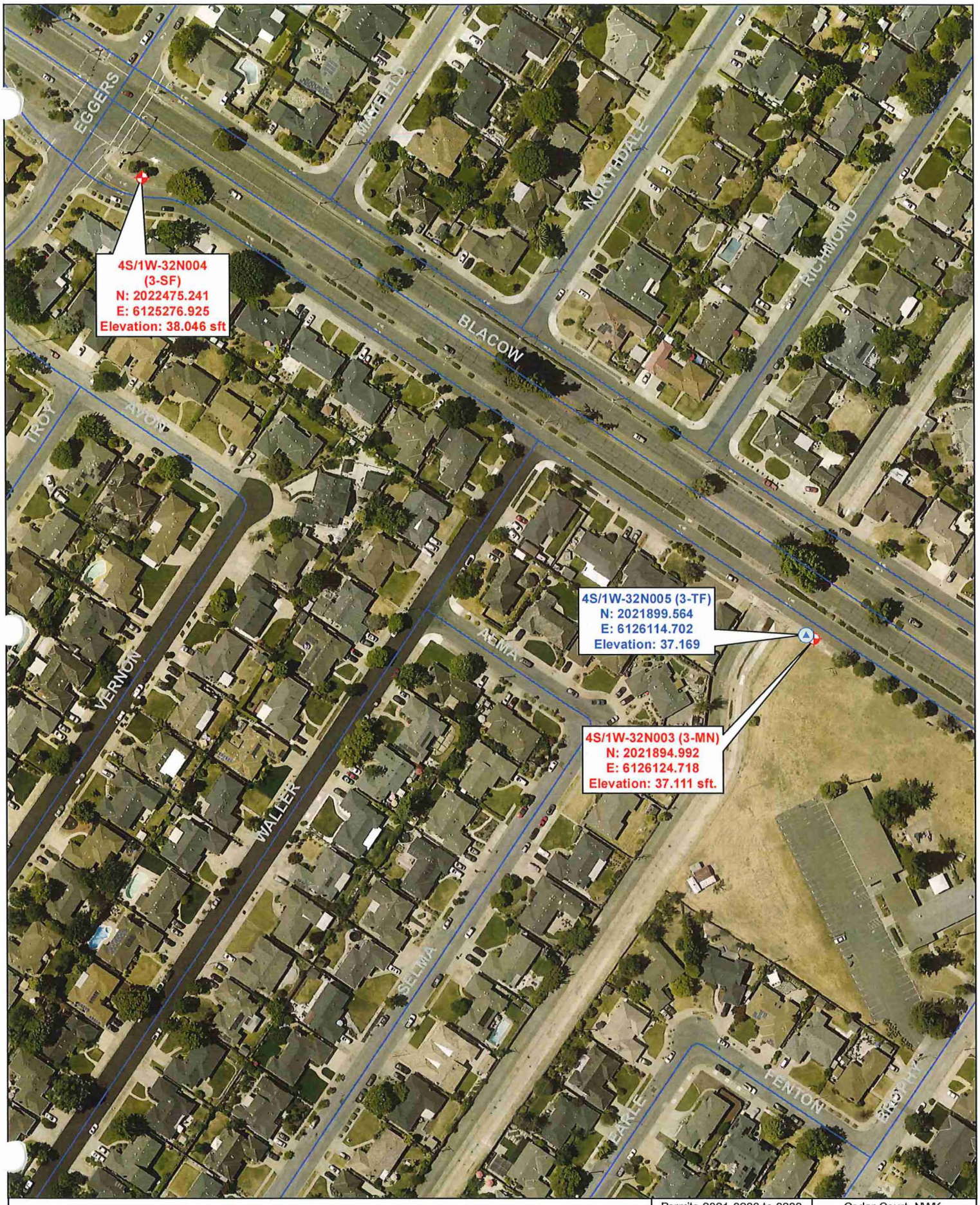
Grout Interval: _____ ft. to _____ ft.

*and** _____ ft. to _____ ft.

*Two grout intervals if bottom of borehole extended beyond completed well depth and was grouted prior to well construction.

Monitoring Well Construction Remarks

Inspector: **Permit No.:**



ACWD
ALAMEDA COUNTY WATER DISTRICT

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Well Location Map

Permits 2021-0286 to 0288	Cedar Court, NWK
4S/1W-32N003 to N005	1:1800
Monitoring Well	03.10.2022
Water Well	Drawn By: Jeremy Bautista

WELL DATA

STATE WELL NO. 4S/1W-32N005

PERMIT NO. 2021-0288

OWNER: Alameda County Water District	SITE ID:
ADDRESS: 43885 S. Grimmer Blvd, FMT	WELL NAME: 4S/1W-32N005
TENANT:	OWNER NO.: 3-TF
SITE ADDRESS Near the INTERSECTION OF BLACOW Rd and Brophy Dr	3-TF

TYPE OF WELL ☐ SPECIAL STUDIES ☐ MONTHLY ☐ SEMI ANNUAL ☐ WATER QUALITY

LOCATION COUNTY: Alameda County BASIN: Niles Cone NO.

U.S.G.S. QUAD. QUAD NO.

1/4 1/4 SECTION TWP. RGE. ☐MD ☐SB ☐H BASE & MERIDIAN

COORDINATES (NAD83) NORTHING: 2021899.564 EASTING: 6126114.702 SOURCE Trimble R8

DESCRIPTION:

Well is in a 12" round EMCO Wheaton Christy box in the sidewalk at the northwest corner of 38801 Blacow Rd, Fremont, CA near the intersection of Blacow Rd and Brophy Dr.

REFERENCE POINT DESCRIPTION:

Top center of the christy box lid

WHICH IS FT. ABOVE ☐ BELOW ☐ LAND SURFACE DATUM GROUND ELEVATION FT.

REFERENCE POINT ELEVATION 37.169 FT. DETERMINED FROM: Top center of the christy box lid

WELL USE: Groundwater Production Test CONDITION: new DEPTH: 345 FT.

CASING, SIZE 6 IN., Steel PERFORATIONS: 290-340' SLOT SIZE: 0.060"

MEASUREMENTS BY ☐ DWR ☐ USGS ☐ USBR ☐ COUNTY ☐ IRR. DIST. ☐ WATER DIST. ☐ CONS. DIST. ☐ OTHER

GRAVEL PACK? ☑ YES ☐ NO	DEPTH TO TOP GR. 280'	DEPTH TO BOT GR. 345'
TYPE OF MATERIAL: #3 Sand	PERM. RATING	THICKNESS
CHIEF AQUIFER	DEPTH TO TOP AQ.	DEPTH TO BOT. AQ.
SUPP. AQUIFER	DEPTH TO TOP AQ.	DEPTH TO BOT. AQ.

DRILLER: Pitcher Serv. (Francisco/Jared) DATE DRILLED: 12-22-2021 LOG NUMBER (DWR 188)

WELL PUMP TYPE	MAKE	MODEL	SERIAL NO.
WATER ANALYSIS MIN.	SAN.	H.M.	
POWER SOURCE		WATER LEVELS AVAILABLE? ☐ YES ☐ NO	
H.P.	MOTOR SERIAL NO	PERIOD OF RECORD BEGIN	END
ELEC. METER NO.	TRANSFORMER NO.	COLLECTING AGENCY	
SIZE OF DISCHARGE PIPE		IN.	

YIELD G.P.M.	PUMPING LEVEL FT.	PROD. REC.	PUMP TEST	YIELD

SKETCH

N

REMARKS

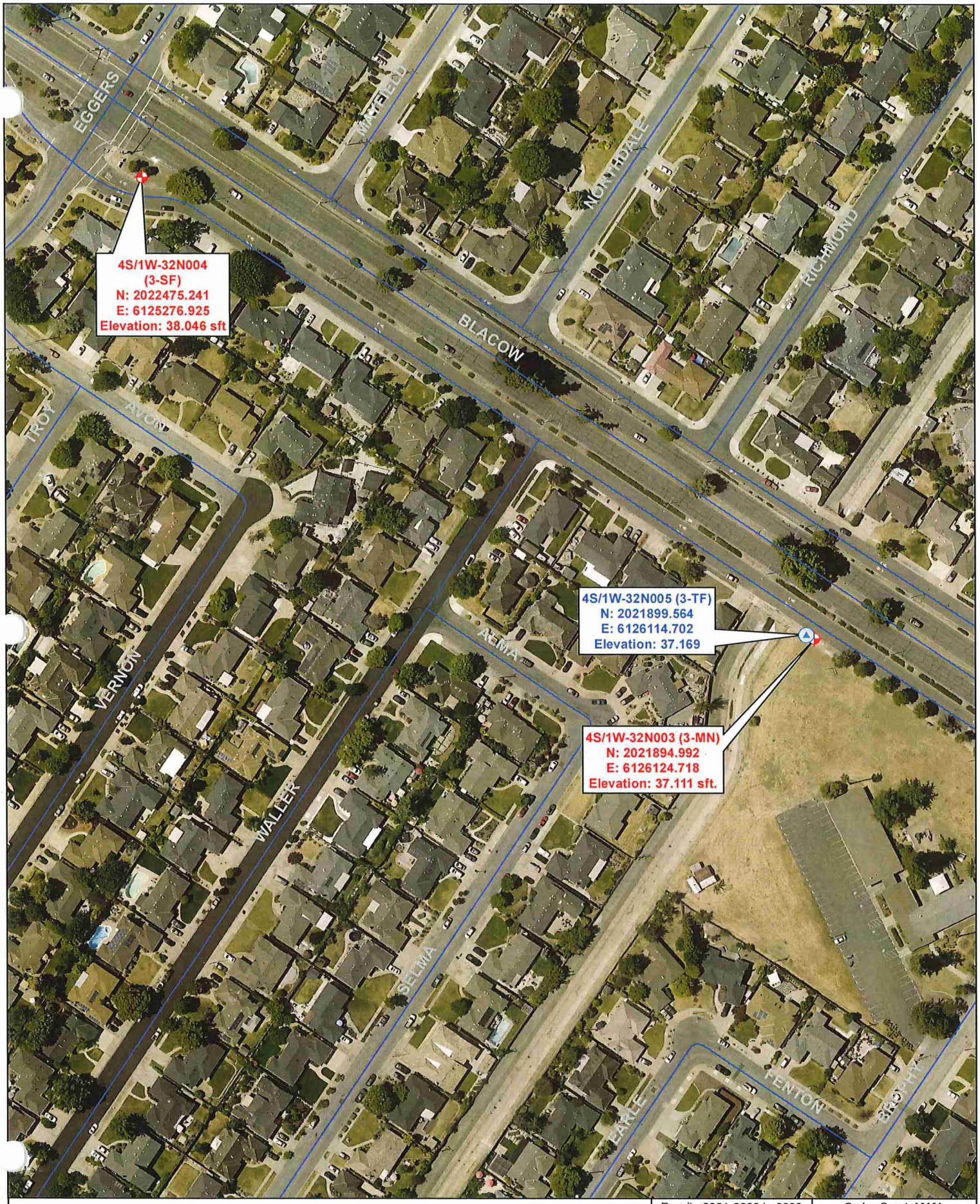
400' Total depth of borehole
345-400' – 6" diameter; 0-345' – 14 3/4" diameter borehole
345-400' – Type II/V neat cement
0.5-290' – 8" blank Steel casing
290-340' – 8" slotted Steel casing (0.060" slots)
340-345' – 8" blank Steel casing + end cap
Centralizers every 40' on blank casing and top/middle/bottom screen

PERMIT NO.: 2021-0288

SANITARY SEAL: 1-270' - 11-Sack Sand Slurry

RECORDED BY: Jeremy Bautista

DATE: 03-15-2022



ACWD ALAMEDA COUNTY WATER DISTRICT

N W E S

Well Location Map

Permits 2021-0286 to 0288	Cedar Court, NWK
4S/1W-32N003 to N005	1:1800
Monitoring Well	03.10.2022
Water Well	Drawn By: Jeremy Bautista

WELL DATA

STATE WELL NO. 4S/1W-32N005

PERMIT NO. 2021-0288

OWNER: Alameda County Water District	SITE ID:
ADDRESS: 43885 S. Grimmer Blvd, FMT	WELL NAME: 4S/1W-32N005
TENANT:	OWNER NO.: 3-TF
SITE ADDRESS Near the INTERSECTION OF BLACOW Rd and Brophy Dr	3-TF

TYPE OF WELL ☐ SPECIAL STUDIES ☐ MONTHLY ☐ SEMI ANNUAL ☐ WATER QUALITY

LOCATION COUNTY: Alameda County BASIN: Niles Cone NO.

U.S.G.S. QUAD. QUAD NO.

1/4 1/4 SECTION TWP. RGE. ☐MD ☐SB ☐H BASE & MERIDIAN

COORDINATES (NAD83) NORTHING: 2021899.564 EASTING: 6126114.702 SOURCE Trimble R8

DESCRIPTION:

Well is in a 12" round EMCO Wheaton Christy box in the sidewalk at the northwest corner of 38801 Blacow Rd, Fremont, CA near the intersection of Blacow Rd and Brophy Dr.

REFERENCE POINT DESCRIPTION:

Top center of the christy box lid

WHICH IS FT. ABOVE ☐ BELOW ☐ LAND SURFACE DATUM GROUND ELEVATION FT.

REFERENCE POINT ELEVATION 37.169 FT.	DETERMINED FROM: Top center of the christy box lid
WELL USE: Groundwater Production Test	CONDITION: new / DEPTH: 345 FT.
CASING, SIZE 6 IN., Steel	PERFORATIONS: 290-340' / SLOT SIZE: 0.060"

MEASUREMENTS BY ☐ DWR ☐ USGS ☐ USBR ☐ COUNTY ☐ IRR. DIST. ☐ WATER DIST. ☐ CONS. DIST. ☐ OTHER

GRAVEL PACK? ☑ YES ☐ NO	DEPTH TO TOP GR. 280'	DEPTH TO BOT GR. 345'
TYPE OF MATERIAL: #3 Sand	PERM. RATING	THICKNESS
CHIEF AQUIFER	DEPTH TO TOP AQ.	DEPTH TO BOT. AQ.
SUPP. AQUIFER	DEPTH TO TOP AQ.	DEPTH TO BOT. AQ.

DRILLER: Pitcher Serv. (Francisco/Jared)	DATE DRILLED: 12-22-2021	LOG NUMBER (DWR 188)

WELL PUMP TYPE	MAKE	MODEL	SERIAL NO.
WATER ANALYSIS MIN.	SAN.	H.M.	
POWER SOURCE		WATER LEVELS AVAILABLE? ☐ YES ☐ NO	
H.P.	MOTOR SERIAL NO	PERIOD OF RECORD BEGIN	END
ELEC. METER NO.	TRANSFORMER NO.	COLLECTING AGENCY	
SIZE OF DISCHARGE PIPE		IN.	
YIELD G.P.M.	PUMPING LEVEL FT.	PROD. REC. / PUMP TEST / YIELD	

SKETCH



REMARKS

400' Total depth of borehole
345-400' – 6" diameter; 0-345' – 14 3/4" diameter borehole
345-400' – Type II/V neat cement
0.5-290' – 8" blank Steel casing
290-340' – 8" slotted Steel casing (0.060" slots)
340-345' – 8" blank Steel casing + end cap
Centralizers every 40' on blank casing and top/middle/bottom screen

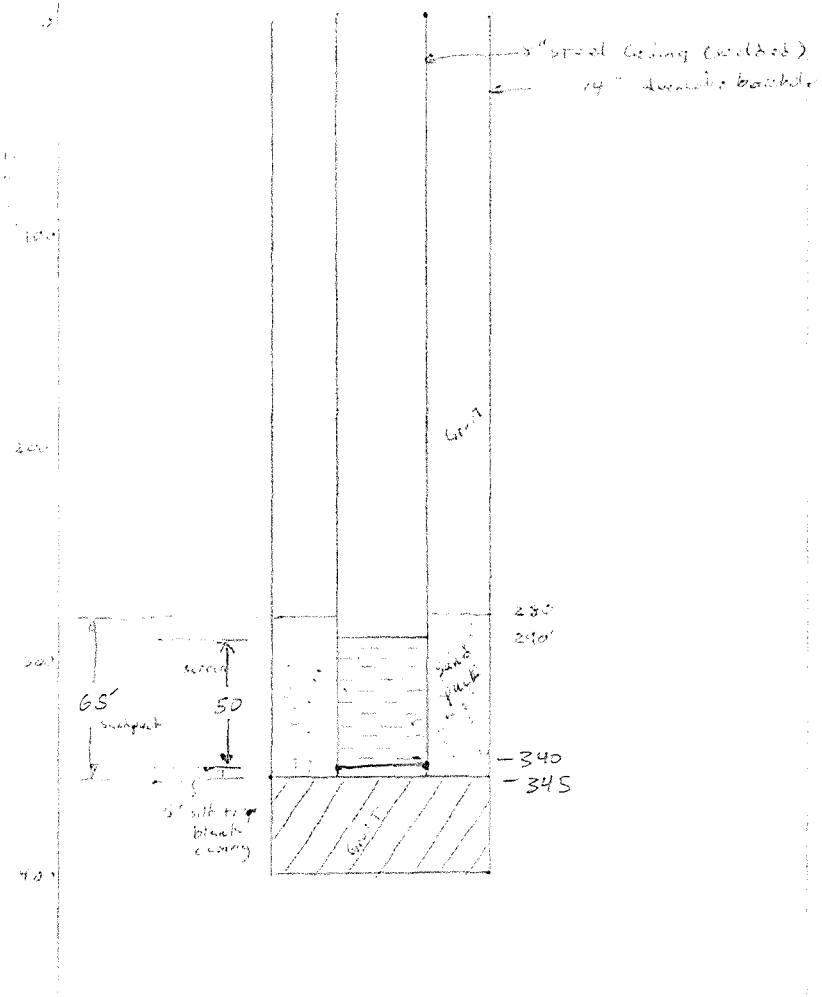
PERMIT NO.: 2021-0288

SANITARY SEAL: 1-270' - 11-Sack Sand Slurry

RECORDED BY: Jeremy Bautista

DATE: 03-15-2022

12/6/2021 Proposed completion STF



Monitoring Well Construction

Inspector: Pablo Cortez
Permit No.: 2021-0288
Job No.: 10097
Well No.: 4S/1W-32N005
Date: 3-18-22
Other Well ID: 3-TF

Job Location: Site 3 - Blacow Rd.
Contractor: Pitcher Drilling

Major Equipment and Materials On-site

ITEM	MATERIALS RECEIVED TODAY
Drill rig	Aqua Clear
Support truck	

Contractor Arrival Time: 7:00
Contractor Departure Time: 15:25
Daily Start Depth: ft.
Daily Finish Depth: ft.
Daily Drill Bit Size(s):
Delays/Accidents:

ACWD Meter No.: **Beginning Meter Reading:** **End Meter Reading:**

Pictures Taken: ☑ YES ☐ NO
Visitors to Job Site: Selim Zeyrek

Construction Details

Final Bit Size & Type:
Total Borehole Depth: ft.
Control Casing Size: in.
Control Casing Depth: ft. to ft.
Conductor Casing Size: in.
Conductor Casing Depth: ft. to ft.
Well Casing Diameter: in.
Completed Well Depth: ft.
Perforation Slot Size: in.
Perforation Interval: ft. to ft.
Sand Info.:
Sand Interval: ft. to ft.
and ft. to ft.
Grout Mix:
Grout Interval: ft. to ft.
Bottom Plug Info.:
*and** ft. to ft.

*Two grout intervals if bottom of borehole extended beyond completed well depth and was grouted prior to well construction.

Monitoring Well Construction Remarks

Inspector: **Permit No.:**

7:30 Arrived onsite. Pitcher Drilling crew onsite. Water in well tagged at ~~41.76~~ 41.61' (RE). Water in nearby well Blacow-F tagged at 41.65'. Crew is preparing to install swab.

8:14 Began lowering swab pipe into well. Swab pipe is 22' long. Subsequent pipes are 21' long each. Driller calculates that 15x 21' pipes + 22' swab pipe + length of coupling should put the bottom of pipe at (RE) ~~340~~', 341'. 22' between swab rubbers.

9:19 Swab pipe + 15 additional pipes installed in the well.

9:27 Began mixing aqua clear solution. 1.66 gal. of Aqua Clear for 50 gal. of water (per batch).

9:29 Began pumping first batch. ~2min to pump 55 gal. drum.

9:38 Second batch mixed and pumped.

9:43 Pumped part of the third batch (10 gal.). 110 gal. total pumped so far.

9:49 Removed 21' of rods (2" steel)

9:55 Selim Zeyrek arrives.

10:09 Pumped a batch of fresh water. All 3 zones have been injected with product. Went back down to bottom and are now waiting for product to sit for a few minutes before beginning to swab.

10:29 Tagged water in the well at 41.80'. Placed hose in well casing ~10' down to pump water in well.

10:40 Began swabbing. Water pumped at ~33 gal/min. Swabbing at ~25' strokes. (319'-341' zone)

10:47 Pumped ~200 gal. of water.

11:39 Tagged water in Blacow-F at 41.78'.

12:30 Selim departs.

12:40 Drillers break for lunch.

PERMIT NO. 2021-0288 WELL NO. 4S/1W-32N005

INSPECTOR	DATE	TIME	REMARKS
Pablo Cortez	3-18-22	13:15	Work resumes. Removing 21' of rods.
		13:26	Pumped an additional 200 gal. of water in the well to keep pressure head on the solution down below. Now swabbing second zone (298'-319').
		14:23	Removing 21' of rods. Adding another 10' rod to get the upper zone (286'-308').
		14:30	Tagged water in Blacow-F well at 41.67'. Drillers begin swabbing the upper zone.
		15:00	Completed swabbing for the day. Placing rods back down to the bottom to repeat procedure for Monday.
		15:20	Lowered pipes back down to bottom.
		15:25	Site secured. Departed site.

NUMBER OF EXPLORATORY HOLES _____

WORK COMPLETED _____ (DATE) OR PERMIT VOIDED _____ (DATE)

COPY OF PERMIT TO _____ (REVIEWING INDIVIDUAL) ON _____ (DATE) BY _____ (INITIALS)

ACWD
ALAMEDA COUNTY WATER DISTRICT

Monitoring Well Construction

Inspector: Jeremy Bautsita
Job No.: 10097
Date: 03.21.22

Permit No.: 2021-0288
Well No.: 4S/1W-32N005
Other Well ID: 3-TF

Job Location: Blacow Rd and Brophy Dr, Site 3
Contractor: Pitcher Services LLC

Major Equipment and Materials On-site

ITEM	MATERIALS RECEIVED TODAY
Fra[illegible] Failing Mud Rotary Drill Rig	
Support Truck	
Porto-let	

Contractor Arrival Time: 0700
Contractor Departure Time: _____
Daily Start Depth: _____ ft.
Daily Finish Depth: _____ ft.
Daily Drill Bit Size(s): _____

Work Completed Summary: _____

ACWD Meter No.: _____ **Beginning Meter Reading:** _____ **End Meter Reading:** _____

Pictures Taken: ☐ YES ☐ NO File Location: _____
Visitors to Job Site: _____
Delays/Accidents: _____

Construction Details

Final Bit Size & Type: _____
Control Casing Size: _____ in.
Conductor Casing Size: _____ in.
Well Casing Diameter: _____ in.
Perforation Slot Size: _____ in.
Sand Info.: _____
Grout Mix: _____
Bottom Plug Info.: _____

Total Borehole Depth: _____ ft.
Control Casing Depth: _____ ft. to _____ ft.
Conductor Casing Depth: _____ ft. to _____ ft.
Completed Well Depth: _____ ft.
Perforation Interval: _____ ft. to _____ ft.
Sand Interval: _____ ft. to _____ ft.
and _____ ft. to _____ ft.
Grout Interval: _____ ft. to _____ ft.
*and** _____ ft. to _____ ft.

*Two grout intervals if bottom of borehole extended beyond completed well depth and was grouted prior to well construction.

Monitoring Well Construction Remarks

Inspector: Jeremy Bautista **Permit No.:** 2021-0288

~~Sept~~ 0900- Arrive on site. Pitcher Services (Oskar / Phil) on site w/ a Failing Mud Rotary drill rig.
I tag water @ 40.80'. They begin swabbing the ~~bore~~ well casing @ 341' with a 24' swab.

I tag water @ 41.07' for 4S/1W-32N002

0830- begin removing 2' steel pipe + swab. They inserted 15x 21' long 2" steel pipe + a 22' swab pipe.

0905- all ~~steel~~ swab piping removed from 341-320' interval, but left swab pipe in place

0915- begin installing 4" steel ~~discharge~~ discharge pipe.

1025- 15x of the 4" steel discharge pipes have been installed with the 22' swab pipe
21' x 15 = 315' + 22' = 337' total

1035- begin installing 1" steel air line. They plan to install 14x 20' pipes to 280' (10' above the screen)

1100- airline steel 1" pipe installed to 280'.
4S/1W-32N002 - 42.15'

1115- 4"/~~#~~1" coupler/discharge head attached

1130- begin airlift.

1145- 4S/1W-32N002 - 42.35' ; GPM = ~118
4S/1W-32N005 - ~55'

1200- shut off airlift compressor because discharge tanks are full.
4S/1W-32N002 - 48.33' GPM - ~113

1220- Doug Young arrives on site.

1225- He says that Pitcher should proceed w/ 2nd dose of Aqua Clear injection.

1245- Doug leaves site

1310- lowered 1" air lift steel pipe to 338'. Preparing to mix Aqua Clear solution.

1320- mix 1.66 gallons of Aqua Clear + 5~~3~~ gallons of H_2O. Begin injecting @ 338'.

1325- injected Aqua Clear/H_2O solution + 30 gallons of H_2O. Begin removing 1" pipe to be able to surge/swab the 4" swab pipe.

1425- begin to swab w/ 341' as bottom. after removing all 1" air line.

1450- complete swabbing bottom interval.; remove 1x 21'x4" discharge pipe; begin installing 1" air line.

1520- Inserted 1" steel air line to ~~320~~ 325' and injected previous Aqua Clear diluted solution + an additional 30 gallons of H_2O

Monitoring Well Construction Remarks

Inspector: Jeremy Bautista - 03.21.22 **Permit No.:** 2021-0288

1530 - begin removing 1" steel air line. up to 300'

1615 - finish injecting final interval @ 300' of Aqua Clear Solution + 30 gallons of H_2O

1625 - all 1" steel air line removed. Begin swabbing well from 290' - 320'.

1730 - complete swabbing final two intervals from 300 - 320' and 290 - 300'
leaving 4" discharge line suspended

1740 - well and site secure. all leave site.

Monitoring Well Construction

Inspector: Jeremy Bautsita
Job No.: 10097
Date: 03.23.22

Permit No.: 2021-0288
Well No.: 4S/1W-32N005
Other Well ID: 3-TF

Job Location: Blacow Rd and Brophy Dr, Site 3
Contractor: Pitcher Services LLC

Major Equipment and Materials On-site

ITEM	MATERIALS RECEIVED TODAY

Contractor Arrival Time: 0630
Contractor Departure Time: _____
Daily Start Depth: 341 ft.
Daily Finish Depth: _____ ft.
Daily Drill Bit Size(s): _____

Work Completed Summary: _____

ACWD Meter No.: _____ **Beginning Meter Reading:** _____ **End Meter Reading:** _____

Pictures Taken: ☑ YES ☐ NO File Location: _____
Visitors to Job Site: _____
Delays/Accidents: _____

Construction Details

Final Bit Size & Type: _____
Control Casing Size: _____ in.
Conductor Casing Size: _____ in.
Well Casing Diameter: _____ in.
Perforation Slot Size: _____ in.
Sand Info.: _____
_____
Grout Mix: _____
Bottom Plug Info.: _____

Total Borehole Depth: _____ ft.
Control Casing Depth: _____ ft. to _____ ft.
Conductor Casing Depth: _____ ft. to _____ ft.
Completed Well Depth: _____ ft.
Perforation Interval: _____ ft. to _____ ft.
Sand Interval: _____ ft. to _____ ft.
and _____ ft. to _____ ft.
Grout Interval: _____ ft. to _____ ft.
*and** _____ ft. to _____ ft.

*Two grout intervals if bottom of borehole extended beyond completed well depth and was grouted prior to well construction.

Monitoring Well Construction Remarks

Inspector: Jeremy Bautista 03.23.22 **Permit No.:** 2021-0288

0700- arrive on site. Pitcher Services (Phil/Oscar) on site with a Failing Mud Rotary drill rig. They are towering up. Measure DTW @ 41.91'

0705- begin surging/swabbing the 8" steel well w/ 4" discharge pipe attached to a 22' double ended swab

0715- take turbidity readings for roll-off bins: #1 - 3.35 NTU
#2 - 8.22 NTU

0800- install filter bag at discharge point of pump and storm drain cover.

0810- begin pumping the top of the roll-off bins

0820- Oscar leaves site for another job. Pondor delivers a 21,000 gallon baker tank (30yds^3)

0830- roll-off bin #2 is drained to where ~9" remains at the bottom. Begin pumping roll-off bin #1

0845- Phil completes swabbing.

0910 - Viola arrives on site to help. 45/1W-32N002- 42.18'
5- 41.92' (w/ 340' of 4" steel pipe in well)

0920- begin lowering 1" steel air line into the 4" discharge pipe.

0955- air line is lowered to 280'.

1015- begin air lifting and swabbing at 280' and 340'. 45/1W-32N002- 42.53' at start

1020- stop to adjust discharge hose @ roll-off tank #2

1025- start air lifting again 1029 - 678 NTU

1038 - 45/1W-32N002- 42.71' / 45/1W-32N005-340 NTU 45.60' DTW

1037 - switch to roll off tank #1

1043 - 45/1W-32N002 - 42.92' / 45/1W-32N005 - 50.9 NTU 46.04' DTW

1051 - switch to 21k gallon Baker tank
45/1W-32N005 - 29.4 NTU ~122 GPM

1100 - 45/1W-32N005 - 14.0 NTU ; shut off compressor ; will move up to middle interval

1230- Spoke to Thomas Sparkowski and he says we are ok to discharge to the storm drain as long as we are under 100 NTU. Plan to discharge to 21k Baker Tank until ~~250~~ 50 NTU then switch to storm drain. Selim Ok's this plan. Begin pumping @ 320' (discharge) and 280' (air line)
45/1W-32N005 - 17.6 NTU 45/1W-32N002 - 42.86' DTW

1245 45/1W-32N005 - 27.9 NTU after swabbing. 45/1W-32N002- 42.91' DTW

1300 - 45/1W-32N005 - 3.80 NTU after swabbing

Still well, 1.5-2" tremie pipe to 150'
pump

Monitoring Well Construction Remarks

Inspector: Jeremy Bautista 03.23.22 **Permit No.:** 2021-0288

1305 - shut down air lift compressor. Setting up to swab 290-312'.

1350 - ready to start air lift/swab @ 312'.

4S/1W-32N005 - 41.91' DTW 4S/1W-32N002 - 42.18' DTW

1355 - begin airlift

4S/1W-32N005 - 33.3 NTU

1410 - swab for 15 minutes ; 4S/1W-32N005 - 16.8 NTU ; 45.92' DTW 4S/1W-32N002 - 42.84'

1425 - Swab for 30 minutes ; 4S/1W-32N005 - 3.48 NTU ; 46.45' DTW 4S/1W-32N002 - 42.97'

1430 - cease air lift

1445 - measure DTW post air lift : 4S/1W-32N005 - ~~42.18~~ 41.97' 4S/1W-32N002 - 42.18'

1510 - begin pulling 1" steel air line

1545 - all leave site. I remind Phil that we need flow meter and 1.5→2" tremie pipe to 150' minimum.

Monitoring Well Construction

Inspector: Jeremy Bautsita
Job No.: 10097
Date: 03.24.22

Permit No.: 2021-0288
Well No.: 4S/1W-32N005
Other Well ID: 3-TF

Job Location: Blacow Rd and Brophy Dr, Site 3
Contractor: Pitcher Services LLC

Major Equipment and Materials On-site

ITEM	MATERIALS RECEIVED TODAY

Contractor Arrival Time: 0700 Contractor Departure Time: 1600

Daily Start Depth: ft. Daily Finish Depth: ft.

Daily Drill Bit Size(s):

Work Completed Summary: Max flow + drawdown test; removed pipes, empty bins + Baker Tank.

ACWD Meter No.: **Beginning Meter Reading:** **End Meter Reading:**

Pictures Taken: ☑ YES ☐ NO File Location:

Visitors to Job Site:

Delays/Accidents:

Construction Details

Final Bit Size & Type:
Control Casing Size: in.
Conductor Casing Size: in.
Well Casing Diameter: in.
Perforation Slot Size: in.
Sand Info.:

Grout Mix:
Bottom Plug Info.:

Total Borehole Depth: ft.
Control Casing Depth: ft. to ft.
Conductor Casing Depth: ft. to ft.
Completed Well Depth: ft.
Perforation Interval: ft. to ft.
Sand Interval: ft. to ft.
and ft. to ft.
Grout Interval: ft. to ft.
*and** ft. to ft.

*Two grout intervals if bottom of borehole extended beyond completed well depth and was grouted prior to well construction.

Monitoring Well Construction Remarks

Inspector: Jeremy Bautista 03.24.22 **Permit No.:** 2021-0288

0730- arrive on site. Pitcher Services (Bernix / Phil) on site with a Sneal Well Development rig. They are setting up to position the rig over the well
I take turbidity measurements of the holding tanks:
Roll-off #1 (currently @ 4000 gallons) - 10.3 NTU
Roll-off #2 (↓) - 7.6 NTU
21k Baker Tank (~ @ 8000 gallons) - 9.5 NTU
0740- begin draining the Roll-off bins from the top and the Baker Tank from the bottom
0745- mobe Sneal rig over the well
0800- Marcos from Pitcher arrives on site. They begin removing the 1" steel air line
0845- 1" air line removed. begin removing 4" discharge line.
0925- all 4" discharge pipe and swab removed. Tank & bin discharge complete. ~9" of water + solids left in each roll-off bin. They have a 7-bowl pump and 1" PVC tremie pipe on site
0940- dropping in the submersible pump and motor.
0950- speak w/ Doug Young. He wants to set bottom of the pump @ ~280'
1040- 4" discharge pipe installed to 280'.
1050- They have mismatched threads on the tremie pipe for 40'. Install 110' of 1" PVC tremie Marcos leaves to get 40' of same tremie from East Palo Alto.
DTWs: 4S/1W-32N002 - 42.02'
4S/1W-32N005 - 41.93'
1120- Marcos returns to site w/ rest of tremie pipe
1125- 1" PVC tremie set @ 150'
1145- Anton Sharma arrives on site to take over
1220- Anton leaves site
1230- DTW - 4S/1W-32N002 - 43.41'
1240- Terry Stewchuk arrives on site.
1245- 4S/1W-32N002 - 43.46'
1300- - 43.47'
1310- take turbidity sample from Baker Tank (no sediment on bottom) = 47.2 NTU; begin release into storm drain.

Monitoring Well Construction Remarks

Inspector: Jeremy Bautista 03.24.22 **Permit No.:** 2021-0288

1315 - take parameter readings ; continuing every 15 minutes

45/1W-32N002 - 43.56'

1330 - ↓ - 43.56'

1345 - ↓ - 43.56'

1400 → ↓ - 43.56' 32N001 - ~~45.81~~ JB 45.81'

1405 - Doug Young o/s shutdown

1407 - Shut down pump and motor

1410 - 45/1W-32N002 - 42.41' 45/1W-32N001 - 45.81' 45/1W-32N005 - 42.11'

1430 - all 1" PVC riser pipe removed

1435 - begin removing all 4" discharge pipe and pump and motor.

1535 - all 4" pipe removed and Pump/motor

DTW - 45/1W-32N002 - 42.11' 45/1W-32N005 - 41.93'

1545 - tower down, well lid and plug on.

1600 - All leave site. Site Secure.

Daily Development Report

Well Location: Blacow / Brophy FMT
Well Number: 4S/1W-32N005
Totalizer Start:
End:

Date: 03-24-22
Measured by: J. Bautista / A. Shorna
Discharge Pressure:

Remarks: 41.93 DTW @ start
Flow Meter @ 40237 before pumping

1152 SOURCE @

TIME	FLOW RATE gpm	STATIC DTW ft.	PUMPING DTW ft.	DRAWDOWN ft.	SPEC. CAPACITY gpm/ft.	NO. OF SURGES	SAND TESTER READ	SAND TESTER AMT	REMARKS
1152	330	41.93							
1155	350	~~56~~.	56.3						
1201	350		58.3						34.1 NTU 12:01
1215	350		59.3						19.0 NTU 12:15
			~~59.67~~	SWITCH TO STORM WATER					
1230	~350		59.67						23.3 NTU Clear
1245	~350		60.11						26.7 NTU Clear
1300	~350		60.38						13.8 NTU Clear
1315	~350		60.66						20.3 NTU Clear
1330	~350		60.86						12.1 NTU Clear
1345	~350		60.96						9.22 NTU Clear
1355	~350		61.11						8.60 NTU Clear
1407				Shut Down					

3-TF Step Drawdown Test
04/04/2022

A. Lazor field notes

0710: Arrive onsite, Selim shortly thereafter

0740: Doug arrive onsite

0755: Pitcher arrive onsite, equipment setup.

0813: 1.5" ID PVC, 270 ft TD. Begin installing piping.

0845: Collect static water level measurements w/ SZ.

0930: Metering out the datalogger connection line in ~10-ft increments using water level meter graduations. Completed to 270 feet.

1000: Beginning datalogger setup procedure to prepare for stepdrawdown test.

1010: Installed datalogger line into 3-TF & taped to casing. ~~Measu~~ Measuring depth to water above transducer, ~~changing to~~ to convert to ft (from meters) during post-processing.

1022: Start step drawdown test @ 150 gpm

1030: From 44.71 to 45.00 (0.29 ft drawdown)

1300: Collected water from leak ~~hea~~ in 3-TF assembly, 3L/min estimated leakage rate.

1702: Collected final hand measurements,

1705: Turn off pump.

Monitoring Well Construction

Inspector: Jeremy Bautista
Permit No.: 2021-0288
Job No.: 10097
Well No.: 4S/1W-32N005
Date: 04.03.22 (5/28)
Other Well ID: 3-TF
Job Location: Blacow Rd and Brophy Dr, Site 3
Contractor: Pitcher Services LLC

Major Equipment and Materials On-site

ITEM	MATERIALS RECEIVED TODAY
Failing Mud Rotary Drill Rig	
Tommy Gate Support Truck	
Electric Generator	
Port-o-let	

Contractor Arrival Time: 0700
Contractor Departure Time: _____
Daily Start Depth: _____ ft.
Daily Finish Depth: _____ ft.
Daily Drill Bit Size(s): _____

Work Completed Summary: _____

ACWD Meter No.: _____ **Beginning Meter Reading:** _____ **End Meter Reading:** _____

Pictures Taken: ☐ YES ☐ NO File Location: _____
Visitors to Job Site: _____
Delays/Accidents: _____

Construction Details

Final Bit Size & Type: _____
Total Borehole Depth: _____ ft.
Control Casing Size: _____ in.
Control Casing Depth: _____ ft. to _____ ft.
Conductor Casing Size: _____ in.
Conductor Casing Depth: _____ ft. to _____ ft.
Well Casing Diameter: _____ in.
Completed Well Depth: _____ ft.
Perforation Slot Size: _____ in.
Perforation Interval: _____ ft. to _____ ft.
Sand Info.: _____
Sand Interval: _____ ft. to _____ ft.
and _____ ft. to _____ ft.
Grout Mix: _____
Grout Interval: _____ ft. to _____ ft.
Bottom Plug Info.: _____
*and** _____ ft. to _____ ft.

*Two grout intervals if bottom of borehole extended beyond completed well depth and was grouted prior to well construction.

Monitoring Well Construction Remarks

Inspector: Jeremy Bautista 04.05.22 **Permit No.:** 2021-0288

0705- Arrive on site. Pitcher Services (Phil) on site, hooking up hoses.
0715- Doug Young arrives on site
0751- begin Continuous Drawdown Pump test after downloading data from Solinst Transducer
0754- cease pumping; the sample port has no flow.
0801- restart pump test; sample port is working after switching positions with flow meter. well is pumping @ ~300 gpm; begin taking water levels.
0900- begin taking water quality samples from sampling port
0935- Brianna Thomas arrives on site to drop off equipment and help with H_2O levels.
~~0945~~ 1006- Brianna Thomas leaves site.
1015- complete collection of Water Quality samples.
1020- Doug Young leaves site to submit Water Quality Samples to the laboratory.
1029- continue taking water levels from 4S/1W-32N002 & N005 every 15 minutes and parameter tests every hour. continue taking water levels from 4S/1W-32N001 & N003 every ½ hour.
1248- Brianna Thomas arrives on site
1305- I leave site.
1455- I arrive on site
1545- Brianna Thomas leaves site. Phil tops off the generator with Diesel fuel.
1600- Phil leaves site.
1610- Creative Security arrives on site
1720- Doug Young arrives on site
1730- Ava Lazor arrives on site
2008- closed well lids so transducer lengths in 3-MF, 3-MW, & C have been lengthened.
2000- Turn off 3-TF pumping, begin site cleanup.
2022- Power down second-interval datalogger, transducers remain.
2030- Leave site.

SPECIFIC CAPACITY DATA SHEET

Well Location: 3-TF
Well Number: 3TF (4S/1W-32N005)
Totalizer Start: 4,082,100 gal (40821 × 100)
McCrometer End:
Remarks: STATIC DTW @ 0845 = ~~42.31~~ 44.71 ft BTOC, 44.71 ft BTOC 10.22p

Date: 4/4/2022
Measured By: JB, AL
Discharge Presure:

MINUTES	TIME	FLOW RATE (gpm)	STATIC DTW (ft) 44.71 BTOC	PUMPING DTW (ft)	DRAWDOWN (ft)	SPECIFIC CAPCAITY (gpm/ft)	Turbidity
1	1022a	~150	~~42.31~~ (0845)	44.92'			
2	1023	"		"			
3							
4	1025	"		44.97			
5	1026	"		45.00			
6	1027	"		45.00			
7	1028	"		"			
8	1029	"		"			
9	1030	"		"			
10	1031	"		"			
11	1032	"		"			
12	1033	"		45.11			
14	1035	"		45.39			
16	1037	"		45.83			
18	1039	"		46.17			
20	1041	"		46.54			
25	1046	"		~~46.62~~ 46.62			29.6 NTU
30	1051	"		46.08			
35	1056	"		47.01			2.53 NTU
40	1101	"		47.25			
45	1106	"		47.32			5.15 NTU / 1.57 NTU
50	1111	"		47.27			
60	1121	"		47.26			
70	1131	"		46.82			0.62 NTU
80	1141	"		47.72			
90	1151	"		46.96			1.14 NTU
100	1201	"		47.36			

SPECIFIC CAPACITY DATA SHEET

Well Location 3-TF
Well Number 45/1W-32N005
Totalizer Start _____ > 40988
End _____
Remarks 3 liter/min leak @ L-joint

Date 04.04.22
Measured By J. Bautista
Discharge Presure _____

MINUTES	TIME	FLOW RATE (gpm)	STATIC DTW (ft)	PUMPING DTW (ft)	DRAWDOWN (ft)	SPECIFIC CAPCAITY (gpm/ft)	
1	1202	~200 GPM		46.82			
2							
3							
4	1205	~200 GPM		47.11			3.23 NTU
5	1206	"		47.07			
6	1207	"		"			
7	1208	↓		47.03			
8	1209	↓		46.96			
9	1210	↓		46.88			
10	1211	↓		46.92			
11	1212	↓		46.82			
12	1213	↓		46.86			
14	1215	↓		47.21			
16	1217	↓		47.07			
18	1219	↓		47.25			
20	1221	↓		47.27			
25	1226	↓		47.29			0.72 NTU
30	1231	↓		47.17			
35	1236	↓		47.45			
40	1241	↓		47.27			
45	1246	↓		47.35			
50	1251	↓		47.26			
60	1301	↓		47.09			2.27 NTU
70	1311	↓		47.08			
80	1321	↓		47.09			
90	1331	↓		47.32			0.70 NTU
100	1341	↓		47.37			

SPECIFIC CAPACITY DATA SHEET

Well Location 3-TF
Well Number 45/IW-32N005
Totalizer Start
End
Remarks

Date 04.04.22
Measured By J. Bautista
Discharge Presure

MINUTES	TIME	FLOW RATE (gpm)	STATIC DTW (ft)	PUMPING DTW (ft)	DRAWDOWN (ft)	SPECIFIC CAPCAITY (gpm/ft)	
1	1341	250		47.32			
2	1342	↓		↓			
3	1343			47.22			
4	1344	↓		47.26			
5	1345	↓		47.23			3.41 NTU
6	1346	↓		47.28			
7	1347	↓		47.29			
8	1348	↓		47.32			
9	1349	↓		47.27			
10	1350	↓		~~48~~ 47.68			
11	1351	↓		47.61			
12	1352	↓		~~48.85~~ 47.85			
14	1353	↓		47.75			
16	1355	↓		47.85			
18	1357	↓		↓			
20	1359	↓		47.81			
25	1404	↓		47.82			
30	1409	↓		48.10			4.18 NTU
35	1414	↓		48.13			
40	1419	↓		48.20			
45	1424			47.41			
50	1429			53.34			
60	1439			53.26			
70	1449	↓		53.24			
80	1459	↓		53.22			
90	~~1454~~ 1509	↓		53.23			
100	1519	↓		53.26			

SPECIFIC CAPACITY DATA SHEET

Well Location 3-TF
Well Number 4S/1W-32N005
Totalizer Start
End
Remarks

Date 04.04.22
Measured By J. Bautista
Discharge Presure

MINUTES	TIME	FLOW RATE (gpm)	STATIC DTW (ft)	PUMPING DTW (ft)	DRAWDOWN (ft)	SPECIFIC CAPCAITY (gpm/ft)
1	1521	~300gpm		56.17		
2	1522			56.21		
3	1523			56.25		
4	1524			56.30		
5	1525			56.32		
6	1526			56.34		
7	1527			56.41		
8	1528			56.42		
9	1529			56.42		
10	1530			56.43		
11	1531			56.44		
12	1532			56.44		
14	1534			56.49		
16	1536 JB			56.50		
18	1538 JB			56.53		
20	1540			56.55		
25	1545			56.60		3.50 NTU
30	1550			56.64		
35	1555 JB			56.70		
40	1600			56.73		
45	1605			56.75		
50	1610			56.83		
60	1620			↓		
70	1630			56.89		
80	1640			56.92		
90	1650			56.97		
100	1700	↓		56.97		

SPECIFIC CAPACITY DATA SHEET

Well Location: 3-TF
Well Number: 4S/1W-32N005
Totalizer Start: 0418060D
End:
Remarks: 44.68' DTW @ 0726

Date: 04-05-22
Measured By: J. Bautista
Discharge Presure:

MINUTES	TIME	FLOW RATE (gpm)	STATIC DTW (ft)	PUMPING DTW (ft)	DRAWDOWN (ft)	SPECIFIC CAPCAITY (gpm/ft)
1	0751	~300		50.02		
2	0752			50.24		
3	0753			55.91		
4						
5						
6	0756	Stop Test				
7						
8						
9						
10						
11						
12						
14						
16						
18						
20						
25						
30						
35						
40						
45						
50						
60						
70						
80						
90						
100						

SPECIFIC CAPACITY DATA SHEET

Well Location 3-TF
Well Number 4S/1W-32N005
Totalizer Start 04130600
End
Remarks 44.68' DTW @ 0756
Started original test @ 0751 stopped @ 0756 due to sample port failure

Date 04-05-22
Measured By J. Bautista
Discharge Presure

MINUTES	TIME	FLOW RATE (gpm)	STATIC DTW (ft)	PUMPING DTW (ft)	DRAWDOWN (ft)	SPECIFIC CAPCAITY (gpm/ft)	Turbidity / Temp / Ph
1	0800	~300		55.43			
2	0801			55.49			
3	0802			55.75			
4	0803			55.85			
5	0804			56.02			
6	0805			56.18			
7	0806			56.25			
8	0807			56.29			
9	0808			56.35			
10	0809			56.41			
11	0810			56.46			
12	0811			56.48			
14	0813			56.54			
16	0815			56.62			
18	0817			56.65			
20	0819			56.71			Tx → 3.50 NTU 18°C
25	0824			56.78			
30	0829			56.89			
35	0834			56.97			
40	0839			57.04			
45	0844			57.09			0.[illegible] NTU / 18.0°C / 7.4
50	0849			57.14			
60	0859			57.20			
70	0909			57.31			
80	0919			57.39			1.67 NTU / 18.3°C / 7.4
90	0929			57.47			
100	0939			57.51			1.43 NTU / 18.4°C / 7.4

SPECIFIC CAPACITY DATA SHEET

Well Location 3-TF
Well Number 45/1W-32N005
Totalizer Start
End >04216800
Remarks

Date 04.05.22
Measured By J.Bautista / Brianna Thomas
Discharge Presure

MINUTES		TIME	FLOW RATE (gpm)	STATIC DTW (ft)	PUMPING DTW (ft)	DRAWDOWN (ft)	SPECIFIC CAPCAITY (gpm/ft)	Turbidity / Temp °C / PH
120	1	0959	~300		57.62			
135	2	1014			57.76			
150	3	1029			57.79			
165	4	1044			57.85			1.69 NTU / 19.3 / 7.4
180	5	1059			57.92			
195	6	1114			57.97			
210	7	1129			58.02			
225	8	1144			58.07			2.26 NTU / 19.1 / 7.4
240	9	1159			58.13			
255	10	1214			58.18			
260	11	1229			58.24			
275	12	1244			58.26			0.88 NTU / 18.8° / 7.4
290	14	1259			58.30			
315	16	1314			58.36			
330	18	1329			58.39			
345	20	1344			58.42			0.38 NTU / 18.4° / 7.4
360	25	1359			58.47			
375	30	1414			58.49			
~~380~~ 390	35	1429			58.54			
405	40	1444			58.55			0.26 NTU / 18.4 / 7.4
420	45	1459			58.78			
435	50	JB ~~1444~~ 1514			58.61			
450	60	JB ~~1429~~ 1529			58.65			
465	70	JB ~~1444~~ 1544			58.67			0.17 NTU / 18.4° / 7.4
480	80	JB ~~1459~~ 1559			58.70			
495	90	JB ~~1514~~ 1614			58.71			
510	100	JB ~~1529~~ 1629	↓		58.74			

SPECIFIC CAPACITY DATA SHEET

Well Location: 3-TF
Well Number: 4S/1W-32N005
Totalizer Start: >04359900
End:
Remarks:

Date: 04.05.22
Measured By: J.Bautista
Discharge Presure:

MINUTES		TIME	FLOW RATE (gpm)	STATIC DTW (ft)	PUMPING DTW (ft)	DRAWDOWN (ft)	SPECIFIC CAPCAITY (gpm/ft)	Turbidity / Temp °C / pH
525	1	1644			58.76			2✓
540	2	~~16~~ 1659			58.79			0.49 NTU / 18.8 / 7.4
555	3	1714			58.81			
570	4	1729			58.85			3✓
585	5	1744			58.86			
600	6	1759			58.89			1.89 NTU / 18.5 / 7.4
615	7	1814			58.90			
630	8	1829			58.92			4✓
645	9	1844			58.94			
660	10	1859			58.95			0.60 / 18.1 / 7.4
675	11	~~1859~~ 1914			58.98			
690	12	1929			59.00			
705	14	1944			59.02			
720	16	1959			59.04			0.60 / 17.9 / 7.5
	18	~~2014~~						
	20							
	25							
	30							
	35							
	40							
	45							
	50							
	60							
	70							
	80							
	90							
	100							

Start time: 1022 AM

SPECIFIC CAPACITY DATA SHEET

Well Location
Well Number C (45/1W-32N001)
Totalizer Start 40821 x 100 gal
End 40988 x 100 gal
Remarks Measurement from bottom of lid.

~~46.20~~ AL

Date 4/4/2022
Measured By SZ & AL
Discharge Presure

MINUTES	TIME	FLOW RATE (gpm)	STATIC DTW (ft)	PUMPING DTW (ft)	DRAWDOWN (ft)	SPECIFIC CAPCAITY (gpm/ft)
1		150	46.20 (8:54)			
2						
3						
4						
5						
6						
7						
8						
9	1031		46.20			
10						
11						
12						
14	1036		46.20			
16						
18						
20						
25	1047		46.20			
30	1052		46.20			
35						
40						
45						
50	1112		46.20			
61 ~~60~~	1123		46.20			
70						
~~81~~ 80	1143		46.18			
91 ~~90~~	1153		~~46.16~~ 46.18			
100						

116.2

SPECIFIC CAPACITY DATA SHEET

4616

Well Location
Well Number C (4S/1W-32N001)
Totalizer Start 40988 x100 gal
End 41203 x100 gal
Remarks

Date 4/4/2022
Measured By AL, BT
Discharge Presure

MINUTES	TIME	FLOW RATE (gpm)	STATIC DTW (ft)	PUMPING DTW (ft)	DRAWDOWN (ft)	SPECIFIC CAPCAITY (gpm/ft)
1		200				
2						
3						
4						
5						
6						
7						
8						
9	1211			46.16		
10						
11						
12						
14	1216			46.16		
16	1218			46.20		
18						
20	1222			46.20.		
26 ~~25~~	1228			46.21		
31 ~~30~~	AL ~~1232~~ 1233			46.24		
36 ~~35~~	1238			46.21		
40	1247			46.25.		
45	1252			46.20		
48 ~~50~~	~~1250~~ AL 1300			46.20.		
60	~~1312~~		— NO reading. —	AL ~~46.21~~	AL	
70	1322 1312			46.20 ~~AL~~	46.21	
80	~~1332~~ 1322			46.20 ~~AL~~	AL	
90	1332			46.20		
100						

SPECIFIC CAPACITY DATA SHEET

Well Location: ~~3-MN(4S/1W-32N003)~~ C(4S/1W-32N001)
Well Number
Totalizer Start: 41203 x100 Sal
End: 41464 x100 Sal
Remarks

Date: 4/4/22
Measured By: AC & SZ.
Discharge Presure

MINUTES	TIME	FLOW RATE (gpm)	STATIC DTW (ft)	PUMPING DTW (ft)	DRAWDOWN (ft)	SPECIFIC CAPCAITY (gpm/ft)
1		250				
2						
3						
4						
5						
6						
7	1347			46.21		
8	1348			46.21		
9						
10	1350			46.20.		
11						
12						
15 ~~14~~	1355			46.23		
16						
18						
20	1402			46.22		
25	1407			46.20		
30	1412			46.22		
35	1417			46.23		
40	1422			46.21		
46 ~~45~~	~~1424~~ 1428			46.22		
51 ~~50~~	1433			46.22.		
61 ~~60~~	1443			46.24		
70	1452			46.24		
81 ~~80~~	1503			46.24		
90	1512			46.24		
97 ~~100~~	1519			46.27		

SPECIFIC CAPACITY DATA SHEET

Well Location C (45/1W-32N001)
Well Number
Totalizer Start 41464 ~~gal~~ x100 gal
End 41793 x100 gal
Remarks Photos of totalizer not clear d/t scratched surface.

Date 4/4/2022
Measured By ALS
Discharge Presure

MINUTES	TIME	FLOW RATE (gpm)	STATIC DTW (ft)	PUMPING DTW (ft)	DRAWDOWN (ft)	SPECIFIC CAPCAITY (gpm/ft)
1	1523	300		46.24		
2						
3						
4						
5	1527			~~46.27~~ 46.17		
6	1528			46.19		
7						
8						
9						
10						
11						
12	1534			46.27		
14	1536			46.25		
~~16~~ 17	1539			46.27		
18	1540			46.26		
~~20~~ 22	1544			46.25		
25	1547			46.26		
30	1552			46.26		
35	1557			46.25		
40	1602			46.25		
45	1607			46.25		
~~50~~ 51	1613			46.25		
60	1622			46.26		
70	1632			46.26		
80	1642			46.26		
90	1652			46.26		
~~100~~ 98	1650			46.25		

Daily Sign-in Sheet
NCGB Well Site Evaluation Project
ACWD Job number 10097

Date	Name	Affiliation	Time - In	Time - Out	Reason
11/15/2021	Doug Young	ACWD	8:00		meeting Contractors
↓	Jeremy Bautista	ACWD	0815	0840	" "
11-15-21	Marcos Ozuna	Pitcher	8:00		Drilling
11/15/21	ANDRES AMARAL	"	8:00		D.I.
11-15-21	Mike Sevilla	Pitcher	8:00		Drilling
11-15-21	Andres Aguayo	ACWD	9:05		Inspection

Daily Sign-in Sheet
NCGB Well Site Evaluation Project
ACWD Job number 10097

Date	Name	Affiliation	Time - In	Time - Out	Reason
11/16/21	Pablo Cortez	ACWD	7:30	4:30	Inspector
11/16/21	ANDREW LAMELIN	PITCHER	7:00	5:00	
11-16-21	Marios Orozco	Pitcher	7:00	5:00	Drill
11-16-21	Michael Seville	Pitcher	7:00	5:00	Drill
"	Day Yang	ACWD	11:00	4:20	site visit
11/16/21	Wessam Zanaty	Pitcher	12:00	1:45	Check drilling fluid / mud weight.
11/16/21	Ross Broeckel	COF	1:00	1:15	Inspector

Daily Sign-in Sheet
NCGB Well Site Evaluation Project
ACWD Job number 10097

Date	Name	Affiliation	Time - In	Time - Out	Reason
11-17-21	Marcos Otero	Drill/pitcher	12:30	5:00	Drill
11/17/21	ANDREW TAMELING	DA	12:30	5:00	
11/17/21	Joseph Tavares	DA	12:30	5:00	
11/17/21	Pablo Carter	ACWD	12:30	4:50	Inspector
11/17/21	Dary Yang	ACWD	3:00	4:25	Site Visit

Daily Sign-in Sheet
NCGB Well Site Evaluation Project
ACWD Job number 10097

Date	Name	Affiliation	Time - In	Time - Out	Reason
~~11/28/21~~					
11.18.21	Joseph Tavlaridis	D/A	7:00	5:00	
11/18/21	ANDREW TAMELIAN	D/A	7:00	5:00	
11/18/21	Manos Orozco	Driller/Pitch	7:00	5:00	
11/18/21	Jake Pusateri	Mechanic	7:00	8:00	
11/18/21	Pablo Cortez	ACWD	7:35	2:30	Inspector
11/18/21	Doug Young	ACWD	1:00	2:30	Site visit
11/18/21	Terry Shewchuk	Pitcher	1:43	2:14	Site visit

Daily Sign-in Sheet
NCGB Well Site Evaluation Project
ACWD Job number 10097

Date	Name	Affiliation	Time - In	Time - Out	Reason
11/19/21	Pablo Cortez	ACWD	7:30	~~5:00~~ 11:20	Inspector
11-19-21	Marcos Orozco	Pitcher	7:00	5:00	Drilling
11/19/21	ANDREW TAMOUN	" "	7:00	5:00	D/A
11/19/21	Joseph Tavlarios	" "	7:00	5:00	D/A
11/19/21	Doug Young	ACWD	8:45	9:05	Site visit

Daily Sign-in Sheet

NCGB Well Site Evaluation Project

ACWD Job number 10097

Date	Name	Affiliation	Time - In	Time - Out	Reason
11/22/21	Brianna Thomas	ACWD	0730	1055	Inspector
11-22-21	Marcos Orozco	Ditcher	7:00	1700	Drilling
11/22/21	Joseph Tashai	Driller	7:00	1700	DA
11/21/21	Andrew Tamelar	Driller	7:00	1700	DA2
11/22/21	Jeremy Bautista	ACWD	1055	1640	Inspector

Daily Sign-in Sheet
NCGB Well Site Evaluation Project
ACWD Job number 10097

Date	Name	Affiliation	Time - In	Time - Out	Reason
11/23/21	Pablo Cortez	ACWD	8:10	7:15 pm	Inspector
11/23/21	MARK ORozo	PITCHER.	7:00	7:45 pm	DRILLER.
11/23/21	JOSEPH T	N/A	7:00	7:45 pm	—
11/23/21	ANDREW I	D/A	7:00	7:45 pm	—
11/23/21	Doug Young	ACWD	10:51	3:00	Site visit

Daily Sign-in Sheet
NCGB Well Site Evaluation Project
ACWD Job number 10097

Date	Name	Affiliation	Time - In	Time - Out	Reason
11/24/21	Marcus Orozco	Archer Driller	7:00	1300	
	Andrew Tamayo	Pitch Asst.	7:00	1300	
	Joseph Tavera	Pitch Asst	7:00	1300	

Daily Sign-in Sheet
NCGB Well Site Evaluation Project
ACWD Job number 10097

Date	Name	Affiliation	Time - In	Time - Out	Reason
11.29.21	[signature]	ACWD	7:30		Well Drilling
↓	Jeremy Bautista	↓	8:55	16:45	Inspection
11-29-21	Marcos Orozco	Drilling	7:00	1700	Drilling
11-29-21	ANDREW JAMESON	D/A	7:00	1700	D/A

Daily Sign-in Sheet
NCGB Well Site Evaluation Project
ACWD Job number 10097

Date	Name	Affiliation	Time - In	Time - Out	Reason
11/30/21	Brianna Thomas	ACWD	13:35	16:30	Inspector
11-30-21	Marcos Chaco	Pitcher	7:00	1700	Driller
11/30/21	ANDREW TAMELING	D/A	7:00	1700	D/A.

Daily Sign-in Sheet
NCGB Well Site Evaluation Project
ACWD Job number 10097

Date	Name	Affiliation	Time - In	Time - Out	Reason
12/1/21	Brianna Thomas	ACWD	0745	1030	Inspector
12-1-21	Marcos Orozco	Pitcher	7:00	1700	Driller
12/01/21	Andrew Trevino	D/A	7:00	1700	D/A.

Daily Sign-in Sheet

NCGB Well Site Evaluation Project

ACWD Job number 10097

Date	Name	Affiliation	Time - In	Time - Out	Reason
12/2/21	Brianna Thomas	ACWD	0730	1635	Inspector
12-2-21	Marcos Orozco	Pitcher	7:00	1700	Driller
12/02/21	ANDREW TAMEILAU	D/T	7:00	1700	D/A.

Daily Sign-in Sheet
NCGB Well Site Evaluation Project
ACWD Job number 10097

Date	Name	Affiliation	Time - In	Time - Out	Reason
12/3/21	Brianna Thomas	ACWD	0749	1630	Inspector
12-3-21	Marcos Crozo	Pitcher	7:00	1700	Driller
12/03/21	Andrew Tamelin	D/A	7:00	1700	D/A

Daily Sign-in Sheet
NCGB Well Site Evaluation Project
ACWD Job number 10097

Date	Name	Affiliation	Time - In	Time - Out	Reason
12.06.21	Jeremy Bautista	ACWD	0800		Inspection
12-6-21	Marcos Gozco	Pitcher	7:00		Drilling
12/06/21	[illegible]	D/A	7:00		D/A
12/6/21	Doug Young	ACWD	11:00		Doug Young
12/6/21	Joseph Tantuan	Pitcher	12:50		Asst. Driller

Daily Sign-in Sheet
NCGB Well Site Evaluation Project
ACWD Job number 10097

Date	Name	Affiliation	Time - In	Time - Out	Reason
12/7/21	Brianna Thomas	ACWD	1455	1641	Inspector
"	Jay Young	ACWD	0730	1700	site visit
12-7-21	Marcos Orozco	Pitcher	7:00	1700	Drilling
12/07/21	ANDREW HARTMAN	D/A	07:00	1700	D/A.

Daily Sign-in Sheet

NCGB Well Site Evaluation Project

ACWD Job number 10097

Date	Name	Affiliation	Time - In	Time - Out	Reason
12/8/21	Brianna Thomas	ACWD	0810	1640	Inspector
12-8-21	Marcos Orozco	Pitcher	7:00	1700	Drilling
12/08/21	ANDREW LAMELIN	D/A	7:00	1700	D/A.
"	Doug Young	ACWD	10:00	1700	visit

Daily Sign-in Sheet
NCGB Well Site Evaluation Project
ACWD Job number 10097

Date	Name	Affiliation	Time - In	Time - Out	Reason
12/9/21	Brianna Thomas	ACWD	0749	1625	Inspector
12-9-21	Marcos Orozco	Pitcher	7:00	1700	Drilling
12/09/21	ANDREW TAMEIKAN	D/A	7:00	1700	D/A
12/9/21	Tony Young	ACWD	11:00	1700	site visit logging

Daily Sign-in Sheet
NCGB Well Site Evaluation Project
ACWD Job number 10097

Date	Name	Affiliation	Time - In	Time - Out	Reason
12/10/21	Brianna Thomas	ACWD	0755		Inspector
12-10-21	Marcos Orozco	Pitcher	7:00		Drilling

Daily Sign-in Sheet
NCGB Well Site Evaluation Project
ACWD Job number 10097

Date	Name	Affiliation	Time - In	Time - Out	Reason
12-13-21	Jeremy Bautista	ACWD	1000		Drilling Inspection
12-13-21	John Chaves	Gregg	930		
12-13-21	Francisco Escobedo	Gregg	9:30		
12-13-21	SAM Vasquez	Gregg	9:30		
12/13/21	Robert Serrato	Gregg	9:30		
12.13.21		Gregg	9:30		
12/13/21	Jesse Warren	Pitcher	9:30		
12/13/21	Bryce Childress	Pitcher	9:30		Jackhammering
12/13/21	Doug Young	ACWD	10:30		

Daily Sign-in Sheet
NCGB Well Site Evaluation Project
ACWD Job number 10097

Date	Name	Affiliation	Time - In	Time - Out	Reason
12-13-21	Jeremy Bautista	ACWD	08	1635	Drilling Inspection
12-13-21	Marlon Orozco	Ditcher	7:00	5:00	Drilling
12/13/21	ANDREW TAMELIAN	D/A	7:00	5:00	D/A

Daily Sign-in Sheet
NCGB Well Site Evaluation Project
ACWD Job number 10097

Date	Name	Affiliation	Time - In	Time - Out	Reason
12/14/21	Andres Aguirre	ACWD	08:00	16:45	Inspector
12/14/21	Robert Gregorat	GREGG	0700	9:45	Supervisor (GREGG)
12/14/21	Sean Ruiz	GREGG	0700	9:45	Health + Safety Inspector
12/14/21	Francisco	"	0700	17:00	Driller
12/14/21	Robert	"	"	17:00	"
12/14/21	Jared	"	"	17:00	"
12/14/21	Doug Young	ACWD	0950	10:08	Site Visit

Daily Sign-in Sheet
NCGB Well Site Evaluation Project
ACWD Job number 10097

Date	Name	Affiliation	Time - In	Time - Out	Reason
12/15/21	Andres Aguayo	ACWD	07:25	15:45	Inspector
"	Francisco	Gregg	07:00	15:45	Driller
"	Robert	"	07:00	15:45	"
"	Jared	"	07:00	15:45	"
"	Doug Young	ACWD	09:35	09:45	Site Visit
"	Ava Lazar	ACWD	10:30	MA ~~10:30~~ 11:37	Site Visit
"	Doug Young	ACWD	11:20	11:37	Site Visit
"	Diana Conkley	State Board	11:20	11:37	Site Visit
"	Robin Guillot	State Board	11:20	11:37	Site Visit

Daily Sign-in Sheet

NCGB Well Site Evaluation Project

ACWD Job number 10097

Date	Name	Affiliation	Time - In	Time - Out	Reason
12-14-21	Jeremy Bautista	ACWD	0835	1250	Drilling Inspection
12-14-21	Marcos Orozco	Pitcher	7:00	5:00	Drilling
12/14/21	ANDREW TAMEIHA	D/A	7:00	5:00	D/A
12/14/21	Doug Young	ACWD	11:00	3:35	Logging
12-14-21	Pablo Cortez	ACWD	12:45	5:00	Inspection
12-14-21	Kory West	Dewey Data	2:37	3:43	E-LOG
12-15-21	Pablo Cortez	ACWD	7:55	4:17	Inspection
12/15/21	ANDREW TAMEIHA	D/A	7:00	5:00	D/A
12-15-21	Marcos Orozco	Pitcher	7:00	5:00	Drilling
12/15/21	Diana Conkle	SWRCB	10:20	11:07	Drilling
12/15/21	Robin Guillot	SWRCB	10:20	11:07	Drilling
12/15/21	Doug Young	ACWD	9:19	3:30	Site visit

Daily Sign-in Sheet
NCGB Well Site Evaluation Project
ACWD Job number 10097

Date	Name	Affiliation	Time - In	Time - Out	Reason
12/16/21	Andres Aguayo	ACWD	07:25	16:45	Inspector
"	Francisco	GREGG	07:00	17:00	Driller
"	Robert	"	07:00	17:00	Driller
"	Jared	"	07:00	17:00	Driller
"	Doug Young	ACWD	09:25	10:07	Site Visit
"	John	GREGG	09:35	13:10	Welder
"	Lee	Ponder Environmental	10:25	10:50	Dropping 1x waste bin
"	Doug Young	ACWD	12:10	13:10	Site Visit
"	Kit Soo	ACWD	12:15	13:10	Lunch coverage
"	Bryce Cisneros	Pitcher	13:40	14:40	Welder
"	Adalid	Pitcher	13:40	14:40	Welder

Daily Sign-in Sheet
NCGB Well Site Evaluation Project
ACWD Job number 10097

Date	Name	Affiliation	Time - In	Time - Out	Reason
12-16-21	Pablo Cortez	ACWD	7:15	16:00	Inspector
12-16-21	Marcus Orozco	Pitcher	7:00	17:00	Drilling
12/16/21	ANDREW TAMELIAU	D/A	7:00	17:00	D/A
12/16/21	Doug Young	ACWD	10:16	13:35	Site visit
12/16/21	Kit Soo	ACWD	13:29	13:35	Site visit

Daily Sign-in Sheet

NCGB Well Site Evaluation Project

ACWD Job number 10097

Date	Name	Affiliation	Time - In	Time - Out	Reason
12/17/21	Andrés Aguayo	ACWD	07:35	14:40	Inspector
12/17/21	Francisco	Gregg	07:00	14:40	Driller
12/17/21	Jared	Gregg	07:00	14:40	Driller
12/17/21	Robert	Gregg	07:00	14:40	Driller
12/17/21	Doug Young	ACWD	10:20	10:30	Site Visit, and customer visit
12/17/21	Kit Soo	ACWD	11:25	11:55	Cover for lunch
12/17/21	Doug Young	ACWD	1400	1440	Site Visit, and customer visit

Daily Sign-in Sheet
NCGB Well Site Evaluation Project
ACWD Job number 10097

Date	Name	Affiliation	Time - In	Time - Out	Reason
12/17/21	Fine Tamfatofina	Pitcher	7:00	11:30	
12/17/21	Marcos Orozco	Pitcher	7:00	5:00	Drilling
12/~~16~~/21 17	ANDREW TAMEIKAN	D/A	7:00	5:00	D/A
12/17/21	Pablo Cortez	ACWD	8:05	4:20	Inspection
12/17/21	Doug Young	ACWD	10:44	10:50	Site visit

12/20/2024

Well site Evaluation Project Job 10097

Sign In sheet

NAme	Aff	Time in	Time OUT	Reason
Dwy Yang	ACWD	7:30	5:00	observation
Jerred Chaves	Gregg Drill	7:30	5:00	Drilling
Francisco Escobedo	Gregg Drilling	7:30	5.00	Drilling
ROBERT SERRATO	Gregg	7:36	5.00	"
Kit Soo	Acwd	1:000	1:45	Acwd Insp
Sam Chaves	Gregg	1:30	4:30	



Daily Sign-in Sheet

NCGB Well Site Evaluation Project

ACWD Job number 10097

Date	Name	Affiliation	Time - In	Time - Out	Reason
12-20-21	Marcos Orozco	Pitcher	7:00	1700	Drilling
12/20/21	ANDREW TAMELING	D/A	7:00	1700	D/A
12/20/21	Brianna Thomas	ACWD	07:47	1400	Inspector
12/20/21	KIT SOO	ACWD	1400	1645	WD Supervisor

10097		12 / 21 / 2021

Well site Evaluation Project

Sign in sheet

NAME	Aff	Time in	Time out	Reason
Doug Yang	ACWD	7:30	5:20	site visit
Francisco Escobedo	Gregg	7:30	6:00	Drilling
~~ROBERT SERRATO~~	GREGG	730	6:00	"
Jarred Chaves	Gregg	7:20	6:00	"
~~John~~ Chaves	Gregg	7:20	6:00	"
Pablo Cortez	ACWD	2:35	5:20	

Daily Sign-in Sheet

NCGB Well Site Evaluation Project

ACWD Job number 10097

Date	Name	Affiliation	Time - In	Time - Out	Reason
12/20/21	Brianna Thomas	ACWD	0750		Inspector
12/20/21	ANDREA TAMAGILA	D/A	07:00		D/A.
12-21-21	Marcos Orozco	Pitcher	7:00		Drilling

Daily Sign-in Sheet
NCGB Well Site Evaluation Project
ACWD Job number 10097

Date	Name	Affiliation	Time - In	Time - Out	Reason
12/22/21	Doug Young	ACWD 07:30	~~10:20~~ AM	11:00	Obs
"	John Chaves	GREGG	07:30		
"	Robert Serrato	"	07:30		
"	Francisco Escobedo	"	07:30		
"	Jared Chaves	"	07:30		
"	Andres Aguayo	ACWD	10:20		Inspector
"	Joseph Dillon	Conco	11:30	16:20	Pumping
"	Henry Mol	Milpitas Material	11:55	13:07	Delivered 11 sack slurry
"	Ike Ossowski	"	13:45	14:15	"
"	Moises	Milpitas Material	1525	15:45	Delivering 11 sack slurry

Daily Sign-in Sheet
NCGB Well Site Evaluation Project
ACWD Job number 10097

Date	Name	Affiliation	Time - In	Time - Out	Reason
12-22-21	Andres Aguayo	ACWD	07:30	10:10	Inspector
"	Marcos Orozco	Driller	07:00		Driller
"	Andrew Tamailan	"	07:00		"
"	Mikey	"	08:10		"
12/27/21	Marcos Orozco	Pitcher	0700	1700	Driller
"	Andrew Tamailan	"	0700	1700	"
"	Andres Aguayo	ACWD	0750	0800	Inspector
"	Doug Young	ACWD	0805	13:10	Logging
"	Andres Aguayo	ACWD	1300	AM TO 14:40	Inspector
"	Doug Young	ACWD	1440	1700	Logging

Daily Sign-in Sheet
NCGB Well Site Evaluation Project
ACWD Job number 10097

Date	Name	Affiliation	Time - In	Time - Out	Reason
12/27/21	Francisco	GREGG	0700	1700	Driller
"	Robert	"	0700	1700	"
"	Justin	"	0700	1700	"
"	Andres Aguayo	ACWD	0730	0740	Inspector
12/27/21	Mitch Kelton	Ponder Env.	0800	0830	Ponder Environmental/ To Vaccuum
12/27/21	A. Aguayo	ACWD	0810	0930	Inspector

Daily Sign-in Sheet

NCGB Well Site Evaluation Project

ACWD Job number 10097

Date	Name	Affiliation	Time - In	Time - Out	Reason
12/28/21	Brianna Thomas	ACWD	0745	1650	Inspector
12-28-21	Marcos Orozco	Pitcher	7:00	1700	Drilling
12/28/21	ANDREW [illegible]	D/A	7:00	1700	D/A
12/28/21	Doug Young	ACWD	7:40	1500	Site visit
12/28/21	ROBERT SERRATO	GREGG DRILL	7:30	1700	DRILLING
12/28/21	Francisco Estrada	Gregg Drilling	7:30	1700	Drilling
12/28/21	Justin Chavez	Gregg	7:30	1700	Drilling
12/28/21	John Chavez	Gregg	9:00	1000	Drilling

Daily Sign-in Sheet

NCGB Well Site Evaluation Project

ACWD Job number 10097

Date	Name	Affiliation	Time - In	Time - Out	Reason
12/29/21	Brianna Thomas	ACWD	0740	~~1700~~ 1630	Inspector
12/29/21	Justin Chavez	~~ACWD~~ Gregg	Office	1700	Drilling
12/29/21	Francisco Esco.	~~ACWD~~ Gregg	7:40	1700	Driving
12·29·21	Robert Serrato	GREGG D	7:30	1700	DRILLING

Daily Sign-in Sheet
NCGB Well Site Evaluation Project
ACWD Job number 10097

Date	Name	Affiliation	Time - In	Time - Out	Reason
12/30/21	Brianna Thomas	ACWD	0730	1320	Inspector
12/30/21	Francisco Escobedo	~~ACWD~~ Gregg	730	1330	Drilling
12/30/21	Justin Chavez	Gregg	730	1330	Drilling
12/30/21	ROBERT SERRATO	GREGG DRILLING	7:20	1330	DRILLING CREW

Daily Sign-in Sheet

NCGB Well Site Evaluation Project

ACWD Job number 10097

Date	Name	Affiliation	Time - In	Time - Out	Reason
01.03.22	Jeremy Bautista	ACWD	0800		Drilling inspection
1-3-22	ROBERT SERRATO	GREGG DRILLING	7:30		DRILLING CREW
1-3-22	Jared Chaus	Gregg Drilling	7:30		Drilling Crew
1-3-22	Francisco Escobedo	Gregg Drilling	7:30		Drilling
1-3-22	Marcos Orozco	Pitcher Drilling	7:00		Drilling
01/03/22	ANDREW TAMEZON	D/A	7:00		D/A)

Daily Sign-in Sheet
NCGB Well Site Evaluation Project
ACWD Job number 10097

Date	Name	Affiliation	Time - In	Time - Out	Reason
1/4/~~21~~ 22	Pablo Cortez	ACWD	7:50	5:30	Inspection
1-4-22	Marcos Orozco	Pitcher	7:00	4:50	Drilling
01/04/22	ALEJANDRO TAMAYO	D/A	7:00	4:50	D/A
1/4/22	Francisco Escobedo	Gregg	7:00	5:30	Drilling
1-4-22	[illegible]	Gregg	7:00	5:30	Drilling
1-4-22	ROBERT SERRATO	GREGG DRILL	7:00	5:30	DRILLING CREW
1-4-22	Doug Young	ACWD	3:30	4:15	Site visit

Daily Sign-in Sheet
NCGB Well Site Evaluation Project
ACWD Job number 10097

Date	Name	Affiliation	Time - In	Time - Out	Reason
1/5/22	Brianna Thomas	ACWD	0740	1630	Inspector
1/05/22	ANDREW TAMEILAU	D/A	07:00	1630	D/A
1-5-22	Marcos Orozco	Pitcher	7:00	1630	Drilling
1-5-22	[illegible]	Gregg	700	1700	Drilling
1-5-22	[illegible]	Gregg	[illegible]	1700	[illegible]
1-5-22	ROBERT SERRATO	GREGG D	7:00AM	1700	DRILLING
1-5-22	Doug [illegible]	ACWD	7:45	1700	Site visit
01/05/22	Joseph Dillon	Conco	1030	~~17~~ 1400	Pump
01/05/22	Adiel Gonzalez	Milpitas Materials	12:00	1300	Concrete
01/05/22	Ava Lazor	ACWD	12:05	1430	Site visit
1/5/22	Andres Aguayo	ACWD	12:10	12:55	Inspector
1/5/22	Terry Shewchuk	Pitcher Ser.	12:20	~~12~~ 1300	Inspection (Dred Gear)
1/5/22	Mike [illegible]	Milpitas ML	1:45	1400	Slurry

Daily Sign-in Sheet
NCGB Well Site Evaluation Project
ACWD Job number 10097

Date	Name	Affiliation	Time - In	Time - Out	Reason
1/7/22	Pablo Cortez	ACWD	7:50	5:00	Inspection
1/7/22	Andrew Tameilan	Pitcher	7:00	5:00	Drilling
1/7/22	Marcos Orozco	Pitcher	7:00	5:00	Drilling

Daily Sign-in Sheet

NCGB Well Site Evaluation Project

ACWD Job number 10097

Site 2

Date	Name	Affiliation	Time - In	Time - Out	Reason
1-7-22	Andres Aguayo	ACWD	7:45	16:40	Inspector
	Jarred	Gregg	07:00	1700	Driller
	Robert S.	"	07:00	1700	"
	Francisco	"	07:00	1700	"
	Terry Shewchuk	Pitcher	7:52	0810	Driller Inspection
	Jason Carpenter	Ponder	0800	0830	Dropping off waste bins 2x
	Ava Lazor	ACWD	0800	0810	Logging
	Jason Carpenter	Ponder	0855	0910	Dropping off waste bin 1x
	Ava Lazor	ACWD	1130	1310	Logging
	Ava Lazor	ACWD	1530	1700	Logging

Daily Sign-in Sheet

NCGB Well Site Evaluation Project

ACWD Job number 10097

Date	Name	Affiliation	Time - In	Time - Out	Reason
1/6/22	Brianna Thomas	ACWD	0730	1530	Inspector
1-6-22	Marcos Orozco	Pitcher	7:00	1600	Drilling
1-6-22	Hunter Ruffcal	Pitcher	7:00	1200	Drill Assist.
01/06/22	ANDREW TAMEZIAN	D/A	7:00	1600	D/A.
1/6/22	Doug Young	ACWD	8:00	1500	Site Visit
1/6/22	Francisco Estrobedo	Gregg	7:00	1600	Drilling
1/6/22	James Chavez	Gregg	7:00	1600	Drilling
1/6/22	~~ROBERT SERRATO~~	GREGG	7:00	1600	DRILLING CREW

Site 2

Daily Sign-in Sheet

NCGB Well Site Evaluation Project

ACWD Job number 10097

Date	Name	Affiliation	Time - In	Time - Out	Reason
1/10/22	Brianna Thomas	ACWD	0750	1700	Inspector
1/10/22	[illegible]	[illegible]	[illegible]	1730	Drill crew
1/10/22	Francisco Fiscabelo	Gregg	7:00	1730	Drilling
1/10/22	ROBERT SERRANO	GREGG	7AM	1730	DRILLING CREW

Daily Sign-in Sheet
NCGB Well Site Evaluation Project
ACWD Job number 10097

Date	Name	Affiliation	Time - In	Time - Out	Reason
1-11-22	Marcus Orozco	Pitcher	7:00	4:30	Drilling
1-11-22	Tenita Poose	"	7:00	4:30	"
1-11-22	Andrew Tarnellan	"	7:00	4:30	"
1-11-22	Pablo Cortez	ACWD	8:00	4:30	Inspection

Daily Sign-in Sheet
NCGB Well Site Evaluation Project
ACWD Job number 10097

Date	Name	Affiliation	Time - In	Time - Out	Reason
1/11/22	Brianna Thomas	ACWD	0750	1530	Inspector
1/11/22	Francisco Estrada	Gregg	7:00	1700	Drilling
1-11-22	ROBERT SERRATO	GREGG	7:00	1700	DRILLING CREW
01-11-22	Jeremy Bautista	ACWD	1520	1635	Inspection
M 1/1/22	Ava Lazar	ACWD	1445	1535	Soil Logging

Daily Sign-in Sheet
NCGB Well Site Evaluation Project
ACWD Job number 10097

Date	Name	Affiliation	Time - In	Time - Out	Reason
11/12/22	Brianna Thomas	ACWD	0745	1610	Inspector
11-12-22	Francisco Estrada	Gregg	0700	1630	Drilling
11/12/22	ROBERT SERRATO	GREGG DRILL	07:00	1630	DRILLING CREW
11/12/22	Stay Young	ACWD	12:30	1430	site visit
11/12/22	Arul Lazar	ACWD	1300	1430	SITE VISIT.

Daily Sign-in Sheet
NCGB Well Site Evaluation Project
ACWD Job number 10097

Date	Name	Affiliation	Time - In	Time - Out	Reason
1-13-22	Pablo Cortez	ACWD	7:40	4:10	Inspection/Well development
1-13-22	ANTHONY JOHNSON	GDT	7:00	4:01	WELL DEV
1-13-22	Phil Schmidt	Pitcher Drilling	7:00	4:10	Well Dev

Daily Sign-in Sheet
NCGB Well Site Evaluation Project
ACWD Job number 10097

Date	Name	Affiliation	Time - In	Time - Out	Reason
1/14/22	ANTHONY JOHNSON	GDT	700	4:00	DEV
1-14-22	Phil Schmidt	Pitcher	7:00	4:00	DEV
1-14-22	Pablo Cortez	ACWD	7:50	4:00	well development

Daily Sign-in Sheet
NCGB Well Site Evaluation Project
ACWD Job number 10097

2-SF & 2-TF

Date	Name	Affiliation	Time - In	Time - Out	Reason
1/18/22	Andres Aguayo	ACWD	0745	16:55	Inspector
1-18-22	Armando Torres	Gregg	0745	1700	Drilling
1-18-22	Peter Green	Gregg	0745	1700	Drilling
1-18-22	John Chaves	Gregg	0745	1700	Drilling
1-18-22	Marcos Orozco	Pitcher	7:00	1700	Drilling
01/18/22	Andrew Tamarin	O/A	7:00	1700	O/A
1-18-22	Doug Young	ACWD	11:00	12:10	Logging
1-18-22	Rick Ekwin	AHERN Rental	12:05	1700	Picking up Forklift
1-18-22	Doug Young	ACWD	15:55	16:30	Logging

Daily Sign-in Sheet
NCGB Well Site Evaluation Project
ACWD Job number 10097

Date	Name	Affiliation	Time - In	Time - Out	Reason
1-19-22	Pablo Cortez	ACWD	7:30	4:45	well development
1-19-22	Luis Mreyjiver	Gregg	7:30	5:00	"
1-19-22	Phil Schmidt	Pitcher	7:00	5:00	well Development

Daily Sign-in Sheet

NCGB Well Site Evaluation Project

ACWD Job number 10097

Date	Name	Affiliation	Time - In	Time - Out	Reason
1/19/22	Brianna Thomas	ACWD	0730		Inspector
1-19-22	Marcos Orozco	Pitcher	7:00		Drilling
01/19/22	Andrew Aguilar	D/A	7:00		D/A
1/19/22	John Chaves	Rivers	7:00		Drillers
1/19/22	Peter Crum	Cregg	7:00		Drilling
1-19-22	Armando Toro	Cregg	7:00		Drilling
1-19-22	Jeremy Bautista	ACWD	1245	1340	Inspector
1-19-22	Ava Lozier	ACWD	1440		Logging

Daily Sign-in Sheet
NCGB Well Site Evaluation Project
ACWD Job number 10097

Date	Name	Affiliation	Time - In	Time - Out	Reason
1-20-22	Pablo Cortez	ACWD	7:45		well development
1-20-22	Luis Mendiv	Cruz	7:45		"
1-20-22	Phil Schmidt	Pitcher	7:00		well development

PERMIT NO. _____ WELL NO. _____

Sign-In 1/20/22

INSPECTOR	DATE	TIME	REMARKS	
Name	Company	In	Out	Reason
Brianna Thomas	ACWD	0735		Inspector
John Chun	Kreeg	0730		Driller
Armando Tao	Greeg	0710		Drilling
Peter Green	Greeg	0710		Drilling
Marcos Orez	Pitcher	7:00		Drilling
ANDREA TAMELIAN	D/A	7:00		D/A
Ava Lazor	ACWD	1310		Soil logging

NUMBER OF EXPLORATORY HOLES _____

WORK COMPLETED _____ (DATE) OR PERMIT VOIDED _____ (DATE)

COPY OF PERMIT TO _____ (REVIEWING INDIVIDUAL) ON _____ (DATE) BY _____ (INITIALS)

Daily Sign-in Sheet
NCGB Well Site Evaluation Project
ACWD Job number 10097

Date	Name	Affiliation	Time - In	Time - Out	Reason
1-21-22	Pablo Cortez	ACWD	8:10		Inspection
1-21-22	Ron Wellwood	Creative Sec.	7:00	4:49	
1-21-22	John Chavez	Gregg	7:00		Drilling
1-21-22	Pete Green	Gregg	7:00		Drilling
1-21-22	Armando Toro	Gregg	7:00		Drilling
1-21-22	Marcos Orozco	Pitcher	7:00		Drilling
1-21-22	Andrew Tameilav	Pitcher	7:00		Drilling

Daily Sign-in Sheet

NCGB Well Site Evaluation Project

ACWD Job number 10097

Date	Name	Affiliation	Time - In	Time - Out	Reason
01.24.22	Jeremy Bautista	ACWD	0730		Drilling Inspection
1-24-22	Francisco Escobedo	Gregg	07:30		Drilling
1-24-22	ROBERT SERRATO	GREGG DRILLING	7:30		Drilling
1-24-22	Marcos Orozco	Pitcher	7:00		Drilling
1-24-22	[illegible]	Gregg Drilling	7:00		Drilling
01/24/22	ANDRAS TAMASKA	D/A	700		D/A
01/24/22	Doug Young	ACWD	945	1135	site visit

Daily Sign-in Sheet
NCGB Well Site Evaluation Project
ACWD Job number 10097

Date	Name	Affiliation	Time - In	Time - Out	Reason
1-25-22	Pablo Cortez	ACWD	7:45	5:30	Inspection
1-25-22	Marcos Orozco	Pitcher	7:00	5:30	Drilling
1-25-22	Andrew Tamelav	Pitcher	7:00	5:30	Drilling
1-25-22	Mike Sevilla	Pitcher	7:00	5:30	Drilling

Daily Sign-in Sheet

NCGB Well Site Evaluation Project

ACWD Job number 10097

Date	Name	Affiliation	Time - In	Time - Out	Reason
1-26-22	Pablo Cortez	ACWD	8:05	5:00	Inspection
1-26-22	Marcos Orozco	Pitcher	7:00	5:00	Drilling
1-26-22	Andrew Tamelau	Pitcher	7:00	5:00	Drilling
1-26-22	Mike Sevilla	Pitcher	7:00	10:35	Drilling
1-26-22	Fine [illegible]	Pitcher	7:00	10:35	Drilling
1-26-22	Doug Young	ACWD	10:50	12:13	Site visit
1-26-22	Laura Hidas	ACWD	11:30	12:13	Site visit
1-26-22	Terry Shewchuk	Pitcher	13:54	2:05	

Daily Sign-in Sheet
NCGB Well Site Evaluation Project
ACWD Job number 10097

Date	Name	Affiliation	Time - In	Time - Out	Reason
01.27.22	Jeremy Bautista	ACWD	0710		Drilling Inspection
1-27-22	Marcos Orozco	Pitcher	7:00		Drilling
01/27/22	ANDREW [illegible]	D/A	7:00		D/A.

Daily Sign-in Sheet
NCGB Well Site Evaluation Project
ACWD Job number 10097

Date	Name	Affiliation	Time - In	Time - Out	Reason
1-28-22	Andres Aguayo	ACWD	7:45		Inspector
1-28-22	Ran Wellwood		7:00		Security
1-28-22	Marcos Orozco	Pitcher	7:00		Drilling
01/28/22	Andrea Ramirez	D/A	7:00		D/A

Daily Sign-in Sheet
NCGB Well Site Evaluation Project
ACWD Job number 10097

Date	Name	Affiliation	Time - In	Time - Out	Reason
01.31.22	Jeremy Bautista	ACWD	0800		Drilling Inspection
1-31-22	Marcos Orozco	Pitcher	7:00		Drilling
01/31/22	ANDREW TAMAYO	D/A	7:00		D/A

Daily Sign-in Sheet
NCGB Well Site Evaluation Project
ACWD Job number 10097

Date	Name	Affiliation	Time - In	Time - Out	Reason
02.01.22	Jeremy Bautista	ACWD	0800	1635	Drilling Inspection
02/01/22	Anakon Angich	D/A	07:00		D/A
2-1-22	Marcos Orozco	Pitcher	7:00		Drilling

Daily Sign-in Sheet
NCGB Well Site Evaluation Project
ACWD Job number 10097

Date	Name	Affiliation	Time - In	Time - Out	Reason
2-2-22	Pablo Cortez	ACWD	8:00	5:00	Inspection
2-2-22	Marcos Orozco	Pitcher	7:00	5:00	Drilling
2-2-22	Andrew Tameilau	Pitcher	7:00	5:00	Drilling
2-2-22	Ron Wellwood	CREATIVE	7:30	4:30	Security

Daily Sign-in Sheet
NCGB Well Site Evaluation Project
ACWD Job number 10097

Date	Name	Affiliation	Time - In	Time - Out	Reason
2-3-22	Pablo Cortez	ACWD	7:30	3:50	Inspector
2-3-22	Marcos Orozco	Pitcher	7:00	4:30	Driller
2-3-22	Andrew Tameilar	Pitcher	7:00	4:30	Driller
2-3-22	Ron Wellwood	Creative	7:30	4:30	Security

Daily Sign-in Sheet
NCGB Well Site Evaluation Project
ACWD Job number 10097

Date	Name	Affiliation	Time - In	Time - Out	Reason
2-4-22	Ron Wellwood	Creative	7:30	4:30	Security
2-4-22	Pablo Cortez	ACWD	8:10	4:45	Inspector/Well development
2-4-22	DETRIX Aguilar Gregg	SD	9:30	1:30	
2-4-22	Phil Schmidt	Pitcher	9:30	5:00	Development
2-4-22	Marcos Orozco	Pitcher	1:30	5:00	Development

Daily Sign-in Sheet

NCGB Well Site Evaluation Project

ACWD Job number 10097

Date	Name	Affiliation	Time - In	Time - Out	Reason
02.07.22	Jeremy Bautista	ACWD	0830		Well Bailing / Development
2-7-22	Marios Orozco	Pitcher	7:30		Drilling
2-7-22	Phil Schmidt	Pitcher	7:30		Development
2/7/22	Joe Tamaifuna	Pitcher	9:25		Development
2/7/22	Bernie Aguilar	Gregg	925		"

Daily Sign-in Sheet
NCGB Well Site Evaluation Project
ACWD Job number 10097

Date	Name	Affiliation	Time - In	Time - Out	Reason
02.08.22	Jeremy Bautista	ACWD	0805		Well Development Inspection
2-8-22	Phil Schmidt	Pitcher	7:30		Well Development
2/8/22	Joe Tamaifuna	Pitcher	8:50		
2/8/22	BERNIE Aguilar	Gregg	8:20		WELL DEVELOPMENT
2-8-22	Marcos Orbeo	Pitcher	7:30		well Development

Daily Sign-in Sheet
NCGB Well Site Evaluation Project
ACWD Job number 10097

Date	Name	Affiliation	Time - In	Time - Out	Reason
02.09.22	Jeremy Bautista	ACWD	0815		Well Development inspection
2-9-22	Phil Schmidt	Pitcher	7:00		Development
2-9-22	Marcos Orozco	Pitcher	7:00		Development
2-9-22	Bernik Aguirre	Gregg	7:00		"

Daily Sign-in Sheet
NCGB Well Site Evaluation Project
ACWD Job number 10097

Date	Name	Affiliation	Time - In	Time - Out	Reason
2.10.22	Jeremy Bautista	ACWD	0815		Well Development Inspection
2-10-22	Phil Schmidt	Pitcher	7:00		Well Development
2-10-22	Beatrix Aguilar	Gregg	7:00		"

Daily Sign-in Sheet
NCGB Well Site Evaluation Project
ACWD Job number 10097

Date	Name	Affiliation	Time - In	Time - Out	Reason
3-18-22	Pablo Cortez	ACWD	7:30	15:25	Well rehab
3-18-22	Oscar Espinosa	Pitcher	7:00	15:25	
3-18-22	Marcos Orozo	Pitcher	7:00	15:25	
3-18-22	Phil Schmidt	Pitcher	7:00	15:25	Well rehab
3-18-22	Selim Zeyrek	ACWD	9:55	12:30	Well rehab.

Daily Sign-in Sheet
NCGB Well Site Evaluation Project
ACWD Job number 10097

Date	Name	Affiliation	Time - In	Time - Out	Reason
3-25-2022	Doug Young	ACWD	7:30		site observation
3-24-22	Dennis Aguilar	Gregg	7:45		well Development
3-25-22	Marcos Orozco	Pitcher	7:00		Assistant
3-25-22	Phil Schmidt	Pitcher	7:00		well development

Daily Sign-in Sheet
NCGB Well Site Evaluation Project
ACWD Job number 10097

Date	Name	Affiliation	Time - In	Time - Out	Reason
3/30/22	KIT SOO	ACWD	740		
"	Doug Young	"	7:30		
"	Bryce Cisneros	Pitcher Service	700		
3-30-22	Phil Sowards	Pitcher SES	7:00		well development

Daily Sign-in Sheet
NCGB Well Site Evaluation Project
ACWD Job number 10097

Date	Name	Affiliation	Time - In	Time - Out	Reason
04.04.22	Jeremy Bautista	ACWD	0745		Step/Drawdown Tester
4-4-22	Phil Schmidt	Pitcher	8:00		"
4-4-22	Selim Zeyrek	ACWD	7:10		"
4-4-22	Ava Lazer	ACWD	705		"
4/4/22	Brianna Thomas	ACWD	1000		"

Daily Sign-in Sheet
NCGB Well Site Evaluation Project
ACWD Job number 10097

Date	Name	Affiliation	Time - In	Time - Out	Reason
~~Date~~					
4-5-22	Phil Schmidt	Pitcher	7:00		well & test
4-5-22	Doug Young	ACWD	7:15		pump test
0405-22	Jeremy Paunista	"	0705		"
4/5/22	Ava Langer	ACWD	0730		

Daily Sign-in Sheet

NCGB Well Site Evaluation Project

ACWD Job number 10097

Date	Name	Affiliation	Time - In	Time - Out	Reason
04.07.22	Jeremy Bautista	ACWD	0730	15:00	Pump Test for 2-TF
04-07-22	ANDREW TAMAYO	PITCHER	0700	15:00	
4-7-22	Phil Schmidt	Pitcher	7:00	15:00	Pump test
4-7-22	Pablo Cortez	ACWD	7:45	15:45	Pump test

GREGG DRILLING, LLC

Project Field Bill Todays Date: 1/14/22

950 Howe Road, Martinez, CA 94553
Ph: (925) 313-5800 www.greggdrilling.com

ACWD
38760 Blacow Rd, Fremont, CA
Douglas Young

Job# D2212120
DV-4 - T-79
Anthony Johnson

ITEM	UNITS	QUANTITY
RIG NO./TYPE DV-4 / T-79	HOUR	9.0
MOB-DEMOB-TRAVEL/SERVICE RUN	HOUR	3
PER DIEM	MAN/NGT	
PREMIUM TIME	MAN/HR	
ADDITIONAL TECHNICIAN	HOUR	
STANDBY/MOVE TIME	HOUR	
STEAM CLEANING AT YARD	DAY	
GROUT PUMP/STEAM CLEANER	DAY	
MUD SYSTEM	DAY	
FORKLIFT/BOBCAT/LOADER	DAY	
WATER TRUCK TENDER	DAY	
SERVICE TRUCK	DAY	
LIFTGATE TRUCK	DAY	
CONST./HAND AUGER CREW (2 men)	HOUR	
CONCRETE CORING DIA.	EACH	
P.P.E. UPGRADE TIME	HOUR	

BORING #	DEPTH	INTERVAL/TYPE OF SAMPLING	SIZE OF WELL
1-ME	240.00	WELL DEVELOPMENT	2"
018011	345.00	"	2"

Time Leave Yard: 600 Time Arrive Site: 0700

Time Return Yard: 1600 Time Leave Site: 1400

Lunch Start: Lunch Finish:

SUBCONTRACTOR - ADDITIONAL EQUIPMENT:

PITCHER AIR COMPRESSOR

EQUIPMENT DAMAGE:

ITEMS	UNITS	QUANTITY
SEISMIC CPT (Interval Test)	TEST	
UVOST RENTAL	DAY	
BACKFILL TEST LOCATIONS	FOOT	
BENTONITE CHIPS	BAG	
BENTONITE PELLETS	PAIL	
BENTONITE DRILL MUD	BAG	
BENTONITE GROUT	BAG	
FILTER SAND	BAG	
ASPHALT PATCH	BAG	
READY-MIX CONCRETE	BAG	
PORTLAND CEMENT/QUICK SET	BAG	
WOOD PLUGS	EACH	
DISPOSABLE BAILERS	EACH	
PVC CASING 3/4" 2" 4" OTHER	FOOT	
PVC SCREEN 3/4" 2" 4" OTHER	FOOT	
THREADED FITTINGS 3/4" 2" 4" OTHER	EACH	
SLIP FITTINGS 3/4" 2" 4" OTHER	EACH	
LOCKING CAPS 2" 4" OTHER	EACH	
MONITORING WELL BOX (WATERTIGHT)	EACH	
ANODIZED STAND PIPE / BOLLARDS	EACH	
GROUNDWATER SAMPLE CONSUMABLES	EACH	
1/4", 1/2" TUBING	FOOT	
DISPOSABLE TIPS	EACH	
SAMPLE RINGS & CAPS	EACH	
55-GALLON DRUM	EACH	T-79
OTHER		

Section 13751 through 13754 of the California Water Code requires that a report be filed for every groundwater well installation or abandonment. If the client does not elect to submit this report, Gregg Drilling, LLC will complete the appropriate paperwork for a $20 fee per well.

Client to complete ☐ GD to complete ☐

The named parties are hereby notified that if charges for above labor, services, equipment or materials furnished or to be furnished are not paid for in full, the improved property referred to above may be subject to mechanics lien (per Section 1181, et. seq. to the California Code of Civil Procedure) and construction funds are subject to "Stop notice" action (per Section 1190.1, California Code of Civil Procedure).

TERMS: NET 30 days. 1.5% per month finance charge on accounts 30 days past due. The undersigned accepts the terms as stated above for services rendered.

WE CAN ASSUME NO RESPONSIBILITY FOR DAMAGE OF UNDERGROUND UTILITIES. In the event of adverse and/or hazardous drilling conditions, client will be informed if rate changes and/or responsibility for replacement of lost of damaged equipment. Minimum call out $1200. Also applicable to cancellations within 24 hrs. of scheduled start.

USA Clearance No._____

Project Name: _____ P.O./Task #_____

Signature of Field Representative_____

Printed Name Pablo Cortez Date 1-14-22

GREGG DRILLING, LLC

Project Field Bill Todays Date: 1/13/22

950 Howe Road, Martinez, CA 94553
Ph: (925) 313-5800 www.greggdrilling.com

ACWD
38760 Blacow Rd, Fremont
Douglas Young

Job# D2212120
Eqv. DV-4 - T-79
Anthony Johnson

ITEM	UNITS	QUANTITY
RIG NO./TYPE DV-4/T-79	HOUR	3.0
MOB-DEMOB-TRAVEL/SERVICE RUN	HOUR	3.5
PER DIEM	MAN/NGT	
PREMIUM TIME	MAN/HR	
ADDITIONAL TECHNICIAN	HOUR	
STANDBY/MOVE TIME	HOUR	
STEAM CLEANING AT YARD	DAY	
GROUT PUMP/STEAM CLEANER	DAY	
MUD SYSTEM	DAY	
FORKLIFT/BOBCAT/LOADER	DAY	
WATER TRUCK TENDER	DAY	
SERVICE TRUCK	DAY	
LIFTGATE TRUCK	DAY	
CONST./HAND AUGER CREW (2 men)	HOUR	
CONCRETE CORING DIA.	EACH	
P.P.E. UPGRADE TIME	HOUR	

BORING #	DEPTH	INTERVAL/TYPE OF SAMPLING	SIZE OF WELL
1-MF	352.0	WELL DEVELOPMENT	2"
1-MC	240	1	1

Time Leave Yard: 530 Time Arrive Site: 700

Time Return Yard: 600 Time Leave Site: 400

Lunch Start: Lunch Finish:

SUBCONTRACTOR - ADDITIONAL EQUIPMENT:

EQUIPMENT DAMAGE:

ITEMS	UNITS	QUANTITY
SEISMIC CPT (Interval Test)	TEST	
UVOST RENTAL	DAY	
BACKFILL TEST LOCATIONS	FOOT	
BENTONITE CHIPS	BAG	
BENTONITE PELLETS	PAIL	
BENTONITE DRILL MUD	BAG	
BENTONITE GROUT	BAG	
FILTER SAND	BAG	
ASPHALT PATCH	BAG	
READY-MIX CONCRETE	BAG	
PORTLAND CEMENT/QUICK SET	BAG	
WOOD PLUGS	EACH	
DISPOSABLE BAILERS	EACH	
PVC CASING 3/4" 2" 4" OTHER	FOOT	
PVC SCREEN 3/4" 2" 4" OTHER	FOOT	
THREADED FITTINGS 3/4" 2" 4" OTHER	EACH	
SLIP FITTINGS 3/4" 2" 4" OTHER	EACH	
LOCKING CAPS 2" 4" OTHER	EACH	
MONITORING WELL BOX (WATERTIGHT)	EACH	
ANODIZED STAND PIPE / BOLLARDS	EACH	
GROUNDWATER SAMPLE CONSUMABLES	EACH	
1/4", 1/2" TUBING	FOOT	
DISPOSABLE TIPS	EACH	
SAMPLE RINGS & CAPS	EACH	
55-GALLON DRUM	EACH	T-79
OTHER		

Section 13751 through 13754 of the California Water Code requires that a report be filed for every groundwater well installation or abandonment. If the client does not elect to submit this report, Gregg Drilling, LLC will complete the appropriate paperwork for a $20 fee per well.

Client to complete ☐ GD to complete ☐

The named parties are hereby notified that if charges for above labor, services, equipment or materials furnished or to be furnished are not paid for in full, the improved property referred to above may be subject to mechanics lien (per Section 1181, et. seq. to the California Code of Civil Procedure) and construction funds are subject to "Stop notice" action (per Section 1190.1, California Code of Civil Procedure).

TERMS: NET 30 days. 1.5% per month finance charge on accounts 30 days past due. The undersigned accepts the terms as stated above for services rendered.

WE CAN ASSUME NO RESPONSIBILITY FOR DAMAGE OF UNDERGROUND UTILITIES. In the event of adverse and/or hazardous drilling conditions, client will be informed if rate changes and/or responsibility for replacement of lost of damaged equipment. Minimum call out $1200. Also applicable to cancellations within 24 hrs. of scheduled start.

USA Clearance No._____

Project Name: _____ P.O./Task #_____

Signature of Field Representative_____

Printed Name Pablo Cortez Date 1-13-22

PERMIT NO. _____ WELL NO. _____

INSPECTOR	DATE	TIME	REMARKS
			305' Same as above, Drilling is stiff
			309' - 310' Same as above, but not as stiff drilling.
315' Rig chattering			315' Gravel, fine-grained, subrounded to subangular grains, multicolored
			320' Gravelly sand, coarse-grained sand with fine gravel, multicolored, rounded to subrounded sand grains, angular to subangular gravel grains.
322' chattering stops			
			325' Gravelly sand, coarse sand, fine gravel, multicolored, same as above
			330' Same as above
			335' Sandy gravel, fine to medium gravel with coarse sand, multicolored
			340' Gravelly sand, same as above, but greater sand content relative to gravel.
345' Collecting drive sample			345' Clay

NUMBER OF EXPLORATORY HOLES _____

WORK COMPLETED _____ (DATE) OR PERMIT VOIDED _____ (DATE)

COPY OF PERMIT TO _____ (REVIEWING INDIVIDUAL) ON _____ (DATE) BY _____ (INITIALS)

PERMIT NO. _____ WELL NO. _____

INSPECTOR	DATE	TIME	REMARKS
			203' - 205' Started chattering again. Sandy gravel, same as at 195'.
207' Really hard chattering/gravel			210' Same as above, but slight increase in clay content.
			215' Same as above. Rig chattering
			220' Same as above.
			225' Same as above, but gravel is more fine-grained. Rig is still shaking.
			230' Same as above, but more coarse gravel than above.
			235' Same as above.
254' ~~254'~~ chattering stops			255' Clayey sand, fine-grained, light brown
			260' Same as above, but decrease in clay content.
261' - 264' chattering			265' Fine-grained sand, light brown, very little clay.
			268-270' Same as above, but slightly more clay content.
273' Little bit of chatter			
			275' Sandy clay, low plasticity, light brown, fine sand
			280' Same as above.
			285' Same as above, but some trace amounts of fine gravel mixed in.
			287'-290' Same as above, but clay is more stiff
			295' Same as above, no gravel, trace amounts of coarse sand. Stiff drilling
			300' Sandy clay, fine sand with trace coarse, low to medium plasticity, light brown. Stiff drilling

11/18/21

NUMBER OF EXPLORATORY HOLES _____

WORK COMPLETED _____ (DATE) OR PERMIT VOIDED _____ (DATE)

COPY OF PERMIT TO _____ (REVIEWING INDIVIDUAL) ON _____ (DATE) BY _____ (INITIALS)

PERMIT NO. _____ WELL NO. _____

INSPECTOR	DATE	TIME	REMARKS
			148'-150' clayey ~~Gravelly~~ sand, fine to coarse sand with fine gravel, light brown (2.5Y/6/3), some silt and clay present.
			155' Same as above, increase in clay content.
			160' ~~Silt with clay~~ Silty clay ~~clayey silt~~, light brown (10YR 5/2), some fine to coarse sand.
			165' Same as above.
			170' Same as above, but color change to greenish brown (10Y-5GY/4/2), ~~brown~~ sand content decreases
			175' Same as above, but slight increase in sand content.
			180' Same as above.
11/17/21			
			192' Started chattering
			195' Sandy gravel, coarse-grained, rounded to sub-rounded gravels, multicolored, coarse sand, subangular to subrounded sand grains.
			200' Same as above
			202'-203' Stopped chattering; hit a pocket of sandy clay, light tan color, fine to coarse sand, low plasticity clay.

NUMBER OF EXPLORATORY HOLES _____

WORK COMPLETED _____ (DATE) OR PERMIT VOIDED _____ (DATE)

COPY OF PERMIT TO _____ (REVIEWING INDIVIDUAL) ON _____ (DATE) BY _____ (INITIALS)

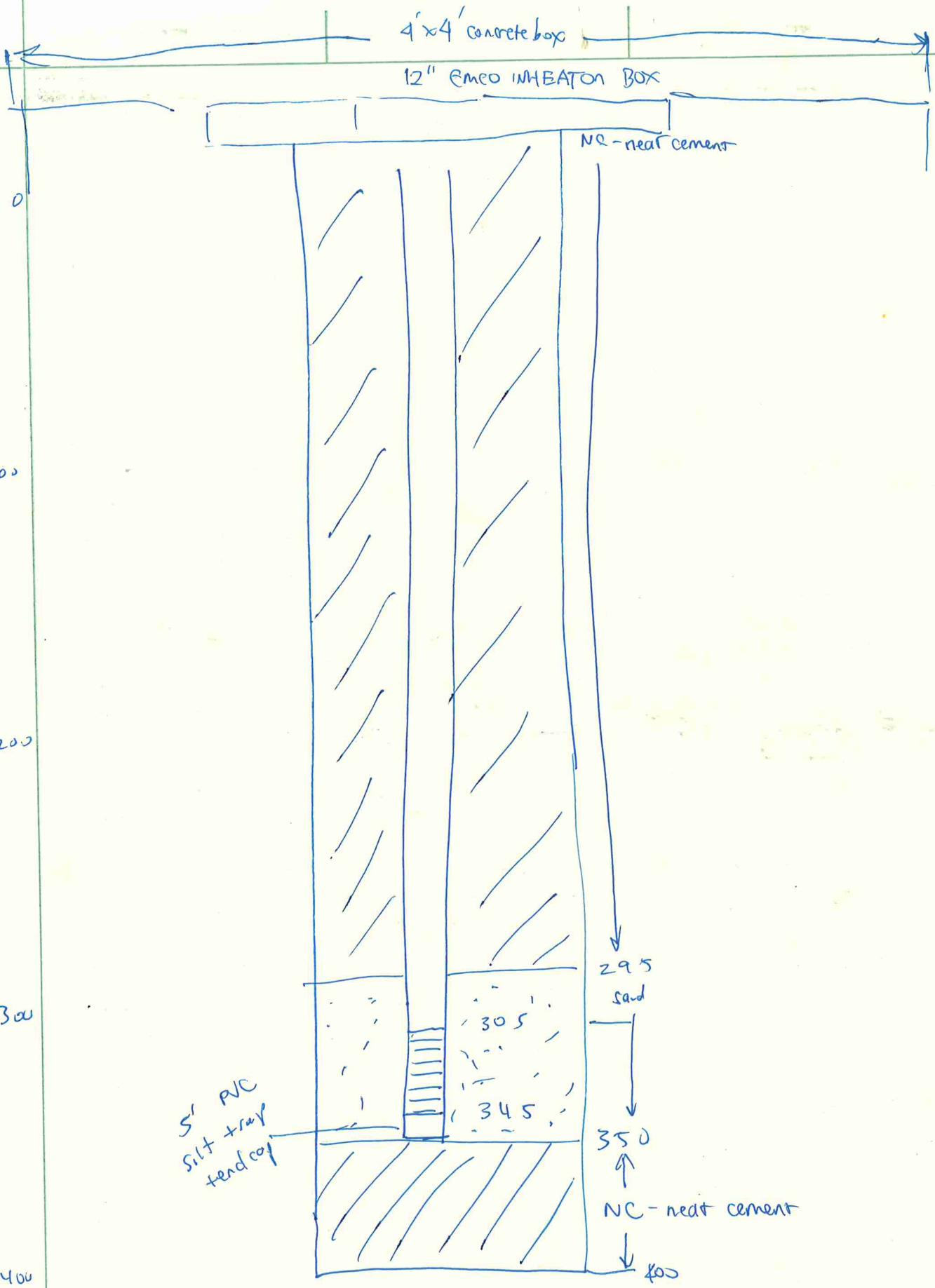
PERMIT NO. _____ WELL NO. _____

INSPECTOR	DATE	TIME	REMARKS
			95' Poorly graded sand, coarse grained, angular grains, multi-colored.
			100' Same as above.
			105' Poorly graded gravel, fine-grained, multicolored, trace amounts of fines, angular to subangular grains.
			110' Silty gravel, fine-grained, light-brown, angular to subangular grains.
			115' Sandy silt with some gravel, fine to medium grained sand w/ some fine gravel, light brown.
			@ 118' ~~Clay~~ Bluish sandy silt ~~silty clay~~ with fine sand and gravel.
			120' clay, low plasticity, grayish brown.
			125' Hit a gravel bed
			129' clay
			135' Sand + gravel, multicolored, fine gravel and coarse sand
			140' Sandy gravel, coarse grained, multicolored, coarse sand.
			145' ~~Gravelly clay~~ silty sand, gray (Gley 2/5/10B), rig not chattering anymore.

NUMBER OF EXPLORATORY HOLES _____

WORK COMPLETED _____ (DATE) OR PERMIT VOIDED _____ (DATE)

COPY OF PERMIT TO _____ (REVIEWING INDIVIDUAL) ON _____ (DATE) BY _____ (INITIALS)


4'x4' concrete box
12" EMCO INHEATON BOX
NC - neat cement
0
100
200
300
400
295
sand
305
345
350
5' PVC
silt trap
end cap
NC - neat cement
400

Appendix 4. Public Notice

IMPORTANT NOTICE

Niles Cone Groundwater Basin Well Site Evaluation Project

What's happening?

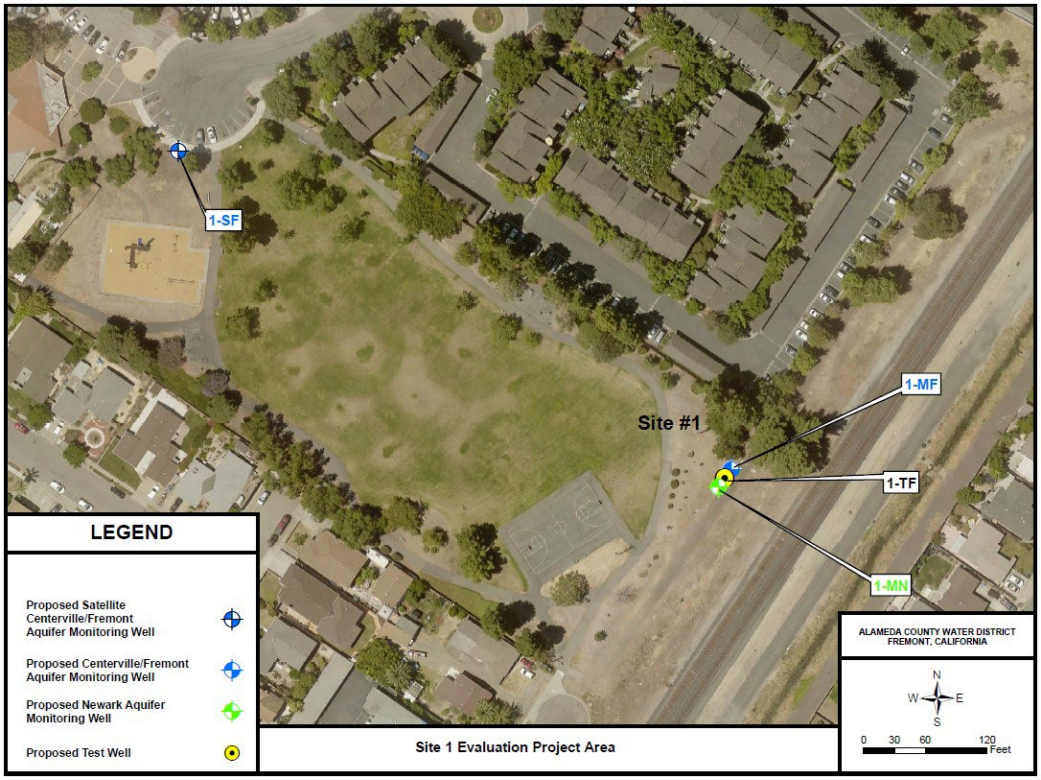
Since its formation, the Alameda County Water District (ACWD) has strived to protect the Niles Cone Groundwater Basin (Niles Cone) from over-pumping and saltwater intrusion. Although there has been substantial improvement as a result of the District's groundwater management efforts, brackish water still remains in the aquifers. The District and the California Department of Water Resources (DWR) recently completed several joint characterization projects that identified elevated chloride concentrations in the deeper Centerville/Fremont Aquifers. In keeping with ACWD's ongoing programs for efficiently removing brackish water from the water bearing aquifers of the Niles Cone, this area has been identified as a possible ideal location for brackish groundwater removal. The project comprises of the installation of a test well, installation of three observation wells, and conducting aquifer pumping tests.

When will field activities begin?

Field activities are scheduled to start in late August 2021 and will be performed by a drilling contractor working with the Alameda County Water District.

How long will the field activities take?

Work at the site is expected to be completed within 3 weeks (August 2021 – September 2021).



How will I be impacted?

The project is located on City of Newark property and will be fenced off for safety so limited public interaction at the work sites is expected. Temporary provisions include, moving of heavy equipment, site safety improvements, and other miscellaneous site improvements will occur. However, some residential homes which backup to the property line and those using Civic Center Park will be in visual range of the work sites.

No interruptions to your water service are planned nor expected.

What can I expect during construction?

- ***Visual***

Minimal traffic, including work vehicles and equipment, are expected throughout the course of the project. In addition, the contractor will have small stockpiles of materials, including but not limited to, debris and soil. All equipment and material will be kept behind secured fencing.

- ***Field Activity Noise***

When field activity is occurring, residents may hear some heavy equipment noise and/or experience vibrations.

- ***Workspace Safety***

Activities will be completed in accordance with all federal, state and local safety regulations and guidelines. Nevertheless, work sites can be dangerous. The sites are secured behind temporary fencing for the safety of the crew, and the public.

- ***Working Hours***

Work hours are anticipated to be Monday through Friday, from 8:00 a.m. to 4:30 p.m. No work is planned on Saturdays, Sundays or ACWD holidays.

Where can I get more information?

Please join us at an ACWD virtual community informational meeting on August 19, 2021, 5:00 p.m. to 6:00 p.m. via Zoom to learn more about this important project. Refer to the project website for directions for the web-based meeting at: https://www.acwd.org/755/Niles-Cone-Groundwater-Basin-Extraction-. The Alameda County Water District will be available to provide additional information and address any of your questions and/or concerns. The Project is a joint collaboration between the ACWD and the California State Water Resources Control Board. Funding for this project has been provided in full or in part by Proposition 1 - the Water Quality, Supply, and Infrastructure Improvement Act of 2014 through an agreement with the State Water Resources Control Board.

If you are unable to attend this virtual community informational meeting and would like more information about the project, please contact us at:

Project Manager: Douglas Young
Phone: (510) 668-4452
E-mail: Douglas.Young@acwd.com

ACWD
ALAMEDA COUNTY WATER DISTRICT

IMPORTANT NOTICE

Niles Cone Groundwater Basin Well Site Evaluation Project

What's happening?

Since its formation, the Alameda County Water District (ACWD) has strived to protect the Niles Cone Groundwater Basin (Niles Cone) from over-pumping and saltwater intrusion. Although there has been substantial improvement as a result of the District's groundwater management efforts, brackish water still remains in the aquifers. The District and the California Department of Water Resources (DWR) recently completed several joint characterization projects that identified elevated chloride concentrations in the deeper Centerville/Fremont Aquifers. In keeping with ACWD's ongoing programs for efficiently removing brackish water from the water bearing aquifers of the Niles Cone, this area has been identified as a possible ideal location for brackish groundwater removal. The project comprises of the installation of a test well, installation of three observation wells, and conducting aquifer pumping tests.

When will field activities begin?

Field activities are scheduled to start in Mid-September 2021 and will be performed by a drilling contractor working with the Alameda County Water District.

How long will the field activities take?

Work at the site is expected to be completed within 3 weeks (Mid- September 2021 – Early October 2021).



How will I be impacted?

The project is located on City of Newark property and will be fenced off for safety so limited public interaction at the work sites is expected. Temporary provisions include, moving of heavy equipment, site safety improvements, and other miscellaneous site improvements will occur. However, some commercial businesses and residential homes in the vicinity of the property will be in visual range of the work sites.

No interruptions to your water service are planned nor expected.

What can I expect during construction?

- ***Visual***

Minimal traffic, including work vehicles and equipment, are expected throughout the course of the project. In addition, the contractor will have small stockpiles of materials, including but not limited to, debris and soil. All equipment and material will be kept behind secured fencing.

- ***Field Activity Noise***

When field activity is occurring, residents may hear some heavy equipment noise and/or experience vibrations.

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Activities will be completed in accordance with all federal, state and local safety regulations and guidelines. Nevertheless, work sites can be dangerous. The sites are secured behind temporary fencing for the safety of the crew, and the public.

- ***Working Hours***

Work hours are anticipated to be Monday through Friday, from 8:00 a.m. to 4:30 p.m. No work is planned on Saturdays, Sundays or ACWD holidays.

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ACWD
ALAMEDA COUNTY WATER DISTRICT

IMPORTANT NOTICE

Niles Cone Groundwater Basin Well Site Evaluation Project

What's happening?

Since its formation, the Alameda County Water District (ACWD) has strived to protect the Niles Cone Groundwater Basin (Niles Cone) from over-pumping and saltwater intrusion. Although there has been substantial improvement as a result of the District's groundwater management efforts, brackish water still remains in the aquifers. The District and the California Department of Water Resources (DWR) recently completed several joint characterization projects that identified elevated chloride concentrations in the deeper Centerville/Fremont Aquifers. In keeping with ACWD's ongoing programs for efficiently removing brackish water from the water bearing aquifers of the Niles Cone, this area has been identified as a possible ideal location for brackish groundwater removal. The project comprises of the installation of a test well, installation of two observation wells, and conducting aquifer pumping tests.

When will field activities begin?

Field activities are scheduled to start in Early October 2021 and will be performed by a drilling contractor working with the Alameda County Water District.

How long will the field activities take?

Work at the site is expected to be completed within 3 weeks (Early October 2021 – Late October 2021).



How will I be impacted?

The project is located on City of Fremont property and will be fenced off for safety so limited public interaction at the work sites is expected. Temporary provisions include, moving of heavy equipment, site safety improvements, and other miscellaneous site improvements will occur. However, some commercial operations and residential homes in the vicinity of the property line will be in visual range of the work sites.

No interruptions to your water service are planned nor expected.

What can I expect during construction?

- ***Visual***

Minimal traffic, including work vehicles and equipment, are expected throughout the course of the project. In addition, the contractor will have small stockpiles of materials, including but not limited to, debris and soil. All equipment and material will be kept behind secured fencing.

- ***Field Activity Noise***

When field activity is occurring, residents may hear some heavy equipment noise and/or experience vibrations.

- ***Workspace Safety***

Activities will be completed in accordance with all federal, state and local safety regulations and guidelines. Nevertheless, work sites can be dangerous. The sites are secured behind temporary fencing for the safety of the crew, and the public.

- ***Working Hours***

Work hours are anticipated to be Monday through Friday, from 8:00 a.m. to 4:30 p.m. No work is planned on Saturdays, Sundays or ACWD holidays.

Where can I get more information?

Please join us at an ACWD virtual community informational meeting on August 19, 2021, 5:00 p.m. to 6:00 p.m. via Zoom to learn more about this important project. Refer to the project website for directions for the web-based meeting at https://www.acwd.org/755/Niles-Cone-Groundwater-Basin-Extraction-. The Alameda County Water District will be available to provide additional information and address any of your questions and/or concerns. The Project is a joint collaboration between the ACWD and the California State Water Resources Control Board. Funding for this project has been provided in full or in part by Proposition 1 - the Water Quality, Supply, and Infrastructure Improvement Act of 2014 through an agreement with the State Water Resources Control Board.

If you are unable to attend this virtual community informational meeting and would like more information about the project, please contact us at:

Project Manager: Douglas Young
Phone: (510) 668-4452
E-mail: Douglas.Young@acwd.com

ACWD
ALAMEDA COUNTY WATER DISTRICT

Appendix 5. Administrative Documents and Correspondence

Print Form

Notice of Exemption

Appendix E

To: Office of Planning and Research
P.O. Box 3044, Room 113
Sacramento, CA 95812-3044

County Clerk
County of: Alameda
1106 Madison Street
Oakland California 94607

From: (Public Agency): Alameda County Water District
43885 South Grimmer Boulevard
Fremont, California 94538
(Address)

Project Title: The Niles Cone Groundwater Basin Extraction Well Site Evaluation Project (ACWD Resolution No. 20-026)

Project Applicant: Alameda County Water District

Project Location - Specific:

Blacow Blvd. @ Brophy St., Fremont; Cedar Ct., and Civic Center Park, Newark

Project Location - City: Fremont & Newark Project Location - County: Alameda

Description of Nature, Purpose and Beneficiaries of Project:

The nature and purpose of the proposed project is to install three test wells, eight monitoring wells, conduct three aquifer pump tests, and perform groundwater modeling, to determine the feasibility of three locations to remove brackish groundwater from the Centerville-Fremont Aquifer in the Niles Cone Groundwater Basin.

Name of Public Agency Approving Project: Alameda County Water District

Name of Person or Agency Carrying Out Project: Alameda County Water District

Exempt Status: **(check one):**

- ☐ Ministerial (Sec. 21080(b)(1); 15268);
- ☐ Declared Emergency (Sec. 21080(b)(3); 15269(a));
- ☐ Emergency Project (Sec. 21080(b)(4); 15269(b)(c));
- ☒ Categorical Exemption. State type and section number: Class 3, Section 15303; Class 4, Section 15304; See below
- ☐ Statutory Exemptions. State code number: _____

Reasons why project is exempt:

The project is exempt because it falls within one or more of the following exemptions: Class 3, Section 15303: New Construction of Small Facilities or Structures; Class 4, Section 15304: Minor Alteration to Land; Class 6, Section 15306: Information Collection; Class 7, Section 15307: Action by Regulatory Agencies for the Protection of Natural Resources; and, Class 8, Section 15308: Action by Regulatory Agencies for the Protection of the Environment

Lead Agency Contact Person: Douglas Young Area Code/Telephone/Extension: 510-668-4452

If filed by applicant:

1. Attach certified document of exemption finding.
2. Has a Notice of Exemption been filed by the public agency approving the project? ☐ Yes ☐ No

Signature: Laura J. Hidas Date: 5/18/20 Title: Manager of Water Resources

☒ Signed by Lead Agency ☒ Signed by Applicant

Authority cited: Sections 21083 and 21110, Public Resources Code.
Reference: Sections 21108, 21152, and 21152.1, Public Resources Code.

Date Received for filing at OPR:

Governor's Office of Planning & Research

MAY 19 2020

STATE CLEARINGHOUSE

Revised 2011

RESOLUTION NO. 20-026

OF BOARD OF DIRECTORS OF ALAMEDA COUNTY WATER DISTRICT FINDING THE NILES CONE GROUNDWATER BASIN EXTRACTION WELL SITE EVALUATION PROJECT EXEMPT FROM CEQA AND APPROVING THE PROJECT, JOB 10097

WHEREAS, the Alameda County Water District (District) has strived to protect the Niles Cone Groundwater Basin from over-pumping and saltwater intrusion;

WHEREAS, The District is the Groundwater Sustainability Agency for the Niles Cone Basin with an approved Alternative to a Groundwater Sustainability Plan under the Sustainable Groundwater Management Act (Water Code Section 10720 *et seq*.);

WHEREAS, although there has been substantial improvement in the Niles Cone Groundwater Basin as a result of the District's groundwater management efforts, there is still a bulge of brackish water in the Centerville-Fremont Aquifer in the central portion of the basin;

WHEREAS, the Niles Cone Groundwater Basin Extraction Well Site Evaluation Project (Project) will install three (3) test wells, eight (8) monitoring wells, conduct three (3) aquifer pump tests, and perform groundwater modeling, to determine the feasibility of the three (3) locations to remove brackish groundwater from the Centerville-Fremont Aquifer;

WHEREAS, a funding opportunity through the California State Water Resources Control Board has been identified through the Proposition 1 Groundwater Grant Program;

WHEREAS, on March 4, 2019, the Alameda County Water District submitted an application to the California State Water Resources Control Board for funding for the Project;

WHEREAS, on October 18, 2019, the California State Water Resources Control Board notified the District it has preliminarily been awarded funding through the Proposition 1 Groundwater Grant Program for the Project; and

WHEREAS, on December 12, 2019, the Board adopted Resolution No. 19-077 authorizing the General Manager to enter into a Financial Assistance Agreement with the California State Water Resources Control Board for the Project, and taking other related actions as required by the California State Water Resources Control Board.

NOW, THEREFORE, BE IT RESOLVED by the Board of Directors of the Alameda County Water District as follows:

1. The Board finds on the basis of the whole record that the Project is exempt from the California Environmental Quality Act because the Project falls within one or more of the following exemptions:

    - Categorical Exemption Class 3 – new construction of small facilities or structures (CEQA Regulation Section 15303)

    - Categorical Exemption Class 4 – minor alterations of land (CEQA Regulation Section 15304)

    - Categorical Exemption Class 6 – information collection (CEQA Regulation Section 15306)

    - Categorical Exemption Class 7 – action by regulatory agencies for the protection of natural resources (CEQA Regulation Section 15307)

    - Categorical Exemption Class 8 – action by regulatory agencies for the protection of the environment (CEQA Regulation Section 15308)

2. The Board hereby approves implementation of the Project.

3. The Board authorizes the General Manager or designee to file a notice of exemption for the Project with the Alameda County Clerk's Office.

PASSED AND ADOPTED this 14th day of May 2020, by the following vote:

AYES: Directors Akbari, Gunther, Sethy, Weed, and Huang

NOES: None

ABSENT: None

/s/ JUDY. C. HUANG
Judy C. Huang, President
Board of Directors
Alameda County Water District

ATTEST:

/s/ GINA MARKOU
Gina Markou, District Secretary
Alameda County Water District
(Seal)

APPROVED AS TO FORM:

/s/ PATRICK T. MIYAKI
Patrick T. Miyaki, General Counsel
Alameda County Water District

CERTIFICATE

I, the undersigned District Secretary of ALAMEDA COUNTY WATER DISTRICT, do hereby certify that the foregoing is a full, true and correct copy of a Resolution of the Board of Directors of ALAMEDA COUNTY WATER DISTRICT, a political subdivision, which said Resolution was duly adopted at a meeting of said Board regularly, held on May 14, 2020, that a copy of said Resolution was forthwith duly entered in the minutes of said meeting of said Board, and that the same is in full force and effect.

Dated: May 15, 2020

Gina Markou, District Secretary
Alameda County Water District

GROUNDWATER

ALAMEDA COUNTY WATER DISTRICT

AND

CALIFORNIA STATE WATER RESOURCES CONTROL BOARD

PLANNING GRANT

NILES CONE GROUNDWATER BASIN EXTRACTION WELL SITE EVALUATION PROJECT

AGREEMENT NO. SWRCB0000000000D1912527
AMENDMENT 1

PROJECT FUNDING AMOUNT: $613,048
ESTIMATED REASONABLE PROJECT COST: $1,226,096

ELIGIBLE WORK START DATE: OCTOBER 18, 2019
WORK COMPLETION DATE: ~~APRIL 30, 2022~~**SEPTEMBER 30, 2022**
FINAL REIMBURSEMENT REQUEST DATE: ~~MAY 31, 2022~~**OCTOBER 31, 2022**
RECORDS RETENTION END DATE: ~~APRIL 30, 2058~~**SEPTEMBER 30, 2058**

+

This Grant Agreement executed by the State Water Board on June 16, 2020, is hereby amended as of March 30, 2022, to revise the Work Completion Date, the Final Reimbursement Request Date, the Records Retention End Date, the body of the agreement, and Exhibits A, B, C, and D (deletions shown as stricken and revisions bold and underlined). Except as noted herein all other terms and conditions shall remain the same.

AGREEMENT

1. AUTHORITY.

The State Water Resources Control Board (State Water Board) is authorized, and implements its authority, to provide financial assistance under this Agreement pursuant to Section 79771 of the Water Code, and Resolution No. 2017-0075.

2. INTENTION.

(a) The Recipient desires to receive financial assistance for and undertake work required for the groundwater planning Project according to the terms and conditions set forth in this Agreement.

(b) The State Water Board proposes to assist in providing financial assistance for eligible costs of the Project in the amount set forth in Exhibit B, according to the terms and conditions set forth in this Agreement.

3. AGREEMENT, TERM, DOCUMENTS INCORPORATED BY REFERENCE.

In consideration of the mutual representations, covenants and agreements herein set forth, the State Water Board and the Recipient, each binding itself, its successors and assigns, do mutually promise, covenant, and agree to the terms, provisions, and conditions of this Agreement.

(a) The State Water Board hereby makes a grant to the Recipient in accordance with the provisions of this Agreement.

(b) Subject to the satisfaction of any condition precedent to this Agreement, this Agreement shall become effective upon the signature of both the Recipient and the State Water Board. Conditions precedent are not limited to the following:

(1) The Recipient must deliver to the Division a resolution authorizing this Agreement.

(c) Upon execution, the term of the Agreement shall begin on the Eligible Work Start Date and extend through the Records Retention End Date.

(d) This Agreement includes the following exhibits and attachments thereto:

EXHIBIT A – SCOPE OF WORK

EXHIBIT B – FUNDING TERMS

EXHIBIT C – GENERAL AND PROGRAMMATIC TERMS AND CONDITIONS

EXHIBIT D – SPECIAL CONDITIONS

4. PARTY CONTACTS.

The Party Contacts during the term of this Agreement are:

State Water Board		Alameda County Water District	
Section:	Division of Financial Assistance		
Name:	Diana Conkle, Project Manager	Name:	Michelle Myers, Project Director
Address:	1001 I Street, 17th Floor	Address:	43885 South Grimmer Blvd.
City, State, Zip:	Sacramento, CA 95814	City, State, Zip:	Fremont, CA 94538
Phone:	(916) 341-5660	Phone:	(510) 668-4454
Fax:	(916) 341-5296	Fax:	(510) 651-1760
Email:	Diana.Conkle@waterboards.ca.gov	Email:	Michelle.Myers@acwd.com

Direct inquiries to:

State Water Board		Alameda County Water District	
Section:	Division of Financial Assistance		
Name:	Brittani Evans, Program Analyst	Name:	Douglas Young, Project Contact
Address:	1001 I Street, 17th Floor	Address:	43885 South Grimmer Blvd.
City, State, Zip:	Sacramento, CA 95814	City, State, Zip:	Fremont, CA 94538
Phone:	(916) 341-5930	Phone:	(510) 668-4452
Fax:	(916) 341-5296	Fax:	(510) 651-1760
Email:	Brittani.Evans@waterboards.ca.gov	Email:	Douglas.Young@acwd.com

The Recipient may change its Project Director upon written notice to the Project Manager, which notice shall be accompanied by authorization from the Recipient's Authorized Representative. The State Water Board will notify the Project Director of any changes to its Party Contacts.

While the foregoing are contacts for day-to-day communications regarding Project work, the Recipient shall provide official communications and events of Notice as set forth in Exhibit C to the Division's Deputy Director.

5. DEFINITIONS.

Unless otherwise specified, each capitalized term used in this Agreement has the following meaning:

"Additional Payments" means the reasonable extraordinary fees and expenses of the State Water Board, and of any assignee of the State Water Board's right, title, and interest in and to this Agreement, in connection with this Agreement, including all expenses and fees of accountants, trustees, staff, contractors, consultants, costs, insurance premiums and all other extraordinary costs reasonably incurred by the State Water Board or assignee of the State Water Board.

"Agreement" means this agreement, including all exhibits and attachments hereto.

"Authorized Representative" means the duly appointed representative of the Recipient as set forth in the certified original of the Recipient's authorizing resolution that designates the authorized representative by title.

"Cover Page" means the front page of this Agreement.

"Days" means calendar days unless otherwise expressly indicated.

"Deputy Director" means the Deputy Director of the Division.

"Division" means the Division of Financial Assistance of the State Water Board or any other division or unit of the State Water Board authorized to administer this Agreement.

"Eligible Work Start Date" means the date set forth on the Cover Page of this Agreement, establishing the date on or after which any costs may be incurred and eligible for reimbursement hereunder.

"Event of Default" means the occurrence of any of the following events:

a) A representation or warranty made by or on behalf of the Recipient in this Agreement or in any document furnished by or on behalf of the Recipient to the State Water Board pursuant to this Agreement shall prove to have been inaccurate, misleading or incomplete in any material respect;

b) A material adverse change in the condition of the Recipient, which the Division reasonably determines would materially impair the Recipient's ability to satisfy its obligations under this Agreement;

c) Failure by the Recipient to observe and perform any covenant, condition, or provision in this Agreement, which failure shall continue for a period of time, to be determined by the Division;

d) Initiation of proceedings seeking arrangement, reorganization, or any other relief under any applicable bankruptcy, insolvency, or other similar law; the appointment of or taking possession of the Recipient's property by a receiver, liquidator, assignee, trustee, custodian, conservator, or similar official; the Recipient's entering into a general assignment for the benefit of creditors; the initiation of resolutions or proceedings to terminate the Recipient's existence, or any action in furtherance of any of the foregoing;

e) A determination pursuant to Gov. Code section 11137 that the Recipient has violated any provision in Article 9.5 of Chapter 1 of Part 1 of Division 3 of Title 2 of the Government Code; or

f) Loss of the Recipient's rights, licenses, permits, or privileges necessary for the Project, or the occurrence of any material restraint on the Recipient's enterprise by a government agency or court order.

"Final Reimbursement Request Date" means the date set forth as such on the Cover Page of this Agreement, after which date, no further reimbursements or disbursements may be requested.

"Fiscal Year" means the period of twelve (12) months terminating on June 30 of any year.

"Force Account" means the use of the Recipient's own employees, equipment, or resources for the Project.

"GAAP" means generally accepted accounting principles, the uniform accounting and reporting procedures set forth in publications of the American Institute of Certified Public Accountants or its successor, or by any other generally accepted authority on such procedures, and includes, as applicable, the standards set forth by the Governmental Accounting Standards Board or its successor, or the Uniform System of Accounts, as adopted by the California Public Utilities Commission for water utilities.

"Grant Contact" means the employee of the Recipient who has been delegated by the Project Director to oversee the day-to-day activities of the Project. The Grant Contact is set forth in Section 4 of this Agreement.

"Guidelines" means the State Water Board's "Proposition 1 Groundwater Grant Program Funding Guidelines," in effect as of the execution date of this Agreement.

"Indirect Costs" means those costs that are incurred for a common or joint purpose benefiting more than one cost objective and are not readily assignable to the Project (i.e., costs that are not directly related to the Project). Examples of Indirect Costs include, but are not limited to: central service costs; general administration of the Recipient; non-project-specific accounting and personnel services performed within the Recipient organization; depreciation or use allowances on buildings and equipment; the costs of operating and maintaining non-project-specific facilities; tuition and conference fees; generic overhead or markup; and taxes.

"Match Funds" means funds provided by the Recipient towards the Project Costs incurred on or after November 4, 2014. Funds spent on ineligible Project Costs are not Match Funds.

"Material Obligation" means an obligation of the Recipient that is material to this transaction.

"Party Contact" means, for the Recipient, the Authorized Representative of the Recipient or any designee of the Authorized Representative, and, for the State Water Board, the Division staff set forth in Section 4 of this Agreement.

"Project" means the Project funded by this Agreement as described in Exhibits A and B and in the documents incorporated by reference herein.

"Project Completion" means, as determined by the Division, that the Project is complete to the reasonable satisfaction of the Division.

"Project Costs" means the incurred costs of the Recipient which are eligible for funding under this Agreement, pursuant to applicable statutes, policy, regulations, or guidelines.

"Project Director" means an employee of the Recipient designated by the Authorized Representative to be responsible for the overall management of the administrative and technical aspects of the executed Agreement. The Project Director is set forth in Section 4 of this Agreement.

"Project Funding Amount" means the maximum amount payable under this Agreement, as set forth on the Cover Page.

"Project Funds" means all moneys disbursed to the Recipient by the State Water Board for eligible Project Costs pursuant to this Agreement.

"Project Manager" means the person designated by the State Water Board to manage performance of this Agreement. The Project Manager is set forth in Section 4 of this Agreement.

"Recipient" means Alameda County Water District.

"Records Retention End Date" means the last date that the Recipient is obligated to maintain records related to this Agreement and is set forth on the Cover Page of this Agreement.

"Regional Water Quality Control Board" or "Regional Water Board" means the appropriate Regional Water Quality Control Board.

"Reimbursement Period" means the period during which Project Funds may be disbursed.

"Reimbursement Request" means the Recipient's request for Project Funds from the State Water Board as set forth in Exhibit B.

"State" means State of California.

"State Water Board" means the State Water Resources Control Board.

"Work Completion" means the Recipient's submittal of all work set forth under Exhibit A for review and approval by the Division.

"Work Completion Date" means the date set forth on the Cover Page of this Agreement and is the last date on which Project Costs may be incurred under this Agreement.

"Year" means calendar year unless otherwise expressly indicated.

6. SIGNATURES.

This Agreement, and any amendments hereto, may be executed and delivered in any number of counterparts, each of which when delivered shall be deemed to be an original, but such counterparts shall together constitute one document. The parties may sign this Agreement, and any amendments hereto, either by an electronic signature using a method approved by the State Water Board or by a physical, handwritten signature. The parties mutually agree that an electronic signature using a method approved by the State Water Board is the same as a

physical, handwritten signature for the purposes of validity, enforceability, and admissibility.

IN WITNESS WHEREOF, this ~~Agreement~~ **Amendment** has been executed by the parties hereto.

ALAMEDA COUNTY WATER DISTRICT:

By:_____
Name: ~~Robert Shaver~~ **Ed Stevenson**
Title: General Manager

Date: 5/24/2022

STATE WATER RESOURCES CONTROL BOARD:

By:_____
Name: Joe Karkoski
Title: Deputy Director
Division of Financial Assistance

Date: 6/27/2022

EXHIBIT A – SCOPE OF WORK

A.1. PROJECT DESCRIPTION AND SCOPE OF WORK.

(a) The Project is for the benefit of the Recipient. The funding under this agreement is for the purpose of conducting a remedial investigation, including the installation of groundwater monitoring and extraction test wells and preparation of a feasibility study to identify and evaluate alternatives to prevent migration of brackish water to Alameda County Water District's drinking water supply wells.

(b) Scope of Work.

The Recipient agrees to do the following:

1. Project Management

1.1 Provide all technical and administrative services as needed for Project completion; monitor, supervise, and review all work performed; and coordinate budgeting and scheduling to ensure the Project is completed within budget, on schedule, and in accordance with approved procedures, applicable laws, and regulations.

1.2 Notify the Project Manager at least fifteen (15) working days in advance of upcoming meetings, workshops, and trainings.

1.3 Develop and update appropriately a detailed Project schedule, including key Project milestones, and submit to the Project Manager.

1.4 Conduct periodic and final site visits with the Project Manager and other staff designated by the Division.

1.5 Conduct pre-, during, and post-construction photo monitoring for monitoring wells installed at the Project site and submit to the Project Manager.

2. General Compliance Requirements/Project Effectiveness and Performance

2.1 Submit Global Positioning System (GPS) information or survey data for Project site(s) and monitoring well location(s) for this Project to the Project Manager. Submittal requirements for GPS data are available at: http://www.waterboards.ca.gov/water_issues/programs/grants_loans/grant_info/docs/gps.pdf.

2.2 Prepare and submit a Monitoring and Reporting Plan (MRP) to the Technical Advisory Committee (TAC) for comment, and the Project Manager for approval. The MRP becomes final upon Project Manager approval. Any changes to the MRP, including sampling methodology and

frequency, must be submitted to the TAC for comment and the Project Manager for approval. The MRP shall include the following:

2.2.1 A Monitoring Plan (MP) that includes the following sections:

2.2.1.1 Purpose: Describe the purpose of the MP, including the information necessary to address data gaps during the remedial investigation and selecting the location of proposed extraction test wells, and other pre-design data necessary to develop groundwater cleanup alternatives. Describe the relation of the proposed monitoring activities to any other monitoring activities in the Project area.

2.2.1.2 Project Area: Provide a map and narrative description of the anticipated area of brackish water that threatens drinking water supply wells, location of the Project, and location of current and proposed monitoring wells.

2.2.1.3 Sampling Plan: Describe the sampling and analytical methods to be used, selection of monitoring locations, frequency of monitoring, and the process to make any necessary changes to achieve the purpose of the MRP.

2.2.1.4 Field Procedures: Provide a description of field procedures, including sample collection methods, equipment decontamination, sample identification and handling, and documentation procedures.

2.3 Prepare, maintain, and implement a Quality Assurance Project Plan (QAPP) in accordance with the United States Environmental Protection Agency's (USEPA) QAPP guidance documents (EPA QA/G-5 and EPA QA/R-5). Water quality monitoring data includes physical or chemical monitoring of any groundwater. Submit the QAPP to the Project Manager for approval. Any costs related to monitoring data collected prior to and not supported by the approved QAPP will not be reimbursed. A template for the USEPA QAPP is available from the Project Manager.

2.3.1 Upload the final approved document(s) in pdf format to the Financial Assistance Application Submittal Tool (FAAST) system (available at https://faast.waterboards.ca.gov/).

2.4 Prepare and upload all groundwater analytical data collected in accordance with the MRP to the State Water Board's GeoTracker/Groundwater Ambient Monitoring & Assessment (GAMA) system in Electronic Deliverable Format. Groundwater samples include: monitoring well samples, borehole samples, piezometer samples, and samples from drinking water wells. Locational information for these sampling points shall be submitted using the GEO_XY file. Contact the Project Manager to obtain a Global ID prior to collecting samples.

3. Environmental Compliance and Permitting

   3.1 Complete documentation required under the California Environmental Quality Act (CEQA) for the Project. Take all required steps to prepare, circulate, and certify the required CEQA document(s).

      3.1.1 Submit the draft CEQA document to the Project Manager for comment, if applicable.

      3.1.2 Submit the final CEQA document to the Project Manager.

      3.1.3 Obtain written environmental clearance from the Project Manager confirming the State Water Board has made its own environmental findings and concurred that implementation may proceed.

   3.2 Obtain all public agency approvals, entitlements, or permits required for Project implementation before field work begins. If the Project is carried out on lands not owned by the Recipient, the Recipient must obtain adequate rights of way for the useful life of the Project. Submit a list and signed copies of such approvals, entitlements or permits to the Project Manager.

4. Technical Advisory Committee

   4.1 Establish a TAC that includes representatives from the Division, the State Water Board Division of Drinking Water (DDW), and the Alameda County Water District. Submit the final list of TAC members, including their roles, responsibilities, and affiliations, to the Project Manager for approval.

   4.2 Convene a kickoff meeting to establish TAC goals and objectives, formalize roles, and create a schedule for future meetings. Submit a summary of the kickoff meeting to the Project Manager.

   4.3 Conduct additional TAC meetings in accordance with the schedule developed in Item 4.2 and submit the agendas, meeting minutes, and sign-in sheets for each meeting to the Project Manager.

5. Remedial Investigation/Feasibility Study (RI/FS) Workplan

   5.1 Prepare a RI/FS Workplan and submit to the TAC for comment and the Project Manager for approval. The RI/FS Workplan shall include the tasks and schedule necessary to complete Items 6 and 7, and shall be prepared using the following approaches:

      5.1.1 Describe the objectives of the RI/FS and the associated tasks and deliverables necessary to address a significant data gap(s) in the Project area.

5.1.2 Identify the proposed Project area.

5.1.3 Describe the monitoring well locations and the rationale for addressing data gaps in the proposed Project area as summarized in the MRP in Item 2.2. Provide groundwater sampling data that adequately supports the selection of the proposed monitoring well locations and the purpose of the Project. Upload the data to GeoTracker as outlined in Item 2.4.

5.1.4 Describe the investigation activities and include the rationale for selecting locations to install a minimum of eight (8) groundwater monitoring wells and a minimum of three (3) groundwater extraction test wells.

5.1.5 Describe the objectives of aquifer testing and the methods and procedures that will be used for conducting aquifer testing.

5.1.6 Describe the objectives and steps necessary to support the technical and cost analyses and the selection of groundwater extraction alternatives that will provide prevention of seawater intrusion to the District's drinking water supply wells.

5.1.7 Describe groundwater flow modeling for the purpose of predicting how the proposed groundwater extraction wells will prevent seawater intrusion and prevent impacts to drinking water supply wells.

6. Remedial Investigation/Feasibility Study

6.1 Conduct a RI/FS in the Project area in accordance with the approved RI/FS Workplan in Item 5.1.

6.1.1 Submit a Well Completion Report, including well completion logs, to the TAC for review and the Project Manager for approval.

6.1.2 Submit any proposed changes from the approved RI/FS Workplan in Item 5.1 that arise during the investigation to the Project Manager for approval.

7. Remedial Investigation/Feasibility Study Report

7.1 Prepare a RI/FS Report that summarizes the analysis conducted in Item 6.1. Submit the RI/FS Report to the TAC for comment and the Project Manager for approval. The RI/FS Report must include, at a minimum, the following:

7.1.1 Summary of the Project area history, geology, hydrogeology, surface water, local land use, previous investigations, remedial actions, and purpose and scope of the recent investigation.

7.1.2 Summary of field work activities completed, methods used, and supporting documentation, including well construction logs and field notes.

7.1.3 Findings of the investigation and supporting documentation, including, but not limited to: updated lithology, including well construction diagrams and geologic cross-sections; analytical results, including laboratory data sheets and chain-of-custody sheets; tabular depth to groundwater and groundwater elevation data; groundwater gradient calculations and contour maps indicating groundwater flow direction; and comparison to regional gradient and flow direction.

7.1.4 Evaluation of data collected by the Recipient and others in the Project area and assessment of the nature and extent of brackish groundwater, including concentrations of chloride detected and vertical and lateral extent of the contamination.

7.1.5 Conclusions identifying any contamination found and/or suspected source of contamination, if possible.

7.1.6 Identification of any further investigations necessary in the Project area or data gaps that should be addressed prior to development of the Feasibility Study.

7.1.7 Description of the quality assurance and quality control procedures in Item 2.3 implemented during the investigation and the results.

7.1.8 Description of the results of the aquifer testing outlined in Item 5.1.5.

7.1.9 Summary of the contaminant properties and transport based on soil and aquifer properties.

7.1.10 Proposed remedial action objectives that the proposed implementation project will achieve.

7.1.11 Groundwater modeling results including, but not limited to, particle tracking analysis, model calibration, sensitivity analysis and pumping rates which are necessary to achieve the proposed remedial action objectives.

7.1.12 Description and evaluation of the remedial action alternatives.

7.1.13 Description of the rationale for selecting the preferred alternative.

7.1.14 Need for treatability studies and additional investigations in the Project area.

7.1.15 Estimated total life cycle costs of the proposed implementation project and estimated schedule.

8. Public Outreach

8.1 Develop outreach materials, including flyers, posters, brochures, and advertisements, and update the website and associated social media web pages to include Project progress and outcomes. Submit copies of the outreach materials and web links to the Project Manager.

8.2 Conduct a minimum of one (1) public workshop, inviting relevant non-governmental organizations and disadvantaged community representatives. Submit the workshop materials, sign-in sheet(s), and photo documentation of the workshop to the Project Manager.

A.2. STANDARD PROJECT REQUIREMENTS.

A.2.1 Disclosure Statements.

The Recipient shall include the following disclosure statement in any document, written report, or brochure prepared in whole or in part pursuant to this Agreement:

"Funding for this project has been provided in full or in part by Proposition 1 – the Water Quality, Supply, and Infrastructure Improvement Act of 2014 through an agreement with the State Water Resources Control Board. The contents of this document do not necessarily reflect the views and policies of the foregoing, nor does mention of trade names or commercial products constitute endorsement or recommendation for use."

A.2.2 Reports.

A.2.2.1 Progress Reports.

The Recipient shall submit quarterly progress reports, using a format provided by the Project Manager, within forty-five (45) days following the end of the calendar quarter (March, June, September, and December) to the Project Manager. Progress reports shall provide a brief description of activities that have occurred, milestones achieved, monitoring results (if applicable), and any problems encountered in the performance of the work under this Agreement during the applicable reporting period. Reporting shall be required even if no Project-related activities occurred during the reporting period. The Recipient shall document all activities and expenditures in progress reports, including work performed by contractors.

A.2.2.2 Draft and Final Project Report and Project Summary for Groundwater Projects.

(a) At the conclusion of the Project, the Recipient must submit the following to the Project Manager:

(1) Draft Final Project Report. Prepare and submit to the Project Manager, for review and comment, a draft Final Project Report in a format provided by the Project Manager that shall include the following information, as well as information set forth in the Scope of Work, above:

a. Description of the water quality problem the Project sought to address;

b. Description of the Project scope, cost, and schedule, with photo documentation;

c. Discussion of the Project's likelihood of successfully addressing that water quality problem in the future, including an evaluation and summary of relevant water quality data; and

d. Summary of lessons learned.

(2) Final Project Report. Prepare a Final Project Report that addresses, to the extent feasible, comments made by the Project Manager on the draft Final Project Report. Submit one (1) reproducible master copy and an electronic copy of the final. Upload an electronic copy of the final report in pdf format to the Financial Assistance Application Submittal Tool (FAAST) system.

(3) Final Project Summary. Prepare a brief summary of the information contained in the Final Project Report, using a format provided by the Project Manager. Include accomplishments, recommendations, and lessons learned, as appropriate. Upload an electronic copy of the Final Project Summary in pdf format to the FAAST system.

(b) If the Recipient fails to submit a timely Final Project Report, the State Water Board may stop processing pending or future applications for new financial assistance, withhold reimbursements under this Agreement or other agreements, and begin administrative proceedings.

A.2.2.3 As Needed Reports.

The Recipient must provide expeditiously, during the term of this Agreement, any reports, data, and information reasonably required by the Division, including but not limited to material necessary or appropriate for evaluation of the funding program or to fulfill any reporting requirements of the state or federal government.

A.3. DATES AND DELIVERABLES.

(a) Time is of the essence.

(b) The Recipient must expeditiously proceed with and complete the Project.

(c) The following dates are established as on the Cover Page of this Agreement:

(1) Eligible Work Start Date

(2) Work Completion Date

(3) Final Reimbursement Request Date

(4) Records Retention End Date

(d) The Recipient must begin work timely.

(e) The Recipient must deliver any request for amendment no fewer than 120 days prior to the Work Completion date.

(f) The undisbursed balance of this Agreement will be deobligated if the Recipient does not provide its Final Reimbursement Request to the Division on or before the Final Reimbursement Request Date, unless prior approval has been granted by the Division.

Upon request by the Division, the Recipient shall submit verifiable data to support deliverables specified in the Scope of Work. The Recipient's failure to comply with this requirement may be construed as a material breach of this Agreement.

A.4. SUBMITTAL SCHEDULE.

Failure to provide items by the due dates indicated in the table below may constitute a material violation of this Agreement. However, the dates in the "Estimated Due Date" column of this table may be adjusted as necessary during the Reimbursement Period with Project Manager approval. All work or submittals must be achieved with relevant submittals approved by the Division prior to the Work Completion Date, and the final Reimbursement Request submitted, prior to the Final Reimbursement Request Date set forth in Exhibit B.

As applicable for specific submittals, the Recipient shall plan adequate time to solicit, receive, and address TAC comments prior to submitting the final submittal.

SUBMITTAL SCHEDULE

ITEM	DESCRIPTION OF SUBMITTAL	CRITICAL DUE DATE	ESTIMATED DUE DATE
EXHIBIT A – SCOPE OF WORK			
1.	Project Management		
1.2	Notification of Upcoming Meetings, Workshops, and Trainings		15 Working Days Prior
1.3	Detailed Project Schedule	~~60 Days After Execution~~**Complete**	
1.4	Periodic and Final Site Visits		As Needed
1.5	Pre-, During, and Post-Construction Photos		Ongoing
2.	General Compliance Requirements/Project Effectiveness and Performance		
2.1	Global Positioning System (GPS) Information	~~60 Days After Execution~~**Complete**	
2.2	Monitoring and Reporting Plan		~~July 2020~~ **Complete**
2.3	Quality Assurance Project Plan (QAPP)		~~July 2020~~ **Complete**
3.	Environmental Compliance and Permitting		
3.1.1	Draft CEQA Document		~~July 2020~~ **Complete**
3.1.2	Final CEQA Document	~~August 31, 2020~~ **Complete**	
3.2	List and Signed Copies of Approvals, Entitlements or Permits		~~August 2020~~ **Complete**
4.	Technical Advisory Committee (TAC)		
4.1	List of TAC Members, with Roles and Responsibilities, and Affiliations	~~60 Days after Execution~~**Complete**	

ITEM	DESCRIPTION OF SUBMITTAL	CRITICAL DUE DATE	ESTIMATED DUE DATE
4.2	Summary of the Kickoff Meeting		~~June 2020~~ **Complete**
4.3	Agendas, Meeting Minutes, and Sign-In Sheets		Ongoing
5.	Remedial Investigation/Feasibility Study (RI/FS) Workplan		
5.1	RI/FS Workplan	~~October 31, 2020~~ **Complete**	
6.	Remedial Investigation/Feasibility Study		
6.1.1	Well Completion Report		~~May 2021~~ **June 2022**
6.1.2	Proposed Changes from Approved RI/FS Workplan		~~December 2020~~ **June 2022**
7.	Remedial Investigation/Feasibility Study Report		
7.1	Remedial Investigation/Feasibility Study Report	~~September 30,2021~~ **July 31, 2022**	
8.	Public Outreach		
8.1	Outreach Materials and Web Links		~~January 2021~~ **September 2022**
8.2	Workshop Materials, Sign-in Sheets, and Photo Documentation		Ongoing
EXHIBIT A.2.2 – REPORTS			
A.2.2.1	Progress Reports	Quarterly	
A.2.2.2 (a)(1)	Draft Final Project Report	~~February 28, 2022~~ **August 31, 2022**	
A.2.2.2 (a)(2)	Final Project Report	~~March 31, 2022~~ **September 30, 2022**	
A.2.2.2 (a)(3)	Final Project Summary	Before Work Completion Date	
A.2.2.3	As Needed Reports		As Needed
EXHIBIT B – FUNDING TERMS			
B.1.7 (b)(6)	Final Reimbursement Request	~~May 31, 2022~~ **October 31, 2022**	
B.1.7 (d)	Reimbursement Requests	Quarterly	

EXHIBIT B – FUNDING TERMS

B.1. FUNDING AMOUNTS AND REIMBURSEMENTS.

B.1.1 Funding Contingency and Other Sources.

(a) If this Agreement's funding for any Fiscal Year expires due to reversion or is reduced, substantially delayed, or deleted by the Budget Act, by Executive Order, or by order or action of the Department of Finance, the State Water Board has the option to either cancel this Agreement with no liability accruing to the State Water Board, or offer an amendment to the Recipient to reflect the reduced amount.

(b) If funding for Project Costs is made available to the Recipient from sources other than this Agreement, the Recipient must notify the Division. The Recipient may retain such funding up to an amount which equals the Recipient's share of Project Costs. To the extent allowed by requirements of other funding sources, excess funding must be remitted to the State Water Board.

B.1.2 Estimated Reasonable Cost.

The estimated reasonable cost of the total Project is ONE MILLION TWO HUNDRED TWENTY-SIX THOUSAND NINETY-SIX DOLLARS ($1,226,096).

B.1.3 Project Funding Amount.

Subject to the terms of this Agreement, the State Water Board agrees to provide Project Funds not to exceed the amount of the Project Funding Amount set forth on the Cover Page of this Agreement.

B.1.4 Match Funds.

(a) The Recipient agrees to provide Match Funds in the amount of SIX HUNDRED THIRTEEN THOUSAND FORTY-EIGHT DOLLARS ($613,048).

(b) This Match Funds amount is based on the budget, funding sources, and amounts submitted by the Recipient in its application and during the negotiation of this Agreement. Any Match Funds changes or adjustments requested by the Recipient must be approved, in advance and in writing, by the Project Manager and may require an amendment to this Agreement.

(c) Only expenses that would be considered eligible under the Guidelines will be counted towards the Recipient's Match Funds.

(d) Any costs incurred prior to the adoption of Proposition 1 on November 4, 2014, will not count towards the Recipient's Match Funds.

(e) If, at Work Completion, the Recipient has provided Match Funds in an amount that is less than the Match Funds amount set forth above, the State Water Board

may proportionately reduce the Project Funds amount and/or Recipient's Match Funds amount, upon approval of the Deputy Director of the Division, provided the reduced amount(s) satisfy statutory requirements and Guidelines.

B.1.5 Budget Costs

Budget costs are contained in the Project Cost Table below:

LINE ITEM	PROJECT FUNDS	MATCH FUNDS	TOTAL PROJECT COSTS
Direct Project Administration Costs	$31,486	$31,486	$62,972
Planning/Design/Engineering/ Environmental	~~$59,946~~ **$34,946**	~~$59,946~~ **$34,946**	~~$119,892~~ **$69,892**
Construction/Implementation	~~$457,295~~ **$484,385**	~~$457,295~~ **$484,385**	~~$914,590~~ **$968,770**
Monitoring/Performance	~~$59,456~~ **$59,455**	$59,456	~~$118,912~~ **$118,911**
Education/Outreach	~~$4,865~~ **$2,776**	~~$4,865~~ **$2,775**	~~$9,730~~ **$5,551**
TOTAL	$613,048	$613,048	$1,226,096

(a) Subject to the prior review and approval of the Project Manager, adjustments between existing line items may be used to defray allowable direct costs up to fifteen percent (15%) of the total Project Funding Amount, including any amendment(s) thereto. Line Item adjustments approved by the Project Manager must be de minimis, less than fifteen (15%) of the total Project Funding Amount, and may not include any changes to the Scope of Work. Line item adjustments in excess of fifteen percent (15%) or line item adjustments that result in a change to the scope of work will require an Agreement amendment. If the detailed budget includes an amount for the Recipient's personnel costs, that amount is based on the hours, classifications, and rates submitted by the Recipient in its application. Any changes to the hours, classifications, and rates must be approved, in advance and in writing, by the Project Manager.

(b) The Recipient may submit a request for an adjustment in writing to the Project Manager. Such adjustment may not increase or decrease the total Project Funding Amount. The Recipient shall submit a copy of the original Agreement budget sheet reflecting the requested changes and shall note proposed changes by striking out the original amount(s) followed with proposed change(s) in bold and underlined. Budget adjustments deleting a budget line item or adding a new budget line item shall require a formal amendment. The Division may also propose budget adjustments.

(c) The sum of adjusted line items shall not exceed the total budget amount.

(d) In the event the Recipient does not submit invoices requesting all of the funds encumbered under this Agreement, any remaining funds revert to the State. The State Water Board will mail a Notice of Project Completion letter to the Recipient stating that the project file is closed, the final invoice is being processed for payment, and any remaining balance will be disencumbered and unavailable for further use under the Agreement.

B.1.6 Contingent Disbursement.

(a) Notwithstanding any other provision of this Agreement, the Recipient agrees that the State Water Board may retain an amount equal to ten percent (10%) of the Project Funding Amount until Project Completion. Any retained amounts due to the Recipient will be promptly disbursed to the Recipient, without interest, upon Project Completion.

(b) The State Water Board's disbursement of funds hereunder is contingent on the Recipient's compliance with the terms and conditions of this Agreement.

(c) The State Water Board's obligation to disburse Project Funds is contingent upon the availability of sufficient funds to permit the disbursements provided for herein. If sufficient funds are not available for any reason, including but not limited to failure of the federal or State government to appropriate funds necessary for disbursement of Project Funds, the State Water Board shall not be obligated to make any disbursements to the Recipient under this Agreement. This provision shall be construed as a condition precedent to the obligation of the State Water Board to make any disbursements under this Agreement. Nothing in this Agreement shall be construed to provide the Recipient with a right of priority for disbursement over any other entity. If any disbursements due the Recipient under this Agreement are deferred because sufficient funds are unavailable, it is the intention of the State Water Board that such disbursement will be made to the Recipient when sufficient funds do become available, but this intention is not binding.

(d) No costs incurred prior to the Eligible Work Start Date are eligible for reimbursement.

(e) Failure to proceed according to the timelines set forth in this Agreement may require the Recipient to repay to the State Water Board all disbursed Project Funds.

(f) The Recipient agrees to ensure that its Final Reimbursement Request is received by the Division no later than the Final Reimbursement Request Date~~, unless prior approval has been granted by the Division~~. If the Final Reimbursement Request is not received timely, the undisbursed balance of this Agreement will be deobligated.

(g) The Recipient is not entitled to interest earned on undisbursed funds.

B.1.7 Reimbursement Procedure.

Except as may be otherwise provided in this Agreement, reimbursement of Project Funds will be made as follows:

(a) Upon execution and delivery of this Agreement, the Recipient may request reimbursement of any eligible Project Costs as well as to support Match Funds as specified in this Exhibit through submission to the State Water Board using the reimbursement request forms provided by the Project Manager.

(b) Reimbursement Requests shall contain the following information:

(1) The date of the request;

(2) The time period covered by the request, i.e., the term "from" and "to";

(3) The total amount requested;

(4) Documentation of Match Funds used;

(5) Original signature and date (in ink) **or the electronic signature, consistent with the State Water Board's approved procedures,** of the Recipient's Project Director or his/her designee; and

(6) The Final Reimbursement Request shall be clearly marked "FINAL REIMBURSEMENT REQUEST" and shall be submitted NO LATER THAN the Final Reimbursement Request Date.

(c) The Recipient may sign the Reimbursement Requests either by an electronic signature consistent with the State Water Board's approved procedures or by a physical handwritten signature. The parties mutually agree that an electronic signature consistent with the State Water Board's approved procedures is the same as a physical handwritten signature for the purposes of validity, enforceability, and admissibility.

(c**d**) Reimbursement Requests must be itemized based on the line items specified in the budget in this Exhibit. Reimbursement Requests must be complete, signed by the Recipient's Project Director or his/her designee, and addressed to the Project Manager as set forth in Section 4 of this Agreement. Reimbursement Requests submitted in any other format than the one provided by the State Water Board will cause a Reimbursement Request to be disputed. In the event of such a dispute, the Project Manager will notify the Recipient. Payment will not be made until the dispute is resolved and a corrected Reimbursement Request submitted. The Project Manager has the responsibility for approving Reimbursement Requests. Project Costs incurred prior to the Eligible Work Start Date of this Agreement will not be reimbursed.

(d**e**) Project Funds must be requested quarterly via Reimbursement Request for eligible costs incurred during the reporting period of the corresponding Progress

Report, describing the activities and expenditures for which the reimbursement is being requested. Each Reimbursement Request must be accompanied by a Progress Report. Failure to provide timely Reimbursement Requests may result in such requests not being honored.

(e**f**) The Recipient agrees that it will not submit any Reimbursement Requests that include any Project Costs until such cost has been incurred and is currently due and payable by the Recipient, although the actual payment of such cost by the Recipient is not required as a condition of Reimbursement Request. Supporting documentation (e.g., receipts) must be submitted with each Reimbursement Request as well as to support Match Funds claimed, if any. The amount requested for administration costs must include a calculation formula (i.e., hours or days worked times the hourly or daily rate = total amount claimed). Reimbursement of Project Funds will be made only after receipt of a complete, adequately supported, properly documented and accurately addressed Reimbursement Request.

(~~f~~**g**) The Recipient will not seek reimbursement of any Project Costs that have been reimbursed from other funding sources.

(~~g~~**h**) The Recipient shall use Project Funds within thirty (30) days of receipt to reimburse contractors, vendors, and other Project Costs. Any interest earned on Project Funds shall be reported to the State Water Board and will either be required to be returned to the State Water Board or deducted from future reimbursements. In the event that the Recipient fails to disburse Project Funds to contractors or vendors within thirty (30) days from receipt of the Project Funds, the Recipient shall immediately return such Project Funds to the State Water Board. Interest shall accrue on such Project Funds from the date of reimbursement through the date of mailing of Project Funds to the State Water Board. If the Recipient held such Project Funds in interest-bearing accounts, any interest earned on the Project Funds shall also be due to the State Water Board.

(~~h~~**i**) The Recipient shall submit its final Reimbursement Request no later than the Final Reimbursement Request Date specified herein ~~unless prior approval is granted by the Division~~. If the Recipient fails to do so, then the undisbursed balance of this Agreement will be deobligated.

(i**j**) The Recipient agrees that it will not request a reimbursement unless that cost is allowable, reasonable, and allocable.

(j**k**) Notwithstanding any other provision of this Agreement, no reimbursement shall be required at any time or in any manner that is in violation of or in conflict with federal or state laws, policies, or regulations.

(k**l**) The Recipient agrees that it shall not be entitled to interest earned on undisbursed Project Funds.

(~~l~~**m**) No work or travel outside the State of California is permitted under this Agreement unless the Division provides prior written authorization. No work or

travel outside the United States of America is authorized. Failure to comply with this restriction may constitute an Event of Default and result in termination of this Agreement, pursuant to Exhibit C. Any reimbursement for necessary travel and per diem shall be at rates not to exceed those set by the California Department of Human Resources at http://www.calhr.ca.gov/employees/Pages/travel-reimbursements.aspx. as of the date costs are incurred by the Recipient.

(~~m~~n) The Recipient must include any other documents or requests required or allowed under this Agreement.

B.1.8 Withholding of Reimbursements.

Notwithstanding any other provision of this Agreement, the State Water Board may withhold all or any portion of the Project Funds upon the occurrence of any of the following events:

(a) The Recipient's failure to maintain reasonable progress on the Project as determined by the Division;

(b) Commencement of litigation or a judicial or administrative proceeding related to the Project, that the State Water Board determines may impair the timely satisfaction of the Recipient's obligations under this Agreement;

(c) Any investigation by the District Attorney, California State Auditor, Bureau of State Audits, United States Environmental Protection Agency's Office of Inspector General, the Internal Revenue Service, Securities and Exchange Commission, a grand jury, or any other state or federal agency, relating to the Recipient's financial management, accounting procedures, or internal fiscal controls;

(d) A material adverse change in the condition of the Recipient, or the Project, that the Division reasonably determines would materially impair the Recipient's ability to satisfy its obligations under this Agreement, or any other event that the Division reasonably determines would materially impair the Recipient's ability to satisfy its obligations under this Agreement,

(e) The Recipient's material violation of, or threat to materially violate, any term of this Agreement;

(f) Suspicion of fraud, forgery, embezzlement, theft, or any other misuse of public funds by the Recipient or its employees, or by its contractors or agents regarding the Project;

(g) An event requiring Notice as set forth in Exhibit C; or

(h) An Event of Default or an event that the Division determines may become an Event of Default.

B.1.9 Fraud and Misuse of Public Funds.

All requests for reimbursement must be accurate and signed by the Recipient's Authorized Representative under penalty of perjury. All costs submitted pursuant to this Agreement must

only be for the work or tasks set forth in this Agreement. The Recipient must not submit any invoice containing costs that are ineligible or have been reimbursed from other funding sources unless required and specifically noted as such (i.e., match costs). Any costs for which the Recipient is seeking reimbursement shall not be reimbursed from any other source. Double or multiple billing for time, services, or any other cost is improper and will not be compensated. Any suspected occurrences of fraud, forgery, embezzlement, theft, or any other misuse of public funds may result in suspension of disbursements and, notwithstanding any other section in this Agreement, the termination of this Agreement requiring the immediate repayment of all Project Funds disbursed hereunder. Additionally, the Deputy Director of the Division may request an audit and refer the matter to the Attorney General's Office or the appropriate district attorney's office for criminal prosecution or the imposition of civil liability.

B.2. RECIPIENT'S PAYMENT OBLIGATION.

B.2.1 Project Costs.

The Recipient must pay any and all costs connected with the Project including, without limitation, any and all Project Costs and Additional Payments. If the Project Funds are not sufficient to pay the Project Costs in full, the Recipient must nonetheless complete the Project and pay that portion of the Project Costs in excess of available Project Funds, and shall not be entitled to any reimbursement therefor from the State Water Board.

B.3. NO LIENS.

The Recipient must not make any pledge of or place any lien on the Project or Project assets except upon consent of the Division.

EXHIBIT C – GENERAL AND PROGRAMMATIC TERMS AND CONDITIONS

C.1. REPRESENTATIONS & WARRANTIES.

The Recipient represents, warrants, and commits to the following as of the Eligible Work Start Date and continuing thereafter for the term of this Agreement, which shall be at least until the Records Retention End Date.

C.1.1 Application and General Recipient Commitments.

The Recipient has not made any untrue statement of a material fact in its application for this financial assistance, or omitted to state in its application a material fact that makes the statements in its application not misleading.

The Recipient agrees to comply with all terms, provisions, conditions, and commitments of this Agreement, including all incorporated documents.

The Recipient agrees to fulfill all assurances, declarations, representations, and commitments in its application, accompanying documents, and communications filed in support of its request for funding under this Agreement.

C.1.2 Authorization and Validity.

The execution and delivery of this Agreement, including all incorporated documents, has been duly authorized by the Recipient. Upon execution by both parties, this Agreement constitutes a valid and binding obligation of the Recipient, enforceable in accordance with its terms, except as such enforcement may be limited by law.

C.1.3 No Violations.

The execution, delivery, and performance by Recipient of this Agreement, including all incorporated documents, do not violate any provision of any law or regulation in effect as of the date set forth on the first page hereof, or result in any breach or default under any contract, obligation, indenture, or other instrument to which Recipient is a party or by which Recipient is bound as of the date set forth on the Cover Page.

C.1.4 No Litigation.

There are, as of the date of execution of this Agreement by the Recipient, no pending or, to Recipient's knowledge, threatened actions, claims, investigations, suits, or proceedings before any governmental authority, court, or administrative agency which materially affect the financial condition or operations of the Recipient, and/or the Project.

There are no proceedings, actions, or offers by a public entity to acquire by purchase or the power of eminent domain any of the real or personal property related to or necessary for the Project.

C.1.5 Solvency and Insurance.

None of the transactions contemplated by this Agreement will be or have been made with an actual intent to hinder, delay, or defraud any present or future creditors of Recipient. The Recipient is solvent and will not be rendered insolvent by the transactions contemplated by this Agreement. The Recipient is able to pay its debts as they become due. The Recipient maintains sufficient insurance coverage considering the scope of this Agreement, including, for example but not necessarily limited to, general liability, automobile liability, workers compensation and employer liability, professional liability.

C.1.6 Legal Status and Eligibility.

The Recipient is duly organized and existing and in good standing under the laws of the State of California. Recipient must at all times maintain its current legal existence and preserve and keep in full force and effect its legal rights and authority. The Recipient acknowledges that changes to its legal or financial status may affect its eligibility for funding under this Agreement and commits to maintaining its eligibility. Within the preceding ten years, the Recipient has not failed to demonstrate compliance with state or federal audit disallowances.

C.1.7 Financial Statements and Continuing Disclosure.

The financial statements of Recipient previously delivered to the State Water Board as of the date(s) set forth in such financial statements: (a) are materially complete and correct; (b) present fairly the financial condition of the Recipient; and (c) have been prepared in accordance with GAAP. Since the date(s) of such financial statements, there has been no material adverse change in the financial condition of the Recipient, nor have any assets or properties reflected on such financial statements been sold, transferred, assigned, mortgaged, pledged or encumbered, except as previously disclosed in writing by Recipient and approved in writing by the State Water Board.

The Recipient is current in its continuing disclosure obligations associated with its material debt, if any.

C.1.8 No Other Material Debt.

The Recipient has no Material Obligations other than those set forth in Exhibit D.

C.1.9 Compliance with State Water Board Funding Agreements.

The Recipient represents that it is in compliance with all State Water Board funding agreements to which it is a party.

C.2. DEFAULTS AND REMEDIES.

In addition to any other remedy set forth in this Agreement, the following remedies are available under this Agreement.

C.2.1 Return of Funds; Acceleration; and Additional Payments.

Notwithstanding any other provision of this Agreement, if the Division determines that an Event of Default has occurred, the Recipient may be required, upon demand, immediately to do each of the following:

(a) return to the State Water Board any grant amount received pursuant to this Agreement;

(b) pay interest at the highest legal rate on all of the foregoing; and

(c) pay any Additional Payments.

C.2.2 Judicial Remedies.

Whenever the State Water Board determines that an Event of Default shall have occurred, the State Water Board may enforce its rights under this Agreement by any judicial proceeding, whether at law or in equity. Without limiting the generality of the foregoing, the State Water Board may:

(a) by suit in equity, require the Recipient to account for amounts relating to this Agreement as if the Recipient were the trustee of an express trust;

(b) by mandamus or other proceeding, compel the performance by the Recipient and any of its officers, agents, and employees of any duty under the law or of any obligation or covenant under this Agreement; and

(c) take whatever action at law or in equity as may appear necessary or desirable to the State Water Board to enforce performance of any obligation or covenant of the Recipient under this Agreement.

C.2.3 Termination.

Upon an Event of Default, the State Water Board may terminate this Agreement. Interest shall accrue on all amounts due at the highest legal rate of interest from the date that the State Water Board delivers notice of termination to the Recipient.

C.2.4 Damages for Breach of Tax-Exempt Status.

In the event that any breach of any of the provisions of this Agreement by the Recipient results in the loss of tax-exempt status for any bonds of the State or any subdivision or agency thereof, or if such breach results in an obligation on the part of the State or any subdivision or agency thereof to reimburse the federal government by reason of any arbitrage profits, the Recipient must immediately reimburse the State or any subdivision or agency thereof in an amount equal to any damages paid by or loss incurred by the State or any subdivision or agency thereof due to such breach.

C.2.5 Remedies and Limitations.

None of the remedies available to the State Water Board shall be exclusive of any other remedy, and each such remedy shall be cumulative and in addition to every other remedy given hereunder or now or hereafter existing at law or in equity. The State Water Board may exercise

any remedy, now or hereafter existing, without exhausting and without regard to any other remedy.

Any dispute of the Recipient is limited to the rights, remedies, and claims procedures provided to the Recipient under this Agreement.

C.2.6 Non-Waiver.

Nothing in this Agreement shall affect or impair the Recipient's obligation to undertake work under this Agreement or shall affect or impair the right of the State Water Board to bring suit to enforce such work. No delay or omission of the State Water Board in the exercise of any right arising upon an Event of Default shall impair any such right or be construed to be a waiver of any such Event of Default. The State Water Board may exercise from time to time and as often as shall be deemed expedient by the State Water Board, any remedy or right provided by law or pursuant to this Agreement.

C.2.7 Status Quo.

If any action to enforce any right or exercise any remedy shall be brought and either discontinued or determined adversely to the State Water Board, then the State Water Board shall be restored to its former position, rights and remedies as if no such action had been brought.

C.3. STANDARD CONDITIONS.

C.3.1 Access, Inspection, and Public Records.

The Recipient must ensure that the State Water Board, the State Auditor, or any authorized representative of the foregoing, will have safe and suitable access to the Project site at all reasonable times through the Records Retention End Date or useful life of the Project, whichever is longer. The Recipient acknowledges that, except for a subset of information regarding archaeological records and personally identifiable information, the Project records and locations may be public records, including but not limited to all of the submissions accompanying the application, all of the documents incorporated into this Agreement by reference, and all reports, Reimbursement Requests, and supporting documentation submitted hereunder.

C.3.2 Accounting and Auditing Standards; Financial Management Systems; Records Retention.

(a) The Recipient must maintain GAAP-compliant project accounts, including GAAP requirements relating to the reporting of infrastructure assets. Without limitation of the requirement to maintain Project accounts in accordance with GAAP, the Recipient must:

(1) Establish an official file for the Project which adequately documents all significant actions relative to the Project;

(2) Establish separate accounts which will adequately and accurately depict all amounts received and expended on the Project, including all Project Funds received under this Agreement;

(3) Establish separate accounts which will adequately depict all income received which is attributable to the Project, specifically including any income attributable to Project Funds disbursed under this Agreement;

(4) Establish an accounting system which will accurately depict final total costs of the Project if authorized under this Agreement;

(5) Establish such accounts and maintain such records as may be necessary for the State to fulfill federal reporting requirements, including any and all reporting requirements under federal tax statutes or regulations; and

(6) If the Recipient uses its own employees, equipment, or resources for any phase of the Project, accounts will be established which reasonably document all employee hours charged to the Project and the associated tasks performed by each employee. Indirect Costs from Force Account are not eligible for funding.

(b) The Recipient must maintain separate books, records and other material relative to the Project. The Recipient must also retain such books, records, and other material for itself and for each contractor or subcontractor who performed or performs work on this project for a minimum of thirty-six (36) years after Work Completion. The Recipient must require that such books, records, and other material are subject at all reasonable times (at a minimum during normal business hours) to inspection, copying, and audit by the State Water Board, the California State Auditor, the Bureau of State Audits, the United States Environmental Protection Agency (USEPA), the Office of Inspector General, the Internal Revenue Service, the Governor, or any authorized representatives of the aforementioned. The Recipient must allow and must require its contractors to allow interviews during normal business hours of any employees who might reasonably have information related to such records. The Recipient agrees to include a similar duty regarding audit, interviews, and records retention in any contract or subcontract related to the performance of this Agreement. The provisions of this section survive the term of this Agreement.

C.3.3 Amendment.

No amendment or variation of the terms of this Agreement shall be valid unless made in writing and signed by both the Recipient and the Deputy Director or designee and approved as required.

C.3.4 Assignability.

This Agreement is not assignable by the Recipient, either in whole or in part, without the consent of the State Water Board. Amendment of the Agreement may be required.

C.3.5 Audit.

The Division may call for an audit of financial information relative to the Project if the Division determines that an audit is desirable to assure program integrity or if an audit becomes necessary because of State or federal requirements. If an audit is called for, the audit must be

performed by a certified public accountant independent of the Recipient and at the cost of the Recipient. The audit must be in the form required by the Division. The Recipient must return, or ensure the return of, any audit disallowances within thirty (30) days.

C.3.6 Bonding.

Where construction contractors are used, the Recipient must not authorize construction to begin until each contractor has furnished a performance bond in favor of the Recipient in the following amounts: faithful performance (100%) of contract value; labor and materials (100%) of contract value. This requirement shall not apply to any contract for less than $25,000.00.

C.3.7 Competitive Bidding.

The Recipient must adhere to any applicable State law or local ordinance for competitive bidding and applicable labor laws. If the Recipient is a private entity, any construction contracts related in any way to the Project must be let by competitive bid procedures which assure award of such contracts to the lowest responsive and responsible bidders. The Recipient must not award a construction contract until a summary of bids and identification of the selected lowest responsible bidder is submitted to and approved in writing by the Division. The Recipient must provide a full explanation if the Recipient is proposing to award a construction contract to anyone other than the lowest responsible bidder.

C.3.8 Compliance with Applicable Laws, Rules, and Requirements.

The Recipient must, at all times, comply with and require its contractors and subcontractors to comply with all applicable federal and State laws, rules, guidelines, regulations, and requirements and with provisions of the adopted environmental mitigation plan, if any, for the useful life of the Project.

C.3.9 Computer Software.

The Recipient certifies that it has appropriate systems and controls in place to ensure that State funds will not be used in the performance of this Agreement for the acquisition, operation or maintenance of computer software in violation of copyright laws.

C.3.10 Conflict of Interest.

The Recipient certifies that it, its owners, officers, directors, agents, representatives, and employees are in compliance with applicable State and federal conflict of interest laws and will remain in compliance for the useful life of the Project. Any service provider or contractor with which the Recipient contracts must not have any role or relationship with the Recipient, that, in effect, substantially limits the Recipient's ability to exercise its rights, including cancellation rights, under the contract, based on all the facts and circumstances. Public entities are required to have adopted conflict of interest codes and may be required to provide documentation of those codes to the Division.

C.3.11 Data Management.

The Recipient will undertake appropriate data management activities so that Project data can be incorporated into statewide data systems.

C.3.12 Disputes.

(a) The Recipient may appeal a staff decision within thirty (30) days to the Deputy Director of the Division or designee, for a final Division decision. The Recipient may appeal a final Division decision to the State Water Board within thirty (30) days. The Office of the Chief Counsel of the State Water Board will prepare a summary of the dispute and make recommendations relative to its final resolution, which will be provided to the State Water Board's Executive Director and each State Water Board Member. Upon the motion of any State Water Board Member, the State Water Board will review and resolve the dispute in the manner determined by the State Water Board. Should the State Water Board determine not to review the final Division decision, this decision will represent a final agency action on the dispute.

(b) This clause does not preclude consideration of legal questions, provided that nothing herein shall be construed to make final the decision of the State Water Board, or any official or representative thereof, on any question of law.

(c) The Recipient must continue with the responsibilities under this Agreement during any dispute.

(d) This section relating to disputes does not establish an exclusive procedure for resolving claims within the meaning of Government Code sections 930 and 930.4.

C.3.13 Drug-Free Workplace.

The Recipient certifies that it will provide a drug-free workplace in compliance with the Drug-Free Workplace Act (Gov. Code. §§ 8350-8357). The Recipient shall publish a statement notifying employees that the unlawful manufacture, distribution, dispensation, possession, or use of a controlled substance is prohibited in the Recipient's workplace and specifying the actions to be taken against employees for violations of the prohibition. The Recipient shall establish a drug-free awareness program to inform employees about the dangers of drug abuse in the workplace, the Recipient's policy of maintaining a drug-free workplace, any available drug counseling, rehabilitation and employee assistance programs, and penalties that may be imposed upon employees for drug abuse violations. The Recipient shall provide that every employee who works on the Project receives a copy of the Recipient's drug-free workplace policy statement and agrees to abide by the terms of the statement as a condition of employment on the Project.

C.3.14 Environmental Clearance.

No work that is subject to California Environmental Quality Act (CEQA) or the National Environmental Policy Act (NEPA) may proceed under this Agreement until the State Water Board has provided approval to proceed. Upon receipt and review of the Recipient's environmental documents, the State Water Board shall make the appropriate environmental

findings before determining whether to approve construction or implementation funding for the Project under this Agreement. Providing approval for such construction or implementation funding is fully discretionary. The State Water Board may require changes in the scope of work or additional mitigation as a condition to providing construction or implementation funding under this Agreement. The Recipient shall not perform any work subject to CEQA and/or NEPA before the State Water Board completes its environmental review and specifies any changes in scope or additional mitigation that may be required. Proceeding with work subject to CEQA and/or NEPA without approval by the State Water Board shall constitute a breach of a material provision of this Agreement. If this Project includes modification of a river or stream channel, the Recipient must fully mitigate environmental impacts resulting from the modification. The Recipient must provide documentation that the environmental impacts resulting from such modification will be fully mitigated considering all of the impacts of the modification and any mitigation, environmental enhancement, and environmental benefit resulting from the Project, and whether, on balance, any environmental enhancement or benefit equals or exceeds any negative environmental impacts of the Project.

C.3.15 Governing Law.

This Agreement is governed by and shall be interpreted in accordance with the laws of the State of California.

C.3.16 Income Restrictions.

The Recipient agrees that any refunds, rebates, credits, or other amounts (including any interest thereon) accruing to or received by the Recipient under this Agreement must be paid by the Recipient to the State Water Board, to the extent that they are properly allocable to costs for which the Recipient has been reimbursed by the State Water Board under this Agreement.

C.3.17 Indemnification and State Reviews.

The parties agree that review or approval of Project plans and specifications by the State Water Board is for administrative purposes only, including conformity with application and eligibility criteria, and expressly not for the purposes of design defect review or construction feasibility, and does not relieve the Recipient of its responsibility to properly plan, design, construct, operate, and maintain the Project. To the extent permitted by law, the Recipient agrees to indemnify, defend, and hold harmless the State Water Board, and any trustee, and their officers, employees, and agents for the Bonds, if any (collectively, "Indemnified Persons"), against any loss or liability arising out of any claim or action brought against any Indemnified Persons from and against any and all losses, claims, damages, liabilities, or expenses, of every conceivable kind, character, and nature whatsoever arising out of, resulting from, or in any way connected with (1) the Project or the conditions, occupancy, use, possession, conduct, or management of, work done in or about, or the planning, design, acquisition, installation, or construction, of the Project or any part thereof; (2) the carrying out of any of the transactions contemplated by this Agreement or any related document; (3) any violation of any applicable law, rule or regulation, any environmental law (including, without limitation, the Federal Comprehensive Environmental Response, Compensation and Liability Act, the Resource Conservation and Recovery Act, the California Hazardous Substance Account Act, the Federal Water Pollution Control Act, the Clean Air Act, the Toxic Substances Control Act, the Occupational Safety and Health Act, the Safe Drinking Water Act, the California Hazardous Waste Control Law, and California Water

Code Section 13304, and any successors to said laws), rule or regulation or the release of any toxic substance on or near the Project; or (4) any untrue statement or alleged untrue statement of any material fact or omission or alleged omission to state a material fact necessary to make the statements required to be stated therein, in light of the circumstances under which they were made, not misleading with respect to any information provided by the Recipient for use in any disclosure document utilized in connection with any of the transactions contemplated by this Agreement, except those arising from the gross negligence or willful misconduct of the Indemnified Persons. The Recipient must also provide for the defense and indemnification of the Indemnified Persons in any contractual provision extending indemnity to the Recipient in any contract let for the performance of any work under this Agreement, and must cause the Indemnified Persons to be included within the scope of any provision for the indemnification and defense of the Recipient in any contract or subcontract. To the fullest extent permitted by law, the Recipient agrees to pay and discharge any judgment or award entered or made against Indemnified Persons with respect to any such claim or action, and any settlement, compromise or other voluntary resolution. The provisions of this section survive the term of this Agreement.

C.3.18 Independent Actor.

The Recipient, and its agents and employees, if any, in the performance of this Agreement, shall act in an independent capacity and not as officers, employees, or agents of the State Water Board.

C.3.19 Integration.

This Agreement constitutes the complete and final agreement between the parties. No oral or written understanding or agreement not incorporated in this Agreement shall be binding on either party.

C.3.20 No Discrimination.

(a) The Recipient must comply with Government Code section 11135 and the implementing regulations (Cal. Code Regs, tit. 2, § 11140 et seq.), including, but not limited to, ensuring that no person is unlawfully denied full and equal access to the benefits of, or unlawfully subjected to discrimination in the operation of, the Project on the basis of sex, race, color, religion, ancestry, national origin, ethnic group identification, age, mental disability, physical disability, medical condition, genetic information, marital status, or sexual orientation as such terms are defined under California law, for as long as the Recipient retains ownership or possession of the Project.

(b) If Project Funds are used to acquire or improve real property, the Recipient must include a covenant of nondiscrimination running with the land in the instrument effecting or recording the transfer of such real property.

(c) The Recipient must comply with the federal American with Disabilities Act of 1990 and implementing regulations as required by Government Code section 11135(b).

(d) The Recipient's obligations under this section shall survive the term of this Agreement.

(e) During the performance of this Agreement, Recipient and its contractors and subcontractors must not unlawfully discriminate, harass, or allow harassment against any employee or applicant for employment because of sex, race, color, ancestry, religious creed, national origin, sexual orientation, physical disability (including HIV and AIDS), mental disability, medical condition (cancer), age (over 40), marital status, denial of family care leave, or genetic information, gender, gender identity, gender expression, or military and veteran status.

(f) The Recipient, its contractors, and subcontractors must ensure that the evaluation and treatment of their employees and applicants for employment are free from such discrimination and harassment.

(g) The Recipient, its contractors, and subcontractors must comply with the provisions of the Fair Employment and Housing Act and the applicable regulations promulgated thereunder. (Gov. Code, §12990, subds. (a)-(f) et seq.; Cal. Code Regs., tit. 2, § 7285 et seq.) Such regulations are incorporated into this Agreement by reference and made a part hereof as if set forth in full.

(h) The Recipient, its contractors, and subcontractors must give written notice of their obligations under this clause to labor organizations with which they have a collective bargaining or other agreement.

(i) The Recipient must include the nondiscrimination and compliance provisions of this clause in all subcontracts to perform work under this Agreement.

C.3.21 No Third Party Rights.

This Agreement creates no rights in and grants no remedies to any third party as a beneficiary of this Agreement.

C.3.22 No Obligation of the State.

Any obligation of the State Water Board herein contained shall not be an obligation, debt, or liability of the State and any such obligation shall be payable solely out of the moneys encumbered pursuant to this Agreement.

C.3.23 Notice.

Upon the occurrence of any of the following events, the Recipient must notify the Division's Deputy Director and Project Manager by phone and email within the time specified below:

(a) The Recipient must notify the Division within twenty-four (24) hours of any discovery of any potential tribal cultural resource and/or archaeological or historical resource. Should a potential tribal cultural resource and/or archaeological or historical resource be discovered during construction, the Recipient must ensure that all work in the area of the find will cease until a

qualified archaeologist has evaluated the situation and made recommendations regarding preservation of the resource, and the Division has determined what actions should be taken to protect and preserve the resource. The Recipient must implement appropriate actions as directed by the Division.

(b) The Recipient must notify the Division within five (5) business days of the occurrence of any of the following events:

(1) Bankruptcy, insolvency, receivership or similar event of the Recipient, or actions taken in anticipation of any of the foregoing;

(2) Change of ownership of the Project;

(3) Loss, theft, damage, or impairment to Project;

(4) Events of Default, except as otherwise set forth in this section;

(5) Failure to observe or perform any covenant or comply with any condition in this Agreement;

(6) An offer from a public entity to purchase the Project or any portion thereof, or any of the real or personal property related to or necessary for the Project; or

(7) A proceeding or action by a public entity to acquire the Project by power of eminent domain.

(c) The Recipient must notify the Division in writing within ten (10) business days of the following events:

(1) Any litigation pending or threatened with respect to the Project or the Recipient's technical, managerial or financial capacity to operate the or the Recipient's continued existence;

(2) Consideration of dissolution, or disincorporation;

(3) Adverse tax opinions, the issuance by the Internal Revenue Service or proposed or final determinations of taxability, Notices of Proposed Issue (IRS Form 5701-TEB) or other material notices of determinations with respect to the tax status of any tax-exempt bonds; or

(4) Enforcement actions by or brought on behalf of the State Water Board or Regional Water Board.

(d) The Recipient must notify the Division promptly of any of the following events:

(1) The discovery of a false statement of fact or representation made in this Agreement or in the application to the Division for this financial assistance, or in any certification, report, or request for reimbursement made pursuant to this Agreement, by the Recipient, its employees, agents, or contractors;

(2) Any substantial change in scope of the Project. The Recipient must undertake no substantial change in the scope of the Project until prompt written notice of the proposed change has been provided to the Division and the Division has given written approval for the change;

(3) Any circumstance, combination of circumstances, or condition, which is expected to or does delay Work Completion for a period of ninety (90) days or more;

(4) Any Project monitoring, demonstration, or other implementation activities required in this Agreement;

(5) Any public or media event publicizing the accomplishments and/or results of this Agreement and provide the opportunity for attendance and participation by state representatives with at least ten (10) working days' notice to the Division; or

(6) Work Completion, and actual Project Completion.

C.3.24 Permits, Subcontracting, and Remedies.

The Recipient must procure all permits, licenses and other authorizations necessary to accomplish the work contemplated in this Agreement, pay all charges and fees, and give all notices necessary and incidental to the due and lawful prosecution of the work. Signed copies of any such permits or licenses must be submitted to the Division before any construction or implementation begins.

The Recipient must not contract or allow subcontracting with excluded parties. The Recipient must not contract with any party who is debarred or suspended or otherwise excluded from or ineligible for participation in any work overseen, directed, funded, or administered by the State Water Board program for which this funding is authorized. For any work related to this Agreement, the Recipient must not contract with any individual or organization on the State Water Board's List of Disqualified Businesses and Persons that is identified as debarred or suspended or otherwise excluded from or ineligible for participation in any work overseen, directed, funded, or administered by the State Water Board program for which funding under this Agreement is authorized. The State Water Board's List of Disqualified Businesses and Persons is located at
http://www.waterboards.ca.gov/water_issues/programs/enforcement/fwa/dbp.shtml

C.3.25 Professionals.

The Recipient agrees that only licensed professionals will be used to perform services under this Agreement where such services are called for. All technical reports required pursuant to this Agreement that involve planning, investigation, evaluation, design, or other work requiring interpretation and proper application of engineering, architectural, or geologic sciences, shall be prepared by or under the direction of persons registered to practice in California pursuant to Business and Professions Code, sections 5536.1, 6735, 7835, and 7835.1. As required by these laws, completed technical reports must bear the signature(s) and seal(s) of the registered professional(s) in a manner such that all work can be clearly attributed to the professional responsible for the work.

C.3.26 Prevailing Wages.

If applicable, the Recipient agrees to be bound by all applicable provisions of State Labor Code regarding prevailing wages. If applicable, the Recipient must monitor all agreements subject to reimbursement from this Agreement to ensure that the prevailing wage provisions of the State Labor Code are being met. Division of Industrial Relations (DIR) requirements may be found at: http://www.dir.ca.gov/lcp.asp. For more information, please refer to DIR's Public Works Manual at: http://www.dir.ca.gov/dlse/PWManualCombined.pdf.

C.3.27 Public Funding.

This Project is publicly funded. Any service provider or contractor with which the Recipient contracts must not have any role or relationship with the Recipient, that, in effect, substantially limits the Recipient's ability to exercise its rights, including cancellation rights, under the contract, based on all the facts and circumstances.

C.3.28 Recipient's Responsibility for Work.

The Recipient shall be responsible for all work and for persons or entities engaged in work performed pursuant to this Agreement, including, but not limited to, contractors, subcontractors, suppliers, and providers of services. The Recipient shall be responsible for responding to any and all disputes arising out of its contracts for work on the Project, including, but not limited to, payment disputes with contractors and subcontractors. The State Water Board will not mediate disputes between the Recipient and any other entity concerning responsibility for performance of work.

C.3.29 Related Litigation.

Under no circumstances may the Recipient use funds from any reimbursement under this Agreement to pay costs associated with any litigation the Recipient pursues against the State Water Board or any Regional Water Board. Regardless of the outcome of any such litigation, and notwithstanding any conflicting language in this Agreement, the Recipient agrees to complete the Project funded by this Agreement or to repay all of the disbursed funds plus interest.

C.3.30 Rights in Data.

The Recipient agrees that all data, plans, drawings, specifications, reports, computer programs, operating manuals, notes, and other written or graphic work produced in the performance of this Agreement are subject to the rights of the State as set forth in this section. The State shall have the right to reproduce, publish, and use all such work, or any part thereof, in any manner and for any purposes whatsoever and to authorize others to do so. If any such work is copyrightable, the Recipient may copyright the same, except that, as to any work which is copyrighted by the Recipient, the State reserves a royalty-free, nonexclusive, and irrevocable license to reproduce, publish, and use such work, or any part thereof, and to authorize others to do so, and to receive electronic copies from the Recipient upon request. The Recipient may disclose, disseminate and use in whole or in part, any final form data and information received, collected, and developed under this Agreement, subject to appropriate acknowledgement of credit to the State

Water Board for financial support. The Recipient shall not utilize the materials for any profit-making venture or sell or grant rights to a third party who intends to do so.

C.3.31 State Water Board Action; Costs and Attorney Fees.

Any remedy provided in this Agreement is in addition to and not in derogation of any other legal or equitable remedy available to the State Water Board as a result of breach of this Agreement by the Recipient, whether such breach occurs before or after completion of the Project, and exercise of any remedy provided by this Agreement by the State Water Board shall not preclude the State Water Board from pursuing any legal remedy or right which would otherwise be available. In the event of litigation between the parties hereto arising from this Agreement, it is agreed that each party shall bear its own costs and attorney fees.

C.3.32 Timeliness.

Time is of the essence in this Agreement. The Recipient must expeditiously proceed with and complete the Project. Failure to proceed according to the timelines set forth in this Agreement may require the Recipient to repay to the State Water Board all disbursed Project Funds.

C.3.33 Unenforceable Provision; Severability.

In the event that any provision of this Agreement is unenforceable or held to be unenforceable, then the parties agree that all other provisions of this Agreement have force and effect and shall not be affected thereby.

C.3.34 Venue.

Any action arising out of this Agreement shall be filed and maintained in the Superior Court in and for the County of Sacramento, California.

C.3.35 Waiver and Rights of the State Water Board.

Any waiver of rights by the State Water Board with respect to a default or other matter arising under this Agreement at any time shall not be considered a waiver of rights with respect to any other default or matter. Any rights and remedies of the State Water Board provided for in this Agreement are in addition to any other rights and remedies provided by law.

C.4. MISCELLANEOUS STATE REQUIREMENTS.

C.4.1 State Program Requirements for Proposition 1 Groundwater.

(a) Eminent Domain Prohibited. (Wat. Code, § 79711.) Where land acquisition is otherwise authorized under this Agreement, Project Funds and Match Funds shall not be used to acquire land via eminent domain.

(b) Governor's Infrastructure Plan. (Gov. Code, § 13100.) The Recipient shall ensure that the Project shall maintain consistency with section 13100 of the Government Code (five-year infrastructure plan).

(c) Groundwater Monitoring. (Wat. Code, § 10920.) The Recipient shall comply with Water Code section 10920 et seq., which requires groundwater monitoring and reporting of groundwater elevations.

(d) Remediation Costs Limited. (Wat. Code, § 79771.) Project Funds shall not be used to pay any share of the costs of remediation recovered from parties responsible for the contamination of a groundwater storage aquifer but may be used to pay costs that cannot be recovered from responsible parties. Recipients that have received Project Funds for remediating groundwater storage aquifers shall exercise reasonable efforts to recover the costs of groundwater cleanup from the parties responsible for the contamination. Funds recovered from responsible parties may only be used to fund treatment and remediation activities.

(e) SBx7-7: Sustainable Water Use and Demand Reduction (Wat. Code, § 10608 et seq.). SBx7-7 conditions the receipt of a water management grant or loan for urban water suppliers on achieving gallons per capita per day reduction targets with the end goal of a twenty percent (20%) reduction by 2020. Recipients that are urban water suppliers shall provide proof of compliance with SBx7-7.

(f) Sustainable Groundwater Management Act (SGMA) Compliance. Wat. Code, § 10720-10737.8. To the extent required under SGMA, the Recipient shall comply with the following:

(1) If, after July 1, 2017, the Project is or will be located in a non-adjudicated high- or medium-priority California Statewide Groundwater Elevation Monitoring (CASGEM) basin, the Recipient shall ensure that a Groundwater Sustainability Agency (GSA) has formed or an alternative has been submitted to DWR. (Wat. Code, § 10735.2 (a)(1).)

(2) If, after January 31, 2020, the Project is or will be located in a non-adjudicated high- or medium**-priority** CASGEM basin that is subject to critical conditions of overdraft, the Recipient shall ensure that the Project is consistent with an adopted Groundwater Sustainability Plan (GSP).

(3) If, after January 31, 2022, the Project is or will be located in a non-adjudicated high- or medium**-priority** CASGEM basin that is not subject to critical conditions of overdraft, the Recipient shall ensure that the Project is consistent with an adopted GSP.

(g) Water Quality Compliance. (Wat. Code, § 79707.) The Recipient shall ensure that the Project shall maintain consistency with Division 7 of the Water Code (commencing with section 13000) and Government Code section 13100.

(h) Water Quality Monitoring. (Wat. Code, § 79704.) If water quality monitoring is required as part of the Project, the Recipient shall collect and report water quality monitoring data to the State Water Board in a manner that is compatible and consistent with surface water monitoring data systems or groundwater monitoring data systems administered by the State Water Board.

(i) Wild and Scenic Rivers. (Wat. Code, § 79711.) The Recipient shall ensure that the Project will not have an adverse effect on the values upon which a wild and scenic river or any other river is afforded protections pursuant to the California Wild and Scenic Rivers Act or the federal Wild and Scenic Rivers Act.

C.4.2 State Cross-Cutters.

Recipient represents that, as applicable, it complies and covenants to maintain compliance with the following for the term of the Agreement:

(a) The California Environmental Quality Act (CEQA), as set forth in Public Resources Code 21000 et seq. and in the CEQA Guidelines at Title 14, Division 6, Chapter 3, Section 15000 et seq.

(b) Water Conservation requirements, including regulations in Division 3 of Title 23 of the California Code of Regulations.

(c) Monthly Water Diversion Reporting requirements, including requirements set forth in Water Code section 5103.

(d) Public Works Contractor Registration with Department of Industrial Relations requirements, including requirements set forth in Sections 1725.5 and 1771.1 of the Labor Code.

(e) Volumetric Pricing & Water Meters requirements, including the requirements of Water Code sections 526 and 527.

(f) Urban Water Management Plan requirements, including the Urban Water Management Planning Act (Water Code, § 10610 et seq.).

(g) Urban Water Demand Management requirements, including the requirements of Section 10608.56 of the Water Code.

(h) Delta Plan Consistency Findings requirements, including the requirements of Water Code section 85225 and California Code of Regulations, title 23, section 5002.

(i) Agricultural Water Management Plan Consistency requirements, including the requirements of Water Code section 10852.

(j) Charter City Project Labor Requirements, including the requirements of Labor Code section 1782 and Public Contract Code section 2503.

EXHIBIT D – SPECIAL CONDITIONS

D.1. If the Recipient recovers funds from any responsible parties, the Recipient shall immediately notify the Division. The amount of this Agreement may be reduced to reflect the recovered funds.

D.2 RUSSIAN SANCTIONS

The Recipient represents that the Recipient is not a target of economic sanctions imposed in response to Russia's actions in Ukraine imposed by the United States government or the State of California. The Recipient is required to comply with the economic sanctions imposed in response to Russia's actions in Ukraine, including with respect to, but not limited to, the federal executive orders identified in California Executive Order N-6-22, located at https://www.gov.ca.gov/wp-content/uploads/2022/03/3.4.22-Russia-Ukraine-Executive-Order.pdf and the sanctions identified on the United States Department of the Treasury website (https://home.treasury.gov/policy-issues/financial-sanctions/sanctions-programs-and-country-information/ukraine-russia-related-sanctions). The Recipient is required to comply with all applicable reporting requirements regarding compliance with the economic sanctions, including, but not limited to, those reporting requirements set forth in California Executive Order N-6-22 for all Recipients with one or more agreements with the State of California with an aggregated value of Five Million Dollars ($5,000,000) or more. Notwithstanding any other provision in this Agreement, failure to comply with the economic sanctions and all applicable reporting requirements may result in termination of this Agreement.

For Recipients with an aggregated agreement value of Five Million Dollars ($5,000,000) or more with the State of California, reporting requirements include, but are not limited to, information related to steps taken in response to Russia's actions in Ukraine, including but not limited to:

1. **Desisting from making any new investments or engaging in financial transactions with Russian institutions or companies that are headquartered or have their principal place of business in Russia;**

2. **Not transferring technology to Russia or companies that are headquartered or have their principal place of business in Russia; and**

3. **Direct support to the government and people of Ukraine.**

From:	Ava Lazor
To:	Conkle, Diana@Waterboards
Cc:	Douglas Young; Michelle Myers
Subject:	Item 6.1.2 of Grant Agreement No. D1912527 - Niles Cone Groundwater Basin Extraction Well Site Evaluation Project
Date:	Tuesday, August 9, 2022 8:48:00 AM

Good morning Diana,

I am writing to document that pursuant to Item 6.1.2 of Agreement No. D1912527 for the Niles Cone Groundwater Basin Extraction Well Site Evaluation Project (Project), ACWD will summarize in the forthcoming Remedial Investigation/Feasibility Study (RI/FS) Report for the Project whether and how the tasks completed under the Project differed from the scope of work proposed in the approved RI/FS Workplan. As previously discussed, the Final RI/FS Report will be submitted on or before August 31, 2022. A Schedule Submittal Update Form (Form) to extend the submittal date for the Final RI/FS Report to August 31, 2022, was submitted to the State Board on July 27, 2022. Receipt of the Form was acknowledged by the State Board on August 4, 2022.

Please let us know if you have any questions or would like to discuss.

Thank you!
Ava

Ava Lazor, PG | Groundwater Resources Hydrogeologist
Alameda County Water District
43885 South Grimmer Boulevard | Fremont, CA 94538
Office: (510) 668-4411 | Cell: (724) 968-9457
ava.lazor@acwd.com

Ava Lazor

Subject: RE: Updated Due Date Schedule Form - ACWD Agreement #D1912527, ACWD #10097

From: Conkle, Diana@Waterboards <Diana.Conkle@waterboards.ca.gov>
Sent: Thursday, August 4, 2022 5:04 PM
To: Douglas Young <Douglas.Young@acwd.com>
Cc: Michelle Myers <Michelle.Myers@acwd.com>
Subject: Re: Updated Due Date Schedule Form - ACWD Agreement #D1912527, ACWD #10097

CAUTION: This email originated from outside of the District. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi Doug,

I am acknowledging receipt of the Schedule Submittal Update Form signed by Michelle on 7/27/2022. I'll place a copy of this email in the project file for reference.

Thanks,
Diana

From: Douglas Young <Douglas.Young@acwd.com>
Sent: Wednesday, July 27, 2022 7:23 AM
To: Conkle, Diana@Waterboards <Diana.Conkle@waterboards.ca.gov>
Cc: Michelle Myers <Michelle.Myers@acwd.com>
Subject: Updated Due Date Schedule Form - Niles Cone Groundwater Extraction Well Site Evaluation Project (Grant Agreement # D1912527, ACWD #10097)

EXTERNAL:

Hi Diana,

Attached is the Updated Submittal Schedule Update Form. I set the completion dates for September 12th but expect to have the documents completed by the end of August. Thanks for all the help.

Thanks,

Doug

Douglas Young
Hydrogeologist
Alameda County Water District
(510) 668-4452 (Phone)
(510) 651-1760 (Fax)
douglas.young@acwd.com

43885 South Grimmer Boulevard
Fremont, CA 94538
http://www.acwd.org/

Appendix 6. Photographic Log

Pre-Construction Photos

SITE 1



Photograph 1: Underground Service Alert (USA) markings placed at initial planned location of test and monitoring wells at Site 1.
Draft RI/FS Report, Well Site Evaluation Project



Photograph 2: USA markings placed at initial planned location of satellite monitoring well at Site 1.

Draft RI/FS Report, Well Site Evaluation Project

SITE 2



Photograph 3: USA markings placed at initial planned location of test and monitoring wells at Site 2.

Draft RI/FS Report, Well Site Evaluation Project



Photograph 4: USA markings placed at initial planned location of the satellite monitoring well at Site 2.

Draft RI/FS Report, Well Site Evaluation Project

SITE 3



Photograph 5: Placing USA markings at the initial planned location of test and monitoring wells at Site 3.

Draft RI/FS Report, Well Site Evaluation Project



Photograph 6: USA markings placed at initial planned location of the satellite monitoring well at Site 3.

Draft RI/FS Report, Well Site Evaluation Project



Photograph 7: View of surface completions of existing observation monitoring wells at Site 3 (during pre-bid site walk).
Draft RI/FS Report, Well Site Evaluation Project

During Construction Photos

SITE 1



Photograph 8: Drill rig and support truck arrive to prepare for drilling activities at Site 1.
Draft RI/FS Report, Well Site Evaluation Project



Photograph 9: Equipment mobilization and site setup at Site 1.
Draft RI/FS Report, Well Site Evaluation Project



Photograph 10: Removing soil from hand auger during hand augering at Fremont observation monitoring well at Site 1 (1-MF).

Draft RI/FS Report, Well Site Evaluation Project



Photograph 11: Mud rotary drilling at Fremont observation monitoring well at Site 1 (1-MF).
Draft RI/FS Report, Well Site Evaluation Project



Photograph 12: Two drill rigs setup for satellite well (1-SF) and test well (1-TF) at Site 1.
Draft RI/FS Report, Well Site Evaluation Project



Photograph 13: Mixing grout for well construction at Fremont observation monitoring well at Site 1 (1-MF).

Draft RI/FS Report, Well Site Evaluation Project



Photograph 14: View of site prior to site restoration activities following installation of the Centerville observation monitoring well at Site 1 (1-MC).
Draft RI/FS Report, Well Site Evaluation Project



Photograph 15: View of two drill rigs for drilling the satellite well (1-SF) and test well (1-TF) at Site 1.

Draft RI/FS Report, Well Site Evaluation Project



Photograph 16: Rig set up at test well at Site 1 (1-TF) during well installation activities.
Draft RI/FS Report, Well Site Evaluation Project



Photograph 17: Setting up geophysical logging equipment at satellite monitoring well at Site 1 (1-SF).

Draft RI/FS Report, Well Site Evaluation Project



Photograph 18: View of transducer and pump setup at Centerville observation monitoring well at Site 1 (1-MC).

Draft RI/FS Report, Well Site Evaluation Project



Photograph 19: Pumped water from Site 1 Centerville observation monitoring well, 1-MC, being discharged to water buffalo tank.

Draft RI/FS Report, Well Site Evaluation Project



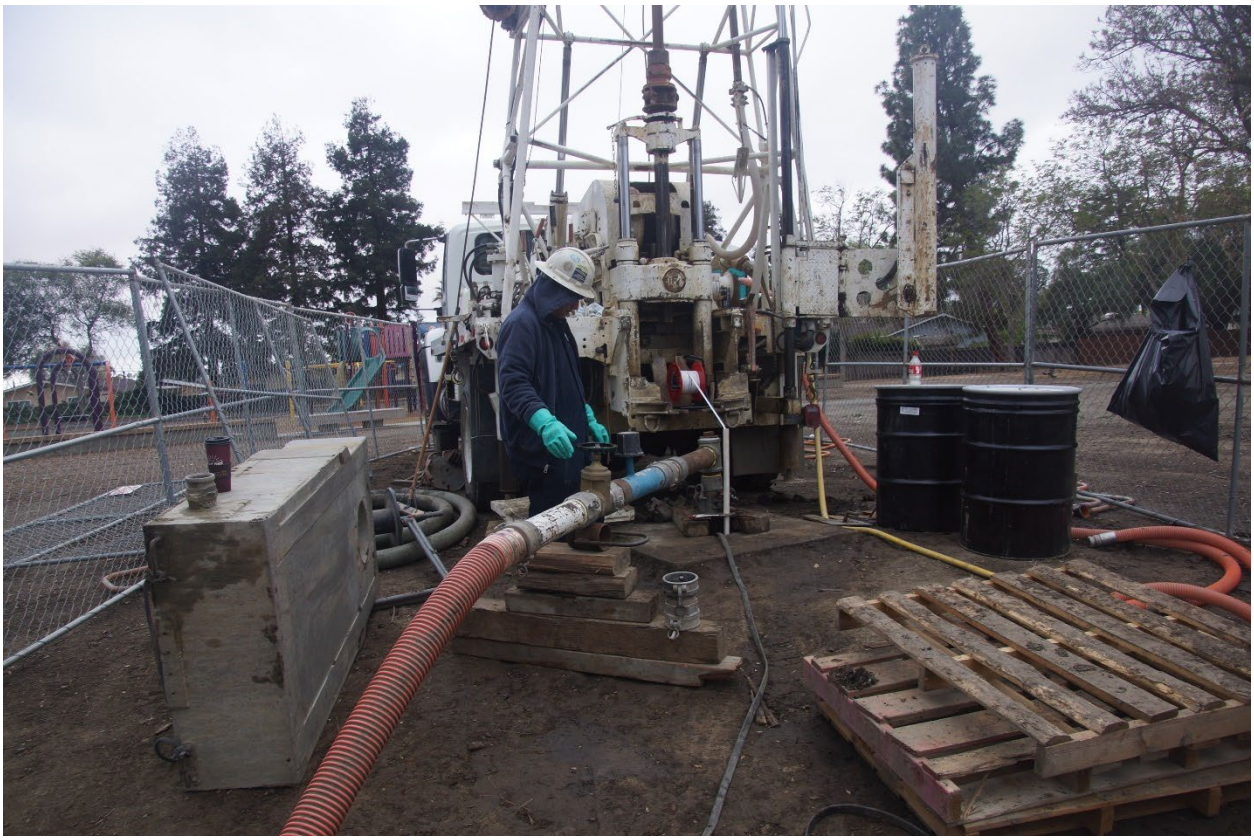
Photograph 20: Collecting water level measurements by hand at Site 1 during modified constant rate aquifer pumping test.

Draft RI/FS Report, Well Site Evaluation Project



Photograph 21: Water level measurement setup at Site 1 during modified constant rate aquifer pumping test.

Draft RI/FS Report, Well Site Evaluation Project



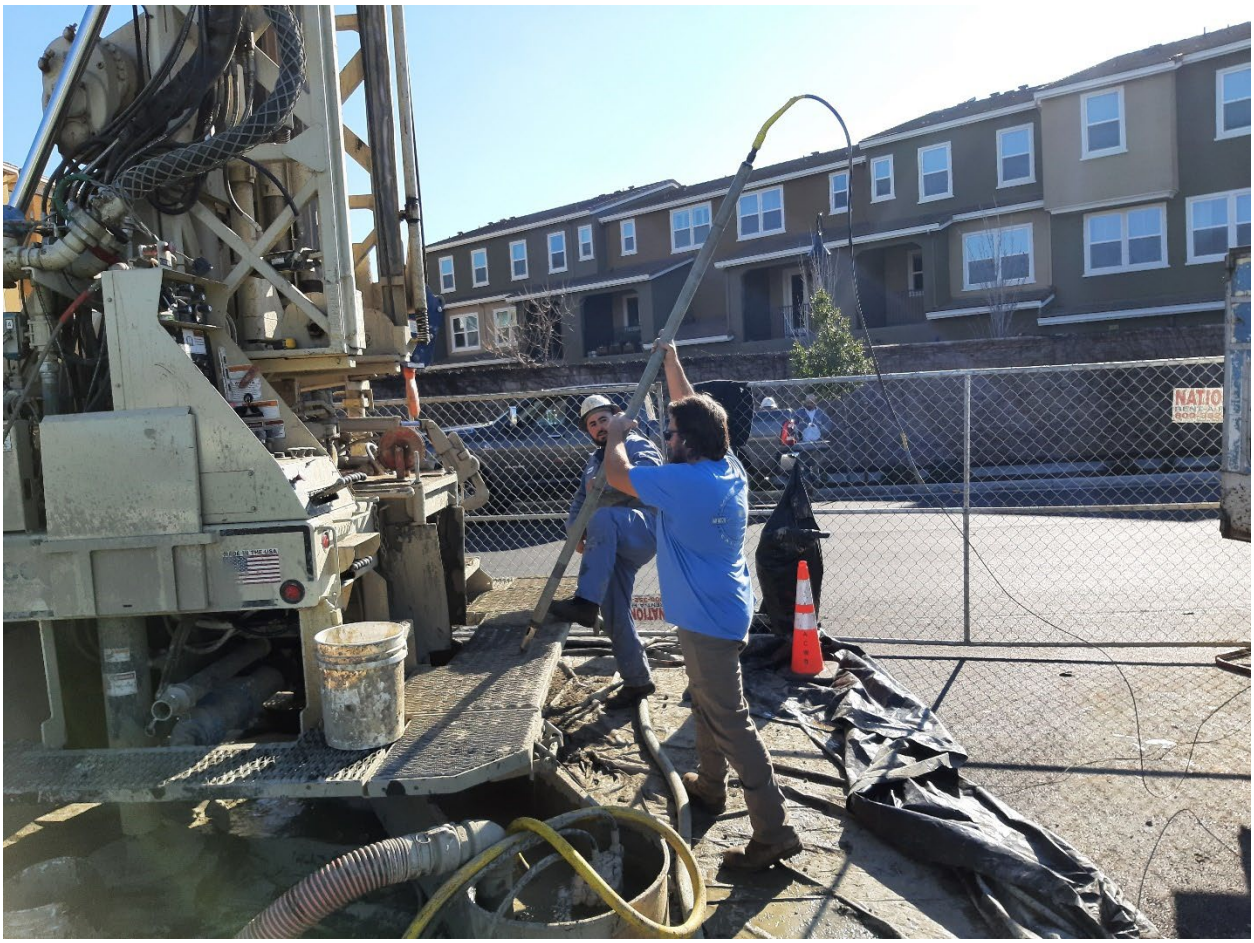
Photograph 22: Pump setup at Site 1 test well, 1-TF, during modified constant rate aquifer pumping test.

Draft RI/FS Report, Well Site Evaluation Project

SITE 2



Photograph 23: View of well installation activities at the test well at Site 2 (2-TF).
Draft RI/FS Report, Well Site Evaluation Project



Photograph 24: Setting up geophysical logging equipment at the Site 2 test well (2-TF).
Draft RI/FS Report, Well Site Evaluation Project



Photograph 25: Drill rig set up at Site 2 satellite monitoring well (2-SF).
Draft RI/FS Report, Well Site Evaluation Project



Photograph 26: View of drilling and lithologic logging activities at Site 2 satellite monitoring well (2-SF).
Draft RI/FS Report, Well Site Evaluation Project

SITE 3



Photograph 27: Field signage placed outside fencing at Site 3.
Draft RI/FS Report, Well Site Evaluation Project



Photograph 28: Hand augering at satellite well at Site 3 (3-SF).
Draft RI/FS Report, Well Site Evaluation Project



Photograph 29: Drill rig and dumpsters staged at drilling location for satellite well at Site 3 (3-SF).

Draft RI/FS Report, Well Site Evaluation Project



Photograph 30: Drill rig placed over satellite well for Site 3 (3-SF).
Draft RI/FS Report, Well Site Evaluation Project



Photograph 31: Performing lithologic logging during drilling activities at satellite well for Site 3 (3-SF).

Draft RI/FS Report, Well Site Evaluation Project



Photograph 32: Lithologic logging performed during drilling activities at satellite well for Site 3 (3-SF).

Draft RI/FS Report, Well Site Evaluation Project



Photograph 33: Decontaminating tricone drill bit during drilling activities at satellite well for Site 3 (3-SF).

Draft RI/FS Report, Well Site Evaluation Project



Photograph 34: Geophysical logging being performed at satellite well for Site 3 (3-SF).
Draft RI/FS Report, Well Site Evaluation Project



Photograph 35: Geophysical logging being performed at satellite well for Site 3 (3-SF).
Draft RI/FS Report, Well Site Evaluation Project



Photograph 36: Downhole view of geophysical logging being performed at satellite well for Site 3 (3-SF).

Draft RI/FS Report, Well Site Evaluation Project



Photograph 37: Casing installation showing silt trap section, slotted section, and centralizer at satellite well for Site 3 (3-SF).

Draft RI/FS Report, Well Site Evaluation Project



Photograph 38: Mobilizing drilling rig and support truck to main well site evaluation area at Site 3 (3-TF).

Draft RI/FS Report, Well Site Evaluation Project



Photograph 39: Rig setup at pilot boring for test well for Site 3 (3-TF).
Draft RI/FS Report, Well Site Evaluation Project



Photograph 40: Aligning cookie cutter drill bit for test well at Site 3 (3-TF).
Draft RI/FS Report, Well Site Evaluation Project



Photograph 41: Setting control casing for test well for Site 3 (3-TF).
Draft RI/FS Report, Well Site Evaluation Project



Photograph 42: Performing lithologic logging at the test well for Site 3 (3-TF).
Draft RI/FS Report, Well Site Evaluation Project



Photograph 43: Installing control casing for test well for Site 3 (3-TF).
Draft RI/FS Report, Well Site Evaluation Project



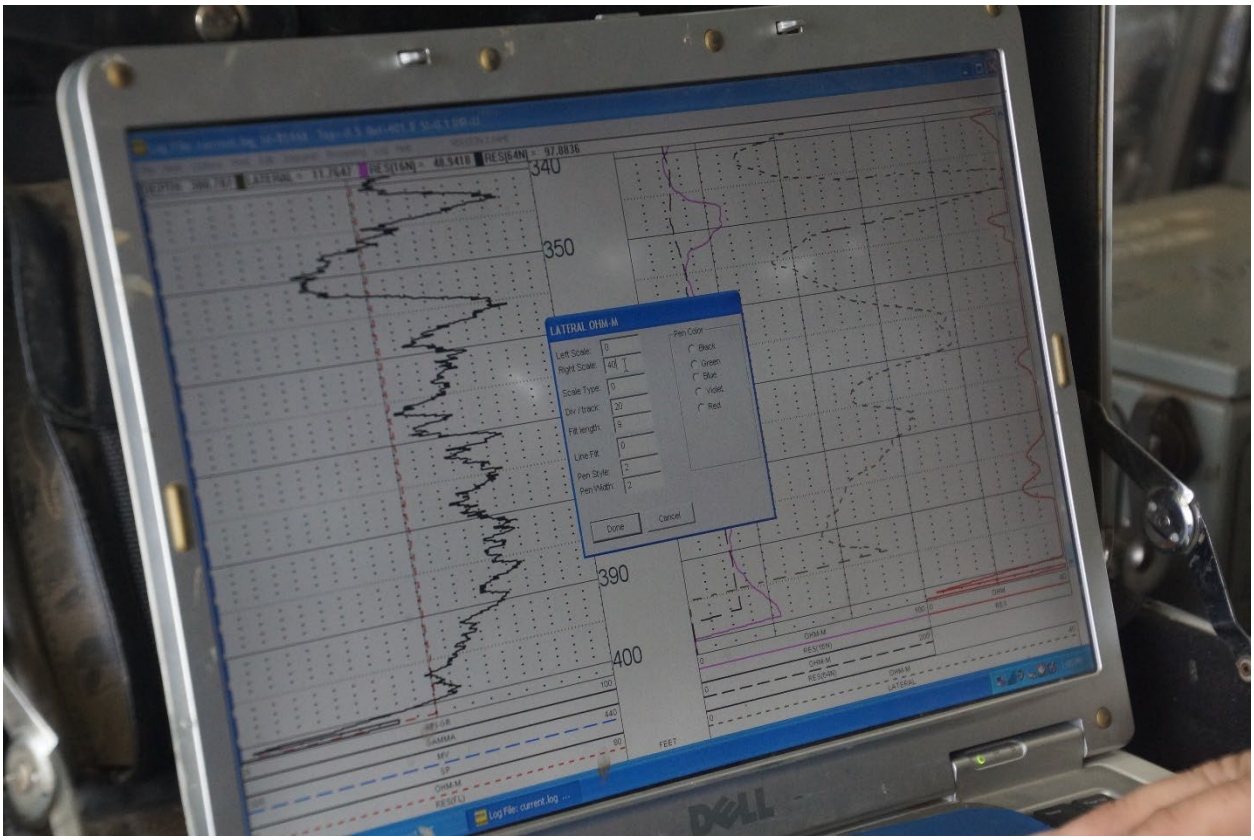
Photograph 44: Large drill rig setup for test well for Site 3 (3-TF).
Draft RI/FS Report, Well Site Evaluation Project



Photograph 45: Installation of casing for test well for Site 3 (3-TF).
Draft RI/FS Report, Well Site Evaluation Project



Photograph 46: Electric logging activities at the satellite well for Site 3 (3-SF).
Draft RI/FS Report, Well Site Evaluation Project



Photograph 47: View of output from electric logging activities at the test well for Site 3 (3-TF).
Draft RI/FS Report, Well Site Evaluation Project



Photograph 48: Mobilizing trench plates and wood boards to Site 3 for soil stabilization purposes during an inclement weather event.

Draft RI/FS Report, Well Site Evaluation Project



Photograph 49: Mitigating soft soil conditions with a wheeled telehandler following an inclement weather event at Site 3.

Draft RI/FS Report, Well Site Evaluation Project



Photograph 50: Wood boards placed at Site 3 for soil stabilization purposes following an inclement weather event.

Draft RI/FS Report, Well Site Evaluation Project



Photograph 51: Drillers tripping out drill rod to prepare test well at Site 3 (3-TF) for casing installation.

Draft RI/FS Report, Well Site Evaluation Project



Photograph 52: View of screen and riser well casing for the test well for Site 3 (3-TF).
Draft RI/FS Report, Well Site Evaluation Project



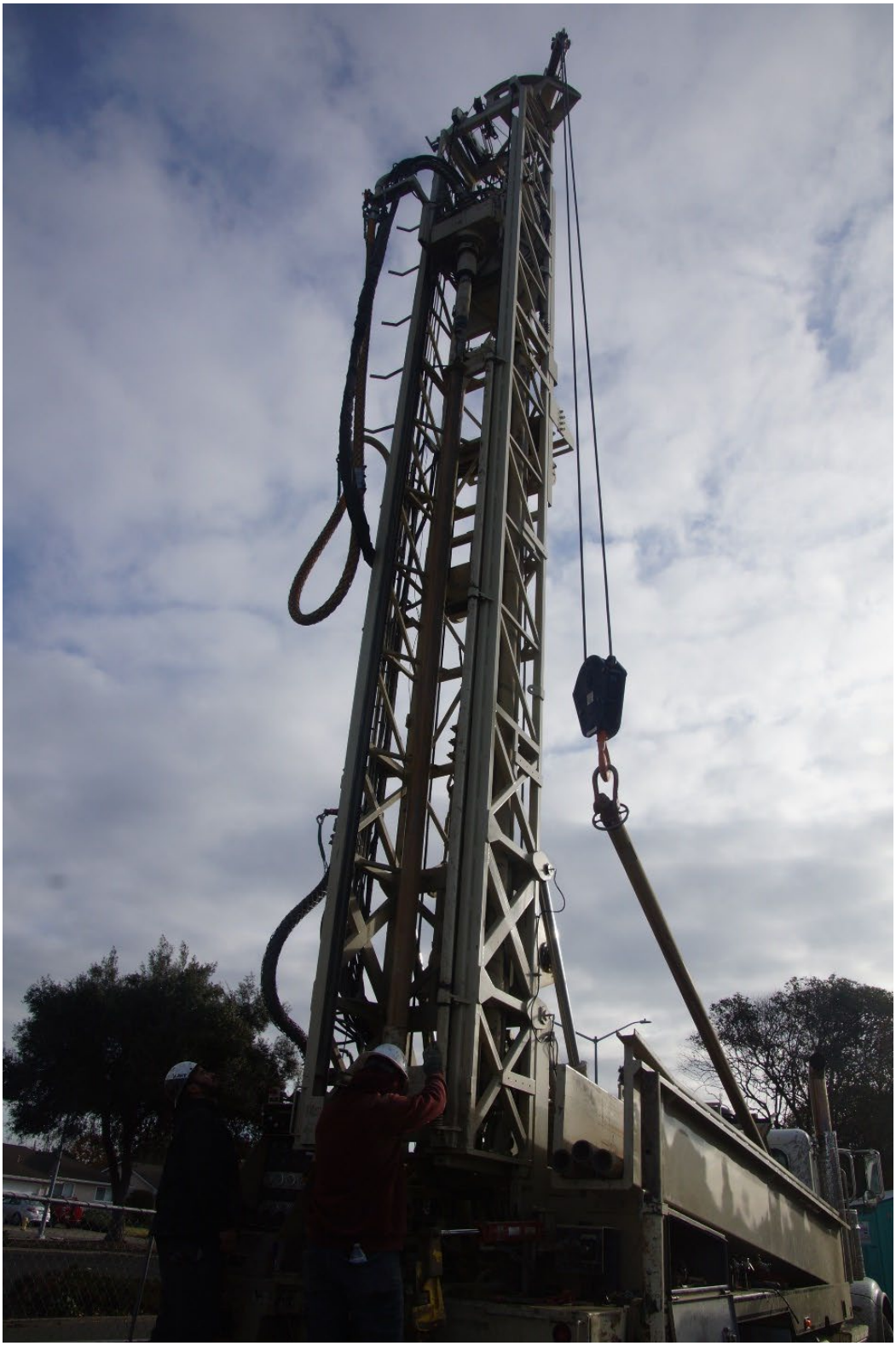
Photograph 53: Delivered 8” steel casing during installation of test well at Site 3 (3-TF).
Draft RI/FS Report, Well Site Evaluation Project



Photograph 54: Welding well casing for the test well for Site 3 (3-TF).
Draft RI/FS Report, Well Site Evaluation Project



Photograph 55: Welding well casing for the test well for Site 3 (3-TF).
Draft RI/FS Report, Well Site Evaluation Project



Photograph 56: Tripping drilling rods back into the test well for Site 3 (3-TF) following repairs to the drill rig.

Draft RI/FS Report, Well Site Evaluation Project



Photograph 57: Tagging the bottom of filter pack added to the test well at Site 3 (3-TF).
Draft RI/FS Report, Well Site Evaluation Project



Photograph 58: Securing Site 3 following an inclement weather event.
Draft RI/FS Report, Well Site Evaluation Project



Photograph 59: Initial well development activities at the test well for Site 3 (3-TF).
Draft RI/FS Report, Well Site Evaluation Project



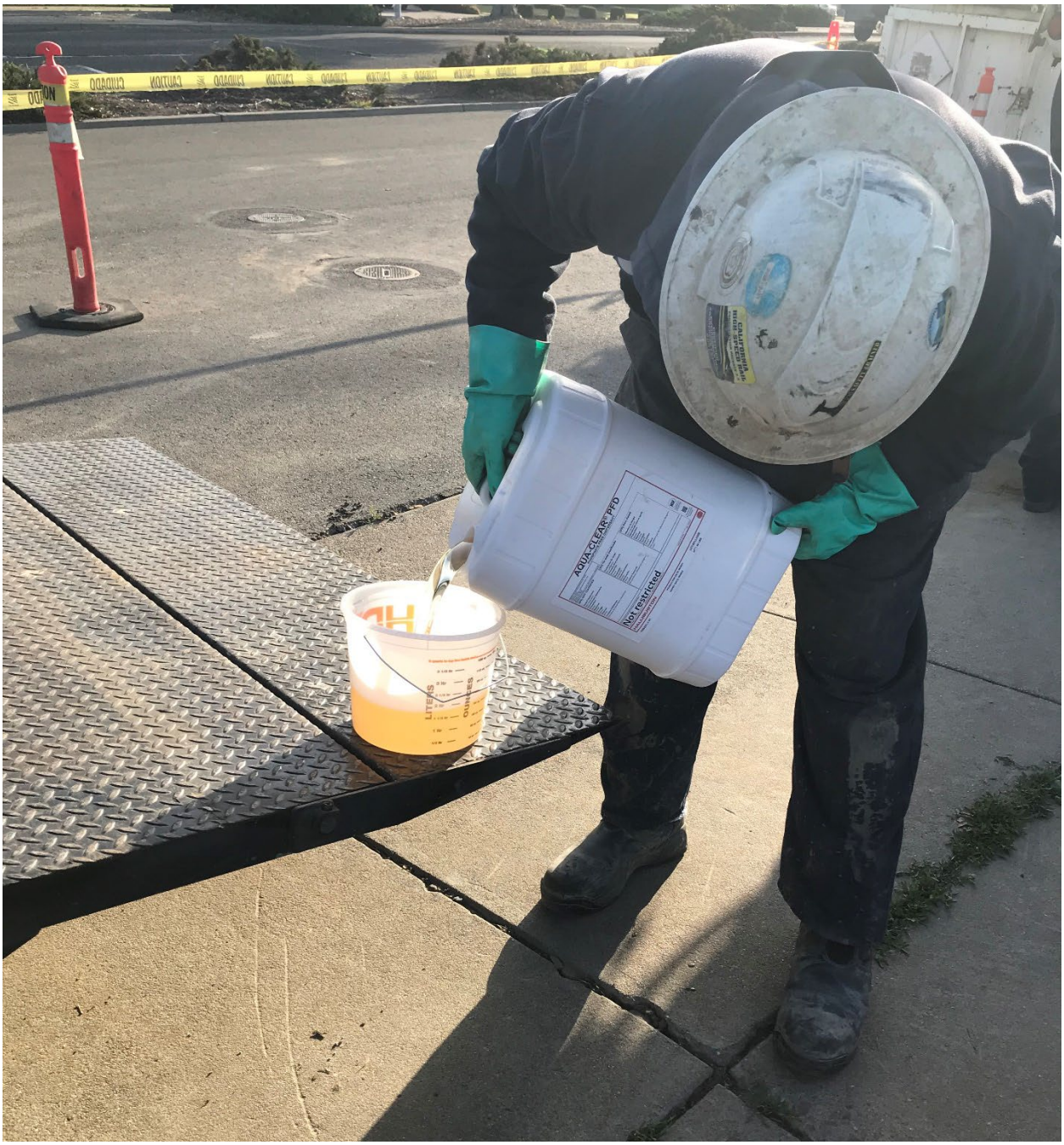
Photograph 60: View of turbid water pumped from test well for Site 3 (3-TF) during initial well development activities.

Draft RI/FS Report, Well Site Evaluation Project



Photograph 61: View of low turbidity water pumped from test well for Site 3 (3-TF) during initial well development activities.

Draft RI/FS Report, Well Site Evaluation Project



Photograph 62: Mixing polymer dispersant (AQUA-CLEAR PFD) to add to 3-TF during well redevelopment activities.

Draft RI/FS Report, Well Site Evaluation Project



Photograph 63: View of well redevelopment activities at Site 3 test well (3-TF).
Draft RI/FS Report, Well Site Evaluation Project

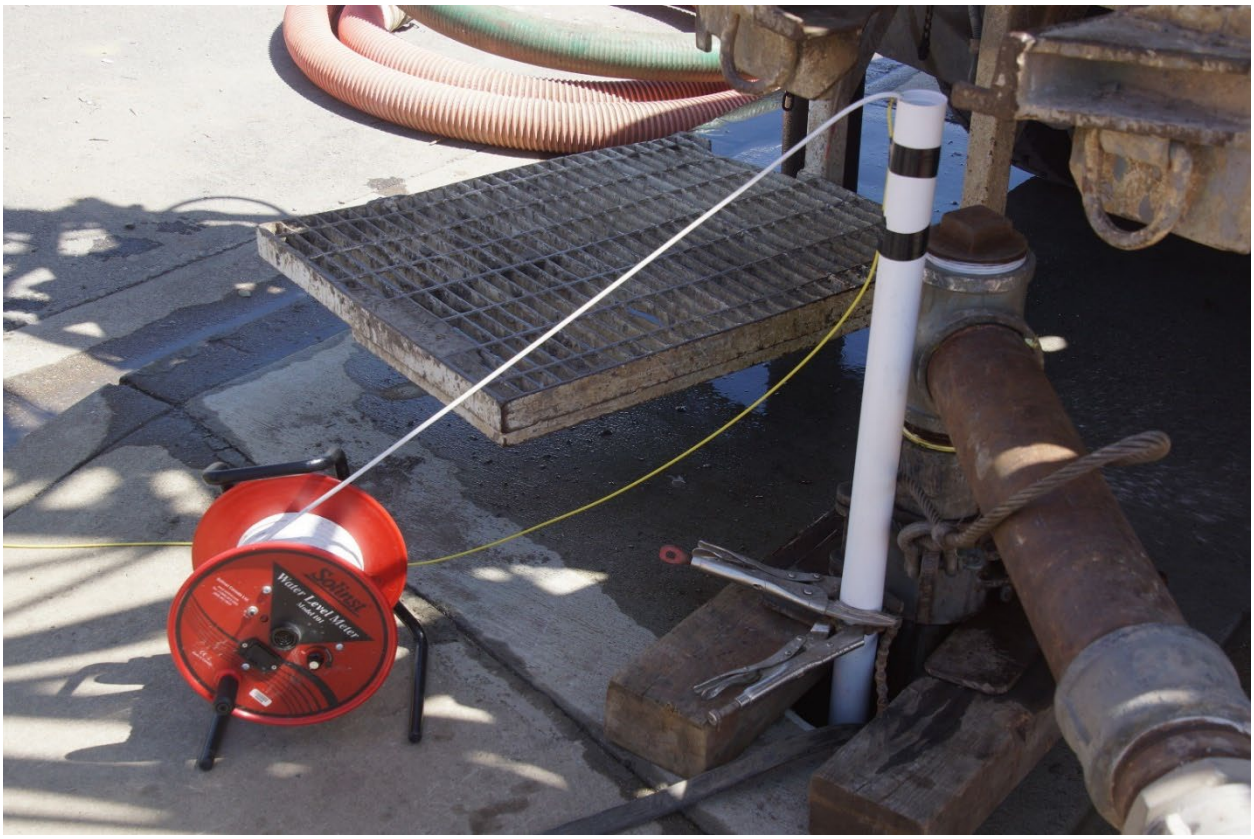


Photograph 64: Water level measurement setup at observation monitoring wells during step-drawdown aquifer pumping test at Site 3.

Draft RI/FS Report, Well Site Evaluation Project



Photograph 65: Recording water level measurements by hand at observation monitoring wells during step-drawdown aquifer pumping test at Site 3.
Draft RI/FS Report, Well Site Evaluation Project



Photograph 66: Aquifer pumping test setup at the test well for Site 3 (3-TF).
Draft RI/FS Report, Well Site Evaluation Project



Photograph 67: Aquifer pumping test setup (flow meter and valve) at the test well for Site 3 (3-TF).

Draft RI/FS Report, Well Site Evaluation Project



Photograph 68: Flow adjustments being performed during aquifer pumping test at the test well for Site 3 (3-TF).
Draft RI/FS Report, Well Site Evaluation Project



Photograph 69: Measuring water quality parameters from test well (3-TF) during aquifer pumping test at Site 3.
Draft RI/FS Report, Well Site Evaluation Project



Photograph 70: Collecting groundwater sample from test well (3-TF) during aquifer pumping test at Site 3.

Draft RI/FS Report, Well Site Evaluation Project



Photograph 71: Collecting groundwater level measurements to determine drawdown in monitoring wells during aquifer pumping test at Site 3.
Draft RI/FS Report, Well Site Evaluation Project



Photograph 72: Evening monitoring activities during constant rate aquifer pumping test at Site 3.

Draft RI/FS Report, Well Site Evaluation Project

Post-Construction Photos

SITE 1



Photograph 73: Finished surface completion at Site 1 (1-MF).
Draft RI/FS Report, Well Site Evaluation Project



Photograph 74: Finished surface completion at Site 1 (1-SF).
Draft RI/FS Report, Well Site Evaluation Project



Photograph 75: Close-up view of well tag installed at test well surface completion at Site 1 (1-TF).

Draft RI/FS Report, Well Site Evaluation Project



Photograph 76: View of main well site evaluation area at Site 1 following equipment demobilization; note restored handicapped parking sign.
Draft RI/FS Report, Well Site Evaluation Project



Photograph 77: Final site conditions following demobilization at Site 1.
Draft RI/FS Report, Well Site Evaluation Project



Photograph 78: Final site conditions following demobilization at Site 1.
Draft RI/FS Report, Well Site Evaluation Project

SITE 2



Photograph 79: View of main well site evaluation area at Site 2 following interim equipment demobilization.

Draft RI/FS Report, Well Site Evaluation Project



Photograph 80: View of secured debris bins at main well site evaluation area at Site 2 following interim equipment demobilization.

Draft RI/FS Report, Well Site Evaluation Project



Photograph 81: View of main well site evaluation area at Site 2 during debris bin demobilization.

Draft RI/FS Report, Well Site Evaluation Project



Photograph 82: Final site conditions following demobilization at Site 2.
Draft RI/FS Report, Well Site Evaluation Project



Photograph 83: Final site conditions following demobilization at Site 2.
Draft RI/FS Report, Well Site Evaluation Project

SITE 3



Photograph 84: In-progress demobilization activities at Site 3 well site evaluation area.
Draft RI/FS Report, Well Site Evaluation Project



Photograph 85: In-progress demobilization activities at Site 3 well site evaluation area.
Draft RI/FS Report, Well Site Evaluation Project

Appendix 7. Well Completion Reports

State of California

Well Completion Report

Form DWR 188 Submitted 8/30/2022

WCR2022-010099

Owner's Well Number: 1-MC (5S-2W-01B010) | Date Work Began: 12/22/2021 | Date Work Ended: 04/07/2022

Local Permit Agency: Alameda County Water District

Secondary Permit Agency: | Permit Number: 2021-0346 | Permit Date: 12/07/2021

Well Owner (must remain confidential pursuant to Water Code 13752)

Name: ALAMEDA COUNTY WATER DISTRICT,

Mailing Address: 43885 South Grimmer Boulevard

City: Fremont | State: CA | Zip: 94538

Planned Use and Activity

Activity: New Well

Planned Use: Monitoring

Well Location

Address: 37101 Newark (East side of Civic Center Park) BLVD

City: Newark | Zip: 94560 | County: Alameda

Latitude: 37 Deg. 32 Min. 4.0956 Sec. N | Longitude: -122 Deg. 1 Min. 47.1144 Sec. W

Dec. Lat.: 37.534471 | Dec. Long.: -122.029754

Vertical Datum: | Horizontal Datum: WGS84

Location Accuracy: | Location Determination Method:

APN: 92A104501311

Township: 05 S

Range: 02 W

Section: 01

Baseline Meridian: Mount Diablo

Ground Surface Elevation:

Elevation Accuracy:

Elevation Determination Method:

Borehole Information

Orientation: Vertical | Specify:

Drilling Method: Direct Rotary | Drilling Fluid: Bentonite

Total Depth of Boring: 240 Feet

Total Depth of Completed Well: 240 Feet

Water Level and Yield of Completed Well

Depth to first water: (Feet below surface)

Depth to Static Water Level: (Feet) | Date Measured:

Estimated Yield*: (GPM) | Test Type:

Test Length: (Hours) | Total Drawdown: (feet)

*May not be representative of a well's long term yield.

Geologic Log - Free Form

Depth from Surface Feet to Feet		Description
0	5	TOP SOIL
5	10	SILTY SAND
10	15	SANDY CLAY
15	20	CLAYEY SAND
20	25	SAND
25	30	GRAVELLY SAND
30	50	SANDY CLAY
50	55	SILTY CLAY
55	80	SANDY CLAY
80	85	SANDY GRAVEL
85	122	SANDY CLAY
122	126	CLAYEY SAND
126	135	SAND
135	138	GRAVELLY SAND

138	180	SANDY CLAY
180	185	SILTY CLAY
185	210	SANDY CLAY
210	230	SANDY GRAVEL
230	240	SILTY CLAY

Casings

Casing #	Depth from Surface Feet to Feet		Casing Type	Material	Casings Specificatons	Wall Thickness (inches)	Outside Diameter (inches)	Screen Type	Slot Size if any (inches)	Description
1	0	200	Blank	PVC	OD: 2.375 in. | Thickness: 0.218 in.	0.218	2.375			2" PVC CSG. SCH80
1	200	230	Screen	PVC	OD: 2.375 in. | Thickness: 0.218 in.	0.218	2.375	Milled Slots	0.02	2" PVC SCREEN SCH80
1	230	240	Blank	PVC	OD: 2.375 in. | Thickness: 0.218 in.	0.218	2.375			2" PVC CSG. SCH80

Annular Material

Depth from Surface Feet to Feet		Fill	Fill Type Details	Filter Pack Size	Description
0	190	Cement	Portland Cement/Neat Cement		21 SACK CEMENT BENTONITE GROUT
190	240	Other Fill	See description.		#3 SAND

Other Observations:

Borehole Specifications

Depth from Surface Feet to Feet		Borehole Diameter (inches)
0	240	8

Certification Statement

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief

Name: PITCHER SERVICES LLC (Person, Firm or Corporation)

2726 Walnut Avenue (Address) | Signal Hill (City) | CA (State) | 90755 (Zip)

Signed: *electronic signature received* (C-57 Licensed Water Well Contractor) | 08/30/2022 (Date Signed) | 1044895 (C-57 License Number)

Attachments

1-MC Log 08-04-2022 (1).pdf - Geologic Log

1-MC (240') GPS Coordinates.jpg - Location Map

DWR Use Only

CSG #	State Well Number	Site Code	Local Well Number

N — Latitude Deg/Min/Sec

W — Longitude Deg/Min/Sec

TRS:

APN:

State of California

Well Completion Report

Form DWR 188 Submitted 8/30/2022

WCR2022-010100

Owner's Well Number: 1-TF (5S-2W-01B012) | Date Work Began: 01/05/2022 | Date Work Ended: 04/07/2022

Local Permit Agency: Alameda County Water District

Secondary Permit Agency: | Permit Number: 2021-0348 | Permit Date: 12/07/2021

Well Owner (must remain confidential pursuant to Water Code 13752)

Name: ALAMEDA COUNTY WATER DISTRICT,

Mailing Address: 43885 South Grimmer Boulevard

City: Fremont | State: CA | Zip: 94538

Planned Use and Activity

Activity: New Well

Planned Use: Test Well

Well Location

Address: 37101 Newark (East side of Civic Center Park) BLVD

City: Newark | Zip: 94560 | County: Alameda

Latitude: 37 Deg. 32 Min. 3.894 Sec. N | Longitude: -122 Deg. 1 Min. 47.1395 Sec. W

Dec. Lat.: 37.534415 | Dec. Long.: -122.029761

Vertical Datum: | Horizontal Datum: WGS84

Location Accuracy: | Location Determination Method:

APN: 92A104501311

Township: 05 S

Range: 02 W

Section: 01

Baseline Meridian: Mount Diablo

Ground Surface Elevation:

Elevation Accuracy:

Elevation Determination Method:

Borehole Information

Orientation: Vertical | Specify:

Drilling Method: Direct Rotary | Drilling Fluid: Bentonite

Total Depth of Boring: 365 Feet

Total Depth of Completed Well: 360 Feet

Water Level and Yield of Completed Well

Depth to first water: (Feet below surface)

Depth to Static Water Level: (Feet) | Date Measured:

Estimated Yield*: (GPM) | Test Type:

Test Length: (Hours) | Total Drawdown: (feet)

*May not be representative of a well's long term yield.

Geologic Log - Free Form

Depth from Surface Feet to Feet		Description
0	2	ASPHALT
2	10	SANDY CLAY
10	22	SILTY CLAY
22	32	SANDY GRAVEL
32	65	SILTY CLAY
65	74	SANDY CLAY
74	76	SILTY CLAY
76	82	SANDY GRAVEL
82	102	SANDY CLAY
102	120	CLAYEY SAND
120	128	SANDY CLAY
128	132	SILTY SAND
132	134	CLAYEY SAND
134	154	SANDY CLAY

154	160	CLAYEY SAND
160	165	SILTY SAND
165	174	SANDY CLAY
174	190	SANDY GRAVEL
190	205	SANDY CLAY
205	210	CLAYEY SAND
210	225	SANDY GRAVEL
225	290	SANDY CLAY
290	300	SILTY CLAY
300	314	CLAYEY SAND
314	338	GRAVELLY SAND
338	352	SANDY CLAY
352	360	SAND
360	362	SANDY CLAY
362	365	SILTY SAND

Casings

Casing #	Depth from Surface Feet to Feet		Casing Type	Material	Casings Specificatons	Wall Thickness (inches)	Outside Diameter (inches)	Screen Type	Slot Size if any (inches)	Description
1	0	325	Blank	Mild Steel	Nominal Size: 8 in. | Thickness: 1/4 in. | OD: 8-5/8 in.	0.25	8.625			8.625"ODX.25" WALL, ASTM A139 GRB, LOW CARBON STEEL SPIRAL WELDED BLANK CASING, BEVELED ENDS
1	325	355	Screen	Mild Steel	Nominal Size: 8 in. | Thickness: 1/4 in. | OD: 8-5/8 in.	0.25	8.625	Milled Slots	0.04	8.625"ODX.25" WALL, ASTM A139 GRB, LOW CARBON STEEL SPIRAL WELDED MILL SLOT CASING, DOUBLE ROW, 0.04" SLOT, BEVELED ENDS
1	355	360	Blank	Mild Steel	Nominal Size: 8 in. | Thickness: 1/4 in. | OD: 8-5/8 in.	0.25	8.625			8.625"ODX.25" WALL, ASTM A139 GRB, LOW CARBON STEEL SPIRAL WELDED BLANK CASING, BEVELED ENDS

Annular Material

Depth from Surface Feet to Feet		Fill	Fill Type Details	Filter Pack Size	Description
0	305	Cement	Other Cement		11 SACKS CEMENT SAND SLURRY
305	315	Bentonite	Low Solids		HYDRATED BENTONITE PLUG
315	365	Other Fill	See description.		#3 SAND

Other Observations:

Borehole Specifications

Depth from Surface Feet to Feet		Borehole Diameter (inches)
0	365	14.75

Certification Statement

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief

Name: PITCHER SERVICES LLC
Person, Firm or Corporation

Address	City	State	Zip
2726 Walnut Avenue	Signal Hill	CA	90755

Signed: *electronic signature received* — C-57 Licensed Water Well Contractor
08/30/2022 — Date Signed
1044895 — C-57 License Number

Attachments

1-TF Log 08-04-2022.pdf - Geologic Log

1-TF (365') GPS Coordinates.jpg - Location Map

DWR Use Only

CSG #	State Well Number	Site Code	Local Well Number

N — Latitude Deg/Min/Sec

W — Longitude Deg/Min/Sec

TRS:

APN:

State of California

Well Completion Report

Form DWR 188 Submitted 8/30/2022

WCR2022-010107

Owner's Well Number: 1-MF (5S-2W-01B009) | Date Work Began: 12/07/2021 | Date Work Ended: 04/07/2022

Local Permit Agency: Alameda County Water District

Secondary Permit Agency: | Permit Number: 2021-0345 | Permit Date: 12/07/2021

Well Owner (must remain confidential pursuant to Water Code 13752)

Name: ALAMEDA COUNTY WATER DISTRICT,

Mailing Address: 43885 South Grimmer Boulevard

City: Fremont | State: CA | Zip: 94538

Planned Use and Activity

Activity: New Well

Planned Use: Monitoring

Well Location

Address: 37101 Newark (East side of Civic Center Park) BLVD

City: Newark | Zip: 94560 | County: Alameda

Latitude: 37 Deg. 32 Min. 4.0704 Sec. N | Longitude: -122 Deg. 1 Min. 46.9992 Sec. W

Dec. Lat.: 37.534464 | Dec. Long.: -122.029722

Vertical Datum: | Horizontal Datum: WGS84

Location Accuracy: | Location Determination Method:

APN: 092A104501311

Township: 05 S

Range: 02 W

Section: 01

Baseline Meridian: Mount Diablo

Ground Surface Elevation:

Elevation Accuracy:

Elevation Determination Method:

Borehole Information

Orientation: Vertical | Specify:

Drilling Method: Direct Rotary | Drilling Fluid: Bentonite

Total Depth of Boring: 355 Feet

Total Depth of Completed Well: 350 Feet

Water Level and Yield of Completed Well

Depth to first water: (Feet below surface)

Depth to Static Water Level: (Feet) | Date Measured:

Estimated Yield*: (GPM) | Test Type:

Test Length: (Hours) | Total Drawdown: (feet)

*May not be representative of a well's long term yield.

Geologic Log - Free Form

Depth from Surface Feet to Feet		Description
0	5	Topsoil: Olive brown (2.SY 4/3); olive yellow mottling on ped faces; very fine to fine sand
5	10	Silty Sand: Some clay; light olive brown (2.SY 5/4); ped faces; fine to very fine sand; dry
10	15	Sandy Clay: Light olive brown (2.SY 5/2); very fine to fine sand; low to medium plasticity; moist
15	20	Clayey Sand: Olive brown (2.SY 4/4); very fine to medium sand; low plasticity; moist
20	25	Sand: Very fine to coarse sand; well graded; rounded to subangular 24 FT: --As above; increasing grain size with trace gravel up to 0.5" diameter
25	30	Gravelly Sand: Multicolored; medium to coarse sand; gravels up to 0.8" diameter; rounded to subrounded gravels; rounded to subangular sand
30	50	Sandy Clay: Dark greenish gray (1 OBG 4/1); very fine to medium sand; high plasticity; stiff 35 FT: --Lens of Sandy Clay; olive gray; fine to coarse sand; high plasticity 46 FT: --Color change to dark greenish gray (1 0G 4/1) with olive mottling
50	55	Silty Clay: Grayish olive (10Y 5/2); very fine to medium sand; dark greenish gray mottling; low plasticity

55	80	Sandy Clay: Olive (SY 5/3); fine to coarse sand; rounded to subrounded sand; low plasticity 62 FT: --As above; color change to light olive brown (2.SY 5/3); decreasing sand content; medium plasticity 66 FT: --As above; increasing sand content (fine to coarse) 71 FT: --As above; color change to olive (SY 5/3); high plasticity
80	85	Sandy Gravel: Multicolored; rounded to broken/angular gravel up to 0.6" diameter; fine to coarse sand; well graded
85	122	Sandy Clay: Olive brown (2.SY 4/4); very fine to medium sand; high plasticity 92 FT: --As above; color change to olive (SY 5/3); medium plasticity 93 FT: --As above; color change to olive (SY 4/4); increase in medium sand content 96 FT: --As above; decrease in medium sand content 98 FT: --As above; increase in very fine to fine sand; color change to olive gray (SY 5/2) 102 FT: --As above; increase in sand content 121 FT: --As above; increase in sand content
122	126	Clayey Sand: Olive gray (5Y 5/2); very fine to medium sand; rounded to subrounded sand; low plasticity
126	135	Sand: Multicolored; fine to coarse sand; well graded; rounded to subangular; some broken clasts
135	138	Gravelly Sand: Dominant color dark bluish gray (1 OB 4/1); fine to coarse sand; rounded to angularbroken gravels up to 0.6" diameter 138 FT: --As above; decrease in gravel abundance
138	180	Sandy Clay: Olive gray (5Y 4/2); very fine to medium sand; medium plasticity 155 FT: --As above; decrease in abundance of medium sand 156 FT: --As above; very fine to fine sand; color change to dark grayish olive (1 0Y 4/2) 164 FT: --As above; increase in sand abundance 176 FT: --As above; color change to dark greenish gray (1 0GY 4/1); very fine to fine sand; olive mottling
180	185	Silty Clay: Dark greenish gray (10GY 4/1); some sand; very fine to fine sand
185	210	Sandy Clay: Dark greenish gray (1 0GY 4/1); light brown mottling; very fine to fine sand; some medium sand; some silt; trace gravels up to 0.5" diameter 192 FT: --As above; decreasing sand content; increasing silt content; stiff; high plasticity (bordering on Silty Clay)
210	230	Sandy Gravel: Multicolored; fine to coarse sand; well graded; abundant broken/angular gravel up to 0.8" diameter 219 FT: --As above; increasing gravel content 223 FT: --As above; decreasing fine to coarse snad; increasing gravels up to 1" diameter; medium to coarse, broken sand and gravels
230	245	Silty Clay: Dark olive gray (5Y 3/2); very fine to fine sand; some medium to coarse sand 235 FT: -- As above, some embeded; rounded to subrounded gravels, damp 236 FT: -- As above, color change to olive gray (5Y 5/2); less sand and gravels 242 FT: --As above; less sand; samples harder and more intact; more silt; damp
245	315	Sandy Clay: Greenish gray (10Y 5/1); fine to medium sand; some silt; moist; medium plasticity 252 FT: --As above; color change to olive gray (5Y 5/2); very fine to fine sand; decrease in medium sand and silt 256 FT: --As above; increase in medium sand content 259 FT: -As above; stiff; high plasticity 261 FT: --As above; trace medium sand; damp; brown mottling 301 FT: --As above; color change to pale olive (5Y 6/3); increasing sand content (fine to medium grained) 306 FT: --As above; color change to grayish brown (2.5Y 5/2) 312 FT: --As above; color change to olive gray (5Y 5/2); increase in abundance of sand; nodules of greenish gray (5G 5/1); trace broken gravel up to 0.8" diameter
315	320	Sand: Multicolored; fine to coarse sand; well graded; rounded to subangular sand
320	325	Gravelly Sand: Multicolored; medium to very coarse sand; rounded to subangular sand; subrounded to angular/broken gravel up to 0.5" diameter 324 FT: --As above; increase In abundance ct gravel

325	338	Sandy Gravel: Multicolored; abundant broken gravels up to 0.8" diameter; medium to very coarse sand; poorly graded
338	340	Clayey Sand: Light yellowish brown (2.5Y 6/3); very fine to medium sand; embedded gravels up to 0.8" diameter; low plasticity
340	355	Silty Clay: Dark greenish gray (5GY 4/2); very fine to fine sand with silt; trace medium to coarse sand 353 FT: --As above; color change to dark greenish gray (1 0Y 4/1) with white (2.5Y 8/1)

Casings

Casing #	Depth from Surface Feet to Feet		Casing Type	Material	Casings Specificatons	Wall Thickness (inches)	Outside Diameter (inches)	Screen Type	Slot Size if any (inches)	Description
1	0	310	Blank	PVC	OD: 2.375 in. | Thickness: 0.218 in.	0.276	2.875			2" PVC CSG. SCH80
1	310	340	Screen	PVC	OD: 2.375 in. | Thickness: 0.218 in.	0.218	2.375	Milled Slots	0.02	2" PVC SCREEN SCH80
1	340	350	Blank	PVC	OD: 2.375 in. | Thickness: 0.218 in.	0.276	2.875			2" PVC CSG. SCH80

Annular Material

Depth from Surface Feet to Feet		Fill	Fill Type Details	Filter Pack Size	Description
0	300	Cement	Portland Cement/Neat Cement		21 SACK CEMENT BENTONITE GROUT
300	355	Other Fill	See description.		#3 SAND

Other Observations:
Refer to attached logs for the lithology of plugged zone from 355' to 400'

Borehole Specifications

Depth from Surface Feet to Feet		Borehole Diameter (inches)
0	355	8

Certification Statement

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief

Name: PITCHER SERVICES LLC (Person, Firm or Corporation)

2726 Walnut Avenue (Address) | Signal Hill (City) | CA (State) | 90755 (Zip)

Signed: *electronic signature received* (C-57 Licensed Water Well Contractor) | 08/30/2022 (Date Signed) | 1044895 (C-57 License Number)

Attachments

1-MF (400') GPS Coordinates.jpg - Location Map

1-MF Log 07-21-2022.pdf - Geologic Log

DWR Use Only

CSG #	State Well Number	Site Code	Local Well Number

N — Latitude Deg/Min/Sec

W — Longitude Deg/Min/Sec

TRS:

APN:

State of California

Well Completion Report

Form DWR 188 Submitted 8/30/2022

WCR2022-010108

Owner's Well Number: 1-SF (5S-2W-01B011) | Date Work Began: 12/21/2021 | Date Work Ended: 04/07/2022

Local Permit Agency: Alameda County Water District

Secondary Permit Agency: | Permit Number: 2021-0347 | Permit Date: 12/07/2021

Well Owner (must remain confidential pursuant to Water Code 13752)

Name: ALAMEDA COUNTY WATER DISTRICT,

Mailing Address: 43885 South Grimmer Boulevard

City: Fremont | State: CA | Zip: 94538

Planned Use and Activity

Activity: New Well

Planned Use: Monitoring

Well Location

Address: 37101 Newark (NW side of Civic Center Park) BLVD

City: Newark | Zip: 94560 | County: Alameda

Latitude: 37 Deg. 32 Min. 5.0711 Sec. N | Longitude: -122 Deg. 1 Min. 46.7075 Sec. W

Dec. Lat.: 37.534742 | Dec. Long.: -122.029641

Vertical Datum: | Horizontal Datum: WGS84

Location Accuracy: | Location Determination Method:

APN: 092A104501311

Township: 05 S

Range: 02 W

Section: 01

Baseline Meridian: Mount Diablo

Ground Surface Elevation:

Elevation Accuracy:

Elevation Determination Method:

Borehole Information

Orientation: Vertical | Specify:

Drilling Method: Direct Rotary | Drilling Fluid: Bentonite

Total Depth of Boring: 350 Feet

Total Depth of Completed Well: 345 Feet

Water Level and Yield of Completed Well

Depth to first water: (Feet below surface)

Depth to Static Water Level: (Feet) | Date Measured:

Estimated Yield*: (GPM) | Test Type:

Test Length: (Hours) | Total Drawdown: (feet)

*May not be representative of a well's long term yield.

Geologic Log - Free Form

Depth from Surface Feet to Feet		Description
0	2	Asphalt: 4" asphalt, 2 feet baserock
2	10	Sandy Clay: Very dark gray (2.5Y 3/1); fine to medium sand; some very fine sand; trace coarse gravels; possible fill 8 FT: --Color change to olive brown (2.5Y 4/3); less coarse sand; very fine to fine sand; some medium sand; damp; rust staining on native ped faces
10	22	Silty Clay: Light yellow brown (1 OYR 6/4); some very fine to fine sand; low plasticity; trace medium sand
22	32	Sandy Gravel: Multicolored; trace coarse sand; small gravels; broken pieces of gravel up to 1/4" diameter

32	65	Silty Sand: Olive brown (2.5Y 4/3); very fine to fine sand 36 FT: --Color change to dark olive gray (SY 3/2) 44 FT: --Color change to dark grayish green (1 OY 4/2); slightly stiffer 46 FT: --Color change to light olive brown (2.5Y 5/3); increasing very fine to fine sand content 50 FT: --Easier drilling/less silt at 49 feet bgs 52 FT: --As above; decreasing sand 56 FT: --Very stiff at 55 feet bgs
65	74	Sandy Clay: Light olive gray (SY 6/2); very fine to fine sand; some silt; moderate plasticity; moderate stiffness 71 FT: --Color change to olive (SY 5/3)
74	76	Silty Clay: Light olive brown (2.5Y 5/3); some very fine to fine sand; very stiff
76	82	Sandy Gravel: Multicolored; medium to coarse sand; some fine sand; rounded to angular gravels; broken clasts to 1/2" diameter
82	102	Sandy Clay: Light olive brown (2.5Y 5/3); very fine to fine sand; some coarse sand and embedded gravels 85 FT: --Very stiff/high plasticity at 85 feet bgs 89 FT: --As above; decreasing sand; increasing silt content; no gravels; very stiff
102	120	Clayey Sand: Olive (SY 4/3); very fine to fine sand; some silt; moderate plasticity 111 FT: --As above; color change to olive (5Y 5/5); increase in very fine to fine sand 119 FT: As above; color change back to olive (5Y 4/3)
120	128	Sandy Clay: Olive (5Y 4/3); very fine to fine sand
128	132	Silty Sand: Multicolored; fine to medium sand; trace silt to fine sand
132	134	Clayey Sand: Dark olive gray (5Y 3/2); very fine to fine sand; some silt; very soft
134	154	Sandy Clay: Olive (5Y 4/3); very fine to fine sand; some silt; moderate to high plasticity
154	160	Clayey Sand: Dark olive gray (5Y 3/2); very fine to fine sand; trace silt; low to moderate plasticity
160	165	Silty Sand: Multicolored; fine to medium sand with silt; trace coarse sand
165	174	Sandy Clay: Olive (5Y 5/4); very fine to fine sand; low plasticity 173 FT: --As above; less sand; color change to dark grayish green (5GY 4/1)
174	190	Sandy Gravel: Multicolored; rounded to angular/broken gravels up to 0.5" in diameter; well graded sand; some clay
190	205	Sandy Clay: Dark greenish gray (5GY 4/1); very fine to coarse sand; rounded to subangular sand; medium plasticity 199 FT: --As above; increasing sand content and grain size 201 FT: --As above; decreasing sand content
205	210	Clayey Sand: Olive gray (5Y 5/2); very fine to medium sand; rounded to subrounded; low plasticity
210	225	Sandy Gravel: Multicolored; subrounded to angular/broken gravels up to 0.5" diameter; abundant broken gravels; well graded sand 219 FT: --As above; very little to no fines; decrease in sand content 221 FT: --As above; increase in sand content
225	290	Sandy Clay: Grayish olive (10Y 5/2); very fine to fine sand; rounded to subrounded sand; trace silt; medium plasticity; broken gravels from above 231 FT: --As above; color change to greenish gray (5/5GY); increase in sand grain size and content; trace embedded gravels 241 FT: As above; decrease in sand grain size 246 FT: --As above; increase in abundance of sand and grain size; low plasticity; color change to grayish olive (1 OY 5/2) 256 FT: --As above; medium plasticity 261 FT: --As above; brown mottling; very fine to medium sand; some silt; stiff; high plasticity; trace cobbles 279 FT--As above; color change to dark gray (2.5Y 4/1); increasing sand content; trace coarse sand

290	300	Silty Clay: --Increase in silt to SANDY SILTY CLAY; gray (5Y 5/2); very fine to fine sand; low plasticity 296 FT: --Color change to very dark grayish olive (10Y 3/2); very fine to fine sand; low plasticity 299 FT: --Color change to grayish brown (2.5Y 5/2); increasing sand content
300	314	Clayey Sand: Grayish brown (2.5Y 5/2); very fine to fine sand; some silt; low plasticity; trace gravels
314	338	Gravelly Sand: Multicolored; medium to coarse sand; gravels up to 0.25" diameter; angular to subrounded gravels
338	350	Sandy Clay: Light brown (2.5Y 5/2); very fine to fine sand; some silt; very low plasticity

Casings

Casing #	Depth from Surface Feet to Feet		Casing Type	Material	Casings Specificatons	Wall Thickness (inches)	Outside Diameter (inches)	Screen Type	Slot Size if any (inches)	Description
1	0	300	Blank	PVC	OD: 2.375 in. | Thickness: 0.218 in.	0.276	2.875			2" PVC CSG. SCH80
1	300	340	Screen	PVC	OD: 2.375 in. | Thickness: 0.218 in.	0.218	2.375	Milled Slots	0.02	2" PVC SCREENS SCH80
1	340	345	Blank	PVC	OD: 2.375 in. | Thickness: 0.218 in.	0.276	2.875			2" PVC CSG. SCH80

Annular Material

Depth from Surface Feet to Feet		Fill	Fill Type Details	Filter Pack Size	Description
0	290	Cement	Other Cement		21 SACKS CEMENT BENTONITE GROUT
290	350	Other Fill	See description.		#3 SAND

Other Observations:
Refer to attached logs for Lithology of Plugged zone from 350' to 402'

Borehole Specifications

Depth from Surface Feet to Feet		Borehole Diameter (inches)
0	350	8

Certification Statement

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief

Name: PITCHER SERVICES LLC (Person, Firm or Corporation)

2726 Walnut Avenue (Address) | Signal Hill (City) | CA (State) | 90755 (Zip)

Signed: *electronic signature received* (C-57 Licensed Water Well Contractor) | 08/30/2022 (Date Signed) | 1044895 (C-57 License Number)

Attachments

1-SF (402') GPS Coordinates.jpg - Location Map

1-SF Log 07-21-2022.pdf - Geologic Log

DWR Use Only

CSG #	State Well Number	Site Code	Local Well Number

N — **Latitude Deg/Min/Sec**

W — **Longitude Deg/Min/Sec**

TRS:

APN:

State of California

Well Completion Report

Form DWR 188 Submitted 8/30/2022

WCR2022-010101

Owner's Well Number: 2-MN (5S-1W-06H011) | Date Work Began: 02/03/2022 | Date Work Ended: 04/07/2022

Local Permit Agency: Alameda County Water District

Secondary Permit Agency: | Permit Number: 2021-0290 | Permit Date: 11/04/2021

Well Owner (must remain confidential pursuant to Water Code 13752)

Name: ALAMEDA COUNTY WATER DISTRICT,

Mailing Address: 43885 South Grimmer Boulevard

City: Fremont | State: CA | Zip: 94538

Planned Use and Activity

Activity: New Well

Planned Use: Monitoring

Well Location

Address: 0 END OF CEDAR CT

City: Newark | Zip: 94560 | County: Alameda

Latitude: 37 Deg. 31 Min. 49.944 Sec. N | Longitude: -122 Deg. 0 Min. 22.4099 Sec. W

Dec. Lat.: 37.53054 | Dec. Long.: -122.006225

Vertical Datum: | Horizontal Datum: WGS84

Location Accuracy: | Location Determination Method:

APN: N/A - CEDAR CT

Township: 05 S

Range: 01 W

Section: 06

Baseline Meridian: Mount Diablo

Ground Surface Elevation:

Elevation Accuracy:

Elevation Determination Method:

Borehole Information

Orientation: Vertical | Specify:

Drilling Method: Direct Rotary | Drilling Fluid: Bentonite

Total Depth of Boring: 115 Feet

Total Depth of Completed Well: 115 Feet

Water Level and Yield of Completed Well

Depth to first water: (Feet below surface)

Depth to Static Water Level: (Feet) | Date Measured:

Estimated Yield*: (GPM) | Test Type:

Test Length: (Hours) | Total Drawdown: (feet)

*May not be representative of a well's long term yield.

Geologic Log - Free Form

Depth from Surface Feet to Feet		Description
0	15	BACKFILL
15	35	SILTY SAND
35	50	SILTY CLAY
50	60	SILTY SAND
60	95	SANDY GRAVEL
95	110	GRAVELLY SAND
110	115	SILTY CLAY

Casings

Casing #	Depth from Surface Feet to Feet		Casing Type	Material	Casings Specificatons	Wall Thickness (inches)	Outside Diameter (inches)	Screen Type	Slot Size if any (inches)	Description
1	0	50	Blank	PVC	OD: 2.375 in. | Thickness: 0.218 in.	0.218	2.375			2" PVC CSG. SCH80
1	50	100	Screen	PVC	OD: 2.375 in. | Thickness: 0.218 in.	0.218	2.375	Milled Slots	0.02	2" PVC SCREENS SCH80
1	100	115	Blank	PVC	OD: 2.375 in. | Thickness: 0.218 in.	0.218	2.375			2" PVC CSG. SCH80

Annular Material

Depth from Surface Feet to Feet		Fill	Fill Type Details	Filter Pack Size	Description
0	45	Cement	Other Cement		21 SACKS CEMENT BENTONITE GROUT
45	115	Other Fill	See description.		#3 SAND

Other Observations:

Borehole Specifications

Depth from Surface Feet to Feet		Borehole Diameter (inches)
0	115	8

Certification Statement

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief

Name: PITCHER SERVICES LLC (Person, Firm or Corporation)

2726 Walnut Avenue (Address) | Signal Hill (City) | CA (State) | 90755 (Zip)

Signed: *electronic signature received* (C-57 Licensed Water Well Contractor) | 08/30/2022 (Date Signed) | 1044895 (C-57 License Number)

Attachments

2-MN Log 08-04-2022.pdf - Geologic Log

2-MN (115') GPS Coordinates.jpg - Location Map

DWR Use Only

CSG #	State Well Number	Site Code	Local Well Number

N — Latitude Deg/Min/Sec

W — Longitude Deg/Min/Sec

TRS:

APN:

State of California

Well Completion Report

Form DWR 188 Submitted 8/30/2022

WCR2022-010102

Owner's Well Number: 2-MF (5S-1W-06H012) | Date Work Began: 02/01/2022 | Date Work Ended: 04/07/2022

Local Permit Agency: Alameda County Water District

Secondary Permit Agency: | Permit Number: 2021-0291 | Permit Date: 11/04/2021

Well Owner (must remain confidential pursuant to Water Code 13752)

Name: ALAMEDA COUNTY WATER DISTRICT,

Mailing Address: 43885 South Grimmer Boulevard

City: Fremont | State: CA | Zip: 94538

Planned Use and Activity

Activity: New Well

Planned Use: Monitoring

Well Location

Address: 0 END OF CEDAR CT

City: Newark | Zip: 94560 | County: Alameda

Latitude: 37 Deg. 31 Min. 49.9224 Sec. N | Longitude: -122 Deg. 0 Min. 22.6007 Sec. W

Dec. Lat.: 37.530534 | Dec. Long.: -122.006278

Vertical Datum: | Horizontal Datum: WGS84

Location Accuracy: | Location Determination Method:

APN: N/A - CEDAR CT

Township: 05 S

Range: 01 W

Section: 06

Baseline Meridian: Mount Diablo

Ground Surface Elevation:

Elevation Accuracy:

Elevation Determination Method:

Borehole Information

Orientation: Vertical | Specify:

Drilling Method: Direct Rotary | Drilling Fluid: Bentonite

Total Depth of Boring: 355 Feet

Total Depth of Completed Well: 350 Feet

Water Level and Yield of Completed Well

Depth to first water: (Feet below surface)

Depth to Static Water Level: (Feet) | Date Measured:

Estimated Yield*: (GPM) | Test Type:

Test Length: (Hours) | Total Drawdown: (feet)

*May not be representative of a well's long term yield.

Geologic Log - Free Form

Depth from Surface Feet to Feet		Description
0	15	BACKFILL
15	35	SILTY SAND
35	50	SILTY CLAY
50	60	SILTY SAND
60	95	SANDY GRAVEL
95	110	GRAVELLY SAND
110	128	SILTY CLAY
128	140	SANDY GRAVEL
140	145	SANDY CLAY
145	160	CLAYEY SAND
160	210	SILTY CLAY
210	240	CLAYEY SAND
240	250	SAND
250	260	SANDY GRAVEL

260	300	SANDY CLAY
300	322	CLAYEY SAND
322	335	SANDY GRAVEL
335	355	SANDY CLAY

Casings

Casing #	Depth from Surface Feet to Feet		Casing Type	Material	Casings Specificatons	Wall Thickness (inches)	Outside Diameter (inches)	Screen Type	Slot Size if any (inches)	Description
1	0	320	Blank	PVC	OD: 2.375 in. | Thickness: 0.218 in.	0.218	2.375			2" PVC CSG. SCH80
1	320	340	Screen	PVC	OD: 2.375 in. | Thickness: 0.218 in.	0.276	2.875	Milled Slots	0.02	2" PVC SCREENS SCH80
1	340	350	Blank	PVC	OD: 2.375 in. | Thickness: 0.218 in.	0.276	2.875			2" PVC CSG. SCH80

Annular Material

Depth from Surface Feet to Feet		Fill	Fill Type Details	Filter Pack Size	Description
0	310	Cement	Other Cement		21 SACKS CEMENT BENTONITE GROUT
310	355	Other Fill	See description.		#3 SAND

Other Observations:

Borehole Specifications

Depth from Surface Feet to Feet		Borehole Diameter (inches)
0	355	8

Certification Statement

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief

Name: PITCHER SERVICES LLC (Person, Firm or Corporation)

2726 Walnut Avenue (Address) | Signal Hill (City) | CA (State) | 90755 (Zip)

Signed: *electronic signature received* (C-57 Licensed Water Well Contractor) | 08/30/2022 (Date Signed) | 1044895 (C-57 License Number)

Attachments

2-MF (355') GPS Coordinates.jpg - Location Map

2-MF Log 08-04-2022.pdf - Geologic Log

DWR Use Only

CSG #	State Well Number	Site Code	Local Well Number

N — Latitude Deg/Min/Sec

W — Longitude Deg/Min/Sec

TRS:

APN:

State of California

Well Completion Report

Form DWR 188 Submitted 8/30/2022

WCR2022-010109

Owner's Well Number: 2-SF (5S-1W-06H009) | Date Work Began: 01/14/2022 | Date Work Ended: 04/07/2022

Local Permit Agency: Alameda County Water District

Secondary Permit Agency: | Permit Number: 2021-0292 | Permit Date: 11/04/2021

Well Owner (must remain confidential pursuant to Water Code 13752)

Name: ALAMEDA COUNTY WATER DISTRICT,

Mailing Address: 43885 South Grimmer Boulevard

City: Fremont | State: CA | Zip: 94538

Planned Use and Activity

Activity: New Well

Planned Use: Monitoring

Well Location

Address: 0 END OF CEDAR CT

City: Newark | Zip: 94560 | County: Alameda

Latitude: 37 Deg. 31 Min. 51.0455 Sec. N | Longitude: -122 Deg. 0 Min. 20.7252 Sec. W

Dec. Lat.: 37.530846 | Dec. Long.: -122.005757

Vertical Datum: | Horizontal Datum: WGS84

Location Accuracy: | Location Determination Method:

APN: N/A - CEDAR CT

Township: 05 S

Range: 01 W

Section: 06

Baseline Meridian: Mount Diablo

Ground Surface Elevation:

Elevation Accuracy:

Elevation Determination Method:

Borehole Information

Orientation: Vertical | Specify:

Drilling Method: Direct Rotary | Drilling Fluid: Bentonite

Total Depth of Boring: 350 Feet

Total Depth of Completed Well: 350 Feet

Water Level and Yield of Completed Well

Depth to first water: (Feet below surface)

Depth to Static Water Level: (Feet) | Date Measured:

Estimated Yield*: (GPM) | Test Type:

Test Length: (Hours) | Total Drawdown: (feet)

*May not be representative of a well's long term yield.

Geologic Log - Free Form

Depth from Surface Feet to Feet		Description
0	0.5	Asphalt: 6" asphalt; 7" AB
0.5	8	Silty Clay: With sand; black (2.5Y 2.5/1); very fine to fine sand; low plasticity; metallic odor; dry (possibly fill) 6 FT: --As above; color change to olive brown (2.5Y 4/4); medium plasticity; moist (possibly fill)
8	12	Silty Sand: Olive brown (2.5Y 4/4); very fine to fine sand; well sorted; homogenous; moist 12 FT: --As above; increasing clay content; trace coarse sand up to 2 mm; color change to grayish brown (2.5Y 5/2)
12	15	Sandy Clay: Light olive brown (2.5Y 5/4); very fine to coarse (up to 2 mm) sand; poorly sorted; low to medium plasticity; wet 15FT: --As above; increase in degree of sorting (mostly medium sand); trace coarse sand up to 1 mm
15	20	Silty Sand: Light olive brown (2.5Y 5/3) and multicolored; very fine to coarse sand; poorly sorted; subrounded to angular; weUsaturated
20	25	Sand: --As above; sand; decrease in silt with commensurate increase in medium to coarse sand 25 FT: --As above; color change to greenish gray 5GY 5/1); sharp increase in clay content
25	40	Clay: With sand; greenish gray (5GY 5/1); very fine sand (coarse sand from above); medium plasticity; wet 35 FT: As above; color change to greenish gray (10 BG 5/1) medium to high plasticity 36 FT: As above; color change to light yeloowish brown (2.5 Y 6/4)

40	48	Clayey Sand: Trace gravel; grayish olive (10Y 5/2); fine to coarse sand; subrounded to angular sand; poorly sorted; average grain size 0.5 mm, trace travel up to 0.2" diameter; low plasticity; moist
48	72	Sandy Gravel: Multicolored; coarse sand and gravels with fine to medium sand; gravels up to 0.24" diameter; angular to subrounded, broken clasts 62 FT: --As above; gravels up to 0.4" 66 FT: --As above; more coarse sand and less gravels
72	95	Sand: Multicolored, primary color dark olive gray (5Y 3/2); well graded; little fines; angular to subrounded; trace fine gravels 94 FT: --As above; slight increase in average grain/clast size
95	100	Sandy Gravel: Brown (1 0YR 4/3); fine to medium sand with very fine sand; trace coarse gravel; multicolored gravel; angular to subrounded gravels up to 0.2" diameter
100	122	Sandy Clay: Brown (1 0YR 5/3); very fine to coarse sand; some gravels up to 0.2" diameter; rounded to subangular gravels 112 FT: --As above; color change to very dark greenish gray (5GY 3/1); very fine to fine sand; some medium sand; moderate plasticity
122	140	Sandy Gravel: Multicolored; fine to medium sand; angular to subangular gravels up to 0.25" diameter
140	188	Sandy Clay: Olive gray (5Y 5/2); very fine to fine sand; trace silt; moderate plasticity 145 FT: --As above; color change to olive (5Y 4/4); stiffer As above; stiffer; moderate to high plasticity As above; color change to dark olive gray (5Y 3/2) 152 FT:--As above; increasing sand content; moderate plasticity 156 FT: --As above; color change to very dark grayish olive (10Y 3/2); decreasing sand; increasing clay content; moderate plasticity 166 FT: --As above; color change to olive (5Y 4/3); very fine to fine sand; trace silt; high plasticity; very stiff 175 FT: --As above; color change to olive gray (5Y 5/2) 180 FT: --As above; increase in sand content; trace medium to very coarse sand; color change to greenish gray (1 0Y 5/1); moderate plasticity 184 FT: --As above; decrease in sand content; increase to moderate to high plasticity 186 FT: --As above; color change to olive gray (5Y 4/2); increase in sand content (very fine to fine sand and silt, some medium to coarse sand); medium plasticity
188	200	Sand: Multicolored; medium to very coarse sand; rounded to angular sand; medium to very coarse sand; some very fine to fine sand/silt 196 FT: --As above; Sandy Clay lens; very dark greenish gray (10Y 3/1); very fine to fine sand; trace silt; high plasticity
200	255	Sandy Gravel: Multicolored; subrounded to angular/broken gravel up to 0.5" diameter; subrounded to angular and broken sand; coarse to very coarse sand; little to no fines 222 FT: --As above; abundant broken gravel 226 FT: --As above; broken gravels up to 0.7" diameter; coarsening
255	258	Sandy Clay: Light olive brown (2.5Y 5/4); very fine to coarse sand; trace gravel; rounded to angular and broken sand; medium plasticity
258	260	Sand: Multicolored; very fine to very coarse; well sorted; rounded to angular/broken
260	266	Sandy Gravel: Multicolored; medium to very coarse sand; subrounded to angular/broken sand; gravel up to 0.3" diameter; trace fines 265 FT: --As above; increase in clast size; broken gravel up to 0.7" diameter 266 FT: --As above; increase in fine and very fine sand
266	278	Sandy Clay: Greenish gray (5GY 5/1); very fine to coarse sand; subrounded to angular sand; light brown mottling; medium plasticity 276 FT: --As above; increase in clay content; increase in plasticity to moderate to high plasticity
278	280	Silty Clay: Grayish olive (10Y 5/2); trace fine sand; medium plasticity; dry; stiff
280	295	Sandy Clay: Sandy Silty Clay; light olive brown (2.5Y 5/3); rounded to subangular; very fine to medium sand; medium plasticity 286 FT: -As above; increase in medium sand; some broken coarse sand; low to medium plasticity 291 FT: --As above; decrease in sand content; high plasticity; trace sand
295	300	Silty Clay: Olive gray (SY 5/2); trace fine sand; stiff; high plasticity

300	325	Sandy Clay: Olive gray (SY 5/2); very fine to medium sand; some fine to medium sand; subrounded to angular sand; high plasticity 306 FT: --As above; increasing very fine to fine sand content; medium plasticity 321 FT: --Increased abundance of medium to very coarse sand; decreased abundance of clay; low to medium plasticity
325	340	Sand: With clay; trace gravel; multicolored; very fine to coarse sand; trace gravel up to 0.2" diameter; subrounded to angular/broken; poorly sorted; low plasticity clay 336 FT: --As above; trace broken gravel up to 0.4" diameter; sharp decrease in the abundance of clay to trace
340	350	Sandy Clay: Some silt; light yellowish brown (2.5Y 6/4); very fine to medium sand; subrounded to angular sand; moderately well sorted sand; moderate to high plasticity clay; moist

Casings

Casing #	Depth from Surface Feet to Feet		Casing Type	Material	Casings Specificatons	Wall Thickness (inches)	Outside Diameter (inches)	Screen Type	Slot Size if any (inches)	Description
1	0	320	Blank	PVC	OD: 2.375 in. | Thickness: 0.218 in.	0.276	2.875			2" PVC CSG. SCH80
1	320	340	Screen	PVC	OD: 2.375 in. | Thickness: 0.218 in.	0.276	2.875	Milled Slots	0.02	2" PVC SCREENS SCH80
1	340	350	Blank	PVC	OD: 2.375 in. | Thickness: 0.218 in.	0.276	2.875			2" PVC CSG. SCH80

Annular Material

Depth from Surface Feet to Feet		Fill	Fill Type Details	Filter Pack Size	Description
0	310	Cement	Other Cement		21 SACKS CEMENT BENTONITE GROUT
310	350	Other Fill	See description.		#3 SAND

Other Observations:
Refer to attached logs for Lithology of plugged zone from 350' to 395'

Borehole Specifications

Depth from Surface Feet to Feet		Borehole Diameter (inches)
0	350	8

Certification Statement

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief

Name: PITCHER SERVICES LLC (Person, Firm or Corporation)

2726 Walnut Avenue (Address) | Signal Hill (City) | CA (State) | 90755 (Zip)

Signed: *electronic signature received* (C-57 Licensed Water Well Contractor) | 08/30/2022 (Date Signed) | 1044895 (C-57 License Number)

Attachments

2-SF Log 07-21-2022.pdf - Geologic Log

2-SF (395') GPS Coordinates.jpg - Location Map

DWR Use Only

CSG #	State Well Number	Site Code	Local Well Number

N — Latitude Deg/Min/Sec

W — Longitude Deg/Min/Sec

TRS:

APN:

State of California

Well Completion Report

Form DWR 188 Submitted 8/30/2022

WCR2022-010111

Owner's Well Number: 2-TF (5S-1W-06H010) | Date Work Began: 01/06/2022 | Date Work Ended: 04/07/2022

Local Permit Agency: Alameda County Water District

Secondary Permit Agency: | Permit Number: 2021-0289 | Permit Date: 11/04/2021

Well Owner (must remain confidential pursuant to Water Code 13752)

Name: ALAMEDA COUNTY WATER DISTRICT,

Mailing Address: 43885 South Grimmer Boulevard

City: Fremont | State: CA | Zip: 94538

Planned Use and Activity

Activity: New Well

Planned Use: Test Well

Well Location

Address: 0 END OF CEDAR CT, CEDAR CT

City: NEWARK | Zip: 94560 | County: Alameda

Latitude: 37 Deg. 31 Min. 49.8899 Sec. N | Longitude: -122 Deg. 0 Min. 22.8096 Sec. W

Dec. Lat.: 37.530525 | Dec. Long.: -122.006336

Vertical Datum: | Horizontal Datum: WGS84

Location Accuracy: | Location Determination Method:

APN: N/A - CEDAR CT

Township: 05 S

Range: 01 W

Section: 06

Baseline Meridian: Mount Diablo

Ground Surface Elevation:

Elevation Accuracy:

Elevation Determination Method:

Borehole Information

Orientation: Vertical | Specify:

Drilling Method: Direct Rotary | Drilling Fluid: Bentonite

Total Depth of Boring: 355 Feet

Total Depth of Completed Well: 350 Feet

Water Level and Yield of Completed Well

Depth to first water: (Feet below surface)

Depth to Static Water Level: (Feet) | Date Measured:

Estimated Yield*: (GPM) | Test Type:

Test Length: (Hours) | Total Drawdown: (feet)

*May not be representative of a well's long term yield.

Geologic Log - Free Form

Depth from Surface Feet to Feet		Description
0	15	Backfill: Silty Sand; light olive brown (2.5Y 5/4); homogenous; moist 11 FT: --As above; increased clay content; very low plasticity; moist
15	35	Silty Sand: With clay; light yellowish brown (2.5Y 6/3); fine to coarse sand; subrounded to angular; poorly sorted; trace gravel up to 0.75" diameter; multicolored sand grains 21 FT: --As above; decreased clay content; increased abundance of coarse and very coarse sand 26 FT: --As above; nodules of light olive brown (2.5Y 5/3) Silty Clay
35	50	Silty Clay: Dark greenish gray (5GY 4/1); some fine to medium, subrounded sand; low to medium plasticity; nodules of light olive brown (2.5Y 5/3) Silty Clay, as above at 25 feet bgs 41 FT: --As above; increased abundance of fine to coarse sand 44 FT: --Color change to greenish gray (1 0GY 5/1); decreased abundance of silt and sand (trace fine sand) 48 FT: --As above; increased abundance of sand; color change to greenish gray (1 0GY 6/1)
50	60	Silty Sand: Light brownish gray (2.5Y 6/2); fine to coarse sand; subrounded to angular; poorly sorted sand; trace gravel up to 0.5" diameter

60	95	Sandy Gravel: Subrounded and broken grave up to 0.5" diameter; fine to very coarse sand (very poorly sorted) 81 FT: --As above; decrease in abundance of gravel with commensurate increase in abundance of medium to coarse sand, as above 86 FT: --As above; another decrease in abundance of gravel with commensurate increase in abundance of medium to coarse sand 91 FT: Multicolored; fine to coarse, subrounded to angular sand; poorly sorted; very large, subrounded but frequently broken gravel up to 1.5" diameter
95	110	Gravelly Sand: Light brownish gray (2.5Y 6/2); fine to very coarse sand (poorly sorted); subrounded to angular/broken sand and gravel; gravels up to 0.8" diameter 102 FT: --As above; increasing clay content to some clay
110	128	Silty Clay: Light olive brown (2.5Y 5/4); low to medium plasticity
128	140	Sandy Gravel: With clay; light olive brown (2.5Y 5/4); fine to coarse sand; poorly sorted; gravels up to 1.2" diameter; subrounded to broken gravel
140	145	Sandy Clay: Light olive brown (2.5Y 5/4); fine to coarse sand; poorly sorted; some gravels up to 0.5" diameter; low to medium plsticity 144 FT:--As above; clay becomes medium to high plasticity; stiff 145 FT: As above; increasing abundance of sand
145	160	Clayey Sand: Grayish olive (1 DY 5/2); subrounded to angular sand; fine to coarse grained sand; moderately well sorted 156 FT: --As above; increasing clay content
160	210	Silty Clay: Grayish olive (10Y 5/2); some fine to medium sand; angular to subrounded sand; well sorted sand; low to medium plasticity; moist 191 FT: --As above; increasing silt content and abundance of fine and medium sand 201 FT: --As above; increasing abundance of fine to coarse sand; trace gravel up to 0.2" diameter
210	240	Clayey Sand: Light grayish olive (1 DY 6/2); fine to medium sand; subrounded sand; trace very coarse gravel up to 0.2" diameter; very low plasticity, silty clay 222 FT: --As above; trace gravel up to 0.6" diameter 237 FT: --As above; decreasing clay content
240	250	Sand: Multicolored; medium to very coarse sand; subrounded to angular/broken; trace gravel up to 0.8" diameter; very little fines
250	260	Sandy Gravel: Multicolored; medium to very coarse sand; gravels up to 1" diameter; subrounded to angular/broken gravel; trace fines
260	300	Sandy Clay: Light olive gray (SY 6/2); with silt and very fine to fine sand; high plasticity; dark gray mottling; rounded to subrounded sand; moist; trace embedded gravels up to 1" diameter 271 FT: --As above; color change to greenish gray (1 0Y 6/2); increase in medium sand content 281 FT: --As above; increase in sand content; medium to coarse sand 286 FT: --As above; color change to light olive gray (SY 6/2) 292 FT: --As above; increasing medium to coarse sand content; medium plasticity
300	322	Clayey Sand: Light yellowish brown (2.SY 6/3); fine to very coarse sand; subrounded to angular/broken sand; medium plasticity
322	335	Sandy Gravel: Multicolored; fine to coarse sand; rounded to angular sand; gravels up to 1.2" diameter; some clay; subrounded to angular/abundant broken gravel
335	355	Sandy Clay: Olive gray (SY 5/2); fine to coarse sand; subrounded to angular sand; abundant broken clasts; medium plasticity

Casings

Casing #	Depth from Surface Feet to Feet		Casing Type	Material	Casings Specificatons	Wall Thickness (inches)	Outside Diameter (inches)	Screen Type	Slot Size if any (inches)	Description
1	0	320	Blank	Mild Steel	Nominal Size: 8 in. | Thickness: 1/4 in. | OD: 8-5/8 in.	0.25	8.625			8.625"ODX.25" WALL, ASTM A139 GRB, LOW CARBON STEEL SPIRAL WELDED BLANK CASING, BEVELED ENDS
1	320	340	Screen	Mild Steel	Nominal Size: 8 in. | Thickness: 1/4 in. | OD: 8-5/8 in.	0.25	8.625	Milled Slots	0.04	8.625"ODX.25" WALL, ASTM A139 GRB, LOW CARBON STEEL SPIRAL WELDED MILL SLOT CASING, DOUBLE ROW, 0.04" SLOT, BEVELED ENDS
1	340	350	Blank	Mild Steel	Nominal Size: 8 in. | Thickness: 1/4 in. | OD: 8-5/8 in.	0.25	8.625			8.625"ODX.25" WALL, ASTM A139 GRB, LOW CARBON STEEL SPIRAL WELDED BLANK CASING, BEVELED ENDS

Annular Material

Depth from Surface Feet to Feet		Fill	Fill Type Details	Filter Pack Size	Description
0	310	Cement	Other Cement		11 SACKS CEMENT SAND SLURRY
310	355	Other Fill	See description.		#3 SAND

Other Observations:
Refer to attached Logs for lithology of plugged zone from 355' to 400'

Borehole Specifications

Depth from Surface Feet to Feet		Borehole Diameter (inches)
0	355	14.75

Certification Statement

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief

Name: PITCHER SERVICES LLC (Person, Firm or Corporation)

2726 Walnut Avenue (Address) | Signal Hill (City) | CA (State) | 90755 (Zip)

Signed: *electronic signature received* (C-57 Licensed Water Well Contractor) | 08/30/2022 (Date Signed) | 1044895 (C-57 License Number)

Attachments

2-TF (400') GPS Coordinates.jpg - Location Map

2-TF Log 07-21-2022.pdf - Geologic Log

DWR Use Only

CSG #	State Well Number	Site Code	Local Well Number

N — Latitude Deg/Min/Sec

W — Longitude Deg/Min/Sec

TRS:

APN:

State of California

Well Completion Report

Form DWR 188 Submitted 8/30/2022

WCR2022-010103

Owner's Well Number: 3-MN (4S-1W-32N003) | Date Work Began: 01/11/2022 | Date Work Ended: 04/07/2022

Local Permit Agency: Alameda County Water District

Secondary Permit Agency: | Permit Number: 2021-0286 | Permit Date: 11/04/2021

Well Owner (must remain confidential pursuant to Water Code 13752)

Name: ALAMEDA COUNTY WATER DISTRICT,

Mailing Address: 43885 South Grimmer Boulevard

City: Fremont | State: CA | Zip: 94538

Planned Use and Activity

Activity: New Well

Planned Use: Monitoring

Well Location

Address: 0 INTERSECTION BLACOW RD. X BROPHY DR

City: FREMONT | Zip: 94538 | County: Alameda

Latitude: 37 Deg. 32 Min. 17.1708 Sec. N | Longitude: -122 Deg. 0 Min. 8.0207 Sec. W

Dec. Lat.: 37.538103 | Dec. Long.: -122.002228

Vertical Datum: | Horizontal Datum: WGS84

Location Accuracy: | Location Determination Method:

APN: N/A

Township: 04 S

Range: 01 W

Section: 32

Baseline Meridian: Mount Diablo

Ground Surface Elevation:

Elevation Accuracy:

Elevation Determination Method:

Borehole Information

Orientation: Vertical | Specify:

Drilling Method: Direct Rotary | Drilling Fluid: Bentonite

Total Depth of Boring: 111.3 Feet

Total Depth of Completed Well: 111.3 Feet

Water Level and Yield of Completed Well

Depth to first water: (Feet below surface)

Depth to Static Water Level: (Feet) | Date Measured:

Estimated Yield*: (GPM) | Test Type:

Test Length: (Hours) | Total Drawdown: (feet)

*May not be representative of a well's long term yield.

Geologic Log - Free Form

Depth from Surface Feet to Feet		Description
0	2	ASPHALT
2	5	TOPSOIL
5	10	SILTY CLAY
10	20	SANDY CLAY
20	30	CLAYEY SAND
30	40	SANDY CLAY
40	50	SANDY CLAY
50	70	GRAVELLY SAND
70	102	SANDY GRAVEL
102	110	SANDY CLAY
110	111.3	SILTY CLAY

Casings

Casing #	Depth from Surface Feet to Feet		Casing Type	Material	Casings Specificatons	Wall Thickness (inches)	Outside Diameter (inches)	Screen Type	Slot Size if any (inches)	Description
1	0	50	Blank	PVC	OD: 2.375 in. | Thickness: 0.218 in.	0.218	2.375			2" PVC CSG. SCH80
1	50	100	Screen	PVC	OD: 2.375 in. | Thickness: 0.218 in.	0.218	2.375	Milled Slots	0.02	2" PVC SCREENS SCH80
1	100	111.3	Blank	PVC	OD: 2.375 in. | Thickness: 0.218 in.	0.276	2.875			2" PVC CSG. SCH80

Annular Material

Depth from Surface Feet to Feet		Fill	Fill Type Details	Filter Pack Size	Description
0	40	Cement	Other Cement		21 SACKS CEMENT BENTONITE GROUT
40	111.3	Other Fill	See description.		#3 SAND

Other Observations:

Borehole Specifications

Depth from Surface Feet to Feet		Borehole Diameter (inches)
0	111.3	8

Certification Statement

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief

Name: PITCHER SERVICES LLC (Person, Firm or Corporation)

2726 Walnut Avenue (Address) | Signal Hill (City) | CA (State) | 90755 (Zip)

Signed: *electronic signature received* (C-57 Licensed Water Well Contractor) | 08/30/2022 (Date Signed) | 1044895 (C-57 License Number)

Attachments

3-MN Log 08-04-2022.pdf - Geologic Log

3-MN (111.3') GPS Coordinates.jpg - Location Map

DWR Use Only

CSG #	State Well Number	Site Code	Local Well Number

N — Latitude Deg/Min/Sec

W — Longitude Deg/Min/Sec

TRS:

APN:

State of California

Well Completion Report

Form DWR 188 Submitted 8/30/2022

WCR2022-010104

Owner's Well Number: 3-SF (4S-1W-32N004) | Date Work Began: 11/22/2021 | Date Work Ended: 04/07/2022

Local Permit Agency: Alameda County Water District

Secondary Permit Agency: | Permit Number: 2021-0287 | Permit Date: 11/04/2021

Well Owner (must remain confidential pursuant to Water Code 13752)

Name: ALAMEDA COUNTY WATER DISTRICT,

Mailing Address: 43885 South Grimmer Boulevard

City: Fremont | State: CA | Zip: 94538

Planned Use and Activity

Activity: New Well

Planned Use: Monitoring

Well Location

Address: 0 INTERSECTION BLACOW RD. X EGGERS DR

City: FREMONT | Zip: 94536 | County: Alameda

Latitude: 37 Deg. 32 Min. 22.7723 Sec. N | Longitude: -122 Deg. 0 Min. 18.6623 Sec. W

Dec. Lat.: 37.539659 | Dec. Long.: -122.005184

Vertical Datum: | Horizontal Datum: WGS84

Location Accuracy: | Location Determination Method:

APN: N/A

Township: 04 S

Range: 01 W

Section: 32

Baseline Meridian: Mount Diablo

Ground Surface Elevation:

Elevation Accuracy:

Elevation Determination Method:

Borehole Information

Orientation: Vertical | Specify:

Drilling Method: Direct Rotary | Drilling Fluid: Bentonite

Total Depth of Boring: 355 Feet

Total Depth of Completed Well: 355 Feet

Water Level and Yield of Completed Well

Depth to first water: (Feet below surface)

Depth to Static Water Level: (Feet) | Date Measured:

Estimated Yield*: (GPM) | Test Type:

Test Length: (Hours) | Total Drawdown: (feet)

*May not be representative of a well's long term yield.

Geologic Log - Free Form

Depth from Surface Feet to Feet		Description
0	5	Backfill: Topsoil (fill, organics, root holes); loose soils
5	26	Silty Clay: Olive brown (2.5Y 4/4); very fine to fine sand; trace coarse sand; low plasticity; damp 11 FT: --Color change to grayish brown (1 OYR 5/2); increasing very fine to fine sand; trace medium sand; damp; moderate plasticity 16 FT: --Increasing silt and very fine to fine sand 23 FT: --Color change to dark gray (7.5 YR 4/4)
26	55	Sandy Clay: Olive gray (5Y 4/1); very silty; low plasticity; fine to medium sand 36 FT: --Increasing clay content
55	60	Sand: Well-sorted; coarse sand up to 1/4" diameter; rounded to angular; fine to coarse sand 59 FT: --Increasing gravel to some; 3/4" diameter; rounded to subrounded
60	104	Sandy Gravel: Multicolored; fine to coarse sand; gravels up to 3/4" diameter 66 FT: --As above; increasing gravel 76 FT: --Large 1" diameter gravels; subrounded to rounded, broken gravels 81 FT: --As above; gravels very broken up

104	120	Gravelly Clay: Brown (1 OYR 5/3); gravels to 1/4" diameter; broken to subrounded fine to coarse sand; low plasticity
120	125	Sandy Clay: Gray (2.5Y 5/1); very fine to medium sand; trace coarse sand; low plasticity; high silt content
125	140	Silty Sand: Light brown (2.5Y 5/2); very fine to medium sand; low plasticity; trace gravels up to 1/2" diameter 129 FT: --Clay lens at 129 feet bgs 133.5 FT: --Gravel lens at 133.5 feet bgs
140	152	Gravelly Clay: Grayish brown (2.5Y 5/2); gravels up to 1/2" diameter; broken and embedded in clay; very fine to medium sand; damp when broken
152	155	Sandy Gravel: Multicolored; coarse sand; gravels up to 1/2" diameter; angular and broken, some rounded
155	175	Silty Clay: Dark gray brown (2.5Y 4/2); trace very fine to fine sand; some coarse sand; trace gravels up to 1/4"
175	190	Sandy Clay: Dark gray brown (2.5YR 5/2); fine to medium sand; trace silt; some coarse sand and gravel 186 FT: --As above; trace blue clay stringers
190	204	Sandy Clay: Dark grayish brown (2.5Y 4/2); very fine to fine sand; some coarse sand
204	206	Sandy Gravel: Multicolored gravels up to 1 1/2" diameter; rounded to subangular/broken; fine to medium sand
206	212	Sandy Clay: Olive (SY 7/3); very fine to fine sand, trace coarse sand
212	215	Gravelly Sand: Olive gray (SY 4/2); medium to coarse sand with fine sand; gravels up to 1/2" diameter; rounded to angular
215	220	Sandy Gravel: Multicolored gravels up to 3/8" diameter; rounded to angular 219 FT: --Increasing gravel size to 1" diameter
220	242	Gravelly Sand: Olive gray (SY 7/3); medium to coarse sand; with gravels up to 3/8" diameter 232.5 FT: --As above; decreasing gravels 239 FT: --As above; increasing gravels
242	250	Sandy Gravel: Medium to coarse sand; angular to rounded/broken gravels
250	256	Gravelly Sand: Multicolored; medium to coarse sand, some fine sand; gravels up to 1/2" diameter; rounded to angular gravels
256	270	Silty Sand: Light brown (7.5Y 6/4); very fine to fine sand; some coarse sand 261 FT: --As above; increasing sand content with trace rounded to subrounded gravels
270	300	Sandy Clay: Grayish brown (1 OYR 5/2); very fine to fine sand, some coarse sand, some small gravels; rounded 276 FT: --Lens of SIL TY SAND; light brown (7.5Y 6/4); very fine to fine sand, some coarse sand
300	325	Silty Clay: Light olive brown (2.5Y 5/3); with very fine to fine sand; moderate plasticity 309 FT: --As above; increasing silt 316 FT: --Lens of GRAVELLY SAND; multicolored; medium to coarse sand; fine sand, gravels up to 1 /4" diameter; angular to rounded 324 FT: --As above; increasing gravel content
325	335	Sandy Gravel: Multicolored; medium to coarse sand; gravels up to 1/4" diameter; rounded to subangular, some broken bits
335	355	Silty Clay: Light olive brown (2.5Y 5/3); some very fine to fine sand

Casings

Casing #	Depth from Surface Feet to Feet		Casing Type	Material	Casings Specificatons	Wall Thickness (inches)	Outside Diameter (inches)	Screen Type	Slot Size if any (inches)	Description
1	0	305	Blank	PVC	OD: 2.375 in. | Thickness: 0.218 in.	0.218	2.375			2" PVC CSG. SCH80
1	305	345	Screen	PVC	OD: 2.375 in. | Thickness: 0.218 in.	0.276	2.875	Milled Slots	0.02	2" PVC SCREENS SCH80
1	345	355	Blank	PVC	OD: 2.375 in. | Thickness: 0.218 in.	0.276	2.875			2" PVC CSG. SCH80

Annular Material

Depth from Surface Feet to Feet		Fill	Fill Type Details	Filter Pack Size	Description
0	295	Cement	Other Cement		21 SACKS CEMENT BENTONITE GROUT
295	355	Other Fill	See description.		#3 SAND

Other Observations:
Refer to attached logs for Lithology of Plugged zone from 355' to 400'

Borehole Specifications

Depth from Surface Feet to Feet		Borehole Diameter (inches)
0	355	8

Certification Statement

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief

Name: PITCHER SERVICES LLC (Person, Firm or Corporation)

2726 Walnut Avenue (Address) | Signal Hill (City) | CA (State) | 90755 (Zip)

Signed: *electronic signature received* (C-57 Licensed Water Well Contractor) | 08/30/2022 (Date Signed) | 1044895 (C-57 License Number)

Attachments

3-SF (400') GPS Coordinates.jpg - Location Map

3-SF Log 08-09-2022.pdf - Geologic Log

DWR Use Only

CSG #	State Well Number	Site Code	Local Well Number

N — Latitude Deg/Min/Sec

W — Longitude Deg/Min/Sec

TRS:

APN:

State of California

Well Completion Report

Form DWR 188 Submitted 8/30/2022

WCR2022-010105

Owner's Well Number: 3-TF (4S-1W-32N005) | Date Work Began: 11/29/2021 | Date Work Ended: 04/07/2022

Local Permit Agency: Alameda County Water District

Secondary Permit Agency: | Permit Number: 2021-0288 | Permit Date: 11/04/2021

Well Owner (must remain confidential pursuant to Water Code 13752)

Name: ALAMEDA COUNTY WATER DISTRICT,

Mailing Address: 43885 South Grimmer Boulevard

City: Fremont | State: CA | Zip: 94538

Planned Use and Activity

Activity: New Well

Planned Use: Test Well

Well Location

Address: 0 INTERSECTION BLACOW RD. X BROPHY DR

City: FREMONT | Zip: 94538 | County: Alameda

Latitude: 37 Deg. 32 Min. 17.214 Sec. N | Longitude: -122 Deg. 0 Min. 8.1467 Sec. W

Dec. Lat.: 37.538115 | Dec. Long.: -122.002263

Vertical Datum: | Horizontal Datum: WGS84

Location Accuracy: | Location Determination Method:

APN: N/A

Township: 04 S

Range: 01 W

Section: 32

Baseline Meridian: Mount Diablo

Ground Surface Elevation:

Elevation Accuracy:

Elevation Determination Method:

Borehole Information

Orientation: Vertical | Specify:

Drilling Method: Direct Rotary | Drilling Fluid: Bentonite

Total Depth of Boring: 345 Feet

Total Depth of Completed Well: 345 Feet

Water Level and Yield of Completed Well

Depth to first water: (Feet below surface)

Depth to Static Water Level: (Feet) | Date Measured:

Estimated Yield*: (GPM) | Test Type:

Test Length: (Hours) | Total Drawdown: (feet)

*May not be representative of a well's long term yield.

Geologic Log - Free Form

Depth from Surface Feet to Feet		Description
0	0.5	Asphalt: 6" concrete
0.5	5	Topsoil: Silty Clay; very dark grayish brown (1 0YR 3/1); some very fine to fine sand
5	10	Silty Clay: Olive brown (2.5Y 4/4); low plasticity; damp
10	20	Sandy Clay: Olive brown (2.5Y 4/4); fine to coarse sand up to 0.25" diameter; damp 16 FT: --As above; light olive brown (2.5Y 5/3); increasing silt; decreasing coarse sand
20	30	Clayey Sand: Light olive brown (2.5Y 5/3); fine to very coarse sand; subrounded to angular gravel up to 0.25" diameter; trace broken gravel; damp
30	40	Sandy Clay: Dark grayish olive (1 0Y 4/2); very fine to coarse sand; subrounded to angular sand; gravel up to 0.25" diameter; moist
40	50	Sandy Clay: Greenish gray (10GY 5/1); well sorted sand up to 3 mm; low to moderate plasticity; moist 44 FT: As above, increase to moderate to high plasticity 45 FT: As above, Sand up to 4 mm
50	70	Gravelly Sand: Gray (SY 5/1); fine to very coarse sand; poorly sorted sand with gravel up to 0.4" diameter; subrounded to angular/broken gravel; some clay 65 FT: --Decreasing abundance of gravel; increasing abundance of coarse sand; gravels up to 0.25" diameter 69 FT: --Increasing gravels; gravels up to 0.25" diameter

70	102	Sandy Gravel: Multicolored; coarse sand to gravel; gravel up to 0.75" diameter; subrounded to angular/broken gravels 91 FT: --As above; increasing abundance of coarse sand (commensurate decrease in gravel); gravels up to 0.5" diameter 101 FT: --As above; decreasing abundance of gravel with commensurate increase in the abundance of coarse gravel; broken gravel up to 0.75" diameter
102	110	Sandy Clay: Light yellowish brown (2.5Y 6/3); fine to coarse sand; low to medium plasticity; moist 109 FT: --As above; color change to olive gray (SY 5/2)
110	130	Silty Clay: Some sand; dark greenish gray (5GY 4/1); fine to medium sand; low to moderate plasticity 126 FT: --As above; color change to grayish olive (1 0Y 5/2); increasing abundance of clay 129 ft: --As above; increasing clay content
130	135	Sandy Clay: With silt; olive (SY 5/3); fine to coarse sand; low to moderate plasticity
135	140	Gravelly Sand: With clay; trace silt; pale olive (SY 6/3); fine to very coarse sand; gravels up to 0.75" diameter; poorly sorted; rounded to subangular gravel 139 FT: --As above; increasing clay with commensurate decrease in grave 140 ft: --As above; increasing clay with commensurate decrease in sand
140	170	Clay: With sand; grayish olive (1 0Y 5/2); fine to medium sand; subrounded sand; moderate to high plasticity; moist 162 FT : --As above; increase in sand content; color change to dark grayish green (10Y 4/2); coarse sand up to 3 mm
170	180	Sandy Clay: Grayish olive (10Y 5/2); fine to medium sand with trace coarse sand; trace gravel up to 0.25" diameter; trace subrounded gravels; moist
180	190	Clayey Sand: Olive (SY 5/3); fine to medium sand; well sorted; trace gravel up to 0.2" diameter; trace subrounded gravels; low plasticity; moist 186 FT: --As above; increasing abundance of sand; gravel up to 0.4" diameter; rounded to angular gravel
190	200	Gravelly Sand: Olive (SY 5/3); fine to very coarse sand; poorly sorted; gravels up to 0.4" diameter; subrounded and broken gravels 196 FT: --As above; increasing abundance of coarse sand and gravel
200	240	Sandy Gravel: Olive (SY 5/3); medium to very coarse sand; poorly sorted; subrounded to angular gravel up to 0.5" diameter; trace broken gravel
240	245	Sandy Clay: Grayish olive (10Y 5/2); fine to medium sand; trace gravel up to 0_1" diameter; trace subrounded gravels; low plasticity; moist
245	255	Sandy Clay: Sandy Silty Clay; grayish olive (5Y 5/3); very fine to coarse sand; trace gravels up to 1" diameter; damp
255	265	Silty Clay: Olive (5Y 5/3); trace medium sand 264 FT: --As above; increasing abundance of medium sand
265	280	Gravelly Sand: Medium to very coarse sand; gravel up to 0_6" diameter; rounded to subangular gravel; poorly sorted 276 FT: --As above; increasing abundance of gravel up to 0_8" diameter
280	285	Clayey Sand: Light olive brown (2_5Y 5/3); very fine to coarse sand
285	305	Gravelly Sand: Medium to very coarse sand; gravel up to 0_8" diameter; rounded to subangular; poorly sorted 296 FT: --As above; increase in abundance of sand and decrease in abundance of gravel; gravel up to 0_5" diameter; clayey stringers; broken clasts 302 FT: --As above; broken gravels 304 F: --As above; larger broken gravel
305	320	Sandy Gravel: Abundant broken gravel; medium to coarse sand; gravels up to 1" diameter
320	325	Gravelly Sand: Fine to very coarse sand; broken gravels up to 0_5" diameter; rounded to subangular gravel; well graded 324 FT: --Clay lens
325	338	Sandy Gravel: Medium to coarse sand; abundant broken gravel; poorly graded 335 FT: --As above; larger broken gravel pieces and very sharp/angular
338	345	Sandy Clay: Dark greenish gray (10GY 4/1); fine to medium sand; gray (5Y 5/1) mottling

Casings

Casing #	Depth from Surface Feet to Feet		Casing Type	Material	Casings Specificatons	Wall Thickness (inches)	Outside Diameter (inches)	Screen Type	Slot Size if any (inches)	Description
1	0	290	Blank	Mild Steel	Nominal Size: 8 in. | Thickness: 1/4 in. | OD: 8-5/8 in.	0.25	8.625			8.625"ODX.25" WALL, ASTM A139 GRB, LOW CARBON STEEL SPIRAL WELDED BLANK CASING, BEVELED ENDS
1	290	340	Screen	Mild Steel	Nominal Size: 8 in. | Thickness: 1/4 in. | OD: 8-5/8 in.	0.25	8.625	Milled Slots	0.04	8.625"ODX.25" WALL, ASTM A139 GRB, LOW CARBON STEEL SPIRAL WELDED MILL SLOT CASING, DOUBLE ROW, 0.04" SLOT, BEVELED ENDS
1	340	345	Blank	Mild Steel	Nominal Size: 8 in. | Thickness: 1/4 in. | OD: 8-5/8 in.	0.25	8.625			8.625"ODX.25" WALL, ASTM A139 GRB, LOW CARBON STEEL SPIRAL WELDED BLANK CASING, BEVELED ENDS

Annular Material

Depth from Surface Feet to Feet		Fill	Fill Type Details	Filter Pack Size	Description
0	280	Cement	Other Cement		11 SACKS CEMENT SAND SLURRY
280	345	Other Fill	See description.		#3 SAND

Other Observations:
Refer to attached Logs for lithology of plugged zone from 345' to 400'

Borehole Specifications

Depth from Surface Feet to Feet		Borehole Diameter (inches)
0	345	14.75

Certification Statement

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief

Name: PITCHER SERVICES LLC (Person, Firm or Corporation)

2726 Walnut Avenue (Address) | Signal Hill (City) | CA (State) | 90755 (Zip)

Signed: *electronic signature received* (C-57 Licensed Water Well Contractor) | 08/30/2022 (Date Signed) | 1044895 (C-57 License Number)

Attachments

3-TF Log 07-21-2022.pdf - Geologic Log

3-TF (400') GPS Coordinates.jpg - Location Map

DWR Use Only

CSG #	State Well Number	Site Code	Local Well Number

N — Latitude Deg/Min/Sec

W — Longitude Deg/Min/Sec

TRS:

APN:

Appendix 8. Waste Manifests

STRAIGHT BILL OF LADING – ORIGINAL – NOT NEGOTIABLE

21-16298

Shipper's No. ~~22-16001-001~~

Carrier PONDER ENVIRONMENTAL SERVICES SCAC _____ Carrier's No. CAR000180737

RECEIVED, subject to individually determined rates or contracts that have been agreed upon in writing between the carrier and shipper, if applicable, otherwise to the rates, classifications and rules that have been established by the carrier and are available to the shipper, on request; and all applicable state and federal regulations;

at _____, date _____ from _____

the Property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated below which said company (the word company being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to delivery at said destination, if on its route, or otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said Property over all or any portion of said route to destination and as to each party at any time interested in all or any of said Property that every service to be performed hereunder shall be subject to all the conditions not prohibited by law, whether printed or written, herein contained, including the conditions on the back hereof, which are hereby agreed to by the shipper and accepted for himself and his assigns.

TO:
Consignee SLURRY SOLUTIONS
Street 24701 CLAWITER RD.
Destination HAYWARD, CA Zip 94545

FROM:
Shipper PITCHER SERVICES
Street 6300 CIVIC TERRACE AVE.
Origin NEWARK, CA Zip 94560

Route

Delivering Carrier | Vehicle Number 149-280 | U.S. DOT Hazmat Reg. Number

Number and Type of Packages	HM	I.D. Number	Description of Articles	Hazard Class	Pkg. Grp.	Total Quantity (mass, volume, or activity)	Weight (subject to correction)	Class or Rate
01 X TM			DRILLING MUD			15	Y	

Remit COD to:
Address:
City: State: Zip:

NOTE: Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property. The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding $ Per

Subject to Section 7 of conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:
The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.
(Signature of Consignor)

COD AMT: $

TOTAL CHARGES: $

COD FEE: Prepaid ☐ Collect ☐ $

FREIGHT CHARGES: ☐ Prepaid ☐ Collect

NOTE: Liability Limitation for loss or damage in this shipment may be applicable. See 49 U.S.C. 14706(c)(1)(A) and (B).

This is to certify that the above-named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. Per

PLACARDS REQUIRED NONE

PLACARDS SUPPLIED ☐ BY SHIPPER ☐ BY CARRIER

DRIVER'S SIGNATURE:

SHIPPER: PITCHER SERVICES
PER: MARCOS OROZCO DATE: 01-05-22

CARRIER: PONDER ENVIRONMENTAL SERVICES
PER: _____ DATE: 01-05-22

EMERGENCY RESPONSE TELEPHONE NUMBER:

NAME OR CONTRACT NUMBER OR OTHER UNIQUE IDENTIFIER: 22-16001

431 (Rev. 3/17)

STRAIGHT BILL OF LADING – ORIGINAL – NOT NEGOTIABLE

Shipper's No. 21-16298-001

Carrier POWDER ENVIRONMENTAL SERVICES SCAC _____ Carrier's No. CAR0001807377

RECEIVED, subject to individually determined rates or contracts that have been agreed upon in writing between the carrier and shipper, if applicable, otherwise to the rates, classifications and rules that have been established by the carrier and are available to the shipper, on request; and all applicable state and federal regulations;

at _____, date _____ from _____

the Property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated below which said company (the word company being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to delivery at said destination, if on its route, or otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said Property over all or any portion of said route to destination and as to each party at any time interested in all or any of said Property that every service to be performed hereunder shall be subject to all the conditions not prohibited by law, whether printed or written, herein contained, including the conditions on the back hereof, which are hereby agreed to by the shipper and accepted for himself and his assigns.

TO:
Consignee SLURRY SOLUTIONS
Street 24701 CLAWITER RD.
Destination HAYWARD, CA Zip 94545

FROM:
Shipper PITCHER SERVICES
Street 6300 CIVIC TERRACE BLVD.
Origin NEWARK, CA Zip 94560

Route

Delivering Carrier | Vehicle Number 149-297 | U.S. DOT Hazmat Reg. Number

Number and Type of Packages	HM	I.D. Number	Description of Articles	Hazard Class	Pkg. Grp.	Total Quantity (mass, volume, or activity)	Weight (subject to correction)	Class or Rate
01 XTT			DRILLING MUD			4800	6.	

Remit COD to:
Address:
City: State: Zip:

NOTE: Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property. The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding $ Per

Subject to Section 7 of conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:
The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.
(Signature of Consignor)

COD AMT: $

TOTAL CHARGES: $

COD FEE: Prepaid ☐ Collect ☐ $

FREIGHT CHARGES: ☐ Prepaid ☐ Collect

NOTE: Liability Limitation for loss or damage in this shipment may be applicable. See 49 U.S.C. 14706(c)(1)(A) and (B).

This is to certify that the above-named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.

PLACARDS REQUIRED NONE

PLACARDS SUPPLIED ☐ BY SHIPPER ☐ BY CARRIER

DRIVER'S SIGNATURE:

SHIPPER: _____
PER: _____ DATE: 01-10-22

CARRIER: POWDER ENVIRONMENTAL SERVICES
PER: _____ DATE: 01-10-22

EMERGENCY RESPONSE TELEPHONE NUMBER:

NAME OR CONTRACT NUMBER OR OTHER UNIQUE IDENTIFIER: 21-16298

431 (Rev. 3/17)

STRAIGHT BILL OF LADING – ORIGINAL – NOT NEGOTIABLE

Shipper's No. 21-16298-007

Carrier PONDER ENVIRONMENTAL SERVICES SCAC _____ Carrier's No. CAR0001807 37

RECEIVED, subject to individually determined rates or contracts that have been agreed upon in writing between the carrier and shipper, if applicable, otherwise to the rates, classifications and rules that have been established by the carrier and are available to the shipper, on request; and all applicable state and federal regulations;

at _____, date _____ from _____

the Property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated below which said company (the word company being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to delivery at said destination, if on its route, or otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said Property over all or any portion of said route to destination and as to each party at any time interested in all or any of said Property that every service to be performed hereunder shall be subject to all the conditions not prohibited by law, whether printed or written, herein contained, including the conditions on the back hereof, which are hereby agreed to by the shipper and accepted for himself and his assigns.

TO:
Consignee SLURRY SOLUTIONS
Street 24701 CLAWITER RD.
Destination HAYWARD, CA Zip 94545

FROM:
Shipper PITTMEN SERVICES
Street 38801 BLACOW RD.
Origin FREMONT, CA Zip 94536

Route

Delivering Carrier

Vehicle Number 149-297

U.S. DOT Hazmat Reg. Number

Number and Type of Packages	HM	I.D. Number	Description of Articles	Hazard Class	Pkg. Grp.	Total Quantity (mass, volume, or activity)	Weight (subject to correction)	Class or Rate
01 x TT			DRILLING MUD			4500	G.	

Remit COD to:
Address:
City: State: Zip:

NOTE: Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property. The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding $ Per

Subject to Section 7 of conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:
The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

(Signature of Consignor)

COD AMT: $

TOTAL CHARGES: $

COD FEE: Prepaid ☐ Collect ☐ $

FREIGHT CHARGES: ☐ Prepaid ☐ Collect

NOTE: Liability Limitation for loss or damage in this shipment may be applicable. See 49 U.S.C. 14706(c)(1)(A) and (B).

This is to certify that the above-named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. Per

PLACARDS REQUIRED NONE

PLACARDS SUPPLIED ☐ BY SHIPPER ☐ BY CARRIER

DRIVER'S SIGNATURE:

SHIPPER: _____
PER: _____ DATE: _____

CARRIER: PONDER ENVIRONMENTAL SERVICES
PER: _____ DATE: 01-10-22

EMERGENCY RESPONSE TELEPHONE NUMBER:

NAME OR CONTRACT NUMBER OR OTHER UNIQUE IDENTIFIER:

431 (Rev. 3/17)

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STRAIGHT BILL OF LADING – ORIGINAL – NOT NEGOTIABLE

Shipper's No. 21-162995-SF-001

Carrier Powder Environmental Services SCAC _____ Carrier's No. CARC0001807371

RECEIVED, subject to individually determined rates or contracts that have been agreed upon in writing between the carrier and shipper, if applicable, otherwise to the rates, classifications and rules that have been established by the carrier and are available to the shipper, on request; and all applicable state and federal regulations;

at _____, date 1/13/22 from _____

the Property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated below which said company (the word company being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to delivery at said destination, if on its route, or otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said Property over all or any portion of said route to destination and as to each party at any time interested in all or any of said Property that every service to be performed hereunder shall be subject to all the conditions not prohibited by law, whether printed or written, herein contained, including the conditions on the back hereof, which are hereby agreed to by the shipper and accepted for himself and his assigns.

TO: Slurry Solutions Consignee Street 24701 Clawiter Rd Destination Hayward, Ca Zip	**FROM:** Pitcher Drilling Shipper Street Edgers Dr. & Blacow St. Origin Fremont, Ca Zip
Route	
Delivering Carrier	Vehicle Number / U.S. DOT Hazmat Reg. Number

Number and Type of Packages	HM	I.D. Number	Description of Articles	Hazard Class	Pkg. Grp.	Total Quantity (mass, volume, or activity)	Weight (subject to correction)	Class or Rate
01 x CM			Drilling mud			18	Yd	

Remit COD to:
Address:
City: State: Zip:

NOTE: Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property. The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding $ Per

Subject to Section 7 of conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:
The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

(Signature of Consignor)

COD AMT: $

TOTAL CHARGES: $

COD FEE: Prepaid ☐ Collect ☐ $

FREIGHT CHARGES: ☐ Prepaid ☐ Collect

NOTE: Liability Limitation for loss or damage in this shipment may be applicable. See 49 U.S.C. 14706(c)(1)(A) and (B).

This is to certify that the above-named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. Per

PLACARDS REQUIRED None

PLACARDS SUPPLIED ☐ BY SHIPPER ☐ BY CARRIER

DRIVER'S SIGNATURE:

SHIPPER: Pitcher Drilling
PER: _____ DATE: 1/13/22

CARRIER: Powder Environmental Services
PER: _____ DATE: 1/13/22

EMERGENCY RESPONSE TELEPHONE NUMBER: (877) 258-8265

NAME OR CONTRACT NUMBER OR OTHER UNIQUE IDENTIFIER: 21-162995

431 (Rev. 3/17)

STRAIGHT BILL OF LADING – ORIGINAL – NOT NEGOTIABLE

Shipper's No. 21-16298-DF-002

Carrier Ponder Environmental Services SCAC _____ Carrier's No. CAR0001807B7

RECEIVED, subject to individually determined rates or contracts that have been agreed upon in writing between the carrier and shipper, if applicable, otherwise to the rates, classifications and rules that have been established by the carrier and are available to the shipper, on request; and all applicable state and federal regulations;

at _____, date _____ from _____

the Property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated below which said company (the word company being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to delivery at said destination, if on its route, or otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said Property over all or any portion of said route to destination and as to each party at any time interested in all or any of said Property that every service to be performed hereunder shall be subject to all the conditions not prohibited by law, whether printed or written, herein contained, including the conditions on the back hereof, which are hereby agreed to by the shipper and accepted for himself and his assigns.

TO: Slurry Solutions	**FROM:** Pitcher Drilling
Consignee	Shipper
Street 24701 Clawiter Rd.	Street Eggers Dr. & Blacow Rd.
Destination Hayward, Ca Zip	Origin Fremont, Ca Zip
Route	
Delivering Carrier	Vehicle Number V34/2580

U.S. DOT Hazmat Reg. Number

Number and Type of Packages	HM	I.D. Number	Description of Articles	Hazard Class	Pkg. Grp.	Total Quantity (mass, volume, or activity)	Weight (subject to correction)	Class or Rate
01XCM			Drilling mud Bin # DB1235			18	4	

Remit COD to:
Address:
City: State: Zip:

NOTE: Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property. The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding $ Per

Subject to Section 7 of conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:
The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

(Signature of Consignor)

COD AMT: $

TOTAL CHARGES: $

COD FEE: Prepaid ☐ Collect ☐ $

FREIGHT CHARGES: ☐ Prepaid ☐ Collect

NOTE: Liability Limitation for loss or damage in this shipment may be applicable. See 49 U.S.C. 14706(c)(1)(A) and (B).

This is to certify that the above-named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. Per

PLACARDS REQUIRED None

PLACARDS SUPPLIED ☐ BY SHIPPER ☐ BY CARRIER

DRIVER'S SIGNATURE:

SHIPPER: Pitcher Drilling
PER: _____ DATE: 1/14/22

CARRIER: Ponder Environmental Services
PER: _____ DATE: 1/14/22

EMERGENCY RESPONSE TELEPHONE NUMBER: (877) 256-8265

NAME OR CONTRACT NUMBER OR OTHER UNIQUE IDENTIFIER: 21-16298

431 (Rev. 3/17)

STRAIGHT BILL OF LADING – ORIGINAL – NOT NEGOTIABLE

Shipper's No. 21-16298-JF-003

Carrier Ponder Environmental Services SCAC _____ Carrier's No. CAR0001807737

RECEIVED, subject to individually determined rates or contracts that have been agreed upon in writing between the carrier and shipper, if applicable, otherwise to the rates, classifications and rules that have been established by the carrier and are available to the shipper, on request; and all applicable state and federal regulations;

at _____, date _____ from _____

the Property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated below which said company (the word company being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to delivery at said destination, if on its route, or otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said Property over all or any portion of said route to destination and as to each party at any time interested in all or any of said Property that every service to be performed hereunder shall be subject to all the conditions not prohibited by law, whether printed or written, herein contained, including the conditions on the back hereof, which are hereby agreed to by the shipper and accepted for himself and his assigns.

TO:	**FROM:** Pitcher Drilling
Consignee Slurry Solutions	Shipper
Street 24701 Clawiter Rd	Street Eggers Dr. & Blacow Rd
Destination Hayward, Ca Zip	Origin Fremont, Ca Zip

Route

Delivering Carrier | Vehicle Number 134/280 | U.S. DOT Hazmat Reg. Number

Number and Type of Packages	HM	I.D. Number	Description of Articles	Hazard Class	Pkg. Grp.	Total Quantity (mass, volume, or activity)	Weight (subject to correction)	Class or Rate
01 XCM			Drilling mud Bin # 1789			18	4	

Remit COD to:
Address:
City: State: Zip:

NOTE: Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property. The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding $ Per

Subject to Section 7 of conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:
The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

(Signature of Consignor)

COD AMT: $

TOTAL CHARGES: $

COD FEE: Prepaid ☐ Collect ☐ $

FREIGHT CHARGES: ☐ Prepaid ☐ Collect

NOTE: **Liability Limitation for loss or damage in this shipment may be applicable. See 49 U.S.C. 14706(c)(1)(A) and (B).**

This is to certify that the above-named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. Per

PLACARDS REQUIRED None

PLACARDS SUPPLIED ☐ BY SHIPPER ☐ BY CARRIER

DRIVER'S SIGNATURE:

SHIPPER: Pitcher Drilling
PER: _____ DATE: 1/14/22

CARRIER: Ponder Environmental Services
PER: _____ DATE: 1/14/22

EMERGENCY RESPONSE TELEPHONE NUMBER: (877) 258-8265

NAME OR CONTRACT NUMBER OR OTHER UNIQUE IDENTIFIER: 21-162978

431 (Rev. 3/17)

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STRAIGHT BILL OF LADING – ORIGINAL – NOT NEGOTIABLE

Shipper's No. 21-16898-JF-0001

Carrier Powder Environmental Services SCAC _____ Carrier's No. CA2000180737

RECEIVED, subject to individually determined rates or contracts that have been agreed upon in writing between the carrier and shipper, if applicable, otherwise to the rates, classifications and rules that have been established by the carrier and are available to the shipper, on request; and all applicable state and federal regulations;

at _____, date _____ from _____

the Property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated below which said company (the word company being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to delivery at said destination, if on its route, or otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said Property over all or any portion of said route to destination and as to each party at any time interested in all or any of said Property that every service to be performed hereunder shall be subject to all the conditions not prohibited by law, whether printed or written, herein contained, including the conditions on the back hereof, which are hereby agreed to by the shipper and accepted for himself and his assigns.

TO: Consignee: Slurry Solutions	**FROM:** Shipper: Pitcher Drilling
Street: 24701 Clawiter Rd.	Street: Cedar Ct. & Daylily St.
Destination: Hayward, Ca Zip	Origin: Fremont, Ca Zip
Route:	
Delivering Carrier:	Vehicle Number:
	U.S. DOT Hazmat Reg. Number:

Number and Type of Packages	HM	I.D. Number	Description of Articles	Hazard Class	Pkg. Grp.	Total Quantity (mass, volume, or activity)	Weight (subject to correction)	Class or Rate
01 XTT			Drilling mud			4700	G	

Remit COD to:
Address:
City: State: Zip:

NOTE: Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property. The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding $ Per

Subject to Section 7 of conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:
The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

(Signature of Consignor)

COD AMT: $

TOTAL CHARGES: $

COD FEE: Prepaid ☐ Collect ☐ $

FREIGHT CHARGES: ☐ Prepaid ☐ Collect

NOTE: Liability Limitation for loss or damage in this shipment may be applicable. See 49 U.S.C. 14706(c)(1)(A) and (B).

This is to certify that the above-named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. Per

PLACARDS REQUIRED: None

PLACARDS SUPPLIED ☐ BY SHIPPER ☐ BY CARRIER

DRIVER'S SIGNATURE:

SHIPPER: _____ PER: _____ DATE: 1/21/22

CARRIER: Powder Environmental Services PER: _____ DATE: 1/21/22

EMERGENCY RESPONSE TELEPHONE NUMBER: (877) 754-8265

NAME OR CONTRACT NUMBER OR OTHER UNIQUE IDENTIFIER: 21-16898

431 (Rev. 3/17)

STRAIGHT BILL OF LADING – ORIGINAL – NOT NEGOTIABLE

Shipper's No. 21-16297 +001

Carrier PONDER ENVIRONMENTAL SERVICES INC SCAC _____ Carrier's No. CAR000180737

RECEIVED, subject to individually determined rates or contracts that have been agreed upon in writing between the carrier and shipper, if applicable, otherwise to the rates, classifications and rules that have been established by the carrier and are available to the shipper, on request; and all applicable state and federal regulations;

at _____, date 1-24-22 from _____

the Property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated below which said company (the word company being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to delivery at said destination, if on its route, or otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said Property over all or any portion of said route to destination and as to each party at any time interested in all or any of said Property that every service to be performed hereunder shall be subject to all the conditions not prohibited by law, whether printed or written, herein contained, including the conditions on the back hereof, which are hereby agreed to by the shipper and accepted for himself and his assigns.

TO: Consignee	SLURRY SOLUTIONS
Street	24701 CLAWITER RD
Destination	HAYWARD, CA Zip
FROM: Shipper	PITCHER DRILLING
Street	CEDAR CT
Origin	FREMONT, CA Zip
Route	
Delivering Carrier	Vehicle Number 153
	U.S. DOT Hazmat Reg. Number

Number and Type of Packages	HM	I.D. Number	Description of Articles	Hazard Class	Pkg. Grp.	Total Quantity (mass, volume, or activity)	Weight (subject to correction)	Class or Rate
001-TT			DRILLING MUD			25BBL	G	

Remit COD to:
Address:
City: State: Zip:

NOTE: Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property. The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding $ Per

Subject to Section 7 of conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:
The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

(Signature of Consignor)

COD AMT: $

TOTAL CHARGES: $

COD FEE: Prepaid ☐ Collect ☐ $

FREIGHT CHARGES: ☐ Prepaid ☐ Collect

NOTE: Liability Limitation for loss or damage in this shipment may be applicable. See 49 U.S.C. 14706(c)(1)(A) and (B).

This is to certify that the above-named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. Per

PLACARDS REQUIRED NO

PLACARDS SUPPLIED ☐ BY SHIPPER ☐ BY CARRIER

DRIVER'S SIGNATURE:

SHIPPER: PITCHER DRILLING

PER: _____ DATE: 1-24-22

CARRIER: PONDER ENVIRONMENTAL SERVICES INC

PER: ROBERT ELLIOTT DATE: 1-24-22

EMERGENCY RESPONSE TELEPHONE NUMBER: 707 748 7775

NAME OR CONTRACT NUMBER OR OTHER UNIQUE IDENTIFIER: 21-16297

431 (Rev. 3/17)

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STRAIGHT BILL OF LADING – ORIGINAL – NOT NEGOTIABLE

Shipper's No. 21-16 298

Carrier Ponder Environmental Services SCAC _____ Carrier's No. CAR 000180737

RECEIVED, subject to individually determined rates or contracts that have been agreed upon in writing between the carrier and shipper, if applicable, otherwise to the rates, classifications and rules that have been established by the carrier and are available to the shipper, on request; and all applicable state and federal regulations;

at _____, date _____ from _____

the Property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated below which said company (the word company being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to delivery at said destination, if on its route, or otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said Property over all or any portion of said route to destination and as to each party at any time interested in all or any of said Property that every service to be performed hereunder shall be subject to all the conditions not prohibited by law, whether printed or written, herein contained, including the conditions on the back hereof, which are hereby agreed to by the shipper and accepted for himself and his assigns.

TO:		FROM:	
Consignee	Pitcher	Shipper	Pitcher
Street	Hayward Slurry	Street	Cedar Cir
Destination	Clawiter DR Newark Zip	Origin	Freemont Zip

Route

Delivering Carrier | Vehicle Number | U.S. DOT Hazmat Reg. Number

Number and Type of Packages	HM	I.D. Number	Description of Articles	Hazard Class	Pkg. Grp.	Total Quantity (mass, volume, or activity)	Weight (subject to correction)	Class or Rate
001 RO			DRill Mud			30	X	

Remit COD to:
Address:
City: State: Zip:

NOTE: Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property. The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding $ Per

Subject to Section 7 of conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:
The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

(Signature of Consignor)

COD AMT: $

TOTAL CHARGES: $

COD FEE: Prepaid ☐ Collect ☐ $

FREIGHT CHARGES: ☐ Prepaid ☐ Collect

NOTE: Liability Limitation for loss or damage in this shipment may be applicable. See 49 U.S.C. 14706(c)(1)(A) and (B).

This is to certify that the above-named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. Per

PLACARDS REQUIRED

PLACARDS SUPPLIED ☐ BY SHIPPER ☐ BY CARRIER

DRIVER'S SIGNATURE:

SHIPPER: Pitcher
PER: Marcos Orozco DATE: 1-26-22

CARRIER: Ponder Environmental Services
PER: [signature] DATE: 1-26-22

EMERGENCY RESPONSE TELEPHONE NUMBER:

NAME OR CONTRACT NUMBER OR OTHER UNIQUE IDENTIFIER:

431 (Rev. 3/17)

STRAIGHT BILL OF LADING – ORIGINAL – NOT NEGOTIABLE

Shipper's No. 21-16298-004

Carrier Ponder Environmental Services SCAC _____ Carrier's No. CBR0001807??

RECEIVED, subject to individually determined rates or contracts that have been agreed upon in writing between the carrier and shipper, if applicable, otherwise to the rates, classifications and rules that have been established by the carrier and are available to the shipper, on request; and all applicable state and federal regulations;

at _____, date _____ from _____

the Property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated below which said company (the word company being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to delivery at said destination, if on its route, or otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said Property over all or any portion of said route to destination and as to each party at any time interested in all or any of said Property that every service to be performed hereunder shall be subject to all the conditions not prohibited by law, whether printed or written, herein contained, including the conditions on the back hereof, which are hereby agreed to by the shipper and accepted for himself and his assigns.

TO:		**FROM:**	
Consignee	Hayward Slurry	Shipper	Pitcher
Street	Clawiter rd	Street	Civic Terrace
Destination	Hayward Zip	Origin	RR Fremont Zip

Route

Delivering Carrier | Vehicle Number | U.S. DOT Hazmat Reg. Number

Number and Type of Packages	HM	I.D. Number	Description of Articles	Hazard Class	Pkg. Grp.	Total Quantity (mass, volume, or activity)	Weight (subject to correction)	Class or Rate
001 FT			DRILL Mud tanker			4800	G	
			14L 3rd Load					

Remit COD to:
Address:
City: State: Zip:

NOTE: Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property. The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding $ Per

Subject to Section 7 of conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement: The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

(Signature of Consignor)

COD AMT: $

TOTAL CHARGES: $

COD FEE: Prepaid ☐ Collect ☐ $

FREIGHT CHARGES: ☐ Prepaid ☐ Collect

NOTE: Liability Limitation for loss or damage in this shipment may be applicable. See 49 U.S.C. 14706(c)(1)(A) and (B).

This is to certify that the above-named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. Per

PLACARDS REQUIRED

PLACARDS SUPPLIED ☐ BY SHIPPER ☐ BY CARRIER

DRIVER'S SIGNATURE:

SHIPPER: Pitcher PER: _____ DATE: 1-27-22

CARRIER: Ponder Environmental Services PER: _____ DATE: 1-27-22

EMERGENCY RESPONSE TELEPHONE NUMBER:

NAME OR CONTRACT NUMBER OR OTHER UNIQUE IDENTIFIER:

431 (Rev. 3/17)

1

STRAIGHT BILL OF LADING – ORIGINAL – NOT NEGOTIABLE

Shipper's No. 21-16 288-003

Carrier Ponder Environmental Services SCAC _____ Carrier's No. CARODOC80237

RECEIVED, subject to individually determined rates or contracts that have been agreed upon in writing between the carrier and shipper, if applicable, otherwise to the rates, classifications and rules that have been established by the carrier and are available to the shipper, on request; and all applicable state and federal regulations;

at _____, date _____ from _____

the Property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated below which said company (the word company being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to delivery at said destination, if on its route, or otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said Property over all or any portion of said route to destination and as to each party at any time interested in all or any of said Property that every service to be performed hereunder shall be subject to all the conditions not prohibited by law, whether printed or written, herein contained, including the conditions on the back hereof, which are hereby agreed to by the shipper and accepted for himself and his assigns.

TO:		FROM:	
Consignee	Hayward Slurry	Shipper	Pitcher Civic Terrace
Street	Clawaiter Rd	Street	
Destination	Hayward Zip	Origin	Freemont Zip

Route

Delivering Carrier | Vehicle Number | U.S. DOT Hazmat Reg. Number

Number and Type of Packages	HM	I.D. Number	Description of Articles	Hazard Class	Pkg. Grp.	Total Quantity (mass, volume, or activity)	Weight (subject to correction)	Class or Rate
001 TT			DRILLMud			4800	C	
			TRUCK 141 2nd TRIP					

Remit COD to:
Address:
City: State: Zip:

NOTE: Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property. The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding $ Per

Subject to Section 7 of conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:
The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

(Signature of Consignor)

COD AMT: $

TOTAL CHARGES: $

COD FEE: Prepaid ☐ Collect ☐ $

FREIGHT CHARGES: ☐ Prepaid ☐ Collect

NOTE: Liability Limitation for loss or damage in this shipment may be applicable. See 49 U.S.C. 14706(c)(1)(A) and (B).

This is to certify that the above-named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. Per

PLACARDS REQUIRED

PLACARDS SUPPLIED ☐ BY SHIPPER ☐ BY CARRIER

DRIVER'S SIGNATURE:

SHIPPER: Pitcher
PER: [signature] DATE: 1-17-22

CARRIER: Ponder Environmental Services
PER: [signature] DATE: 1-27-22

EMERGENCY RESPONSE TELEPHONE NUMBER:

NAME OR CONTRACT NUMBER OR OTHER UNIQUE IDENTIFIER:

431 (Rev. 3/17)

1

STRAIGHT BILL OF LADING – ORIGINAL – NOT NEGOTIABLE

Shipper's No. 21-16298

Carrier Parker Environmental Services SCAC _____ Carrier's No. CA0001807737

RECEIVED, subject to individually determined rates or contracts that have been agreed upon in writing between the carrier and shipper, if applicable, otherwise to the rates, classifications and rules that have been established by the carrier and are available to the shipper, on request; and all applicable state and federal regulations;

at _____, date _____ from _____

the Property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated below which said company (the word company being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to delivery at said destination, if on its route, or otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said Property over all or any portion of said route to destination and as to each party at any time interested in all or any of said Property that every service to be performed hereunder shall be subject to all the conditions not prohibited by law, whether printed or written, herein contained, including the conditions on the back hereof, which are hereby agreed to by the shipper and accepted for himself and his assigns.

TO:		FROM:	
Consignee	Hayward SLURRY	Shipper	Pischer
Street	Transition Rd	Street	CIVIC DR
Destination	Hayward Zip	Origin	Freemont Zip

Route

Delivering Carrier | Vehicle Number | U.S. DOT Hazmat Reg. Number

Number and Type of Packages	HM	I.D. Number	Description of Articles	Hazard Class	Pkg. Grp.	Total Quantity (mass, volume, or activity)	Weight (subject to correction)	Class or Rate
001 TT			DRILL Mud			5000	G	
			TRUCK 141					

Remit COD to:
Address:
City: State: Zip:

NOTE: Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property. The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding $ Per

Subject to Section 7 of conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:
The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

(Signature of Consignor)

COD AMT: $

TOTAL CHARGES: $

COD FEE: Prepaid ☐ Collect ☐ $

FREIGHT CHARGES: ☐ Prepaid ☐ Collect

NOTE: Liability Limitation for loss or damage in this shipment may be applicable. See 49 U.S.C. 14706(c)(1)(A) and (B).

This is to certify that the above-named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. Per

PLACARDS REQUIRED

PLACARDS SUPPLIED ☐ BY SHIPPER ☐ BY CARRIER

DRIVER'S SIGNATURE:

SHIPPER: Pischer
PER: _____ DATE: 1-27-22

CARRIER: Parker Environmental
PER: _____ DATE: 1-27-22

EMERGENCY RESPONSE TELEPHONE NUMBER:

NAME OR CONTRACT NUMBER OR OTHER UNIQUE IDENTIFIER:

431 (Rev. 3/17)

1

STRAIGHT BILL OF LADING – ORIGINAL – NOT NEGOTIABLE

Shipper's No. 21-16298-131JF-001

Carrier Ponder Environmental Services SCAC _____ Carrier's No. CAR0001807871

RECEIVED, subject to individually determined rates or contracts that have been agreed upon in writing between the carrier and shipper, if applicable, otherwise to the rates, classifications and rules that have been established by the carrier and are available to the shipper, on request; and all applicable state and federal regulations;

at _____, date _____ from _____

the Property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated below which said company (the word company being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to delivery at said destination, if on its route, or otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said Property over all or any portion of said route to destination and as to each party at any time interested in all or any of said Property that every service to be performed hereunder shall be subject to all the conditions not prohibited by law, whether printed or written, herein contained, including the conditions on the back hereof, which are hereby agreed to by the shipper and accepted for himself and his assigns.

TO: Sherry Solutions	**FROM:** Pitcher Drilling
Consignee	Shipper
Street Clawiter Rd Hayward, Ca	Street 6300 Civic Center Newark, Ca
Destination Zip	Origin Zip
Route	
Delivering Carrier	Vehicle Number 1167285

U.S. DOT Hazmat Reg. Number

Number and Type of Packages	HM	I.D. Number	Description of Articles	Hazard Class	Pkg. Grp.	Total Quantity (mass, volume, or activity)	Weight (subject to correction)	Class or Rate
61 X TT			Drilling mud			4500	G	

Remit COD to:
Address:
City: State: Zip:

NOTE: Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property. The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding $ Per

Subject to Section 7 of conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:
The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

(Signature of Consignor)

COD AMT: $

TOTAL CHARGES: $

COD FEE: Prepaid ☐ Collect ☐ $

FREIGHT CHARGES: ☐ Prepaid ☐ Collect

NOTE: Liability Limitation for loss or damage in this shipment may be applicable. See 49 U.S.C. 14706(c)(1)(A) and (B).

This is to certify that the above-named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. Per

PLACARDS REQUIRED None

PLACARDS SUPPLIED ☐ BY SHIPPER ☐ BY CARRIER

DRIVER'S SIGNATURE:

SHIPPER: _____ CARRIER: Ponder Environmental Services

PER: _____ DATE: _____ PER: _____ DATE: 1/31/22

EMERGENCY RESPONSE TELEPHONE NUMBER: (877) 258-8265

NAME OR CONTRACT NUMBER OR OTHER UNIQUE IDENTIFIER: 21-16298

431 (Rev. 3/17)

STRAIGHT BILL OF LADING – ORIGINAL – NOT NEGOTIABLE

Shipper's No. 21-16298

Carrier Ponder Environmental Services SAC Carrier's No. CAR000180737

RECEIVED, subject to individually determined rates or contracts that have been agreed upon in writing between the carrier and shipper, if applicable, otherwise to the rates, classifications and rules that have been established by the carrier and are available to the shipper, on request; and all applicable state and federal regulations;

at Cedar CT, date _____ from Newark CA

the Property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated below which said company (the word company being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to delivery at said destination, if on its route, or otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said Property over all or any portion of said route to destination and as to each party at any time interested in all or any of said Property that every service to be performed hereunder shall be subject to all the conditions not prohibited by law, whether printed or written, herein contained, including the conditions on the back hereof, which are hereby agreed to by the shipper and accepted for himself and his assigns.

TO:		FROM:	
Consignee	Bay Area Concrete Slurry Solutions	Shipper	Pitcher Drilling
Street	24701 Clawiter Rd	Street	Cedar CT
Destination	Hayward CA Zip 94545	Origin	Newark CA Zip

Route

Delivering Carrier Ponder Vehicle Number 153 U.S. DOT Hazmat Reg. Number

Number and Type of Packages	HM	I.D. Number	Description of Articles	Hazard Class	Pkg. Grp.	Total Quantity (mass, volume, or activity)	Weight (subject to correction)	Class or Rate
TT	N/A	001	drilling Mud & Water	N/A	N/A	65	BBLS	

Remit COD to:
Address:
City: State: Zip:

NOTE: Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property. The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding $ Per

Subject to Section 7 of conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:
The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

(Signature of Consignor)

COD AMT: $

TOTAL CHARGES: $

COD FEE: Prepaid ☐ Collect ☐ $

FREIGHT CHARGES: ☐ Prepaid ☐ Collect

NOTE: Liability Limitation for loss or damage in this shipment may be applicable. See 49 U.S.C. 14706(c)(1)(A) and (B).

This is to certify that the above-named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. Per

PLACARDS REQUIRED NO

PLACARDS SUPPLIED ☐ BY SHIPPER ☐ BY CARRIER

DRIVER'S SIGNATURE:

SHIPPER: Pitcher Drilling PER: _____ DATE: 2-8-22

CARRIER: Ponder Environmental Services PER: _____ DATE: _____

EMERGENCY RESPONSE TELEPHONE NUMBER:

NAME OR CONTRACT NUMBER OR OTHER UNIQUE IDENTIFIER:

431 (Rev. 3/17)

THIS MEMORANDUM is an acknowledgement that a bill of lading has been issued and is not the Original Bill of Lading, not a copy or duplicate, covering the property named herein, and is intended solely for filing or record.

Shipper's No. 21-11298-001

Carrier Pender Environmental Services SCAC _____ Carrier's No. [illegible]737

RECEIVED, subject to individually determined rates or contracts that have been agreed upon in writing between the carrier and shipper, if applicable, otherwise to the rates, classifications and rules that have been established by the carrier and are available to the shipper, on request; and all applicable state and federal regulations;

at _____, date _____ from _____

the Property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated below which said company (the word company being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to delivery at said destination, if on its route, or otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said Property over all or any portion of said route to destination and as to each party at any time interested in all or any of said Property that every service to be performed hereunder shall be subject to all the conditions not prohibited by law, whether printed or written, herein contained, including the conditions on the back hereof, which are hereby agreed to by the shipper and accepted for himself and his assigns.

TO:	FROM:
Consignee [illegible]	Shipper [illegible] Services
Street 24701 [illegible] Rd	Street [illegible]
Destination Hayward, ca Zip 94545	Origin Newark ca Zip 94560
Route	
Delivering Carrier	Vehicle Number / U.S. DOT Hazmat Reg. Number

Number and Type of Packages	HM	I.D. Number	Description of Articles	Hazard Class	Pkg. Grp.	Total Quantity (mass, volume, or activity)	Weight (subject to correction)	Class or Rate
02 x CM			[illegible] mud			2	y	

Remit COD to:
Address:
City: State: Zip:

NOTE: Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property. The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding $ Per

Subject to Section 7 of conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:
The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

(Signature of Consignor)

COD AMT: $

TOTAL CHARGES: $

COD FEE: Prepaid ☐ Collect ☐ $

FREIGHT CHARGES: ☐ Prepaid ☐ Collect

NOTE: Liability Limitation for loss or damage in this shipment may be applicable. See 49 U.S.C. 14706(c)(1)(A) and (B).

This is to certify that the above-named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. Per

PLACARDS REQUIRED: None

PLACARDS SUPPLIED ☐ BY SHIPPER ☐ BY CARRIER

DRIVER'S SIGNATURE:

SHIPPER: Marcos Orozco
PER: _____ DATE: 2-11-22

CARRIER: Pender Environmental Services
PER: [signature] DATE: 2/11/22

EMERGENCY RESPONSE TELEPHONE NUMBER:

NAME OR CONTRACT NUMBER OR OTHER UNIQUE IDENTIFIER: 21-11298

431 (Rev. 3/17)

3

Appendix 9. COCs and Analytical Results

ACWD - Water Quality Laboratory
43885 South Grimmer Boulevard
Fremont, CA 94538

Confirmation Chain of Custody

ACWD Alameda County Water District

Water Quality Laboratory Info	
ELAP CERTIFICATE NO. 1524	
510-668-6521	Nadia Lorenson - Project Manager
510-668-6538	Linnea Hoover - Lab Supervisor
510-668-6632	Scott Lehman - Client
Project: Confirmation Ad Hoc	

Sampled By:

Print First and Last Name: Douglas Young

Signature

WQL Use Only

LIMS Job Name(s):

LIMS ID	Sample Location	Sample Date	Matrix**	Sample Time
	1-MF-261	12-9-21	Soil	3:45
	1-MF-351	12-13-21	Soil	11:21
	3-TF	12-20-21	Soil	2:30

Analysis	Lab	TP2WQL										
	Field											
	PC	1	2	3	4	5	6	7	8	9	10	11
		Fulvic Hum. Peroxide, Lab			Stage							
		X	X									
					X							

Page _____ of _____ COC

(PC) Preservation Code Reference

1	Pre-Dosed Thio	8	
2	N/A	9	
3		10	
4		11	
5		12	
6		13	
7		14	

Sample Specific Notes and Field Data	Preservation Check WQL USE ONLY
Cl2:	

** MATRIX TYPES RSW = Raw Surface Water (IW, AW, OW) RGW = Raw Ground Water CWW = Chlorinated Waste Water WW = Other Waste Water CFW = Chlor(am)inated Finished Water SO = Soil FW = Other Finished Water SL = Sludge

Notes:

Purpose for Sampling (Circle One): Compliance OR Operational

Received on Ice: Y/N Blank Temp (°C): Thermometer ID:

X = Sample Collected
F= Field Data
D= Data Entry Only

Relinquished by: (Print & Sign)	Company:	Date/Time:	Received by: (Print & Sign)	Company:	Date/Time:
JK Sotelo	ACWD	12/22/21 1:57p		ACWD	
Cody Carr	RMA	12/22/21 2:00PM			

Field Data Auth. / COC Reviewed by: _____ Date: _____

ACWD - Water Quality Laboratory
43885 South Grimmer Boulevard
Fremont, CA 94538

Confirmation Chain of Custody

ACWD Alameda County Water District

Water Quality Laboratory Info

ELAP CERTIFICATE NO. 1524

510-668-6521	Nadia Lorenson - Project Manager
510-668-6538	Linnea Hoover - Lab Supervisor
510-668-6632	Scott Lehman - Client

Project: Confirmation Ad Hoc

Sampled By: Douglas Young

Print First and Last Name

Signature

WQL Use Only

LIMS Job Name(s):

Page ____ of ____ COC

(PC) Preservation Code Reference

1	Pre-Dosed Thio	8	
2	N/A	9	
3		10	
4		11	
5		12	
6		13	
7		14	

LIMS ID	Sample Location	Sample Date	Matrix**	Sample Time	Lab / PC / Analysis: TP2/WQL 1 Flexible Permeability	Field 2	3 Sieve	4	5	6	7	8	9	10	11	Sample Specific Notes and Field Data	Preservation Check WQL USE ONLY
	1SF-352.5	12/28/21	Soil	1600	X											Cl2:	
	2TF-260	1/10/22	Soil	1630	X												
	2TF-380	1/12/22	Soil	11:40	X												
	2TF-Bulk	1/11/22		12:40			X										

** MATRIX TYPES RSW = Raw Surface Water (IW, AW, OW)
RGW = Raw Ground Water
CWW = Chlorinated Waste Water
WW = Other Waste Water
CFW = Chlor(am)inated Finished Water
FW = Other Finished Water
SO = Solil
SL = Sludge

Notes:

Purpose for Sampling (Circle One): Compliance OR Operational

Received on Ice: Y/N

Blank Temp (°C):

Thermometer ID:

X = Sample Collected
F= Field Data
D= Data Entry Only

Relinquished by: (Print & Sign)	Company:	Date/Time:	Received by: (Print & Sign)	Company:	Date/Time:
	ACWD		Eliyas	ACWD	1/20/22 9:39

Field Data Auth. / COC Reviewed by: _____ Date: _____

ACWD - Water Quality Laboratory
43885 South Grimmer Boulevard
Fremont, CA 94538

Confirmation Chain of Custody

ACWD Alameda County Water District

Page ____ of ____ COC

Water Quality Laboratory Info

ELAP CERTIFICATE NO. 1524

510-668-6521	Nadia Lorenson - Project Manager
510-668-6538	Linnea Hoover - Lab Supervisor
510-668-6632	Scott Lehman - Client

Project: Confirmation Ad Hoc

Sampled By: [signature]

Print First and Last Name: Douglas Young

Signature

WQL Use Only

LIMS Job Name(s):

Lab	TP2/WQL	Field										
PC	1	2	3	4	5	6	7	8	9	10	11	
Analysis	Flx Head Permeability	Sample										

(PC) Preservation Code Reference

1	Pre-Dosed Thio	8	
2	N/A	9	
3		10	
4		11	
5		12	
6		13	
7		14	

~~LIMS~~ ID	Sample Location	Sample Date	Matrix**	Sample Time	Analysis	Sample Specific Notes and Field Data	Preservation Check *WQL USE ONLY*
2SF-350	Site 2	1/20/22	Soil	16:45	X	Cl2:	
2SF-275	Site 2	1/19/22	Soil	16:30	X		

** MATRIX TYPES RSW = Raw Surface Water (IW, AW, OW)
RGW = Raw Ground Water
CWW = Chlorinated Waste Water
WW = Other Waste Water
CFW = Chlor(am)inated Finished Water
FW = Other Finished Water
SO = Solil
SL = Sludge

Notes:

Purpose for Sampling (Circle One): Compliance OR Operational

Received on Ice: Y/N Blank Temp (°C): Thermometer ID:

X = Sample Collected
F= Field Data
D= Data Entry Only

Relinquished by: (Print & Sign)	Company:	Date/Time:	Received by: (Print & Sign)	Company:	Date/Time:
[signature]	ACWD	1/27/22 3:45pm	Jake Carey [signature]	ACWD	
Relinquished by: (Print & Sign)	Company:	Date/Time:	Received by: (Print & Sign)	Company:	Date/Time:
Relinquished by: (Print & Sign)	Company:	Date/Time:	Received by: (Print & Sign)	Company:	Date/Time:

Date: _____

ACWD - Water Quality Laboratory
43885 South Grimmer Boulevard
Fremont, CA 94538

Confirmation Chain of Custody

Water Quality Laboratory Info

ELAP CERTIFICATE NO. 1524

510-668-6521	Nadia Lorenson - Project Manager
510-668-6538	Linnea Hoover - Lab Supervisor
510-668-6632	Scott Lehman - Client

Project: Confirmation Ad Hoc

Sampled By: Douglas Young

Print First and Last Name

Signature

WQL Use Only

LIMS Job Name(s):

LIMS ID	Sample Location	Sample Date	Matrix**	Sample Time
	35F-346	11/19/21	Soil	10:25

Analysis

Lab	TP2WQL	Field									
PC	1	2	3	4	5	6	7	8	9	10	11
	Falling Head & Permeab. Lab										
	X										

Page 1 of 1 COC

(PC) Preservation Code Reference

1	Pre-Dosed Thio	8	
2	N/A	9	
3		10	
4		11	
5		12	
6		13	
7		14	

Sample Specific Notes and Field Data	Preservation Check WQL USE ONLY
~~Cl2:~~	

** MATRIX TYPES RSW = Raw Surface Water (IW, AW, OW) RGW = Raw Ground Water CWW = Chlorinated Waste Water WW = Other Waste Water CFW = Chlor(am)inated Finished Water FW = Other Finished Water SO = Soil SL = Sludge

Notes:

Purpose for Sampling (Circle One): Compliance OR Operational

Received on Ice: Y/N Blank Temp (°C): Thermometer ID:

X = Sample Collected
F= Field Data
D= Data Entry Only

Relinquished by: (Print & Sign)	Company:	Date/Time:	Received by: (Print & Sign)	Company:	Date/Time:
	ACWD			ACWD AL	
Relinquished by: (Print & Sign)	Company:	Date/Time:	Received by: (Print & Sign)	Company:	Date/Time:
Relinquished by: (Print & Sign)	Company:	Date/Time:	Received by: (Print & Sign)	Company:	Date/Time:

Field Data Auth. / COC Reviewed by: _____ Date: _____

ACWD - Water Quality Laboratory
43885 South Grimmer Boulevard
Fremont, CA 94538

Confirmation Chain of Custody

ACWD Alameda County Water District

Page 1 of 1 COC

Water Quality Laboratory Info	
~~ELAP CERTIFICATE NO. 1524~~	
510-668-6521	Nadia Lorenson - Project Manager
510-668-6538	Linnea Hoover - Lab Supervisor
510-668-6632	Scott Lehman - Client
Project: Confirmation Ad Hoc	

Sampled By: Douglas Young

Print First and Last Name: Douglas Young

Signature

WQL Use Only

LIMS Job Name(s):

LIMS ID	Sample Location	Sample Date	Matrix**	Sample Time	Lab / PC / Analysis	TP2/WQL 1 Permeability	Field 2	3	4	5	6	7	8	9	10	11	Sample Specific Notes and Field Data	Preservation Check WQL USE ONLY
	3TF-253	11/2/2021	Soil	11:00 am		X											Cl2:	
	3TF-361	11/3/2021	Soil	1:30 pm		X												

(PC) Preservation Code Reference

1	Pre-Dosed Thio	8	
2	N/A	9	
3		10	
4		11	
5		12	
6		13	
7		14	

** MATRIX TYPES RSW = Raw Surface Water (IW, AW, OW) RGW = Raw Ground Water CWW = Chlorinated Waste Water WW = Other Waste Water CFW = Chlor(am)inated Finished Water FW = Other Finished Water SO = Soil SL = Sludge

Notes:

Purpose for Sampling (Circle One): Compliance OR Operational

Received on Ice: Y/N Blank Temp (°C): Thermometer ID:

X = Sample Collected
F= Field Data
D= Data Entry Only

Relinquished by: (Print & Sign)	Company:	Date/Time:	Received by: (Print & Sign)	Company:	Date/Time:
[signature]	ACWD	12/7/21 1044	[signature]	~~ACWD~~ 12/7/21	10:44
Relinquished by: (Print & Sign)	Company:	Date/Time:	Received by: (Print & Sign)	Company:	Date/Time:
Relinquished by: (Print & Sign)	Company:	Date/Time:	Received by: (Print & Sign)	Company:	Date/Time:

Field Data Auth. / COC Reviewed by: _____ Date: _____

ACWD - Water Quality Laboratory
43885 South Grimmer Boulevard
Fremont, CA 94538

Confirmation Chain of Custody

ACWD Alameda County Water District

Page _____ of _____ COC

Water Quality Laboratory Info

ELAP CERTIFICATE NO. 1524

510-668-6521	Nadia Lorenson - Project Manager
510-668-6538	Linnea Hoover - Lab Supervisor
510-668-6632	Scott Lehman - Client

Project: Confirmation Ad Hoc

Sampled By: Douglas Young

Print First and Last Name

Signature

WQL Use Only

LIMS Job Name(s):

LIMS ID	Sample Location	Sample Date	Matrix**	Sample Time	Lab	TP2/WQL	Field										Sample Specific Notes and Field Data	Preservation Check WQL USE ONLY
					PC	1	2	3	4	5	6	7	8	9	10	11		
	ISF-260	12/28/21	Soil	1600	Analysis	Falling Head Permeability		Sieve analysis									Cl2:	
	ISF-351	1/4/22	↓	1245		X												
	1 MF-Bulk	12/10/21	↓	1400				X										

(PC) Preservation Code Reference

1	Pre-Dosed Thio	8	
2	N/A	9	
3		10	
4		11	
5		12	
6		13	
7		14	

** MATRIX TYPES RSW = Raw Surface Water (IW, AW, OW)
RGW = Raw Ground Water
CWW = Chlorinated Waste Water
WW = Other Waste Water
CFW = Chlor(am)inated Finished Water
FW = Other Finished Water
SO = Solil
SL = Sludge

Notes:

Purpose for Sampling (Circle One): Compliance OR Operational

Received on Ice: Y/N Blank Temp (°C): Thermometer ID:

X = Sample Collected
F= Field Data
D= Data Entry Only

Relinquished by: (Print & Sign)	Company:	Date/Time:	Received by: (Print & Sign)	Company:	Date/Time:
Douglas Young	ACWD	1/6/22 12:40	Aaron Kidd	ACWD KLEINFELDER	1/6/22 12:40

Field Data Auth. / COC Reviewed by: _____ Date: _____

SAMPLE NAME	SAMPLED DATE	ANALYSIS	COMPONENT	RESULT	UNITS	JOB NAME	SAMPLE ID	STATUS
3-TF-GW	4/5/2022 10:05:00 AM	AG-ICPMS	Ag	<0.500	ug/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	AL-ICPMS	Al	4.377	ug/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	ALK-F	ALK-CO3	<2	mg/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	ALK-F	ALK-HCO3	225	mg/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	ALK-F	ALK-OH	<1	mg/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	ALK-F	Total Alkalinity	225	mg/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	ALPHA-G	alpha	3.5	pCi/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	ALPHA-G	Alpha counting error	1.66	pCi/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	ALPHA-G	alpha min detect activity	2.19	pCi/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	ASBEST	Asbestos	<0.20	MFL	NILES-CONE-01-22-20	340256	E
3-TF-GW	4/5/2022 10:05:00 AM	AS-ICPMS	As	<2.000	ug/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	BA-ICPMS	Ba	209.817	ug/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	BE-ICPMS	Be	<0.500	ug/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	CA-MWH	Ca	240	mg/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	CD-ICPMS	Cd	<0.500	ug/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	CL	Cl	799.1	mg/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	CLO4	ClO4	<2.000	ug/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	CN	CN	<0.025	mg/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	COLI-P-A	COLIFORM	Positive		NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM		E-COLI	Negative		NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	COLOR	Color	<5	cu	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	COND	Conductivity	2920	umhos/cm	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	CR-ICPMS	Cr	<5.000	ug/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	CU-ICPMS	Cu	<2.000	ug/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	EPA1613_R	2,3,7,8-TCDD 1613	<5	pg/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	EPA505_R	Chlordane	<0.10	ug/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	EPA505_R	Endrin	<0.01	ug/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	EPA505_R	Heptachlor	<0.01	ug/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	EPA505_R	Heptachlor Epoxide	<0.01	ug/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	EPA505_R	Lindane (gamma-BHC)	<0.01	ug/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	EPA505_R	Methoxychlor	<0.05	ug/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	EPA505_R	PCB 1016 Arochlor	<0.08	ug/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	EPA505_R	PCB 1221 Arochlor	<0.10	ug/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	EPA505_R	PCB 1232 Arochlor	<0.10	ug/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	EPA505_R	PCB 1242 Arochlor	<0.10	ug/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	EPA505_R	PCB 1248 Arochlor	<0.10	ug/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	EPA505_R	PCB 1254 Arochlor	<0.10	ug/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	EPA505_R	PCB 1260 Arochlor	<0.10	ug/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	EPA505_R	Total PCBs	<0.100	ug/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	EPA505_R	Toxaphene	<0.50	ug/L	NILES-CONE-01-22-20	340256	A

SAMPLE NAME	SAMPLED DATE	ANALYSIS	COMPONENT	RESULT	UNITS	JOB NAME	SAMPLE ID	STATUS
3-TF-GW	4/5/2022 10:05:00 AM	EPA515_4_R	2,4,5-TP (Silvex)	<0.20	ug/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	EPA515_4_R	2,4-D	<0.10	ug/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	EPA515_4_R	Bentazon	<0.50	ug/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	EPA515_4_R	Dalapon	<1.00	ug/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	EPA515_4_R	Dinoseb	<0.20	ug/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	EPA515_4_R	Pentachlorophenol	<0.04	ug/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	EPA515_4_R	Picloram	<0.10	ug/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	EPA524-R	1,1,1-Trichloroethane	<0.500	ug/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	EPA524-R	1,1,2,2-Tetrachloroethane	<0.500	ug/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	EPA524-R	1,1,2-Trichloroethane	<0.500	ug/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	EPA524-R	1,1-Dichloroethane	<0.500	ug/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	EPA524-R	1,1-Dichloroethylene	<0.500	ug/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	EPA524-R	1,2,4-Trichlorobenzene	<0.500	ug/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	EPA524-R	1,2-Dichlorobenzene	<0.500	ug/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	EPA524-R	1,2-Dichloroethane	<0.500	ug/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	EPA524-R	1,2-Dichloropropane	<0.500	ug/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	EPA524-R	1,4-Dichlorobenzene	<0.500	ug/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	EPA524-R	Benzene	<0.500	ug/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	EPA524-R	Carbon Tetrachloride	<0.500	ug/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	EPA524-R	Chlorobenzene	<0.500	ug/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	EPA524-R	Cis-1,2-Dichloroethylene	<0.500	ug/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	EPA524-R	Dichloromethane	<0.500	ug/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	EPA524-R	Ethyl benzene	<0.500	ug/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	EPA524-R	Fluorotrichloromethane-Freon11	<0.500	ug/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	EPA524-R	Methyl Tert-butyl ether (MTBE)	<0.500	ug/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	EPA524-R	Styrene	<0.500	ug/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	EPA524-R	Tetrachloroethylene	<0.500	ug/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	EPA524-R	Toluene	<0.500	ug/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	EPA524-R	Total 1,3-Dichloropropene	<0.500	ug/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	EPA524-R	Total xylenes	<0.5	ug/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	EPA524-R	Trans-1,2-Dichloroethylene	<0.500	ug/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	EPA524-R	Trichloroethylene (TCE)	<0.500	ug/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	EPA524-R	Trichlorotrifluoroethane (Freon 113)	<0.500	ug/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	EPA524-R	Vinyl Chloride (VC)	<0.300	ug/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	EPA525_2_R	Alachlor	<0.05	ug/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	EPA525_2_R	Atrazine	<0.05	ug/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	EPA525_2_R	Benzo(a)pyrene	<0.02	ug/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	EPA525_2_R	Di-(2-Ethylhexyl)adipate	<0.60	ug/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	EPA525_2_R	Di(2-Ethylhexyl)phthalate	<0.60	ug/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	EPA525_2_R	Hexachlorobenzene	<0.05	ug/L	NILES-CONE-01-22-20	340256	A

SAMPLE NAME	SAMPLED DATE	ANALYSIS	COMPONENT	RESULT	UNITS	JOB NAME	SAMPLE ID	STATUS
3-TF-GW	4/5/2022 10:05:00 AM	EPA525_2_R	Hexachlorocyclopentadiene	<0.05	ug/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	EPA525_2_R	Molinate	<0.10	ug/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	EPA525_2_R	Simazine	<0.05	ug/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	EPA525_2_R	Thiobencarb	<0.20	ug/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	EPA531_2_R	Carbofuran	<0.90	ug/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM		Oxamyl	<1.00	ug/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	EPA547_R	Glyphosate	<6.00	ug/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	EPA548_R	Endothall	<20.00	ug/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	EPA549_R	Diquat	<0.40	ug/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	EPA551_1_R	Dibromochloropropane (DBCP)	<0.01	ug/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM		Ethylene Dibromide (EDB)	<0.01	ug/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	F	F	<0.100	mg/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	FE-MWH	Fe	0.049	mg/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	HARD-CALC	THARD	900	mg/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	HG-ICPMS	Hg	<0.250	ug/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	HPC-SIM	SimPlate	507	MPN/mL	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	MBAS	MBAS	<0.10	mg/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	MG-MWH	Mg	74	mg/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	MN-ICPMS	Mn	867.8	ug/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	NA-MWH	Na	200	mg/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	NI-ICPMS	Ni	6.079	ug/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	NO2-N	NO2-N	<0.1	mg/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	NO3-N	NO3-N	0.18	mg/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	NO3-NO2	T_N	0.18	mg/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	ODOR-PANEL	Odor	<1.000	TON	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	ODOR-PANEL	Tester 1	<1.0		NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	ODOR-PANEL	Tester 2	<1.0		NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	ODOR-PANEL	Tester 3	<1.0		NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	PH-FIELD	PH	7.4		NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	SB-ICPMS	Sb	<1.000	ug/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	SE-ICPMS	Se	<1.000	ug/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	SO4	SO4	54.8	mg/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	TCP	1,2,3-Trichloropropane	<0.005	ug/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	TDS	TDS	1500	mg/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	TEMP	Temperature	18.3	C	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	TL-ICPMS	Tl	<1.000	ug/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	TURB	Turbidity	0.3	NTU	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	URANIUM-MS	Uranium in pCi/L	1.5	pCi/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	URANIUM-MS	Uranium in ug/L	2.2	ug/L	NILES-CONE-01-22-20	340256	A
3-TF-GW	4/5/2022 10:05:00 AM	ZN-ICPMS	Zn	42.892	ug/L	NILES-CONE-01-22-20	340256	A

ACWD - Water Quality Laboratory
43885 South Grimmer Boulevard
Fremont, CA 94538

Chain of Custody Record

ACWD Alameda County Water District

Water Quality Laboratory Info	
ELAP CERTIFICATE NO. 1524	
ACWD COC 010: Effective Date 3/11/2022; Rev. 2	
510-668-6521	Nadia Lorenson - Project Manager
510-668-6538	Linnea Hoover - Lab Supervisor
510-668-4473	Eileen Chen - Client
Project: ~~Spring 2022~~ * Niles Cone	

Sampled By: Jeremy Bautista
Print First and Last Name
Signature & Date: 04.07.22

WQL Use Only
LIMS Job Name(s): ~~SPR-FALL~~ JB ~~SPR-FALL~~ JB

Page 1 of 1

(PC) Preservation Code Reference

1	None	8	
2	None	9	
3	None	10	
4		11	
5		12	
6		13	
7		14	

LIMS ID	Sample Location	Sample Date	Sample Time	Matrix**	# of Cont.	Lab	PC	Analysis 1: TDS-S	Analysis 2: Chloride (EPA 300.1)	Analysis 3: Nitrate as NO3	Analysis 4–14	Sample Specific Notes and Field Data
	5S/1W-06H010(2-TF)	04.07.22	0840	RGW	1	ACWD	1	1	X			Conductivity: N/A µS/cm
				RGW	1			1	X			Conductivity: µS/cm
				RGW	1			1	X			Conductivity: µS/cm
				RGW	1			1	X			Conductivity: µS/cm
				RGW	1			1	X			Conductivity: µS/cm
				RGW	1			1	X			Conductivity: µS/cm
				RGW	1			1	X			Conductivity: µS/cm
				RGW	1			1	X			Conductivity: µS/cm
				RGW	1			1	X			Conductivity: µS/cm
				RGW	1			1	X			Conductivity: µS/cm
				RGW	1			1	X			Conductivity: µS/cm
				RGW	1			1	X			Conductivity: µS/cm
				RGW	1			1	X			Conductivity: µS/cm

** MATRIX TYPES: RSW = Raw Surface Water (IW, AW, OW); RGW = Raw Ground Water; CWW = Chlorinated Waste Water; WW = Other Waste Water; CFW = Chloraminated Finished Water; FW = Other Finished Water; SO = Solil; SL = Sludge

Attention !!! Special Instructions & Comments:

X = Sample Collected
F= Field Data
D= Data Entry Only

Relinquished by: (Print & Sign)	Company:	Date/Time:	Received by: (Print & Sign)	Company:	Date/Time:
Jeremy Bautista	ACWD	04.07.22 / 1040	Jennifer Reyes	ACWD	4/7/22 1040
Relinquished by: (Print & Sign)	Company:	Date/Time:	Received by: (Print & Sign)	Company:	Date/Time:
Relinquished by: (Print & Sign)	Company:	Date/Time:	Received by: (Print & Sign)	Company:	Date/Time:

Field Data Auth. / COC Reviewed by: _____ Date: _____

ACWD - Water Quality Laboratory
43885 South Grimmer Boulevard
Fremont, CA 94538

Chain of Custody Record

Water Quality Laboratory Info	
ELAP CERTIFICATE NO. 1524	
ACWD COC	
510-668-6538	Linnea Hoover - Lab Supervisor
510-668-6521	Nadia Lorenson - Project Manager
510-668-4411	Ava Lazor - Client
Project: Niles Cone Well Site Evaluation	

Sampled By: Jeremy Bautista
Print First and Last Name
Signature 04.05.22

WQL Use Only

LIMS Job Name: NILES-CONE-01-22-20

LIMS NUMERIC ID	Sample Location	Sample Date	Sample Time	Matrix**	# of Cont.
340256	3-TF-GW	4/5/2022		RGW	50

Analysis	Lab	PC	pH, Temperature → Coli P/A, HPC	ICPMS Metals - See Full List in Comments	Odor Panel	TDS (TDS), Alkalinity (ALK-F), Fluoride	Nitrate/Nitrite, Chloride, Sulfate	Conductivity, Turbidity, Color	Ca, Fe, Mg, Na (EPA 200.7)	Total Hardness as CaCO3 by ICP Calc (SM2340B)	EPA 505	EPA 515.4	EPA 524.2, Travel Blanks	EPA 525.2	EPA 531.2	Glyphosate (EPA 547)	Endothall (EPA 548)	EPA 549	EPA 551.1, Travel Blanks	Dioxin (EPA 1613)	1, 2, 3 - TCP, Travel Blank	Asbestos	Perchlorate - EPA 331	Cyanide - Manual Distillation	Surfactants - MBAS	Gross Alpha by Co-precipitation (SM 7110C)	Ra 226, Ra 228	Uranium in pCi/l and µg/L (EPA 200.8)
	FIELD	1	F							X																	
	ACWD	2		1																							
	ACWD	3			1																						
	ACWD	4				1																					
	ACWD	5					1																				
	ACWD	6						1																			
	EEA	7							1																		
	EEA	8									4	4	5	2	2	1	1	1	5	2	6	1	1	1	1	2	4	1
	EEA	9																										
	EEA	10																										
	EEA	11																										
	EEA	12																										
	EEA	13																										
	EEA	14																										
	EEA	15																										
	EEA	16																										
	EEA	17																										
	EEA	18																										
	EEA	19																										
	EEA	20																										
	EEA	21																										
	EEA	22																										
	EEA	23																										
	EEA	24																										
	EEA	25																										
	EEA	26																										

Page 1 of 1

(PC) Preservation Code Reference

1	None	14	None
2	Nitric Acid	15	None
3	None	16	None
4	None	17	NaP/KP + NH4CL
5	None	18	Thio
6	None	19	HCl
7	HNO3	20	None
8	N/A	21	None
9	Thio	22	NaOH + AA
10	NaSulfite	23	None
11	HCl	24	HNO3
12	HCl	25	HNO3
13	KH2Citrate + ThioSO4	26	HNO3

Sample Specific Notes and Field Data

pH: 7.4 Temp: 18.3

**** MATRIX TYPES:**
RSW = Raw Surface Water (IW, AW, OW)
RGW = Raw Ground Water
CWW = Chlorinated Waste Water
WW = Other Waste Water
CFW = Chlor(am)inated Finished Water
FW = Other Finished Water
SO = Solil
SL = Sludge

Attention !!! Special Instructions & Comments: In-house ICPMS Metals include: Al, Ag, As, Ba, Be, Cd, Cr, Cu, Hg, Mn, Ni, Sb, Se, Tl, Zn

pH Meter #:

Probe #:

Received on Ice: Y/N **Blank Temp (°C):** **Thermometer ID:**

X = Sample Collected
F= Field Data
D= Data Entry Only

Relinquished by: (Print & Sign)	Company:	Date/Time:	Received by: (Print & Sign)	Company:	Date/Time:
Jeremy Bautista	ACWD	04.05.22/1015	Jennifer Reyes	ACWD	4/5/22 1040
Relinquished by: (Print & Sign)	Company:	Date/Time:	Received by: (Print & Sign)	Company:	Date/Time:

Field Data Auth. / COC Reviewed by:_____ Date:_____

Hydraulic Conductivity
ASTM D 5084
Method C: Falling Head Rising Tailwater

Job No:	915-013	**Boring:**	1-MF-261	**Date:**	01/11/22
Client:	RMA Group	**Sample:**	12/9/21	**By:**	MD/PJ
Project:	17-1999-0/08	**Depth, ft.:**		**Remolded:**	

Visual Classification: Olive CLAY

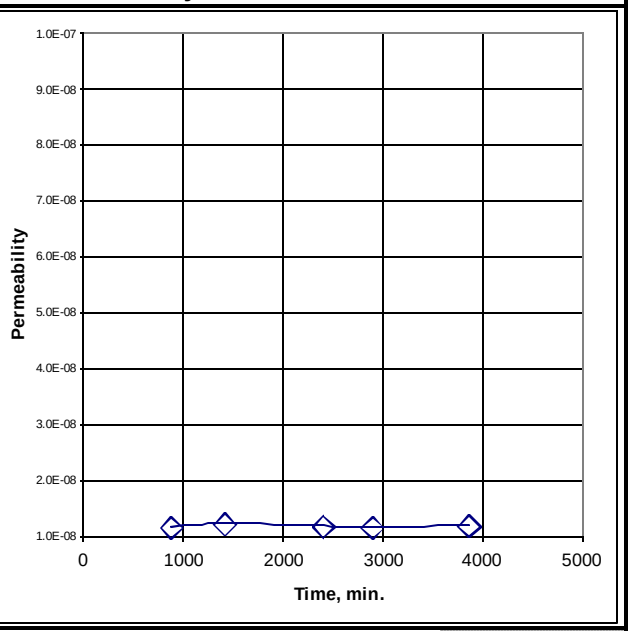
Max Sample Pressures, psi:

Cell:	Bottom	Top	Avg. Sigma3
63.5	59.5	57.5	5

B: = >0.95 **("B" is an indication of saturation)**

Max Hydraulic Gradient: = 28

Date	Minutes	Head, (in)	K,cm/sec
1/4/2022	0.00	70.03	**Start of Test**
1/5/2022	868.00	69.48	1.2E-08
1/5/2022	1406.00	69.08	1.2E-08
1/6/2022	2394.00	68.48	1.2E-08
1/6/2022	2888.00	68.18	1.2E-08
1/7/2022	3856.00	67.58	1.2E-08



Average Hydraulic Conductivity: 1.E-08 cm/sec

Sample Data:	Initial (As-Received)		Final (At-Test)
Height, in	2.52		2.52
Diameter, in	2.39		2.39
Area, in2	4.47		4.49
Volume in3	11.25		11.30
Total Volume, cc	184.3		185.2
Volume Solids, cc	120.4		120.4
Volume Voids, cc	63.9		64.8
Void Ratio	0.5		0.5
Total Porosity, %	34.7		35.0
Air-Filled Porosity (θa),%	0.7		0.4
Water-Filled Porosity (θw),%	34.0		34.5
Saturation, %	97.9		98.7
Specific Gravity	2.80	Assumed	2.80
Wet Weight, gm	399.8		401.2
Dry Weight, gm	337.2		337.2
Tare, gm	0.00		0.00
Moisture, %	18.6		19.0
Wet Bulk Density, pcf	135.3		135.2
Dry Bulk Density, pcf	114.1		113.6
Wet Bulk Dens.ρb, (g/cm^3)	2.17		2.17
Dry Bulk Dens.ρb, (g/cm^3)	1.83		1.82

Remarks:

Hydraulic Conductivity
ASTM D 5084
Method C: Falling Head Rising Tailwater

Job No:	915-013	**Boring:**	1-MF-351	**Date:**	01/11/22
Client:	RMA Group	**Sample:**	12/13/21	**By:**	MD/PJ
Project:	17-1999-0/08	**Depth, ft.:**		**Remolded:**	

Visual Classification: Bluish Gray CLAY w/ Sand

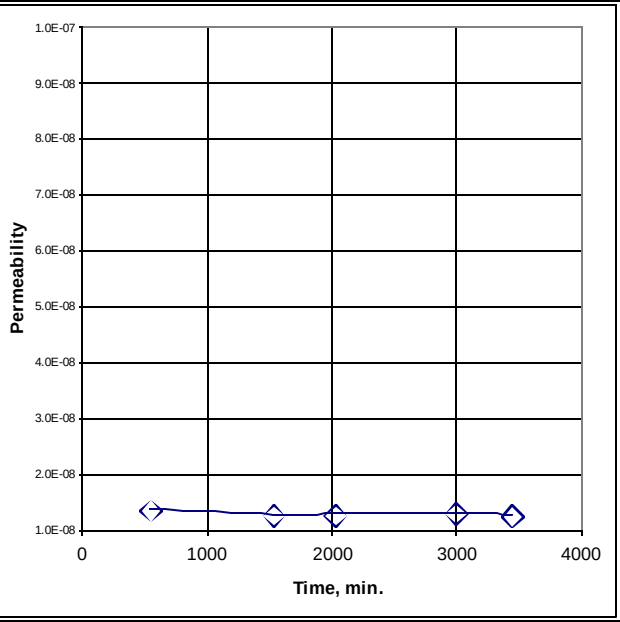
Max Sample Pressures, psi:

Cell:	Bottom	Top	Avg. Sigma3
43.5	39.5	37.5	5

B: = >0.95 **("B" is an indication of saturation)**

Max Hydraulic Gradient: = 27

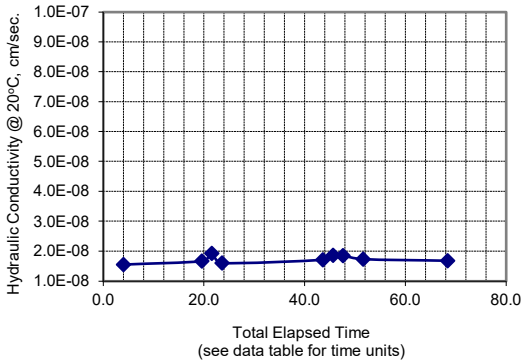
Date	Minutes	Head, (in)	K,cm/sec
1/5/2022	0.00	69.08	**Start of Test**
1/5/2022	538.00	68.68	1.4E-08
1/6/2022	1526.00	68.03	1.3E-08
1/6/2022	2021.00	67.68	1.3E-08
1/7/2022	2989.00	67.03	1.3E-08
1/7/2022	3442.00	66.78	1.3E-08

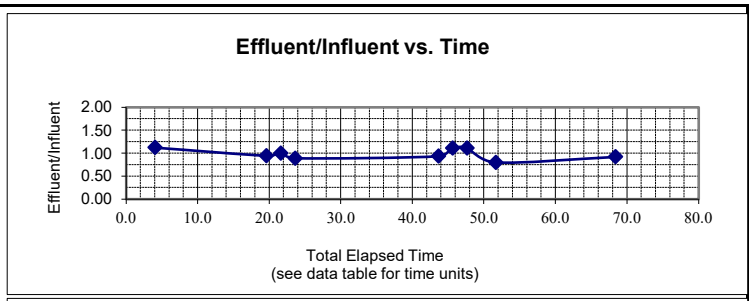


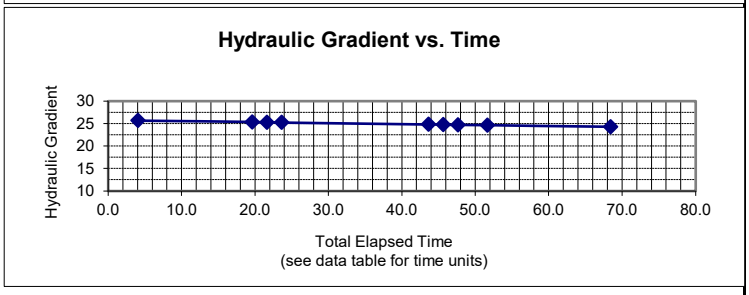
Average Hydraulic Conductivity: 1.E-08 cm/sec

Sample Data:	Initial (As-Received)		Final (At-Test)
Height, in	2.51		2.53
Diameter, in	2.40		2.40
Area, in2	4.51		4.52
Volume in3	11.34		11.44
Total Volume, cc	185.8		187.5
Volume Solids, cc	116.3		116.3
Volume Voids, cc	69.4		71.2
Void Ratio	0.6		0.6
Total Porosity, %	37.4		38.0
Air-Filled Porosity (θa),%	1.3		0.4
Water-Filled Porosity (θw),%	36.1		37.5
Saturation, %	96.6		98.9
Specific Gravity	2.80	Assumed	2.80
Wet Weight, gm	392.8		396.1
Dry Weight, gm	325.7		325.7
Tare, gm	0.00		0.00
Moisture, %	20.6		21.6
Wet Bulk Density, pcf	132.0		131.8
Dry Bulk Density, pcf	109.4		108.4
Wet Bulk Dens.ρb, (g/cm^3)	2.11		2.11
Dry Bulk Dens.ρb, (g/cm^3)	1.75		1.74

Remarks:







Hydraulic Conductivity @ 20°C, cm/sec:	1.7E-08

Trial:	Total Elapsed Time, hrs	Temp, °C:	k @ 20°C,	Dev. From Avg. k:	ΔEffluent/ ΔInfluent:	Hydraulic Gradient:
Start	0.00	21.7	Start	Start	Start	Start
1	4.00	21.5	1.6E-08	0.90	1.13	25.69
2	19.58	20.5	1.7E-08	0.96	0.94	25.36
3	21.58	19.9	1.9E-08	1.11	1.00	25.31
4	23.58	20.8	1.6E-08	0.93	0.89	25.27
5	43.62	20.8	1.7E-08	0.99	0.94	24.83
6	45.62	20.2	1.9E-08	1.07	1.11	24.78
7	47.62	20.4	1.9E-08	1.07	1.11	24.73
8	51.62	21.0	1.7E-08	1.00	0.80	24.65
9	68.38	20.7	1.7E-08	0.97	0.92	24.29

Pressures, psi:	
Cell:	36.4
Influent:	31.4
Effluent:	30.0
Confining:	5.0
B-Value:	0.95
Pipette Area, cm^2:	0.8814
Permeant:	Deaired Water

Sample Data	Initial	Final
Length, in.:	1.87	1.83
Diameter, in.:	2.39	2.37
Area, in^2:	4.48	4.42
Volume, in^3:	8.36	8.10
Wet Density, pcf:	130.9	134.3
Dry Density, pcf:	109.5	113.1
Water Content, %:	19.6	18.8
Assumed Specific Gravity:	2.65	2.65
Saturation, %:	102	108

Remarks:

Boring:	1-SF
Sample:	1
Depth:	260'
Test Date:	01-11-22

Test Method: ASTM D5084, Method C
Falling Head, Rising Tailwater Elevation
Sample Description: Gray Fat Clay (CH)

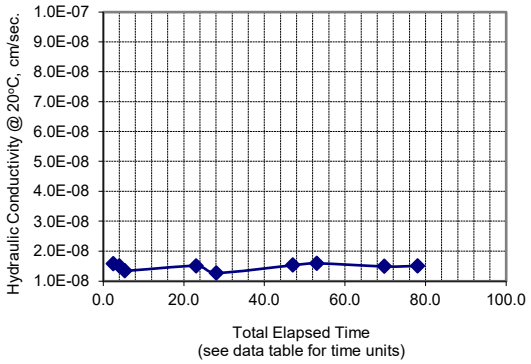
KLEINFELDER
Bright People. Right Solutions.
2601 Barrington Ct, Hayward, CA 94545

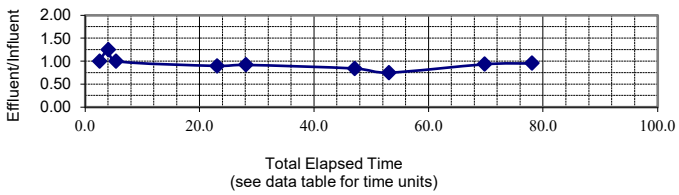
Project No.: 20224569.001A
Entry By: C. Pimentel
Checked By: C. Pimentel
Date: 1/18/2022

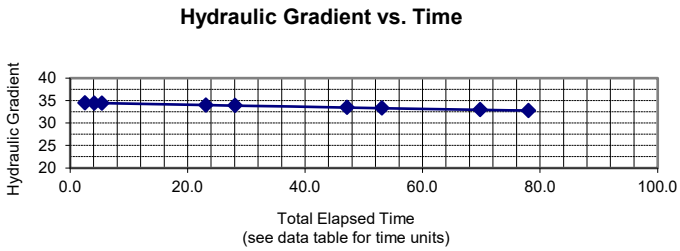
HYDRAULIC CONDUCTIVITY TEST

ACWD
Niles Cone Groundwater Basin

FIGURE
A







Hydraulic Conductivity @ 20°C, cm/sec:	1.5E-08

Trial:	Total Elapsed Time, hrs	Temp, °C:	k @ 20°C,	Dev. From Avg. k:	ΔEffluent/ ΔInfluent:	Hydraulic Gradient:
Start	0.00	21.3	Start	Start	Start	Start
1	2.48	22.0	1.6E-08	1.06	1.00	34.49
2	4.02	22.7	1.5E-08	1.02	1.25	34.45
3	5.35	22.8	1.3E-08	0.91	1.00	34.42
4	23.03	22.0	1.5E-08	1.02	0.90	34.01
5	28.03	21.9	1.3E-08	0.86	0.92	33.91
6	47.07	21.7	1.5E-08	1.03	0.84	33.47
7	53.02	21.8	1.6E-08	1.07	0.75	33.33
8	69.73	21.6	1.5E-08	1.01	0.94	32.96
9	78.00	21.6	1.5E-08	1.02	0.96	32.78

Pressures, psi:	
Cell:	47.4
Influent:	42.4
Effluent:	40.0
Confining:	5.0

B-Value:	0.97
Pipette Area, cm^2:	0.8814
Permeant:	Deaired Water

Sample Data	Initial	Final
Length, in.:	2.20	2.20
Diameter, in.:	2.40	2.41
Area, in^2:	4.54	4.56
Volume, in^3:	9.99	10.06
Wet Density, pcf:	134.1	133.5
Dry Density, pcf:	113.4	112.6
Water Content, %:	18.2	18.5
Assumed Specific Gravity:	2.65	2.65
Saturation, %:	106	105

Remarks:

Boring:	1-SF
Sample:	1
Depth:	352.5
Test Date:	01-24-22

Test Method: ASTM D5084, Method C
Falling Head, Rising Tailwater Elevation
Sample Description: Olive Brown Sandy Lean Clay (CL)

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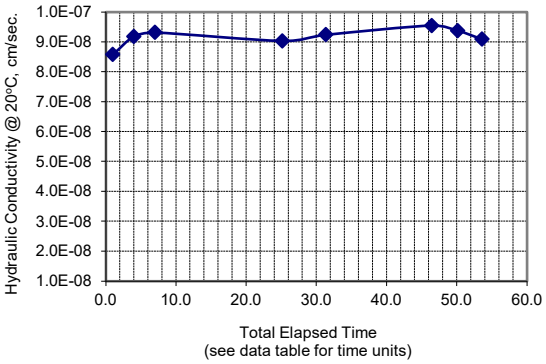
2601 Barrington Ct, Hayward, CA 94545

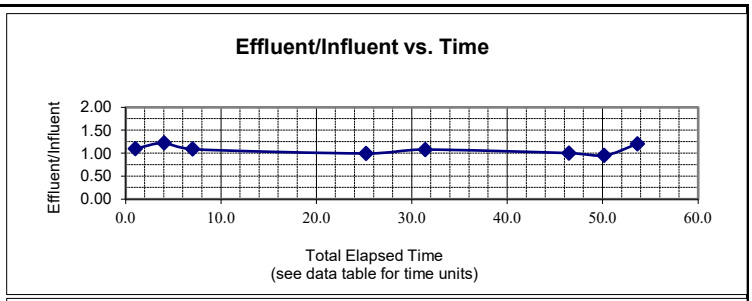
Project No.: 20224569.001A
Entry By: C. Pimentel
Checked By: C. Pimentel
Date: 2/2/2022

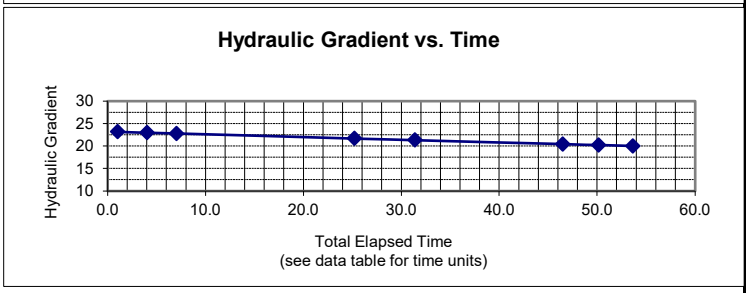
HYDRAULIC CONDUCTIVITY TEST

ACWD
Niles Cone Groundwater Basin

FIGURE
C







Hydraulic Conductivity @ 20°C, cm/sec:	9.2E-08

Trial:	Total Elapsed Time, hrs	Avg. Temp, °C:	k @ 20°C, cm/sec.:	Dev. From Avg. k:	ΔEffluent/ ΔInfluent:	Hydraulic Gradient:
Start	0.00	20.3	Start	Start	Start	Start
1	1.00	20.7	8.6E-08	0.93	1.10	23.17
2	4.00	21.9	9.2E-08	0.99	1.23	22.98
3	7.00	22.8	9.3E-08	1.01	1.09	22.79
4	25.17	22.2	9.0E-08	0.98	1.00	21.69
5	31.37	22.3	9.2E-08	1.00	1.08	21.32
6	46.45	22.0	9.5E-08	1.03	1.00	20.42
7	50.12	21.4	9.4E-08	1.01	0.95	20.22
8	53.62	22.5	9.1E-08	0.98	1.20	20.02
9	70.77	21.8	9.8E-08	1.06	0.96	19.05

Pressures, psi:	
Cell:	37.4
Influent:	32.4
Effluent:	30.0
Confining:	5.0

B-Value:	0.97
Pipette Area, cm^2:	0.8814
Permeant:	Deaired Water

Sample Data	Initial	Final
Length, in.:	3.28	3.25
Diameter, in.:	2.38	2.39
Area, in^2:	4.46	4.47
Volume, in^3:	14.65	14.55
Wet Density, pcf:	136.0	136.0
Dry Density, pcf:	114.8	115.6
Water Content, %:	18.4	17.6
Assumed Specific Gravity:	2.65	2.65
Saturation, %:	111	108

Remarks:

Boring:	2-SF
Sample:	Site 2
Depth:	275
Test Date:	02-07-22

Test Method: ASTM D5084, Method C
Falling Head, Rising Tailwater Elevation
Sample Description: Olive Sandy Lean Clay (CL)

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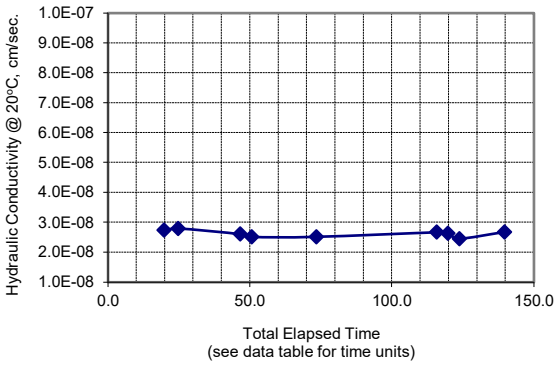
2601 Barrington Ct, Hayward, CA 94545

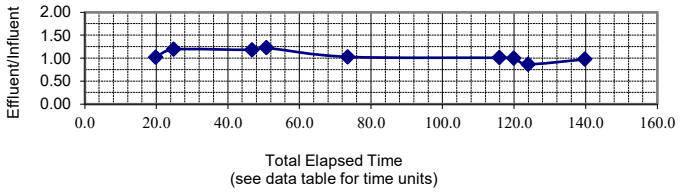
Project No.: 20224569.001A
Entry By: C. Pimentel
Checked By: C. Pimentel
Date: 2/14/2022

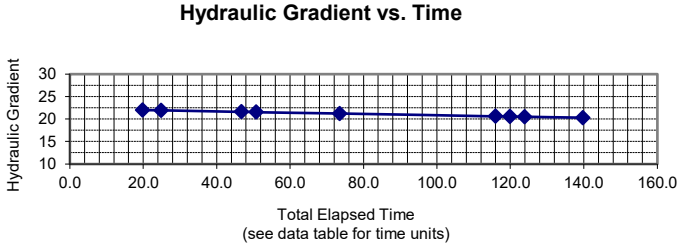
HYDRAULIC CONDUCTIVITY TEST

ACWD
Niles Cone Groundwater Basin

FIGURE
A







Hydraulic Conductivity @ 20°C, cm/sec: **2.6E-08**

Trial:	Total Elapsed Time, hrs	Avg. Temp, °C:	k @ 20°C, cm/sec.:	Dev. From Avg. k:	ΔEffluent/ ΔInfluent:	Hydraulic Gradient:
Start	0.00	22.4	Start	Start	Start	Start
1	19.75	21.5	2.7E-08	1.04	1.02	22.02
2	24.75	22.2	2.8E-08	1.07	1.19	21.94
3	46.65	23.5	2.6E-08	1.00	1.18	21.61
4	50.65	23.0	2.5E-08	0.96	1.23	21.55
5	73.43	23.5	2.5E-08	0.96	1.03	21.23
6	115.83	22.4	2.7E-08	1.02	1.01	20.62
7	119.83	20.4	2.6E-08	1.00	1.00	20.57
8	123.83	20.6	2.5E-08	0.94	0.87	20.52
9	139.72	19.9	2.7E-08	1.02	0.98	20.31

Pressures, psi:	
Cell:	57.8
Influent:	52.8
Effluent:	50.0
Confining:	5.0

B-Value:	0.99
Pipette Area, cm^2:	0.8814
Permeant:	Deaired Water

Sample Data	Initial	Final
Length, in.:	3.87	3.87
Diameter, in.:	2.39	2.40
Area, in^2:	4.49	4.53
Volume, in^3:	17.37	17.55
Wet Density, pcf:	130.7	130.5
Dry Density, pcf:	107.7	106.6
Water Content, %:	21.3	22.3
Assumed Specific Gravity:	2.65	2.65
Saturation, %:	106	108

Remarks:

Boring:	2-SF
Sample:	Site 2
Depth:	350
Test Date:	02-09-22

Test Method: ASTM D5084, Method C
Falling Head, Rising Tailwater Elevation
Sample Description: Olive Lean Clay (CL)

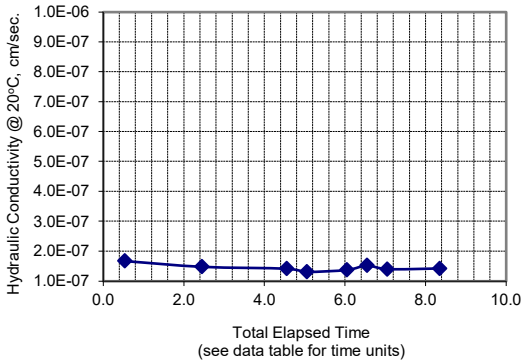
KLEINFELDER
Bright People. Right Solutions.
2601 Barrington Ct, Hayward, CA 94545

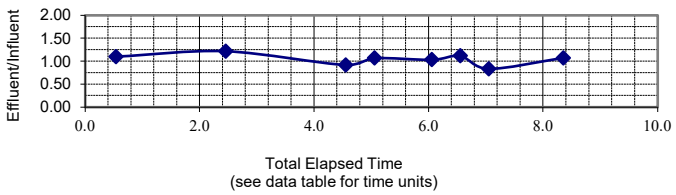
Project No.: 20224569.001A
Entry By: C. Pimentel
Checked By: C. Pimentel
Date: 2/16/2022

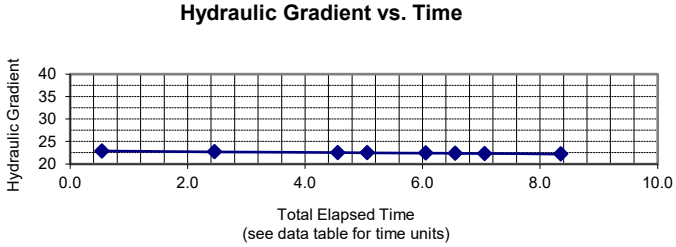
HYDRAULIC CONDUCTIVITY TEST

ACWD
Niles Cone Groundwater Basin

FIGURE
B







Hydraulic Conductivity @ 20°C, cm/sec:	1.5E-07

Trial:	Total Elapsed Time, hrs	Temp, °C:	k @ 20°C,	Dev. From Avg. k:	ΔEffluent/ ΔInfluent:	Hydraulic Gradient:
Start	0.00	20.6	Start	Start	Start	Start
1	0.53	20.7	1.7E-07	1.15	1.10	22.89
2	2.45	20.8	1.5E-07	1.02	1.22	22.72
3	4.55	21.2	1.4E-07	0.98	0.92	22.53
4	5.05	21.7	1.3E-07	0.90	1.07	22.49
5	6.05	21.8	1.4E-07	0.95	1.03	22.41
6	6.55	21.9	1.5E-07	1.05	1.12	22.36
7	7.05	21.9	1.4E-07	0.96	0.83	22.32
8	8.35	21.8	1.4E-07	0.98	1.07	22.21

Pressures, psi:	
Cell:	37.5
Influent:	32.5
Effluent:	30.0
Confining:	5.0

B-Value:	0.96
Pipette Area, cm^2:	0.8814
Permeant:	Deaired Water

Sample Data	Initial	Final
Length, in.:	3.45	3.44
Diameter, in.:	2.36	2.35
Area, in^2:	4.37	4.35
Volume, in^3:	15.10	14.96
Wet Density, pcf:	136.4	136.6
Dry Density, pcf:	115.2	116.2
Water Content, %:	18.5	17.5
Assumed Specific Gravity:	2.65	2.65
Saturation, %:	112	110

Remarks:

Boring:	2-TF
Sample:	1
Depth:	260
Test Date:	01-31-22

Test Method: ASTM D5084, Method C
Falling Head, Rising Tailwater Elevation
Sample Description: Olive Gray Clayey Sand (SC)

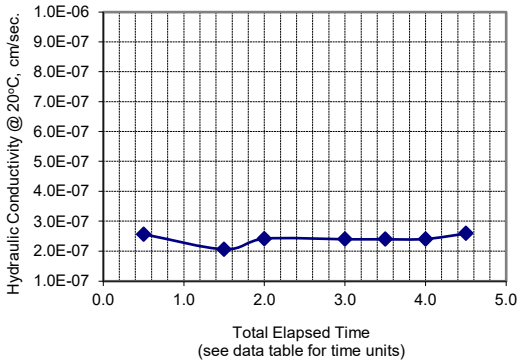
KLEINFELDER
Bright People. Right Solutions.
2601 Barrington Ct, Hayward, CA 94545

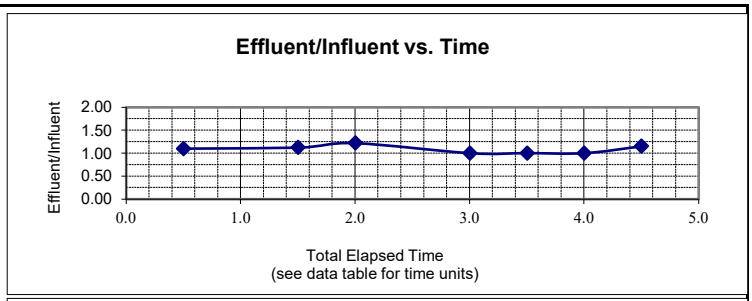
Project No.: 20224569.001A
Entry By: C. Pimentel
Checked By: C. Pimentel
Date: 2/2/2022

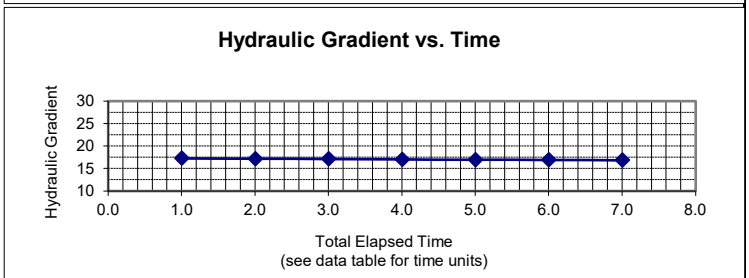
HYDRAULIC CONDUCTIVITY TEST

ACWD
Niles Cone Groundwater Basin

FIGURE
B







Hydraulic Conductivity @ 20°C, cm/sec:	2.4E-07

Trial:	Total Elapsed Time, hrs	Temp, °C:	k @ 20°C,	Dev. From Avg. k:	ΔEffluent/ ΔInfluent:	Hydraulic Gradient:
Start	0.00	20.9	Start	Start	Start	Start
1	0.50	21.1	2.6E-07	1.07	1.10	17.27
2	1.50	21.6	2.1E-07	0.86	1.13	17.18
3	2.00	22.0	2.4E-07	1.00	1.22	17.13
4	3.00	22.4	2.4E-07	1.00	1.00	17.02
5	3.50	22.7	2.4E-07	1.00	1.00	16.97
6	4.00	22.7	2.4E-07	1.00	1.00	16.91
7	4.50	22.8	2.6E-07	1.08	1.15	16.85

Pressures, psi:	
Cell:	46.8
Influent:	41.8
Effluent:	40.0
Confining:	5.0

B-Value:	0.97
Pipette Area, cm^2:	0.8814
Permeant:	Deaired Water

Sample Data	Initial	Final
Length, in.:	3.43	3.35
Diameter, in.:	2.33	2.25
Area, in^2:	4.25	3.96
Volume, in^3:	14.55	13.26
Wet Density, pcf:	122.8	131.4
Dry Density, pcf:	94.7	103.9
Water Content, %:	29.7	26.4
Assumed Specific Gravity:	2.65	2.65
Saturation, %:	106	118

Remarks:

Boring:	2-TF
Sample:	1
Depth:	380
Test Date:	01-24-22

Test Method: ASTM D5084, Method C
Falling Head, Rising Tailwater Elevation
Sample Description: Olive Brown Sandy Lean Clay (CL)

KLEINFELDER
Bright People. Right Solutions.
2601 Barrington Ct, Hayward, CA 94545

Project No.: 20224569.001A
Entry By: C. Pimentel
Checked By: C. Pimentel
Date: 1/25/2022

HYDRAULIC CONDUCTIVITY TEST

ACWD
Niles Cone Groundwater Basin

FIGURE
B

Hydraulic Conductivity
ASTM D 5084
Method C: Falling Head Rising Tailwater

Job No:	915-011	**Boring:**	3SF-346	**Date:**	12/14/21
Client:	RMA Group	**Sample:**		**By:**	MD/PJ
Project:	17-1999-0/08	**Depth, ft.:**		**Remolded:**	

Visual Classification: Olive Gray Clayey SAND

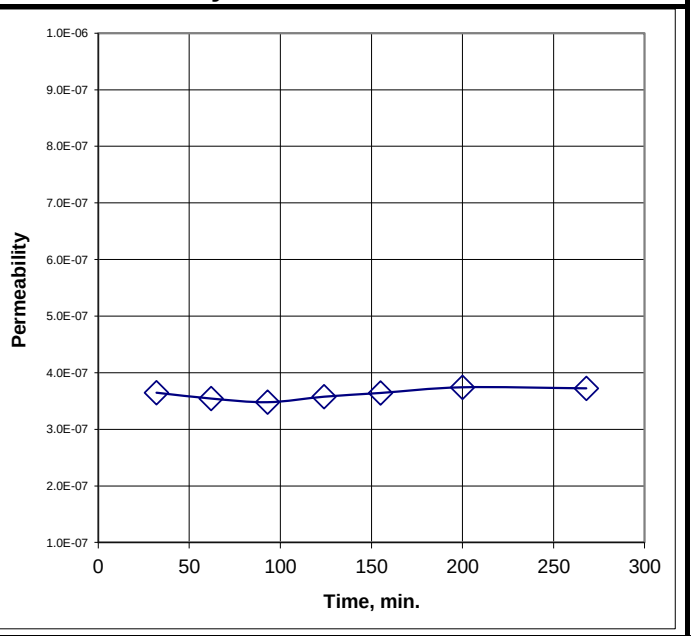
Max Sample Pressures, psi:

Cell:	Bottom	Top	Avg. Sigma3
53.5	49	48	5

B: = >0.95 **("B" is an indication of saturation)**

Max Hydraulic Gradient: = 17

Date	Minutes	Head, (in)	K,cm/sec
12/10/2021	0.00	42.09	Start of Test
12/10/2021	32.00	41.69	3.6E-07
12/10/2021	62.00	41.34	3.5E-07
12/10/2021	93.00	40.99	3.5E-07
12/10/2021	124.00	40.59	3.6E-07
12/10/2021	155.00	40.19	3.6E-07
12/10/2021	200.00	39.59	3.7E-07
12/10/2021	268.00	38.79	3.7E-07



Average Hydraulic Conductivity: 4.E-07 cm/sec

Sample Data:	Initial (As-Received)		Final (At-Test)
Height, in	2.51		2.51
Diameter, in	2.40		2.40
Area, in2	4.52		4.52
Volume in3	11.35		11.33
Total Volume, cc	186.1		185.7
Volume Solids, cc	115.6		115.6
Volume Voids, cc	70.5		70.2
Void Ratio	0.6		0.6
Total Porosity, %	37.9		37.8
Air-Filled Porosity (θa),%	1.0		0.2
Water-Filled Porosity (θw),%	36.9		37.6
Saturation, %	97.3		99.4
Specific Gravity	2.75	Assumed	2.75
Wet Weight, gm	386.4		387.5
Dry Weight, gm	317.8		317.8
Tare, gm	0.00		0.00
Moisture, %	21.6		21.9
Wet Bulk Density, pcf	129.6		130.2
Dry Bulk Density, pcf	106.6		106.8
Wet Bulk Dens.ρb, (g/cm^3)	2.08		2.09
Dry Bulk Dens.ρb, (g/cm^3)	1.71		1.71

Remarks:

Hydraulic Conductivity
ASTM D 5084
Method C: Falling Head Rising Tailwater

Job No:	915-012	**Boring:**	3TF-253	**Date:**	12/22/21
Client:	RMA Group	**Sample:**	11/2/21	**By:**	MD/PJ
Project:	17-1999-0/08	**Depth, ft.:**		**Remolded:**	
Visual Classification:	Olive Gray CLAY w/ Sand				

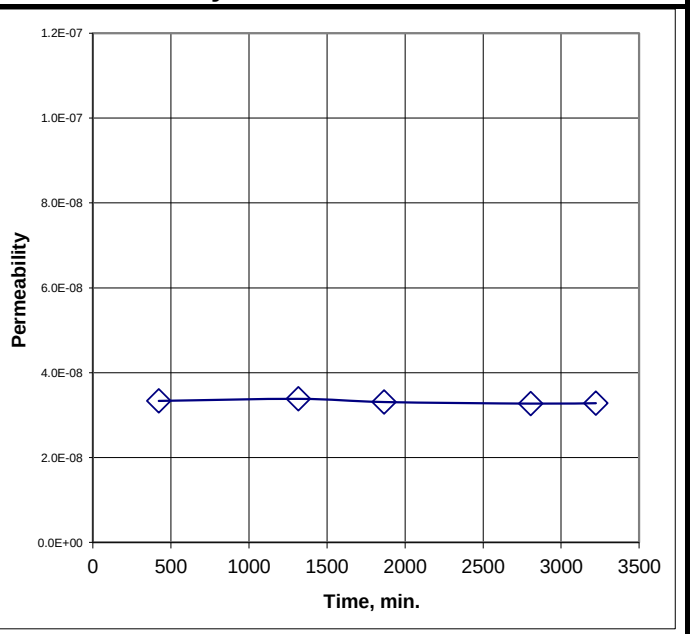
Max Sample Pressures, psi:

Cell:	Bottom	Top	Avg. Sigma3
94	90	88	5

B: = >0.95 **("B" is an indication of saturation)**

Max Hydraulic Gradient: = 28

Date	Minutes	Head, (in)	K,cm/sec
12/15/2021	0.00	70.23	**Start of Test**
12/15/2021	423.00	69.43	3.3E-08
12/16/2021	1317.00	67.78	3.4E-08
12/16/2021	1866.00	66.78	3.3E-08
12/17/2021	2805.00	65.28	3.3E-08
12/17/2021	3222.00	64.48	3.3E-08



Average Hydraulic Conductivity: 3.E-08 cm/sec

Sample Data:	Initial (As-Received)		Final (At-Test)
Height, in	2.50		2.51
Diameter, in	2.40		2.39
Area, in2	4.52		4.49
Volume in3	11.31		11.24
Total Volume, cc	185.3		184.2
Volume Solids, cc	121.2		121.2
Volume Voids, cc	64.1		63.0
Void Ratio	0.5		0.5
Total Porosity, %	34.6		34.2
Air-Filled Porosity (θa),%	0.9		0.0
Water-Filled Porosity (θw),%	33.7		34.2
Saturation, %	97.3		99.9
Specific Gravity	2.80	Assumed	2.80
Wet Weight, gm	401.8		402.3
Dry Weight, gm	339.4		339.4
Tare, gm	0.00		0.00
Moisture, %	18.4		18.5
Wet Bulk Density, pcf	135.3		136.3
Dry Bulk Density, pcf	114.3		115.0
Wet Bulk Dens.ρb, (g/cm^3)	2.17		2.18
Dry Bulk Dens.ρb, (g/cm^3)	1.83		1.84

Remarks:

COOPER TESTING LABORATORY

Hydraulic Conductivity
ASTM D 5084
Method C: Falling Head Rising Tailwater

Job No:	915-012	**Boring:**	3TF-361	**Date:**	12/22/21
Client:	RMA Group	**Sample:**	11/3/21	**By:**	MD/PJ
Project:	17-1999-0/08	**Depth, ft.:**		**Remolded:**	

Visual Classification: Olive Gray Sandy CLAY

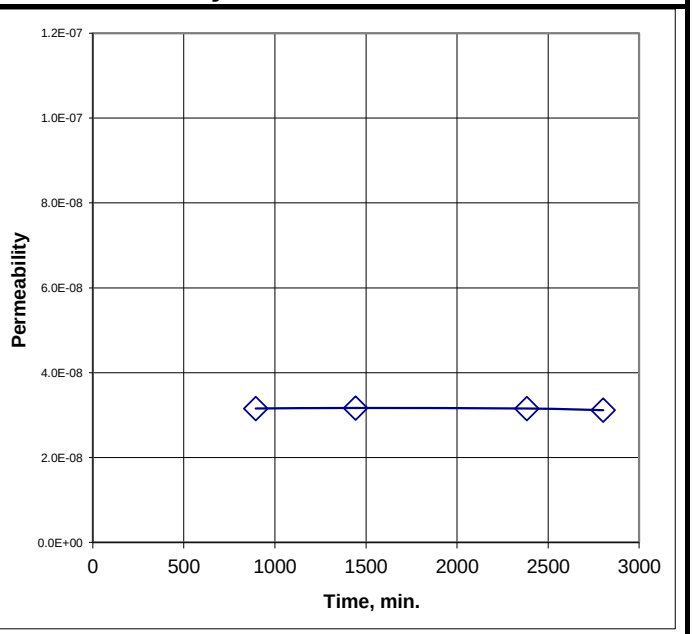
Max Sample Pressures, psi:

Cell:	Bottom	Top	Avg. Sigma3
54	50	48	5

B: = >0.95 **("B" is an indication of saturation)**

Max Hydraulic Gradient: = 28

Date	Minutes	Head, (in)	K,cm/sec
12/15/2021	0.00	69.53	Start of Test
12/16/2021	895.00	67.98	3.2E-08
12/16/2021	1443.00	66.98	3.2E-08
12/17/2021	2383.00	65.48	3.2E-08
12/17/2021	2802.00	64.78	3.1E-08



Average Hydraulic Conductivity: 3.E-08 cm/sec

Sample Data:	Initial (As-Received)		Final (At-Test)
Height, in	2.50		2.51
Diameter, in	2.40		2.40
Area, in2	4.52		4.51
Volume in3	11.32		11.32
Total Volume, cc	185.5		185.5
Volume Solids, cc	124.3		124.3
Volume Voids, cc	61.2		61.1
Void Ratio	0.5		0.5
Total Porosity, %	33.0		33.0
Air-Filled Porosity (θa),%	1.4		0.2
Water-Filled Porosity (θw),%	31.6		32.8
Saturation, %	95.9		99.4
Specific Gravity	2.80	Assumed	2.80
Wet Weight, gm	406.7		408.8
Dry Weight, gm	348.1		348.1
Tare, gm	0.00		0.00
Moisture, %	16.8		17.5
Wet Bulk Density, pcf	136.8		137.6
Dry Bulk Density, pcf	117.1		117.1
Wet Bulk Dens.ρb, (g/cm^3)	2.19		2.20
Dry Bulk Dens.ρb, (g/cm^3)	1.88		1.88

Remarks:

Laboratory Test Report

Client:	**Alameda County Water District**	Report No.:	**22-HAY-00074 Rev. 0**	Issued:	**1/18/2022**
Project:	**20224569.001A**			Field ID:	**HL14333**
	ACWD Niles Cone Groundwater Basin	Sampled by:	**Client**	Date:	**12/10/2022**
	01-000L - Laobratory Testing	Submitted by:	**Client**	Date:	**12/16/2022**

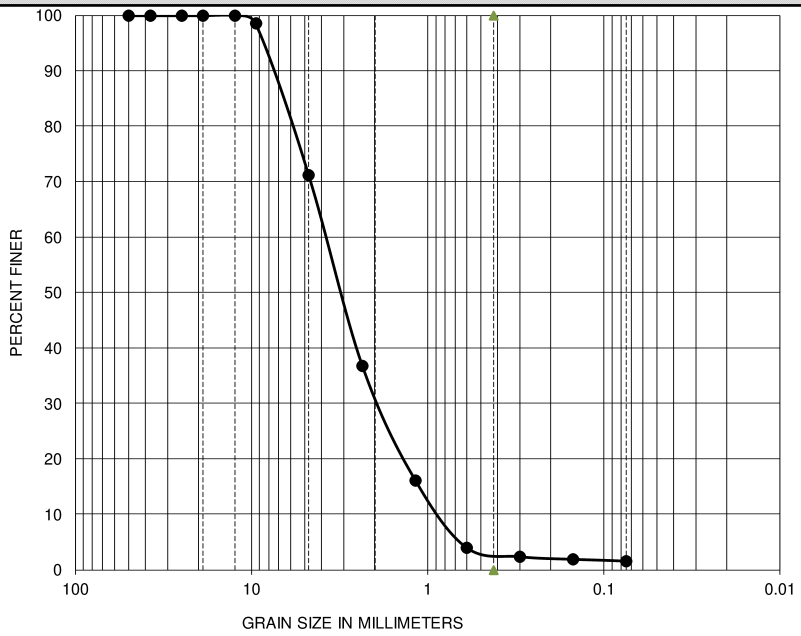
Tested on **1/7/2022** by **M. Paulson**

Material Description: **Poorly Graded Sand with Gravel (SP)**

Location: **Bulk -1, IMF @ 315-340'**

Test Method: **ASTM C136 / ASTM C117**

U.S. Standard Sieve Size		% Passing
2 Inch	50-mm	**100**
1 1/2 Inch	37.5-mm	**100**
1 Inch	25-mm	**100**
3/4 Inch	19-mm	**100**
1/2 Inch	12.5-mm	**100**
3/8 Inch	9.5-mm	**99**
No. 4	4.75-mm	**71**
No. 8	2.36-mm	**37**
No. 16	1.18-mm	**16**
No. 30	600-um	**4**
No. 50	300-um	**2**
No. 100	150-um	**2**
No. 200	75-um	**2**



d60	**3.971**		
d30	**1.974**	Cu	**4.469**
d10	**0.889**	Cc	**1.105**

Reviewed on 1/18/2022 by Cindy Pimentel,
Senior Technician

Limitations: Pursuant to applicable building codes, the results presented in this report are for the exclusive use of the client and the registered design professional in responsible charge. The results apply only to the samples tested. If changes to the specifications were made and not communicated to Kleinfelder, Kleinfelder assumes no responsibility for pass/fail statements (meets/did not meet), if provided. This report may not be reproduced, except in full, without written approval of Kleinfelder.

Laboratory Test Report

Client:	**Alameda County Water District**	Report No.:	**22-HAY-00120 Rev. 0**	Issued:	
Project:	**20224569.001A**			Field ID:	**HL14365**
	ACWD Niles Cone Groundwater Basin	Sampled by:	**Client**	Date:	**Not Provided**
	01-000L - Laobratory Testing	Submitted by:	**Client**	Date:	**1/20/2022**

Tested on **1/21/2022** by **B. O'Neil**

Material Description: **Clayey Sand with Gravel (SC)**

Location: **2TF - Bulk**

Test Method: **ASTM C136 / ASTM C117**

U.S. Standard Sieve Size		% Passing
2 Inch	50-mm	**100**
1 1/2 Inch	37.5-mm	**100**
1 Inch	25-mm	**100**
3/4 Inch	19-mm	**100**
1/2 Inch	12.5-mm	**98**
3/8 Inch	9.5-mm	**93**
No. 4	4.75-mm	**66**
No. 8	2.36-mm	**46**
No. 16	1.18-mm	**35**
No. 30	600-um	**32**
No. 50	300-um	**28**
No. 100	150-um	**24**
No. 200	75-um	**19**

Reviewed on by Cindy Pimentel,
Senior Technician

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RMA Job No: 17-1999-0/08

December 27, 2021

Alameda County Water District (ACWD)
43885 South Grimmer Blvd
Fremont, CA 94538

Subject: **Materials Tests Results**
ACWD As-Needed
Niles Cone Groundwater Basin Extraction Well Site Evaluation; Project #10097

Gentlemen:

Attached is a summary of test results performed on the material sampled by your representative on December 20, 2021 and delivered to our laboratory for testing on December 22, 2021.

The tests were made under the responsible charge of a Registered Civil Engineer in conformance to the following standard test procedures:

ASTM D422	Particle-Size Analysis of Soils

The laboratory test results are attached herein.

Respectfully submitted,

RMA Group



Matt Hansen
Assistant Laboratory Manager

These results apply only to the samples listed herein as received. The data and information are proprietary and cannot be released without authorization of RMA Group, Inc. and must be reproduced in full.

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SAMPLE INFORMATION:

Sample Number	Sample Description	Sample Source	Sample Date
1	Gray Poorly Graded Gravel with Clay and Sand	Location 3-TF	12/20/2021

TEST RESULTS:

PARTICLE-SIZE ANALYSIS OF SOILS
Test Method: ASTM D422

Sample Number:	3-TF
Sieve Size	Percent Passing
(3/4") 19.0 mm	100
(1/2") 12.5 mm	99
(3/8") 9.5 mm	79
(#4) 4.75 mm	41
(#8) 2.36 mm	12
(#10) 2.00 mm	11
(#16) 1.18 mm	9
(#30) 600 µm	9
(#40) 425 µm	8
(#50) 300 µm	8
(#100) 150 µm	8
(#200) 75 µm	6.9

McCampbell Analytical, Inc.
"When Quality Counts"

Analytical Report

WorkOrder: 2112607

Report Created for: Pitcher Services LLC

218 Demeter St.
East Palo Alto, CA 94303

Project Contact: Wessam Zanaty
Project P.O.: 10097
Project: P7211081; ACWD-Niles Cone GW Basin Extraction

Project Received: 12/10/2021

Analytical Report reviewed & approved for release on 12/17/2021 by:

Yen Cao
Project Manager

The report shall not be reproduced except in full, without the written approval of the laboratory. The analytical results relate only to the items tested. Results reported conform to the most current NELAP standards, where applicable, unless otherwise stated in a case narrative.

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Glossary of Terms & Qualifier Definitions

Client: Pitcher Services LLC **WorkOrder:** 2112607

Project: P7211081; ACWD-Niles Cone GW Basin Extraction

Glossary Abbreviation

%D	Serial Dilution Percent Difference
95% Interval	95% Confident Interval
CPT	Consumer Product Testing not NELAP Accredited
DF	Dilution Factor
DI WET	(DISTLC) Waste Extraction Test using DI water
DISS	Dissolved (direct analysis of 0.45 µm filtered and acidified water sample)
DLT	Dilution Test (Serial Dilution)
DUP	Duplicate
EDL	Estimated Detection Limit
ERS	External reference sample. Second source calibration verification.
ITEF	International Toxicity Equivalence Factor
LCS	Laboratory Control Sample
LQL	Lowest Quantitation Level
MB	Method Blank
MB % Rec	% Recovery of Surrogate in Method Blank, if applicable
MDL	Method Detection Limit
ML	Minimum Level of Quantitation
MS	Matrix Spike
MSD	Matrix Spike Duplicate
N/A	Not Applicable
ND	Not detected at or above the indicated MDL or RL
NR	Data Not Reported due to matrix interference or insufficient sample amount.
PDS	Post Digestion Spike
PDSD	Post Digestion Spike Duplicate
PF	Prep Factor
RD	Relative Difference
RL	Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)
RPD	Relative Percent Deviation
RRT	Relative Retention Time
SPK Val	Spike Value
SPKRef Val	Spike Reference Value
SPLP	Synthetic Precipitation Leachate Procedure
ST	Sorbent Tube
TCLP	Toxicity Characteristic Leachate Procedure
TEQ	Toxicity Equivalents
TZA	TimeZone Net Adjustment for sample collected outside of MAI's UTC.
WET (STLC)	Waste Extraction Test (Soluble Threshold Limit Concentration)

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http://www.mccampbell.com / E-mail: main@mccampbell.com

Glossary of Terms & Qualifier Definitions

Client: Pitcher Services LLC **WorkOrder:** 2112607
Project: P7211081; ACWD-Niles Cone GW Basin Extraction

Analytical Qualifiers

J	Result is less than the RL/ML but greater than the MDL. The reported concentration is an estimated value.
e7	Oil range compounds are detected.

Quality Control Qualifiers

F2	LCS/LCSD recovery and/or RPD/RSD is out of acceptance criteria.

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Analytical Report

Client:	Pitcher Services LLC	**WorkOrder:**	2112607
Date Received:	12/10/2021 15:35	**Extraction Method:**	SW5030B
Date Prepared:	12/10/2021	**Analytical Method:**	SW8260B
Project:	P7211081; ACWD-Niles Cone GW Basin Extraction	**Unit:**	mg/kg

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
ACWD Niles Cone Ground Water Basin Extractio	2112607-001A	Sludge	12/10/2021 08:30	GC18 12162131.D	235312

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	0.20	1	12/17/2021 04:31
tert-Amyl methyl ether (TAME)	ND	0.0050	1	12/17/2021 04:31
Benzene	ND	0.0050	1	12/17/2021 04:31
Bromobenzene	ND	0.0050	1	12/17/2021 04:31
Bromochloromethane	ND	0.0050	1	12/17/2021 04:31
Bromodichloromethane	ND	0.0050	1	12/17/2021 04:31
Bromoform	ND	0.0050	1	12/17/2021 04:31
Bromomethane	ND	0.0050	1	12/17/2021 04:31
2-Butanone (MEK)	ND	0.10	1	12/17/2021 04:31
t-Butyl alcohol (TBA)	ND	0.050	1	12/17/2021 04:31
n-Butyl benzene	ND	0.0050	1	12/17/2021 04:31
sec-Butyl benzene	ND	0.0050	1	12/17/2021 04:31
tert-Butyl benzene	ND	0.0050	1	12/17/2021 04:31
Carbon Disulfide	ND	0.0050	1	12/17/2021 04:31
Carbon Tetrachloride	ND	0.0050	1	12/17/2021 04:31
Chlorobenzene	ND	0.0050	1	12/17/2021 04:31
Chloroethane	ND	0.0050	1	12/17/2021 04:31
Chloroform	ND	0.0050	1	12/17/2021 04:31
Chloromethane	ND	0.0050	1	12/17/2021 04:31
2-Chlorotoluene	ND	0.0050	1	12/17/2021 04:31
4-Chlorotoluene	ND	0.0050	1	12/17/2021 04:31
Dibromochloromethane	ND	0.0050	1	12/17/2021 04:31
1,2-Dibromo-3-chloropropane	ND	0.00050	1	12/17/2021 04:31
1,2-Dibromoethane (EDB)	ND	0.00025	1	12/17/2021 04:31
Dibromomethane	ND	0.0050	1	12/17/2021 04:31
1,2-Dichlorobenzene	ND	0.0050	1	12/17/2021 04:31
1,3-Dichlorobenzene	ND	0.0050	1	12/17/2021 04:31
1,4-Dichlorobenzene	ND	0.0050	1	12/17/2021 04:31
Dichlorodifluoromethane	ND	0.0050	1	12/17/2021 04:31
1,1-Dichloroethane	ND	0.0050	1	12/17/2021 04:31
1,2-Dichloroethane (1,2-DCA)	ND	0.00010	1	12/17/2021 04:31
1,1-Dichloroethene	ND	0.0050	1	12/17/2021 04:31
cis-1,2-Dichloroethene	ND	0.0050	1	12/17/2021 04:31
trans-1,2-Dichloroethene	ND	0.0050	1	12/17/2021 04:31
1,2-Dichloropropane	ND	0.0050	1	12/17/2021 04:31
1,3-Dichloropropane	ND	0.0050	1	12/17/2021 04:31
2,2-Dichloropropane	ND	0.0050	1	12/17/2021 04:31

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Analytical Report

Client:	Pitcher Services LLC	**WorkOrder:**	2112607
Date Received:	12/10/2021 15:35	**Extraction Method:**	SW5030B
Date Prepared:	12/10/2021	**Analytical Method:**	SW8260B
Project:	P7211081; ACWD-Niles Cone GW Basin Extraction	**Unit:**	mg/kg

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
ACWD Niles Cone Ground Water Basin Extractio	2112607-001A	Sludge	12/10/2021 08:30	GC18 12162131.D	235312

Analytes	Result	RL	DF	Date Analyzed
1,1-Dichloropropene	ND	0.0050	1	12/17/2021 04:31
cis-1,3-Dichloropropene	ND	0.0050	1	12/17/2021 04:31
trans-1,3-Dichloropropene	ND	0.0050	1	12/17/2021 04:31
Diisopropyl ether (DIPE)	ND	0.0050	1	12/17/2021 04:31
Ethylbenzene	ND	0.0050	1	12/17/2021 04:31
Ethyl tert-butyl ether (ETBE)	ND	0.0050	1	12/17/2021 04:31
Freon 113	ND	0.0050	1	12/17/2021 04:31
Hexachlorobutadiene	ND	0.0050	1	12/17/2021 04:31
Hexachloroethane	ND	0.0050	1	12/17/2021 04:31
2-Hexanone	ND	0.0050	1	12/17/2021 04:31
Isopropylbenzene	ND	0.0050	1	12/17/2021 04:31
4-Isopropyl toluene	ND	0.0050	1	12/17/2021 04:31
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	12/17/2021 04:31
Methylene chloride	ND	0.020	1	12/17/2021 04:31
4-Methyl-2-pentanone (MIBK)	ND	0.0050	1	12/17/2021 04:31
Naphthalene	ND	0.0050	1	12/17/2021 04:31
n-Propyl benzene	ND	0.0050	1	12/17/2021 04:31
Styrene	ND	0.0050	1	12/17/2021 04:31
1,1,1,2-Tetrachloroethane	ND	0.0050	1	12/17/2021 04:31
1,1,2,2-Tetrachloroethane	ND	0.0050	1	12/17/2021 04:31
Tetrachloroethene	ND	0.0050	1	12/17/2021 04:31
Toluene	ND	0.0050	1	12/17/2021 04:31
1,2,3-Trichlorobenzene	ND	0.0050	1	12/17/2021 04:31
1,2,4-Trichlorobenzene	ND	0.0050	1	12/17/2021 04:31
1,1,1-Trichloroethane	ND	0.0050	1	12/17/2021 04:31
1,1,2-Trichloroethane	ND	0.0050	1	12/17/2021 04:31
Trichloroethene	ND	0.0050	1	12/17/2021 04:31
Trichlorofluoromethane	ND	0.0050	1	12/17/2021 04:31
1,2,3-Trichloropropane	ND	0.00025	1	12/17/2021 04:31
1,2,4-Trimethylbenzene	ND	0.0050	1	12/17/2021 04:31
1,3,5-Trimethylbenzene	ND	0.0050	1	12/17/2021 04:31
Vinyl Chloride	ND	0.00025	1	12/17/2021 04:31
m,p-Xylene	ND	0.0050	1	12/17/2021 04:31
o-Xylene	ND	0.0050	1	12/17/2021 04:31
Xylenes, Total	ND	0.0050	1	12/17/2021 04:31

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Analytical Report

Client:	Pitcher Services LLC	**WorkOrder:**	2112607
Date Received:	12/10/2021 15:35	**Extraction Method:**	SW5030B
Date Prepared:	12/10/2021	**Analytical Method:**	SW8260B
Project:	P7211081; ACWD-Niles Cone GW Basin Extraction	**Unit:**	mg/kg

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
ACWD Niles Cone Ground Water Basin Extractio	2112607-001A	Sludge	12/10/2021 08:30	GC18 12162131.D	235312

Analytes	Result	RL	DF	Date Analyzed
Surrogates	**REC (%)**	**Limits**		
Dibromofluoromethane	80	70-140		12/17/2021 04:31
Toluene-d8	89	70-140		12/17/2021 04:31
4-BFB	91	70-140		12/17/2021 04:31
Benzene-d6	67	50-140		12/17/2021 04:31
Ethylbenzene-d10	74	50-140		12/17/2021 04:31
1,2-DCB-d4	64	40-140		12/17/2021 04:31

Analyst(s): JEM

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Analytical Report

Client:	Pitcher Services LLC	**WorkOrder:**	2112607
Date Received:	12/10/2021 15:35	**Extraction Method:**	SW3050B
Date Prepared:	12/10/2021	**Analytical Method:**	SW6020
Project:	P7211081; ACWD-Niles Cone GW Basin Extraction	**Unit:**	mg/Kg

CAM / CCR 17 Metals

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
ACWD Niles Cone Ground Water Basin Extractio	2112607-001A	Sludge	12/10/2021 08:30	ICP-MS4 227SMPL.d	235354

Analytes	Result	RL	DF	Date Analyzed
Antimony	ND	0.50	1	12/13/2021 18:12
Arsenic	**6.0**	0.50	1	12/13/2021 18:12
Barium	**160**	5.0	1	12/13/2021 18:12
Beryllium	ND	0.50	1	12/13/2021 18:12
Cadmium	ND	0.50	1	12/13/2021 18:12
Chromium	**66**	0.50	1	12/13/2021 18:12
Cobalt	**12**	0.50	1	12/13/2021 18:12
Copper	**25**	0.50	1	12/13/2021 18:12
Lead	**6.6**	0.50	1	12/13/2021 18:12
Mercury	**0.055**	0.050	1	12/13/2021 18:12
Molybdenum	ND	0.50	1	12/13/2021 18:12
Nickel	**85**	0.50	1	12/13/2021 18:12
Selenium	ND	0.50	1	12/13/2021 18:12
Silver	ND	0.50	1	12/13/2021 18:12
Thallium	ND	0.50	1	12/13/2021 18:12
Vanadium	**42**	0.50	1	12/13/2021 18:12
Zinc	**51**	5.0	1	12/13/2021 18:12

Surrogates	REC (%)	Limits	
Terbium	108	70-130	12/13/2021 18:12

Analyst(s): AL

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Analytical Report

Client:	Pitcher Services LLC	**WorkOrder:**	2112607
Date Received:	12/10/2021 15:35	**Extraction Method:**	SW5035
Date Prepared:	12/10/2021	**Analytical Method:**	SW8021B/8015Bm
Project:	P7211081; ACWD-Niles Cone GW Basin Extraction	**Unit:**	mg/Kg

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
ACWD Niles Cone Ground Water Basin Extractio	2112607-001A	Sludge	12/10/2021 08:30	GC3 12132129.D	235267

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	ND	1.0	1	12/13/2021 22:20
MTBE	---	0.050	1	12/13/2021 22:20
Benzene	---	0.0050	1	12/13/2021 22:20
Toluene	---	0.0050	1	12/13/2021 22:20
Ethylbenzene	---	0.0050	1	12/13/2021 22:20
m,p-Xylene	---	0.010	1	12/13/2021 22:20
o-Xylene	---	0.0050	1	12/13/2021 22:20
Xylenes	---	0.0050	1	12/13/2021 22:20

Surrogates	REC (%)	Limits	
2-Fluorotoluene	102	62-126	12/13/2021 22:20

Analyst(s): IA

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Analytical Report

Client:	Pitcher Services LLC	**WorkOrder:**	2112607
Date Received:	12/10/2021 15:35	**Extraction Method:**	SW3550B
Date Prepared:	12/10/2021	**Analytical Method:**	SW8015B
Project:	P7211081; ACWD-Niles Cone GW Basin Extraction	**Unit:**	mg/Kg

Total Extractable Petroleum Hydrocarbons w/out SG Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
ACWD Niles Cone Ground Water Basin Extractio	**2112607-001A**	**Sludge**	**12/10/2021 08:30**	**GC6B 12162189.D**	**235342**

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	2.0	1	12/17/2021 15:22
TPH-Motor Oil (C18-C36)	**16**	10	1	12/17/2021 15:22

Surrogates	REC (%)	Limits	
C9	98	70-130	12/17/2021 15:22

Analyst(s): JIS Analytical Comments: e7

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Quality Control Report

Client:	Pitcher Services LLC	**WorkOrder:**	2112607
Date Prepared:	12/10/2021	**BatchID:**	235312
Date Analyzed:	12/13/2021 - 12/15/2021	**Extraction Method:**	SW5030B
Instrument:	GC16, GC18	**Analytical Method:**	SW8260B
Matrix:	Soil	**Unit:**	mg/kg
Project:	P7211081; ACWD-Niles Cone GW Basin Extraction	**Sample ID:**	MB/LCS/LCSD-235312

QC Summary Report for SW8260B

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
Acetone	ND	0.120	0.200	-	-	-
tert-Amyl methyl ether (TAME)	ND	0.00120	0.00500	-	-	-
Benzene	ND	0.000950	0.00500	-	-	-
Bromobenzene	ND	0.00120	0.00500	-	-	-
Bromochloromethane	ND	0.00110	0.00500	-	-	-
Bromodichloromethane	ND	0.000230	0.00500	-	-	-
Bromoform	ND	0.00380	0.00500	-	-	-
Bromomethane	ND	0.00180	0.00500	-	-	-
2-Butanone (MEK)	ND	0.0400	0.100	-	-	-
t-Butyl alcohol (TBA)	ND	0.0240	0.0500	-	-	-
n-Butyl benzene	ND	0.00160	0.00500	-	-	-
sec-Butyl benzene	ND	0.00180	0.00500	-	-	-
tert-Butyl benzene	ND	0.00210	0.00500	-	-	-
Carbon Disulfide	ND	0.00110	0.00500	-	-	-
Carbon Tetrachloride	ND	0.000170	0.00500	-	-	-
Chlorobenzene	ND	0.00120	0.00500	-	-	-
Chloroethane	ND	0.00170	0.00500	-	-	-
Chloroform	ND	0.000320	0.00500	-	-	-
Chloromethane	ND	0.00170	0.00500	-	-	-
2-Chlorotoluene	ND	0.00160	0.00500	-	-	-
4-Chlorotoluene	ND	0.00130	0.00500	-	-	-
Dibromochloromethane	ND	0.000400	0.00500	-	-	-
1,2-Dibromo-3-chloropropane	ND	0.000480	0.000500	-	-	-
1,2-Dibromoethane (EDB)	ND	0.000130	0.000250	-	-	-
Dibromomethane	ND	0.00120	0.00500	-	-	-
1,2-Dichlorobenzene	ND	0.00170	0.00500	-	-	-
1,3-Dichlorobenzene	ND	0.00150	0.00500	-	-	-
1,4-Dichlorobenzene	ND	0.00150	0.00500	-	-	-
Dichlorodifluoromethane	ND	0.000630	0.00500	-	-	-
1,1-Dichloroethane	ND	0.00150	0.00500	-	-	-
1,2-Dichloroethane (1,2-DCA)	ND	0.0000700	0.000100	-	-	-
1,1-Dichloroethene	ND	0.000110	0.00500	-	-	-
cis-1,2-Dichloroethene	ND	0.00120	0.00500	-	-	-
trans-1,2-Dichloroethene	ND	0.00120	0.00500	-	-	-
1,2-Dichloropropane	ND	0.00130	0.00500	-	-	-
1,3-Dichloropropane	ND	0.000880	0.00500	-	-	-
2,2-Dichloropropane	ND	0.00190	0.00500	-	-	-
1,1-Dichloropropene	ND	0.00180	0.00500	-	-	-

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Quality Control Report

Client:	Pitcher Services LLC	**WorkOrder:**	2112607
Date Prepared:	12/10/2021	**BatchID:**	235312
Date Analyzed:	12/13/2021 - 12/15/2021	**Extraction Method:**	SW5030B
Instrument:	GC16, GC18	**Analytical Method:**	SW8260B
Matrix:	Soil	**Unit:**	mg/kg
Project:	P7211081; ACWD-Niles Cone GW Basin Extraction	**Sample ID:**	MB/LCS/LCSD-235312

QC Summary Report for SW8260B

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
cis-1,3-Dichloropropene	ND	0.000980	0.00500	-	-	-
trans-1,3-Dichloropropene	0.00102,J	0.000970	0.00500	-	-	-
Diisopropyl ether (DIPE)	ND	0.00180	0.00500	-	-	-
Ethylbenzene	ND	0.00110	0.00500	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	0.00140	0.00500	-	-	-
Freon 113	ND	0.00110	0.00500	-	-	-
Hexachlorobutadiene	ND	0.00120	0.00500	-	-	-
Hexachloroethane	ND	0.000640	0.00500	-	-	-
2-Hexanone	ND	0.00270	0.00500	-	-	-
Isopropylbenzene	ND	0.00180	0.00500	-	-	-
4-Isopropyl toluene	ND	0.00190	0.00500	-	-	-
Methyl-t-butyl ether (MTBE)	ND	0.00150	0.00500	-	-	-
Methylene chloride	ND	0.0120	0.0200	-	-	-
4-Methyl-2-pentanone (MIBK)	ND	0.00170	0.00500	-	-	-
Naphthalene	ND	0.00300	0.00500	-	-	-
n-Propyl benzene	ND	0.00190	0.00500	-	-	-
Styrene	ND	0.00140	0.00500	-	-	-
1,1,1,2-Tetrachloroethane	ND	0.00130	0.00500	-	-	-
1,1,2,2-Tetrachloroethane	ND	0.000440	0.00500	-	-	-
Tetrachloroethene	ND	0.000290	0.00500	-	-	-
Toluene	ND	0.00160	0.00500	-	-	-
1,2,3-Trichlorobenzene	ND	0.00210	0.00500	-	-	-
1,2,4-Trichlorobenzene	ND	0.00160	0.00500	-	-	-
1,1,1-Trichloroethane	ND	0.00160	0.00500	-	-	-
1,1,2-Trichloroethane	ND	0.00120	0.00500	-	-	-
Trichloroethene	ND	0.00140	0.00500	-	-	-
Trichlorofluoromethane	ND	0.00130	0.00500	-	-	-
1,2,3-Trichloropropane	ND	0.000170	0.000250	-	-	-
1,2,4-Trimethylbenzene	ND	0.00160	0.00500	-	-	-
1,3,5-Trimethylbenzene	ND	0.00170	0.00500	-	-	-
Vinyl Chloride	ND	0.000120	0.000250	-	-	-
m,p-Xylene	ND	0.00260	0.00500	-	-	-
o-Xylene	ND	0.00140	0.00500	-	-	-

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Quality Control Report

Client:	Pitcher Services LLC	**WorkOrder:**	2112607
Date Prepared:	12/10/2021	**BatchID:**	235312
Date Analyzed:	12/13/2021 - 12/15/2021	**Extraction Method:**	SW5030B
Instrument:	GC16, GC18	**Analytical Method:**	SW8260B
Matrix:	Soil	**Unit:**	mg/kg
Project:	P7211081; ACWD-Niles Cone GW Basin Extraction	**Sample ID:**	MB/LCS/LCSD-235312

QC Summary Report for SW8260B

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
Surrogate Recovery						
Dibromofluoromethane	0.119			0.125	95	70-140
Toluene-d8	0.142			0.125	113	70-140
4-BFB	0.0161			0.0125	129	70-140
Benzene-d6	0.126			0.1	125	70-140
Ethylbenzene-d10	0.129			0.1	129	70-140
1,2-DCB-d4	0.0951			0.1	95	70-140

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Quality Control Report

Client:	Pitcher Services LLC	**WorkOrder:**	2112607
Date Prepared:	12/10/2021	**BatchID:**	235312
Date Analyzed:	12/13/2021 - 12/15/2021	**Extraction Method:**	SW5030B
Instrument:	GC16, GC18	**Analytical Method:**	SW8260B
Matrix:	Soil	**Unit:**	mg/kg
Project:	P7211081; ACWD-Niles Cone GW Basin Extraction	**Sample ID:**	MB/LCS/LCSD-235312

QC Summary Report for SW8260B

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Acetone	0.200	0.208	0.20	100	104	60-140	4.05	20
tert-Amyl methyl ether (TAME)	0.0157	0.0163	0.020	78	81	50-140	3.97	20
Benzene	0.0172	0.0180	0.020	86	90	60-140	4.06	20
Bromobenzene	0.0209	0.0223	0.020	105	111	60-140	6.15	20
Bromochloromethane	0.0184	0.0194	0.020	92	97	60-140	5.49	20
Bromodichloromethane	0.0166	0.0173	0.020	83	86	60-140	3.77	20
Bromoform	0.0122	0.0123	0.020	61	61	40-140	0.705	20
Bromomethane	0.0142	0.0148	0.020	71	74	30-140	4.32	20
2-Butanone (MEK)	0.0494	0.0498	0.080	62	62	50-140	0.763	20
t-Butyl alcohol (TBA)	0.0614	0.0639	0.080	77	80	50-140	3.88	20
n-Butyl benzene	0.0242	0.0278	0.020	121	139	60-150	14.0	20
sec-Butyl benzene	0.0227	0.0263	0.020	113	132	60-150	14.9	20
tert-Butyl benzene	0.0236	0.0258	0.020	118	129	60-140	9.14	20
Carbon Disulfide	0.0206	0.0216	0.020	103	108	50-140	4.73	20
Carbon Tetrachloride	0.0178	0.0188	0.020	89	94	60-140	5.57	20
Chlorobenzene	0.0181	0.0184	0.020	90	92	60-140	1.82	20
Chloroethane	0.0131	0.0136	0.020	65	68	50-140	3.51	20
Chloroform	0.0193	0.0200	0.020	96	100	60-140	3.86	20
Chloromethane	0.0140	0.0153	0.020	70	77	20-140	8.76	20
2-Chlorotoluene	0.0228	0.0250	0.020	114	125	60-140	9.01	20
4-Chlorotoluene	0.0226	0.0244	0.020	113	122	60-140	7.48	20
Dibromochloromethane	0.0159	0.0164	0.020	79	82	50-140	3.10	20
1,2-Dibromo-3-chloropropane	0.00821	0.00816	0.010	82	82	30-140	0.649	20
1,2-Dibromoethane (EDB)	0.00952	0.00962	0.010	95	96	40-140	0.988	20
Dibromomethane	0.0176	0.0185	0.020	88	93	60-140	5.18	20
1,2-Dichlorobenzene	0.0162	0.0171	0.020	81	85	60-140	5.24	20
1,3-Dichlorobenzene	0.0183	0.0193	0.020	91	97	60-140	5.64	20
1,4-Dichlorobenzene	0.0188	0.0198	0.020	94	99	60-140	4.85	20
Dichlorodifluoromethane	0.00803	0.00887	0.020	40	44	10-140	9.94	20
1,1-Dichloroethane	0.0193	0.0202	0.020	96	101	60-140	4.64	20
1,2-Dichloroethane (1,2-DCA)	0.0156	0.0161	0.020	78	81	60-140	3.70	20
1,1-Dichloroethene	0.0184	0.0194	0.020	92	97	60-140	5.08	20
cis-1,2-Dichloroethene	0.0194	0.0206	0.020	97	103	60-140	5.95	20
trans-1,2-Dichloroethene	0.0186	0.0195	0.020	93	98	60-140	4.69	20
1,2-Dichloropropane	0.0180	0.0186	0.020	90	93	60-140	3.46	20
1,3-Dichloropropane	0.0201	0.0200	0.020	100	100	60-140	0.122	20
2,2-Dichloropropane	0.0200	0.0209	0.020	100	105	60-140	4.70	20
1,1-Dichloropropene	0.0197	0.0210	0.020	98	105	60-140	6.54	20

(Cont.)

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Quality Control Report

Client:	Pitcher Services LLC	**WorkOrder:**	2112607
Date Prepared:	12/10/2021	**BatchID:**	235312
Date Analyzed:	12/13/2021 - 12/15/2021	**Extraction Method:**	SW5030B
Instrument:	GC16, GC18	**Analytical Method:**	SW8260B
Matrix:	Soil	**Unit:**	mg/kg
Project:	P7211081; ACWD-Niles Cone GW Basin Extraction	**Sample ID:**	MB/LCS/LCSD-235312

QC Summary Report for SW8260B

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
cis-1,3-Dichloropropene	0.0210	0.0211	0.020	105	106	60-140	0.429	20
trans-1,3-Dichloropropene	0.0176	0.0178	0.020	88	89	60-140	1.10	20
Diisopropyl ether (DIPE)	0.0162	0.0164	0.020	81	82	60-140	1.50	20
Ethylbenzene	0.0197	0.0207	0.020	99	103	60-140	4.87	20
Ethyl tert-butyl ether (ETBE)	0.0157	0.0161	0.020	79	81	60-140	2.46	20
Freon 113	0.0175	0.0186	0.020	88	93	50-140	6.23	20
Hexachlorobutadiene	0.0170	0.0230	0.020	85	115	60-140	29.6,F2	20
Hexachloroethane	0.0199	0.0228	0.020	99	114	60-140	13.9	20
2-Hexanone	0.0153	0.0155	0.020	76	77	40-140	1.07	20
Isopropylbenzene	0.0267	0.0295	0.020	134	148,F2	60-140	10.0	20
4-Isopropyl toluene	0.0234	0.0269	0.020	117	135	60-150	13.9	20
Methyl-t-butyl ether (MTBE)	0.0164	0.0163	0.020	82	82	50-140	0.109	20
Methylene chloride	0.0194	0.0199	0.020	97	99	60-140	2.56	20
4-Methyl-2-pentanone (MIBK)	0.0155	0.0152	0.020	78	76	50-140	1.64	20
Naphthalene	0.0111	0.0101	0.020	56	50	30-140	9.93	20
n-Propyl benzene	0.0245	0.0278	0.020	123	139	60-140	12.7	20
Styrene	0.0162	0.0159	0.020	81	80	60-140	1.44	20
1,1,1,2-Tetrachloroethane	0.0182	0.0186	0.020	91	93	60-140	2.13	20
1,1,2,2-Tetrachloroethane	0.0195	0.0208	0.020	97	104	40-140	6.66	20
Tetrachloroethene	0.0208	0.0217	0.020	104	108	60-140	4.19	20
Toluene	0.0193	0.0199	0.020	97	100	60-140	3.15	20
1,2,3-Trichlorobenzene	0.0119	0.0114	0.020	60	57	40-140	4.78	20
1,2,4-Trichlorobenzene	0.0143	0.0152	0.020	71	76	50-140	6.20	20
1,1,1-Trichloroethane	0.0192	0.0203	0.020	96	102	60-140	5.98	20
1,1,2-Trichloroethane	0.0187	0.0188	0.020	94	94	60-140	0.516	20
Trichloroethene	0.0209	0.0220	0.020	104	110	60-140	5.12	20
Trichlorofluoromethane	0.0173	0.0184	0.020	87	92	50-140	6.11	20
1,2,3-Trichloropropane	0.0102	0.0106	0.010	102	106	40-140	4.26	20
1,2,4-Trimethylbenzene	0.0225	0.0247	0.020	112	123	30-140	9.30	20
1,3,5-Trimethylbenzene	0.0244	0.0266	0.020	122	133	60-140	8.59	20
Vinyl Chloride	0.00617	0.00649	0.010	62	65	30-140	5.08	20
m,p-Xylene	0.0370	0.0384	0.040	92	96	60-140	3.83	20
o-Xylene	0.0178	0.0183	0.020	89	92	60-140	2.95	20

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Quality Control Report

Client:	Pitcher Services LLC	**WorkOrder:**	2112607
Date Prepared:	12/10/2021	**BatchID:**	235312
Date Analyzed:	12/13/2021 - 12/15/2021	**Extraction Method:**	SW5030B
Instrument:	GC16, GC18	**Analytical Method:**	SW8260B
Matrix:	Soil	**Unit:**	mg/kg
Project:	P7211081; ACWD-Niles Cone GW Basin Extraction	**Sample ID:**	MB/LCS/LCSD-235312

QC Summary Report for SW8260B

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Surrogate Recovery								
Dibromofluoromethane	0.121	0.120	0.12	97	96	70-140	1.01	20
Toluene-d8	0.144	0.142	0.12	115	114	70-140	1.38	20
4-BFB	0.0161	0.0169	0.012	128	135	70-140	5.26	20
Benzene-d6	0.112	0.116	0.10	112	116	70-140	3.55	20
Ethylbenzene-d10	0.117	0.120	0.10	117	120	70-140	2.34	20
1,2-DCB-d4	0.0908	0.0937	0.10	91	94	70-140	3.08	20

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Quality Control Report

Client:	Pitcher Services LLC	**WorkOrder:**	2112607
Date Prepared:	12/10/2021	**BatchID:**	235354
Date Analyzed:	12/13/2021	**Extraction Method:**	SW3050B
Instrument:	ICP-MS4	**Analytical Method:**	SW6020
Matrix:	Soil	**Unit:**	mg/kg
Project:	P7211081; ACWD-Niles Cone GW Basin Extraction	**Sample ID:**	MB/LCS/LCSD-235354

QC Summary Report for Metals

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
Antimony	ND	0.160	0.500	-	-	-
Arsenic	ND	0.140	0.500	-	-	-
Barium	ND	0.680	5.00	-	-	-
Beryllium	ND	0.0830	0.500	-	-	-
Cadmium	ND	0.0940	0.500	-	-	-
Chromium	ND	0.130	0.500	-	-	-
Cobalt	ND	0.0690	0.500	-	-	-
Copper	ND	0.230	0.500	-	-	-
Lead	ND	0.0690	0.500	-	-	-
Mercury	ND	0.0380	0.0500	-	-	-
Molybdenum	ND	0.140	0.500	-	-	-
Nickel	ND	0.0810	0.500	-	-	-
Selenium	ND	0.320	0.500	-	-	-
Silver	ND	0.110	0.500	-	-	-
Thallium	ND	0.0720	0.500	-	-	-
Vanadium	ND	0.150	0.500	-	-	-
Zinc	ND	3.20	5.00	-	-	-
Surrogate Recovery						
Terbium	548			500	110	70-130

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Quality Control Report

Client:	Pitcher Services LLC	**WorkOrder:**	2112607
Date Prepared:	12/10/2021	**BatchID:**	235354
Date Analyzed:	12/13/2021	**Extraction Method:**	SW3050B
Instrument:	ICP-MS4	**Analytical Method:**	SW6020
Matrix:	Soil	**Unit:**	mg/kg
Project:	P7211081; ACWD-Niles Cone GW Basin Extraction	**Sample ID:**	MB/LCS/LCSD-235354

QC Summary Report for Metals

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Antimony	49.3	48.2	50	99	96	75-125	2.23	20
Arsenic	52.4	51.5	50	105	103	75-125	1.79	20
Barium	493	479	500	99	96	75-125	2.88	20
Beryllium	50.1	50.1	50	100	100	75-125	0.0160	20
Cadmium	48.5	48.9	50	97	98	75-125	0.858	20
Chromium	50.1	49.5	50	100	99	75-125	1.15	20
Cobalt	50.3	50.6	50	101	101	75-125	0.513	20
Copper	51.4	50.8	50	103	102	75-125	1.20	20
Lead	47.7	49.1	50	95	98	75-125	2.89	20
Mercury	1.26	1.23	1.25	101	98	75-125	2.25	20
Molybdenum	49.3	49.2	50	99	98	75-125	0.266	20
Nickel	51.2	50.6	50	102	101	75-125	1.16	20
Selenium	50.4	50.4	50	101	101	75-125	0.163	20
Silver	48.5	48.3	50	97	97	75-125	0.390	20
Thallium	47.4	47.0	50	95	94	75-125	0.839	20
Vanadium	50.4	50.8	50	101	102	75-125	0.879	20
Zinc	510	507	500	102	101	75-125	0.516	20
Surrogate Recovery								
Terbium	535	545	500	107	109	70-130	1.88	20

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Quality Control Report

Client:	Pitcher Services LLC	**WorkOrder:**	2112607
Date Prepared:	12/10/2021	**BatchID:**	235267
Date Analyzed:	12/10/2021	**Extraction Method:**	SW5035
Instrument:	GC3	**Analytical Method:**	SW8021B/8015Bm
Matrix:	Soil	**Unit:**	mg/Kg
Project:	P7211081; ACWD-Niles Cone GW Basin Extraction	**Sample ID:**	MB/LCS/LCSD-235267

QC Summary Report for SW8021B/8015Bm

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
TPH(g) (C6-C12)	ND	0.610	1.00	-	-	-
MTBE	ND	0.00340	0.0500	-	-	-
Benzene	ND	0.00190	0.00500	-	-	-
Toluene	ND	0.00240	0.00500	-	-	-
Ethylbenzene	ND	0.00170	0.00500	-	-	-
m,p-Xylene	ND	0.00260	0.0100	-	-	-
o-Xylene	ND	0.000910	0.00500	-	-	-
Surrogate Recovery						
2-Fluorotoluene	0.100			0.1	100	75-134

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
TPH(btex)	0.612	0.612	0.60	102	102	82-118	0.0948	20
MTBE	0.0842	0.0885	0.10	84	89	61-119	4.99	20
Benzene	0.0935	0.0977	0.10	93	98	77-128	4.40	20
Toluene	0.0980	0.102	0.10	98	102	74-132	4.46	20
Ethylbenzene	0.104	0.108	0.10	105	108	84-127	3.65	20
m,p-Xylene	0.212	0.219	0.20	106	110	80-120	3.46	20
o-Xylene	0.107	0.110	0.10	107	110	80-120	3.10	20
Surrogate Recovery								
2-Fluorotoluene	0.0942	0.0977	0.10	94	98	75-134	3.66	20

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Quality Control Report

Client:	Pitcher Services LLC	**WorkOrder:**	2112607
Date Prepared:	12/10/2021	**BatchID:**	235342
Date Analyzed:	12/13/2021 - 12/17/2021	**Extraction Method:**	SW3550B
Instrument:	GC6B, GC9a	**Analytical Method:**	SW8015B
Matrix:	Soil	**Unit:**	mg/Kg
Project:	P7211081; ACWD-Niles Cone GW Basin Extraction	**Sample ID:**	MB/LCS/LCSD-235342

QC Report for SW8015B w/out SG Clean-Up

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
TPH-Diesel (C10-C23)	ND	0.780	2.00	-	-	-
TPH-Motor Oil (C18-C36)	ND	4.60	10.0	-	-	-
Surrogate Recovery						
C9	22.2			25	89	70-130

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
TPH-Diesel (C10-C23)	39.0	39.6	40	97	99	70-130	1.71	20
Surrogate Recovery								
C9	21.8	21.9	25	87	87	70-130	0.149	20

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CHAIN-OF-CUSTODY RECORD

WorkOrder: 2112607 **ClientCode: PD**

☐ WaterTrax ☐ CLIP ☐ EDF ☒ EQuIS ☒ Dry-Weight ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag
☒ Detection Summary ☐ Excel

Report to:
Wessam Zanaty
Pitcher Services LLC
218 Demeter St.
East Palo Alto, CA 94303
650-328-8910 FAX: 650-328-3621

Email: wzanaty@pitcherservicesllc.com; bporter@
cc/3rd Party:
PO: 10097
Project: P7211081; ACWD-Niles Cone GW Basin Extraction

Bill to:
Kerry Tross
Pitcher Services LLC
218 Demeter St.
East Palo Alto, CA 94303
ktross@pitcherservicesllc.com

Requested TAT: 5 days;

Date Received: **12/10/2021**
Date Logged: **12/10/2021**

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
2112607-001	ACWD Niles Cone Ground Water Basin	Sludge	12/10/2021 08:30	☐	A	A	A	A	A							

Test Legend:

1	8260B_S	2	CAM17MS_TTLC_S	3	G-MBTEX_S	4	PRDisposal Fee
5	TPH(DMO)_S	6		7		8	
9		10		11		12	

Prepared by: Lilly Ortiz

The following SampID: 001A contains testgroup Multi Range_S.

Comments:

NOTE: Soil samples are discarded 60 days after receipt unless other arrangements are made (Water samples are 30 days).
Hazardous samples will be returned to client or disposed of at client expense.

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WORK ORDER SUMMARY

Client Name: PITCHER SERVICES LLC
Client Contact: Wessam Zanaty
Contact's Email: wzanaty@pitcherservicesllc.com; bporter@pitcherservicesllc.com

Project: P7211081; ACWD-Niles Cone GW Basin Extraction
Comments

Work Order: 2112607
QC Level: LEVEL 2
Date Logged: 12/10/2021

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ■ EQuIS ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

LabID	ClientSampID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	Head Space	Dry-Weight	Collection Date & Time	TAT	Test Due Date	Sediment Content	Hold	SubOut
001A	ACWD Niles Cone Ground Water Basin Extractio	Sludge	Multi-Range TPH	1	1LA, Unpres	☐	☐	12/10/2021 8:30	5 days	12/17/2021		☐	
			SW6020 (CAM 17)			☐	☐		5 days	12/17/2021		☐	
			SW8260B (VOCs)			☐	☐		5 days	12/17/2021		☐	

NOTES: * STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

- MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.

General COC

MAI Work Order # 211260 7

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CHAIN OF CUSTODY RECORD

Turn Around Time:	1 Day Rush		2 Day Rush		3 Day Rush		STD	●	Quote #				
J-Flag / MDL		ESL		Cleanup Approved		Dry Weight		Bottle Order #					
Delivery Format:	PDF	●	GeoTracker EDF		EDD		Write On (DW)		Detect Summary				

Report To: Wessam Zanaty — Bill To: ktross@pitcherservicesllc.com
Company: Pitcher Services, LLC
Address: 218 Demeter Street, East Palo Alto, Ca 94303
Email: wzanaty@pitcherservicesllc.com — Tele: (650) 328-8910
Project Name: ACWD-Niles Cone GW Basin extraction — Project #: P7211081
Project Location: Civic Terrace Avenue, Fremont — PO # 10097
Sampler Signature:

Analysis Requested

SAMPLE ID Location / Field Point	Sampling Date	Sampling Time	#Containers	Matrix	Preservative	Multi Range as Gas, Diesel, and Motor Oil (8021/8015)	BTEX & TPH as Gas (8021/ 8015) MTBE	TPH as Diesel (8015) + Motor Oil Without Silica Gel + Gasoline	TPH as Diesel (8015) + Motor Oil With Silica Gel	Total Oil & Grease (1664 / 9071) Without Silica Gel	Total Petroleum Hydrocarbons - Oil & Grease (1664 / 9071) With Silica Gel	Total Petroleum Hydrocarbons (418.1) With Silica Gel	EPA 505/ 608 / 8081 (Cl Pesticides)	EPA 608 / 8082 PCB's ; Aroclors only	EPA 524.2 / 624 / 8260 (VOCs)	EPA 525.2 / 625 / 8270 (SVOCs)	EPA 8270 SIM / 8310 (PAHs / PNAs)	CAM 17 Metals (200.8 / 6020)*	Metals (200.8 / 6020)*	Baylands Requirements	Lab to filter sample for dissolved metals analysis	STLC for any metals that trigger 10x's Rule	TCLP for any metals that trigger 20x's Rule
ACWD	12/10/21	8:30	1	Sludge	N/A			●							●			●				●	●
Niles Cone Ground Water																							
Basin Extraction Well Site																							
Evaluation Project																							
Fremont																							
(Well Site-1)																							
1-SF																							

MAI clients MUST disclose any dangerous chemicals known to be present in their submitted samples in concentrations that may cause immediate harm or serious future health endangerment as a result of brief, gloved, open air, sample handling by MAI staff. Non-disclosure incurs an immediate $250 surcharge and the client is subject to full legal liability for harm suffered. Thank you for your understanding and for allowing us to work safely.

* If metals are requested for water samples and the water type (Matrix) is not specified on the chain of custody, MAI will default to metals by E200.8.

Please provide an adequate volume of sample. If the volume is not sufficient for a MS/MSD a LCS/LCSD will be prepared in its place and noted in the report.

Comments / Instructions

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
Wessam Zanaty / Pitcher Services, LLC.	12/10/21	1158		12/10/21	1150
	12/10/21	1535		12/10/21	1535

Matrix Code: DW=Drinking Water, GW=Ground Water, WW=Waste Water, SW=Seawater, S=Soil, SL=Sludge, A=Air, WP=Wipe, O=Other

Preservative Code: 1=4°C 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=ZnOAc/NaOH 7=None

Temp 0.7 °C Initials

BIN

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Sample Receipt Checklist

Client Name: **Pitcher Services LLC**
Project: **P7211081; ACWD-Niles Cone GW Basin Extraction**

WorkOrder №: **2112607** Matrix: Sludge
Carrier: Benjamin Yslas (MAI Courier)

Date and Time Received: **12/10/2021 15:35**
Date Logged: **12/10/2021**
Received by: Lilly Ortiz
Logged by: Lilly Ortiz

Chain of Custody (COC) Information

Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Sample IDs noted by Client on COC?	Yes ☑	No ☐	
Date and Time of collection noted by Client on COC?	Yes ☑	No ☐	
Sampler's name noted on COC?	Yes ☑	No ☐	
COC agrees with Quote?	Yes ☐	No ☐	NA ☑

Sample Receipt Information

Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	NA ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	NA ☑
Shipping container/cooler in good condition?	Yes ☑	No ☐	
Samples in proper containers/bottles?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	

Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes ☑	No ☐	NA ☐
Samples Received on Ice?	Yes ☑	No ☐	
(Ice Type: WET ICE)			
Sample/Temp Blank temperature	Temp: 0.7°C		NA ☐
ZHS conditional analyses: VOA meets zero headspace requirement (VOCs, TPHg/BTEX, RSK)?	Yes ☐	No ☐	NA ☑
Sample labels checked for correct preservation?	Yes ☑	No ☐	
pH acceptable upon receipt (Metal: <2; Nitrate 353.2/4500NO3: <2; 522: <4; 218.7: >8)?	Yes ☐	No ☐	NA ☑
UCMR Samples:			
pH tested and acceptable upon receipt (200.7: ≤2; 533: 6 - 8; 537.1: 6 - 8)?	Yes ☐	No ☐	NA ☑
Free Chlorine tested and acceptable upon receipt (<0.1mg/L) [not applicable to 200.7]?	Yes ☐	No ☐	NA ☑

Comments:

McCampbell Analytical, Inc.
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Analytical Report

WorkOrder: 2112607 A

Report Created for: Pitcher Services LLC

218 Demeter St.
East Palo Alto, CA 94303

Project Contact: Wessam Zanaty
Project P.O.: 10097
Project: P7211081; ACWD-Niles Cone GW Basin Extraction

Project Received: 12/10/2021

Analytical Report reviewed & approved for release on 12/23/2021 by:

Yen Cao
Project Manager

The report shall not be reproduced except in full, without the written approval of the laboratory. The analytical results relate only to the items tested. Results reported conform to the most current NELAP standards, where applicable, unless otherwise stated in a case narrative.

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Glossary of Terms & Qualifier Definitions

Client: Pitcher Services LLC **WorkOrder:** 2112607 A

Project: P7211081; ACWD-Niles Cone GW Basin Extraction

Glossary Abbreviation

%D	Serial Dilution Percent Difference
95% Interval	95% Confident Interval
CPT	Consumer Product Testing not NELAP Accredited
DF	Dilution Factor
DI WET	(DISTLC) Waste Extraction Test using DI water
DISS	Dissolved (direct analysis of 0.45 µm filtered and acidified water sample)
DLT	Dilution Test (Serial Dilution)
DUP	Duplicate
EDL	Estimated Detection Limit
ERS	External reference sample. Second source calibration verification.
ITEF	International Toxicity Equivalence Factor
LCS	Laboratory Control Sample
LQL	Lowest Quantitation Level
MB	Method Blank
MB % Rec	% Recovery of Surrogate in Method Blank, if applicable
MDL	Method Detection Limit
ML	Minimum Level of Quantitation
MS	Matrix Spike
MSD	Matrix Spike Duplicate
N/A	Not Applicable
ND	Not detected at or above the indicated MDL or RL
NR	Data Not Reported due to matrix interference or insufficient sample amount.
PDS	Post Digestion Spike
PDSD	Post Digestion Spike Duplicate
PF	Prep Factor
RD	Relative Difference
RL	Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)
RPD	Relative Percent Deviation
RRT	Relative Retention Time
SPK Val	Spike Value
SPKRef Val	Spike Reference Value
SPLP	Synthetic Precipitation Leachate Procedure
ST	Sorbent Tube
TCLP	Toxicity Characteristic Leachate Procedure
TEQ	Toxicity Equivalents
TZA	TimeZone Net Adjustment for sample collected outside of MAI's UTC.
WET (STLC)	Waste Extraction Test (Soluble Threshold Limit Concentration)

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Analytical Report

Client:	Pitcher Services LLC	**WorkOrder:**	2112607
Date Received:	12/10/2021 15:35	**Extraction Method:**	CA Title 22
Date Prepared:	12/20/2021	**Analytical Method:**	SW6020
Project:	P7211081; ACWD-Niles Cone GW Basin Extraction	**Unit:**	mg/L

Metals (STLC)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
ACWD Niles Cone Ground Water Basin Extractio	2112607-001A	Sludge	12/10/2021 08:30	ICP-MS5 247SMPL.d	235988

Analytes	Result	RL	DF	Date Analyzed
Chromium	**0.12**	0.10	1	12/22/2021 20:14

Analyst(s): DB

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Quality Control Report

Client:	Pitcher Services LLC	**WorkOrder:**	2112607
Date Prepared:	12/20/2021	**BatchID:**	235988
Date Analyzed:	12/22/2021	**Extraction Method:**	CA Title 22
Instrument:	ICP-MS5	**Analytical Method:**	SW6020
Matrix:	Soil	**Unit:**	mg/L
Project:	P7211081; ACWD-Niles Cone GW Basin Extraction	**Sample ID:**	MB/LCS/LCSD-235988

QC Summary Report for Metals (STLC)

Analyte	MB Result	MDL	RL			
Chromium	ND	0.100	0.100	-	-	-

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Chromium	9.93	9.75	10	99	98	75-125	1.81	20

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(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 2112607 A **ClientCode: PD**

☐ WaterTrax ☐ CLIP ☐ EDF ☒ EQuIS ☒ Dry-Weight ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag
☒ Detection Summary ☐ Excel

Report to:
Wessam Zanaty
Pitcher Services LLC
218 Demeter St.
East Palo Alto, CA 94303
650-328-8910 FAX: 650-328-3621

Email: wzanaty@pitcherservicesllc.com; bporter@
cc/3rd Party:
PO: 10097
Project: P7211081; ACWD-Niles Cone GW Basin Extraction

Bill to:
Kerry Tross
Pitcher Services LLC
218 Demeter St.
East Palo Alto, CA 94303
ktross@pitcherservicesllc.com

Requested TAT: **5 days;**

Date Received: **12/10/2021**
Date Logged: **12/10/2021**
Date Add-On: **12/17/2021**

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below) 1	2	3	4	5	6	7	8	9	10	11	12
2112607-001	ACWD Niles Cone Ground Water Basin	Sludge	12/10/2021 08:30	☐	A											

Test Legend:

1	CRMS_STLC_S	2		3		4	
5		6		7		8	
9		10		11		12	

Prepared by: Lilly Ortiz

Add-On Prepared By: Lilly Ortiz

Comments: STLC Cr added 12/17/21 STAT

NOTE: Soil samples are discarded 60 days after receipt unless other arrangements are made (Water samples are 30 days).
Hazardous samples will be returned to client or disposed of at client expense.

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WORK ORDER SUMMARY

Client Name: PITCHER SERVICES LLC
Client Contact: Wessam Zanaty
Contact's Email wzanaty@pitcherservicesllc.com; bporter@pitcherservicesllc.com

Project: P7211081; ACWD-Niles Cone GW Basin Extraction
Comments: STLC Cr added 12/17/21 STAT

Work Order: 2112607
QC Level: LEVEL 2
Date Logged: 12/10/2021
Date Add-On: 12/17/2021

LabID	ClientSampID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	Head Space	Dry-Weight	Collection Date & Time	TAT	Test Due Date	Sediment Content	Hold	SubOut
001A	ACWD Niles Cone Ground Water Basin Extractio	Sludge	SW6020 (Chromium) (STLC)	1	1LA, Unpres	☐	☐	12/10/2021 8:30	5 days*	12/29/2021		☐	

NOTES: * STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

- MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.

General COC

MAI Work Order # 211260 7

7

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CHAIN OF CUSTODY RECORD

Turn Around Time:	1 Day Rush		2 Day Rush		3 Day Rush		STD	●	Quote #	
J-Flag / MDL		ESL		Cleanup Approved		Dry Weight			Bottle Order #	
Delivery Format:	PDF	●	GeoTracker EDF		EDD		Write On (DW)		Detect Summary	

Report To: Wessam Zanaty — Bill To: ktross@pitcherservicesllc.com
Company: Pitcher Services, LLC
Address: 218 Demeter Street, East Palo Alto, Ca 94303
Email: wzanaty@pitcherservicesllc.com — Tele: (650) 328-8910
Project Name: ACWD-Niles Cone GW Basin extraction — Project #: P7211081
Project Location: Civic Terrace Avenue, Fremont — PO # 10097
Sampler Signature:

SAMPLE ID Location / Field Point	Sampling Date	Sampling Time	#Containers	Matrix	Preservative	Multi Range as Gas, Diesel, and Motor Oil (8021/8015)	BTEX & TPH as Gas (8021/ 8015) MTBE	TPH as Diesel (8015) + Motor Oil Without Silica Gel + Gasoline	TPH as Diesel (8015) + Motor Oil With Silca Gel	Total Oil & Grease (1664 / 9071) Without Silica Gel	Total Petroleum Hydrocarbons - Oil & Grease (1664 / 9071) With Silica Gel	Total Petroleum Hydrocarbons (418.1) With Silica Gel	EPA 505/ 608 / 8081 (Cl Pesticides)	EPA 608 / 8082 PCB's ; Aroclors only	EPA 524.2 / 624 / 8260 (VOCs)	EPA 525.2 / 625 / 8270 (SVOCs)	EPA 8270 SIM / 8310 (PAHs / PNAs)	CAM 17 Metals (200.8 / 6020)*	Metals (200.8 / 6020)*	Baylands Requirements	Lab to filter sample for dissolved metals analysis	STLC for any metals that trigger 10x's Rule	TCLP for any metals that trigger 20x's Rule	STLC only
ACWD	12/10/21	8:30	1	Sludge	N/A			●							●			●				●	●	X
Niles Cone Ground Water																								
Basin Extraction Well Site																								
Evaluation Project																								
Fremont																								
(Well Site-1)																								
1-SF																								

MAI clients MUST disclose any dangerous chemicals known to be present in their submitted samples in concentrations that may cause immediate harm or serious future health endangerment as a result of brief, gloved, open air, sample handling by MAI staff. Non-disclosure incurs an immediate $250 surcharge and the client is subject to full legal liability for harm suffered. Thank you for your understanding and for allowing us to work safely.

* If metals are requested for water samples and the water type (Matrix) is not specified on the chain of custody, MAI will default to metals by E200.8.

Please provide an adequate volume of sample. If the volume is not sufficient for a MS/MSD a LCS/LCSD will be prepared in its place and noted in the report.

Comments / Instructions
Added 12/17/21 STAT

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
Wessam Zanaty / Pitcher Services, LLC.	12/10/21	1158		12/10/21	1150
	12/10/21	1535		12/14/21	1535

Matrix Code: DW=Drinking Water, GW=Ground Water, WW=Waste Water, SW=Seawater, S=Soil, SL=Sludge, A=Air, WP=Wipe, O=Other
Preservative Code: 1=4°C 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=ZnOAc/NaOH 7=None

Temp 0.7 °C Initials

BIN

McCampbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 2201393

Report Created for: Pitcher Services LLC

218 Demeter St.
East Palo Alto, CA 94303

Project Contact: Wessam Zanaty
Project P.O.: 10097
Project: P7211091; ACWD-Niles Cone GW Basin Extraction

Project Received: 01/11/2022

Analytical Report reviewed & approved for release on 01/21/2022 by:

Yen Cao
Project Manager

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Glossary of Terms & Qualifier Definitions

Client: Pitcher Services LLC **WorkOrder:** 2201393

Project: P7211091; ACWD-Niles Cone GW Basin Extraction

Glossary Abbreviation

%D	Serial Dilution Percent Difference
95% Interval	95% Confident Interval
CPT	Consumer Product Testing not NELAP Accredited
DF	Dilution Factor
DI WET	(DISTLC) Waste Extraction Test using DI water
DISS	Dissolved (direct analysis of 0.45 µm filtered and acidified water sample)
DLT	Dilution Test (Serial Dilution)
DUP	Duplicate
EDL	Estimated Detection Limit
ERS	External reference sample. Second source calibration verification.
ITEF	International Toxicity Equivalence Factor
LCS	Laboratory Control Sample
LQL	Lowest Quantitation Level
MB	Method Blank
MB % Rec	% Recovery of Surrogate in Method Blank, if applicable
MDL	Method Detection Limit
ML	Minimum Level of Quantitation
MS	Matrix Spike
MSD	Matrix Spike Duplicate
NA	Not Applicable
ND	Not detected at or above the indicated MDL or RL
NR	Data Not Reported due to matrix interference or insufficient sample amount.
PDS	Post Digestion Spike
PDSD	Post Digestion Spike Duplicate
PF	Prep Factor
RD	Relative Difference
RL	Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)
RPD	Relative Percent Deviation
RRT	Relative Retention Time
SPK Val	Spike Value
SPKRef Val	Spike Reference Value
SPLP	Synthetic Precipitation Leachate Procedure
ST	Sorbent Tube
TCLP	Toxicity Characteristic Leachate Procedure
TEQ	Toxicity Equivalents
TZA	TimeZone Net Adjustment for sample collected outside of MAI's UTC.
WET (STLC)	Waste Extraction Test (Soluble Threshold Limit Concentration)

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Analytical Report

Client:	Pitcher Services LLC	**WorkOrder:**	2201393
Date Received:	01/11/2022 14:00	**Extraction Method:**	SW5030B
Date Prepared:	01/11/2022	**Analytical Method:**	SW8260B
Project:	P7211091; ACWD-Niles Cone GW Basin Extraction	**Unit:**	mg/kg

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
ACWD Niles Cone Ground Water Basin Extractio	2201393-001A	Sludge	01/11/2022 08:30	GC16 01202228.D	237181

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	0.20	1	01/21/2022 03:09
tert-Amyl methyl ether (TAME)	ND	0.0050	1	01/21/2022 03:09
Benzene	ND	0.0050	1	01/21/2022 03:09
Bromobenzene	ND	0.0050	1	01/21/2022 03:09
Bromochloromethane	ND	0.0050	1	01/21/2022 03:09
Bromodichloromethane	ND	0.0050	1	01/21/2022 03:09
Bromoform	ND	0.0050	1	01/21/2022 03:09
Bromomethane	ND	0.0050	1	01/21/2022 03:09
2-Butanone (MEK)	ND	0.10	1	01/21/2022 03:09
t-Butyl alcohol (TBA)	ND	0.050	1	01/21/2022 03:09
n-Butyl benzene	ND	0.0050	1	01/21/2022 03:09
sec-Butyl benzene	ND	0.0050	1	01/21/2022 03:09
tert-Butyl benzene	ND	0.0050	1	01/21/2022 03:09
Carbon Disulfide	ND	0.0050	1	01/21/2022 03:09
Carbon Tetrachloride	ND	0.0050	1	01/21/2022 03:09
Chlorobenzene	ND	0.0050	1	01/21/2022 03:09
Chloroethane	ND	0.0050	1	01/21/2022 03:09
Chloroform	ND	0.0050	1	01/21/2022 03:09
Chloromethane	ND	0.0050	1	01/21/2022 03:09
2-Chlorotoluene	ND	0.0050	1	01/21/2022 03:09
4-Chlorotoluene	ND	0.0050	1	01/21/2022 03:09
Dibromochloromethane	ND	0.0050	1	01/21/2022 03:09
1,2-Dibromo-3-chloropropane	ND	0.00050	1	01/21/2022 03:09
1,2-Dibromoethane (EDB)	ND	0.00025	1	01/21/2022 03:09
Dibromomethane	ND	0.0050	1	01/21/2022 03:09
1,2-Dichlorobenzene	ND	0.0050	1	01/21/2022 03:09
1,3-Dichlorobenzene	ND	0.0050	1	01/21/2022 03:09
1,4-Dichlorobenzene	ND	0.0050	1	01/21/2022 03:09
Dichlorodifluoromethane	ND	0.0050	1	01/21/2022 03:09
1,1-Dichloroethane	ND	0.0050	1	01/21/2022 03:09
1,2-Dichloroethane (1,2-DCA)	ND	0.00010	1	01/21/2022 03:09
1,1-Dichloroethene	ND	0.0050	1	01/21/2022 03:09
cis-1,2-Dichloroethene	ND	0.0050	1	01/21/2022 03:09
trans-1,2-Dichloroethene	ND	0.0050	1	01/21/2022 03:09
1,2-Dichloropropane	ND	0.0050	1	01/21/2022 03:09
1,3-Dichloropropane	ND	0.0050	1	01/21/2022 03:09
2,2-Dichloropropane	ND	0.0050	1	01/21/2022 03:09

(Cont.)

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Analytical Report

Client:	Pitcher Services LLC	**WorkOrder:**	2201393
Date Received:	01/11/2022 14:00	**Extraction Method:**	SW5030B
Date Prepared:	01/11/2022	**Analytical Method:**	SW8260B
Project:	P7211091; ACWD-Niles Cone GW Basin Extraction	**Unit:**	mg/kg

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
ACWD Niles Cone Ground Water Basin Extractio	2201393-001A	Sludge	01/11/2022 08:30	GC16 01202228.D	237181

Analytes	Result	RL	DF	Date Analyzed
1,1-Dichloropropene	ND	0.0050	1	01/21/2022 03:09
cis-1,3-Dichloropropene	ND	0.0050	1	01/21/2022 03:09
trans-1,3-Dichloropropene	ND	0.0050	1	01/21/2022 03:09
Diisopropyl ether (DIPE)	ND	0.0050	1	01/21/2022 03:09
Ethylbenzene	ND	0.0050	1	01/21/2022 03:09
Ethyl tert-butyl ether (ETBE)	ND	0.0050	1	01/21/2022 03:09
Freon 113	ND	0.0050	1	01/21/2022 03:09
Hexachlorobutadiene	ND	0.0050	1	01/21/2022 03:09
Hexachloroethane	ND	0.0050	1	01/21/2022 03:09
2-Hexanone	ND	0.0050	1	01/21/2022 03:09
Isopropylbenzene	ND	0.0050	1	01/21/2022 03:09
4-Isopropyl toluene	ND	0.0050	1	01/21/2022 03:09
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	01/21/2022 03:09
Methylene chloride	ND	0.020	1	01/21/2022 03:09
4-Methyl-2-pentanone (MIBK)	ND	0.0050	1	01/21/2022 03:09
Naphthalene	ND	0.0050	1	01/21/2022 03:09
n-Propyl benzene	ND	0.0050	1	01/21/2022 03:09
Styrene	ND	0.0050	1	01/21/2022 03:09
1,1,1,2-Tetrachloroethane	ND	0.0050	1	01/21/2022 03:09
1,1,2,2-Tetrachloroethane	ND	0.0050	1	01/21/2022 03:09
Tetrachloroethene	ND	0.0050	1	01/21/2022 03:09
Toluene	ND	0.0050	1	01/21/2022 03:09
1,2,3-Trichlorobenzene	ND	0.0050	1	01/21/2022 03:09
1,2,4-Trichlorobenzene	ND	0.0050	1	01/21/2022 03:09
1,1,1-Trichloroethane	ND	0.0050	1	01/21/2022 03:09
1,1,2-Trichloroethane	ND	0.0050	1	01/21/2022 03:09
Trichloroethene	ND	0.0050	1	01/21/2022 03:09
Trichlorofluoromethane	ND	0.0050	1	01/21/2022 03:09
1,2,3-Trichloropropane	ND	0.00025	1	01/21/2022 03:09
1,2,4-Trimethylbenzene	ND	0.0050	1	01/21/2022 03:09
1,3,5-Trimethylbenzene	ND	0.0050	1	01/21/2022 03:09
Vinyl Chloride	ND	0.00025	1	01/21/2022 03:09
m,p-Xylene	ND	0.0050	1	01/21/2022 03:09
o-Xylene	ND	0.0050	1	01/21/2022 03:09
Xylenes, Total	ND	0.0050	1	01/21/2022 03:09

(Cont.)

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Analytical Report

Client:	Pitcher Services LLC	**WorkOrder:**	2201393
Date Received:	01/11/2022 14:00	**Extraction Method:**	SW5030B
Date Prepared:	01/11/2022	**Analytical Method:**	SW8260B
Project:	P7211091; ACWD-Niles Cone GW Basin Extraction	**Unit:**	mg/kg

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
ACWD Niles Cone Ground Water Basin Extractio	2201393-001A	Sludge	01/11/2022 08:30	GC16 01202228.D	237181

Analytes	Result	RL	DF	Date Analyzed
Surrogates	**REC (%)**	**Limits**		
Dibromofluoromethane	100	70-140		01/21/2022 03:09
Toluene-d8	111	70-140		01/21/2022 03:09
4-BFB	100	70-140		01/21/2022 03:09
Benzene-d6	86	50-140		01/21/2022 03:09
Ethylbenzene-d10	101	50-140		01/21/2022 03:09
1,2-DCB-d4	87	40-140		01/21/2022 03:09

Analyst(s): KF

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Analytical Report

Client:	Pitcher Services LLC	**WorkOrder:**	2201393
Date Received:	01/11/2022 14:00	**Extraction Method:**	SW3050B
Date Prepared:	01/11/2022	**Analytical Method:**	SW6020
Project:	P7211091; ACWD-Niles Cone GW Basin Extraction	**Unit:**	mg/Kg

CAM / CCR 17 Metals

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
ACWD Niles Cone Ground Water Basin Extractio	2201393-001A	Sludge	01/11/2022 08:30	ICP-MS5 154SMPL.d	237150

Analytes	Result	RL	DF	Date Analyzed
Antimony	ND	0.50	1	01/12/2022 15:33
Arsenic	**2.3**	0.50	1	01/12/2022 15:33
Barium	**52**	5.0	1	01/12/2022 15:33
Beryllium	ND	0.50	1	01/12/2022 15:33
Cadmium	ND	0.50	1	01/12/2022 15:33
Chromium	**26**	0.50	1	01/12/2022 15:33
Cobalt	**5.0**	0.50	1	01/12/2022 15:33
Copper	**9.9**	0.50	1	01/12/2022 15:33
Lead	**2.7**	0.50	1	01/12/2022 15:33
Mercury	ND	0.050	1	01/12/2022 15:33
Molybdenum	ND	0.50	1	01/12/2022 15:33
Nickel	**28**	0.50	1	01/12/2022 15:33
Selenium	ND	0.50	1	01/12/2022 15:33
Silver	ND	0.50	1	01/12/2022 15:33
Thallium	ND	0.50	1	01/12/2022 15:33
Vanadium	**20**	0.50	1	01/12/2022 15:33
Zinc	**24**	5.0	1	01/12/2022 15:33

Surrogates	REC (%)	Limits	
Terbium	109	70-130	01/12/2022 15:33

Analyst(s): AL

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Analytical Report

Client:	Pitcher Services LLC	**WorkOrder:**	2201393
Date Received:	01/11/2022 14:00	**Extraction Method:**	SW5035
Date Prepared:	01/11/2022	**Analytical Method:**	SW8021B/8015Bm
Project:	P7211091; ACWD-Niles Cone GW Basin Extraction	**Unit:**	mg/Kg

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
ACWD Niles Cone Ground Water Basin Extractio	2201393-001A	Sludge	01/11/2022 08:30	GC7 01172210.D	237182

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	ND	1.0	1	01/17/2022 17:20
MTBE	---	0.050	1	01/17/2022 17:20
Benzene	---	0.0050	1	01/17/2022 17:20
Toluene	---	0.0050	1	01/17/2022 17:20
Ethylbenzene	---	0.0050	1	01/17/2022 17:20
m,p-Xylene	---	0.010	1	01/17/2022 17:20
o-Xylene	---	0.0050	1	01/17/2022 17:20
Xylenes	---	0.0050	1	01/17/2022 17:20

Surrogates	REC (%)	Limits	
2-Fluorotoluene	82	62-126	01/17/2022 17:20

Analyst(s): IA

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Analytical Report

Client:	Pitcher Services LLC	**WorkOrder:**	2201393
Date Received:	01/11/2022 14:00	**Extraction Method:**	SW3550B
Date Prepared:	01/11/2022	**Analytical Method:**	SW8015B
Project:	P7211091; ACWD-Niles Cone GW Basin Extraction	**Unit:**	mg/Kg

Total Extractable Petroleum Hydrocarbons w/out SG Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
ACWD Niles Cone Ground Water Basin Extractio	2201393-001A	Sludge	01/11/2022 08:30	GC9b 01122263.D	237176

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	2.0	1	01/13/2022 05:53
TPH-Motor Oil (C18-C36)	ND	10	1	01/13/2022 05:53

Surrogates	REC (%)	Limits	
C9	102	70-130	01/13/2022 05:53

Analyst(s): JIS

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Quality Control Report

Client:	Pitcher Services LLC	**WorkOrder:**	2201393
Date Prepared:	01/11/2022	**BatchID:**	237181
Date Analyzed:	01/11/2022 - 01/13/2022	**Extraction Method:**	SW5030B
Instrument:	GC16, GC18	**Analytical Method:**	SW8260B
Matrix:	Soil	**Unit:**	mg/kg
Project:	P7211091; ACWD-Niles Cone GW Basin Extraction	**Sample ID:**	MB/LCS/LCSD-237181

QC Summary Report for SW8260B

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
Acetone	ND	0.120	0.200	-	-	-
tert-Amyl methyl ether (TAME)	ND	0.00120	0.00500	-	-	-
Benzene	ND	0.000950	0.00500	-	-	-
Bromobenzene	ND	0.00120	0.00500	-	-	-
Bromochloromethane	ND	0.00110	0.00500	-	-	-
Bromodichloromethane	ND	0.000230	0.00500	-	-	-
Bromoform	ND	0.00380	0.00500	-	-	-
Bromomethane	ND	0.00180	0.00500	-	-	-
2-Butanone (MEK)	ND	0.0400	0.100	-	-	-
t-Butyl alcohol (TBA)	ND	0.0240	0.0500	-	-	-
n-Butyl benzene	ND	0.00160	0.00500	-	-	-
sec-Butyl benzene	ND	0.00180	0.00500	-	-	-
tert-Butyl benzene	ND	0.00210	0.00500	-	-	-
Carbon Disulfide	ND	0.00110	0.00500	-	-	-
Carbon Tetrachloride	ND	0.000170	0.00500	-	-	-
Chlorobenzene	ND	0.00120	0.00500	-	-	-
Chloroethane	ND	0.00170	0.00500	-	-	-
Chloroform	ND	0.000320	0.00500	-	-	-
Chloromethane	ND	0.00170	0.00500	-	-	-
2-Chlorotoluene	ND	0.00160	0.00500	-	-	-
4-Chlorotoluene	ND	0.00130	0.00500	-	-	-
Dibromochloromethane	ND	0.000400	0.00500	-	-	-
1,2-Dibromo-3-chloropropane	ND	0.000480	0.000500	-	-	-
1,2-Dibromoethane (EDB)	ND	0.000130	0.000250	-	-	-
Dibromomethane	ND	0.00120	0.00500	-	-	-
1,2-Dichlorobenzene	ND	0.00170	0.00500	-	-	-
1,3-Dichlorobenzene	ND	0.00150	0.00500	-	-	-
1,4-Dichlorobenzene	ND	0.00150	0.00500	-	-	-
Dichlorodifluoromethane	ND	0.000630	0.00500	-	-	-
1,1-Dichloroethane	ND	0.00150	0.00500	-	-	-
1,2-Dichloroethane (1,2-DCA)	ND	0.0000700	0.000100	-	-	-
1,1-Dichloroethene	ND	0.000110	0.00500	-	-	-
cis-1,2-Dichloroethene	ND	0.00120	0.00500	-	-	-
trans-1,2-Dichloroethene	ND	0.00120	0.00500	-	-	-
1,2-Dichloropropane	ND	0.00130	0.00500	-	-	-
1,3-Dichloropropane	ND	0.000880	0.00500	-	-	-
2,2-Dichloropropane	ND	0.00190	0.00500	-	-	-
1,1-Dichloropropene	ND	0.00180	0.00500	-	-	-

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Quality Control Report

Client:	Pitcher Services LLC	**WorkOrder:**	2201393
Date Prepared:	01/11/2022	**BatchID:**	237181
Date Analyzed:	01/11/2022 - 01/13/2022	**Extraction Method:**	SW5030B
Instrument:	GC16, GC18	**Analytical Method:**	SW8260B
Matrix:	Soil	**Unit:**	mg/kg
Project:	P7211091; ACWD-Niles Cone GW Basin Extraction	**Sample ID:**	MB/LCS/LCSD-237181

QC Summary Report for SW8260B

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
cis-1,3-Dichloropropene	ND	0.000980	0.00500	-	-	-
trans-1,3-Dichloropropene	ND	0.000970	0.00500	-	-	-
Diisopropyl ether (DIPE)	ND	0.00180	0.00500	-	-	-
Ethylbenzene	ND	0.00110	0.00500	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	0.00140	0.00500	-	-	-
Freon 113	ND	0.00110	0.00500	-	-	-
Hexachlorobutadiene	ND	0.00120	0.00500	-	-	-
Hexachloroethane	ND	0.000640	0.00500	-	-	-
2-Hexanone	ND	0.00270	0.00500	-	-	-
Isopropylbenzene	ND	0.00180	0.00500	-	-	-
4-Isopropyl toluene	ND	0.00190	0.00500	-	-	-
Methyl-t-butyl ether (MTBE)	ND	0.00150	0.00500	-	-	-
Methylene chloride	ND	0.0120	0.0200	-	-	-
4-Methyl-2-pentanone (MIBK)	ND	0.00170	0.00500	-	-	-
Naphthalene	ND	0.00300	0.00500	-	-	-
n-Propyl benzene	ND	0.00190	0.00500	-	-	-
Styrene	ND	0.00140	0.00500	-	-	-
1,1,1,2-Tetrachloroethane	ND	0.00130	0.00500	-	-	-
1,1,2,2-Tetrachloroethane	ND	0.000440	0.00500	-	-	-
Tetrachloroethene	ND	0.000290	0.00500	-	-	-
Toluene	ND	0.00160	0.00500	-	-	-
1,2,3-Trichlorobenzene	ND	0.00210	0.00500	-	-	-
1,2,4-Trichlorobenzene	ND	0.00160	0.00500	-	-	-
1,1,1-Trichloroethane	ND	0.00160	0.00500	-	-	-
1,1,2-Trichloroethane	ND	0.00120	0.00500	-	-	-
Trichloroethene	ND	0.00140	0.00500	-	-	-
Trichlorofluoromethane	ND	0.00130	0.00500	-	-	-
1,2,3-Trichloropropane	ND	0.000170	0.000250	-	-	-
1,2,4-Trimethylbenzene	ND	0.00160	0.00500	-	-	-
1,3,5-Trimethylbenzene	ND	0.00170	0.00500	-	-	-
Vinyl Chloride	ND	0.000120	0.000250	-	-	-
m,p-Xylene	ND	0.00260	0.00500	-	-	-
o-Xylene	ND	0.00140	0.00500	-	-	-

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Quality Control Report

Client:	Pitcher Services LLC	**WorkOrder:**	2201393
Date Prepared:	01/11/2022	**BatchID:**	237181
Date Analyzed:	01/11/2022 - 01/13/2022	**Extraction Method:**	SW5030B
Instrument:	GC16, GC18	**Analytical Method:**	SW8260B
Matrix:	Soil	**Unit:**	mg/kg
Project:	P7211091; ACWD-Niles Cone GW Basin Extraction	**Sample ID:**	MB/LCS/LCSD-237181

QC Summary Report for SW8260B

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
Surrogate Recovery						
Dibromofluoromethane	0.125			0.125	100	70-140
Toluene-d8	0.130			0.125	104	70-140
4-BFB	0.0122			0.0125	98	70-140
Benzene-d6	0.0989			0.1	99	70-140
Ethylbenzene-d10	0.116			0.1	116	70-140
1,2-DCB-d4	0.0986			0.1	99	70-140

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Quality Control Report

Client:	Pitcher Services LLC	**WorkOrder:**	2201393
Date Prepared:	01/11/2022	**BatchID:**	237181
Date Analyzed:	01/11/2022 - 01/13/2022	**Extraction Method:**	SW5030B
Instrument:	GC16, GC18	**Analytical Method:**	SW8260B
Matrix:	Soil	**Unit:**	mg/kg
Project:	P7211091; ACWD-Niles Cone GW Basin Extraction	**Sample ID:**	MB/LCS/LCSD-237181

QC Summary Report for SW8260B

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Acetone	0.222	0.208	0.20	111	104	60-140	6.83	20
tert-Amyl methyl ether (TAME)	0.0138	0.0134	0.020	69	67	50-140	2.91	20
Benzene	0.0154	0.0151	0.020	77	75	60-140	1.98	20
Bromobenzene	0.0193	0.0193	0.020	97	97	60-140	0.00984	20
Bromochloromethane	0.0188	0.0182	0.020	94	91	60-140	3.35	20
Bromodichloromethane	0.0154	0.0153	0.020	77	77	60-140	0.587	20
Bromoform	0.0109	0.0112	0.020	54	56	40-140	3.16	20
Bromomethane	0.0173	0.0171	0.020	87	85	30-140	1.25	20
2-Butanone (MEK)	0.0622	0.0571	0.080	78	71	50-140	8.53	20
t-Butyl alcohol (TBA)	0.0625	0.0586	0.080	78	73	50-140	6.37	20
n-Butyl benzene	0.0238	0.0232	0.020	119	116	60-150	2.57	20
sec-Butyl benzene	0.0238	0.0231	0.020	119	115	60-150	2.97	20
tert-Butyl benzene	0.0226	0.0224	0.020	113	112	60-140	0.628	20
Carbon Disulfide	0.0256	0.0248	0.020	128	124	50-140	3.13	20
Carbon Tetrachloride	0.0166	0.0165	0.020	83	82	60-140	0.713	20
Chlorobenzene	0.0180	0.0177	0.020	90	89	60-140	1.88	20
Chloroethane	0.0158	0.0153	0.020	79	76	50-140	3.38	20
Chloroform	0.0175	0.0172	0.020	88	86	60-140	1.61	20
Chloromethane	0.0159	0.0155	0.020	80	77	20-140	2.92	20
2-Chlorotoluene	0.0216	0.0214	0.020	108	107	60-140	0.987	20
4-Chlorotoluene	0.0208	0.0206	0.020	104	103	60-140	0.655	20
Dibromochloromethane	0.0166	0.0170	0.020	83	85	50-140	2.50	20
1,2-Dibromo-3-chloropropane	0.00775	0.00786	0.010	77	79	30-140	1.48	20
1,2-Dibromoethane (EDB)	0.00934	0.00941	0.010	93	94	40-140	0.768	20
Dibromomethane	0.0169	0.0162	0.020	85	81	60-140	4.07	20
1,2-Dichlorobenzene	0.0165	0.0166	0.020	83	83	60-140	0.611	20
1,3-Dichlorobenzene	0.0185	0.0181	0.020	92	91	60-140	1.99	20
1,4-Dichlorobenzene	0.0178	0.0183	0.020	89	91	60-140	2.37	20
Dichlorodifluoromethane	0.00865	0.00860	0.020	43	43	10-140	0.668	20
1,1-Dichloroethane	0.0164	0.0161	0.020	82	80	60-140	1.65	20
1,2-Dichloroethane (1,2-DCA)	0.0154	0.0150	0.020	77	75	60-140	2.85	20
1,1-Dichloroethene	0.0178	0.0175	0.020	89	88	60-140	1.58	20
cis-1,2-Dichloroethene	0.0170	0.0166	0.020	85	83	60-140	2.65	20
trans-1,2-Dichloroethene	0.0170	0.0169	0.020	85	85	60-140	0.490	20
1,2-Dichloropropane	0.0147	0.0144	0.020	74	72	60-140	1.92	20
1,3-Dichloropropane	0.0178	0.0178	0.020	89	89	60-140	0.0753	20
2,2-Dichloropropane	0.0168	0.0162	0.020	84	81	60-140	3.74	20
1,1-Dichloropropene	0.0171	0.0168	0.020	85	84	60-140	1.26	20

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Quality Control Report

Client:	Pitcher Services LLC	**WorkOrder:**	2201393
Date Prepared:	01/11/2022	**BatchID:**	237181
Date Analyzed:	01/11/2022 - 01/13/2022	**Extraction Method:**	SW5030B
Instrument:	GC16, GC18	**Analytical Method:**	SW8260B
Matrix:	Soil	**Unit:**	mg/kg
Project:	P7211091; ACWD-Niles Cone GW Basin Extraction	**Sample ID:**	MB/LCS/LCSD-237181

QC Summary Report for SW8260B

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
cis-1,3-Dichloropropene	0.0178	0.0178	0.020	89	89	60-140	0.301	20
trans-1,3-Dichloropropene	0.0170	0.0170	0.020	85	85	60-140	0.589	20
Diisopropyl ether (DIPE)	0.0148	0.0144	0.020	74	72	60-140	2.62	20
Ethylbenzene	0.0187	0.0188	0.020	94	94	60-140	0.257	20
Ethyl tert-butyl ether (ETBE)	0.0143	0.0141	0.020	72	71	60-140	1.43	20
Freon 113	0.0162	0.0162	0.020	81	81	50-140	0.403	20
Hexachlorobutadiene	0.0197	0.0194	0.020	98	97	60-140	1.34	20
Hexachloroethane	0.0191	0.0188	0.020	96	94	60-140	1.83	20
2-Hexanone	0.0154	0.0143	0.020	77	71	40-140	7.76	20
Isopropylbenzene	0.0241	0.0242	0.020	121	121	60-140	0.282	20
4-Isopropyl toluene	0.0233	0.0224	0.020	116	112	60-150	3.77	20
Methyl-t-butyl ether (MTBE)	0.0148	0.0144	0.020	74	72	50-140	2.49	20
Methylene chloride	0.0162	0.0154	0.020	81	77	60-140	5.12	20
4-Methyl-2-pentanone (MIBK)	0.0153	0.0155	0.020	77	78	50-140	1.21	20
Naphthalene	0.00908	0.00951	0.020	45	48	30-140	4.71	20
n-Propyl benzene	0.0245	0.0235	0.020	122	117	60-140	4.21	20
Styrene	0.0158	0.0161	0.020	79	80	60-140	2.05	20
1,1,1,2-Tetrachloroethane	0.0177	0.0175	0.020	89	88	60-140	1.29	20
1,1,2,2-Tetrachloroethane	0.0152	0.0150	0.020	76	75	40-140	1.36	20
Tetrachloroethene	0.0207	0.0209	0.020	103	105	60-140	1.14	20
Toluene	0.0196	0.0194	0.020	98	97	60-140	1.48	20
1,2,3-Trichlorobenzene	0.0103	0.0104	0.020	52	52	40-140	0.407	20
1,2,4-Trichlorobenzene	0.0138	0.0140	0.020	69	70	50-140	1.50	20
1,1,1-Trichloroethane	0.0173	0.0170	0.020	87	85	60-140	2.21	20
1,1,2-Trichloroethane	0.0179	0.0174	0.020	89	87	60-140	2.69	20
Trichloroethene	0.0188	0.0188	0.020	94	94	60-140	0.286	20
Trichlorofluoromethane	0.0170	0.0166	0.020	85	83	50-140	2.31	20
1,2,3-Trichloropropane	0.00947	0.00910	0.010	95	91	40-140	3.95	20
1,2,4-Trimethylbenzene	0.0212	0.0208	0.020	106	104	30-140	1.87	20
1,3,5-Trimethylbenzene	0.0226	0.0217	0.020	113	109	60-140	3.94	20
Vinyl Chloride	0.00697	0.00680	0.010	70	68	30-140	2.54	20
m,p-Xylene	0.0374	0.0379	0.040	94	95	60-140	1.19	20
o-Xylene	0.0172	0.0170	0.020	86	85	60-140	1.40	20

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Quality Control Report

Client:	Pitcher Services LLC	**WorkOrder:**	2201393
Date Prepared:	01/11/2022	**BatchID:**	237181
Date Analyzed:	01/11/2022 - 01/13/2022	**Extraction Method:**	SW5030B
Instrument:	GC16, GC18	**Analytical Method:**	SW8260B
Matrix:	Soil	**Unit:**	mg/kg
Project:	P7211091; ACWD-Niles Cone GW Basin Extraction	**Sample ID:**	MB/LCS/LCSD-237181

QC Summary Report for SW8260B

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Surrogate Recovery								
Dibromofluoromethane	0.126	0.127	0.12	101	101	70-140	0.804	20
Toluene-d8	0.132	0.133	0.12	105	106	70-140	0.783	20
4-BFB	0.0122	0.0121	0.012	98	97	70-140	1.12	20
Benzene-d6	0.0960	0.0899	0.10	96	90	70-140	6.54	20
Ethylbenzene-d10	0.113	0.107	0.10	113	107	70-140	5.72	20
1,2-DCB-d4	0.0964	0.0915	0.10	96	91	70-140	5.26	20

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Quality Control Report

Client:	Pitcher Services LLC	**WorkOrder:**	2201393
Date Prepared:	01/11/2022	**BatchID:**	237150
Date Analyzed:	01/12/2022	**Extraction Method:**	SW3050B
Instrument:	ICP-MS5	**Analytical Method:**	SW6020
Matrix:	Soil	**Unit:**	mg/kg
Project:	P7211091; ACWD-Niles Cone GW Basin Extraction	**Sample ID:**	MB/LCS/LCSD-237150

QC Summary Report for Metals

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
Antimony	ND	0.160	0.500	-	-	-
Arsenic	ND	0.140	0.500	-	-	-
Barium	ND	0.680	5.00	-	-	-
Beryllium	ND	0.0830	0.500	-	-	-
Cadmium	ND	0.0940	0.500	-	-	-
Chromium	ND	0.130	0.500	-	-	-
Cobalt	ND	0.0690	0.500	-	-	-
Copper	ND	0.230	0.500	-	-	-
Lead	ND	0.0690	0.500	-	-	-
Mercury	ND	0.0380	0.0500	-	-	-
Molybdenum	ND	0.140	0.500	-	-	-
Nickel	ND	0.0810	0.500	-	-	-
Selenium	ND	0.320	0.500	-	-	-
Silver	ND	0.110	0.500	-	-	-
Thallium	ND	0.0720	0.500	-	-	-
Vanadium	ND	0.150	0.500	-	-	-
Zinc	ND	3.20	5.00	-	-	-
Surrogate Recovery						
Terbium	533			500	107	70-130

(Cont.)

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Quality Control Report

Client:	Pitcher Services LLC	**WorkOrder:**	2201393
Date Prepared:	01/11/2022	**BatchID:**	237150
Date Analyzed:	01/12/2022	**Extraction Method:**	SW3050B
Instrument:	ICP-MS5	**Analytical Method:**	SW6020
Matrix:	Soil	**Unit:**	mg/kg
Project:	P7211091; ACWD-Niles Cone GW Basin Extraction	**Sample ID:**	MB/LCS/LCSD-237150

QC Summary Report for Metals

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Antimony	50.2	49.5	50	100	99	75-125	1.40	20
Arsenic	53.2	53.0	50	106	106	75-125	0.335	20
Barium	516	507	500	103	101	75-125	1.74	20
Beryllium	52.8	53.3	50	106	107	75-125	0.934	20
Cadmium	49.2	49.5	50	98	99	75-125	0.539	20
Chromium	51.4	50.9	50	103	102	75-125	1.09	20
Cobalt	53.0	52.4	50	106	105	75-125	1.23	20
Copper	52.5	52.1	50	105	104	75-125	0.837	20
Lead	50.1	50.4	50	100	101	75-125	0.534	20
Mercury	1.21	1.20	1.25	97	96	75-125	0.332	20
Molybdenum	49.6	50.1	50	99	100	75-125	1.02	20
Nickel	52.2	51.8	50	104	104	75-125	0.646	20
Selenium	52.9	52.0	50	106	104	75-125	1.70	20
Silver	50.3	50.3	50	101	101	75-125	0.111	20
Thallium	52.0	51.8	50	104	104	75-125	0.414	20
Vanadium	51.1	51.3	50	102	103	75-125	0.326	20
Zinc	530	525	500	106	105	75-125	0.979	20
Surrogate Recovery								
Terbium	521	524	500	104	105	70-130	0.628	20

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Quality Control Report

Client:	Pitcher Services LLC	**WorkOrder:**	2201393
Date Prepared:	01/11/2022	**BatchID:**	237182
Date Analyzed:	01/11/2022 - 01/12/2022	**Extraction Method:**	SW5035
Instrument:	GC7	**Analytical Method:**	SW8021B/8015Bm
Matrix:	Soil	**Unit:**	mg/Kg
Project:	P7211091; ACWD-Niles Cone GW Basin Extraction	**Sample ID:**	MB/LCS/LCSD-237182

QC Summary Report for SW8021B/8015Bm

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
TPH(g) (C6-C12)	ND	0.610	1.00	-	-	-
MTBE	ND	0.00340	0.0500	-	-	-
Benzene	ND	0.00190	0.00500	-	-	-
Toluene	ND	0.00240	0.00500	-	-	-
Ethylbenzene	ND	0.00170	0.00500	-	-	-
m,p-Xylene	ND	0.00260	0.0100	-	-	-
o-Xylene	ND	0.000910	0.00500	-	-	-
Surrogate Recovery						
2-Fluorotoluene	0.0899			0.1	90	75-134

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
TPH(btex)	0.630	0.623	0.60	105	104	82-118	1.12	20
MTBE	0.0814	0.0803	0.10	81	80	61-119	1.38	20
Benzene	0.109	0.102	0.10	109	102	77-128	6.38	20
Toluene	0.111	0.107	0.10	111	107	74-132	3.50	20
Ethylbenzene	0.116	0.112	0.10	116	112	84-127	3.61	20
m,p-Xylene	0.238	0.230	0.20	119	115	80-120	3.77	20
o-Xylene	0.112	0.108	0.10	113	108	80-120	4.23	20
Surrogate Recovery								
2-Fluorotoluene	0.0978	0.0935	0.10	98	93	75-134	4.51	20

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Quality Control Report

Client:	Pitcher Services LLC	**WorkOrder:**	2201393
Date Prepared:	01/11/2022	**BatchID:**	237176
Date Analyzed:	01/11/2022	**Extraction Method:**	SW3550B
Instrument:	GC11B, GC6A	**Analytical Method:**	SW8015B
Matrix:	Soil	**Unit:**	mg/Kg
Project:	P7211091; ACWD-Niles Cone GW Basin Extraction	**Sample ID:**	MB/LCS/LCSD-237176

QC Report for SW8015B w/out SG Clean-Up

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
TPH-Diesel (C10-C23)	ND	0.780	2.00	-	-	-
TPH-Motor Oil (C18-C36)	ND	4.60	10.0	-	-	-
Surrogate Recovery						
C9	21.6			25	87	70-130

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
TPH-Diesel (C10-C23)	39.0	38.0	40	97	95	70-130	2.52	20
Surrogate Recovery								
C9	21.7	21.1	25	87	85	70-130	2.55	20

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CHAIN-OF-CUSTODY RECORD

WorkOrder: 2201393 **ClientCode: PD**

☐ WaterTrax ☐ CLIP ☐ EDF ☒ EQuIS ☒ Dry-Weight ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag
☒ Detection Summary ☐ Excel

Report to:
Wessam Zanaty
Pitcher Services LLC
218 Demeter St.
East Palo Alto, CA 94303
650-328-8910 FAX: 650-328-3621

Email: wzanaty@pitcherservicesllc.com; bporter@
cc/3rd Party:
PO: 10097
Project: P7211091; ACWD-Niles Cone GW Basin Extraction

Bill to:
Kerry Tross
Pitcher Services LLC
218 Demeter St.
East Palo Alto, CA 94303
ktross@pitcherservicesllc.com

Requested TAT: 5 days;

Date Received: **01/11/2022**
Date Logged: **01/11/2022**

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
2201393-001	ACWD Niles Cone Ground Water Basin	Sludge	1/11/2022 08:30	☐	A	A	A	A	A							

Test Legend:

1	8260B_S	2	CAM17MS_TTLC_S	3	G-MBTEX_S	4	PRDisposal Fee
5	TPH(DMO)_S	6		7		8	
9		10		11		12	

Prepared by: Lilly Ortiz

The following SampID: 001A contains testgroup Multi Range_S.

Comments:

NOTE: Soil samples are discarded 60 days after receipt unless other arrangements are made (Water samples are 30 days).
Hazardous samples will be returned to client or disposed of at client expense.

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WORK ORDER SUMMARY

Client Name: PITCHER SERVICES LLC
Client Contact: Wessam Zanaty
Contact's Email: wzanaty@pitcherservicesllc.com; bporter@pitcherservicesllc.com

Project: P7211091; ACWD-Niles Cone GW Basin Extraction
Comments

Work Order: 2201393
QC Level: LEVEL 2
Date Logged: 1/11/2022

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☐ EQuIS ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

LabID	ClientSampID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	U**	Head Space	Dry-Weight	Collection Date & Time	TAT	Test Due Date	Sediment Content	Hold	Sub Out
001A	ACWD Niles Cone Ground Water Basin Extractio	Sludge	Multi-Range TPH	1	1LA, Unpres	☐	☐	☐	1/11/2022 8:30	5 days	1/19/2022		☐	☐
			SW6020 (CAM 17)			☐	☐	☐		5 days	1/19/2022		☐	☐
			SW8260B (VOCs)			☐	☐	☐		5 days	1/19/2022		☐	☐

NOTES: * STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

- MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.

U = An unpreserved container was received for a method that suggests a preservation in order to extend hold time for analysis.**

General COC

MAI Work Order # 220393

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CHAIN OF CUSTODY RECORD

Turn Around Time:	1 Day Rush		2 Day Rush		3 Day Rush		STD	●	Quote #				
J-Flag / MDL		ESL		Cleanup Approved		Dry Weight		Bottle Order #					
Delivery Format:	PDF	●	GeoTracker EDF		EDD		Write On (DW)		Detect Summary				

Report To: Wessam Zanaty — Bill To: ktross@pitcherservicesllc.com
Company: Pitcher Services, LLC
Address: 218 Demeter Street, East Palo Alto, Ca 94303
Email: wzanaty@pitcherservicesllc.com — Tele: (650) 328-8910
Project Name: ACWD-Niles Cone GW Basin extraction — Project #: P7211091
Project Location: Cedar Court, Newark — PO # 10097
Sampler Signature:

Analysis Requested

SAMPLE ID Location / Field Point	Sampling Date	Sampling Time	#Containers	Matrix	Preservative	Multi Range as Gas, Diesel, and Motor Oil (8021/8015)	BTEX & TPH as Gas (8021/ 8015) MTBE	TPH as Diesel (8015) + Motor Oil Without Silica Gel + Gasoline	TPH as Diesel (8015) + Motor Oil With Silica Gel	Total Oil & Grease (1664 / 9071) Without Silica Gel	Total Petroleum Hydrocarbons - Oil & Grease (1664 / 9071) With Silica Gel	Total Petroleum Hydrocarbons (418.1) With Silica Gel	EPA 505/ 608 / 8081 (Cl Pesticides)	EPA 608 / 8082 PCB's ; Aroclors only	EPA 524.2 / 624 / 8260 (VOCs)	EPA 525.2 / 625 / 8270 (SVOCs)	EPA 8270 SIM / 8310 (PAHs / PNAs)	CAM 17 Metals (200.8 / 6020)*	Metals (200.8 / 6020)*	Baylands Requirements	Lab to filter sample for dissolved metals analysis	STLC for any metals that trigger 10x's Rule	TCLP for any metals that trigger 20x's Rule	
ACWD	01/11/22	8:30	1	Sludge	N/A			●							●			●				●	●	
Niles Cone Ground Water																								
Basin Extraction Well Site																								
Evaluation Project																								
Fremont																								
(Well Site-2)																								

MAI clients MUST disclose any dangerous chemicals known to be present in their submitted samples in concentrations that may cause immediate harm or serious future health endangerment as a result of brief, gloved, open air, sample handling by MAI staff. Non-disclosure incurs an immediate $250 surcharge and the client is subject to full legal liability for harm suffered. Thank you for your understanding and for allowing us to work safely.

* If metals are requested for water samples and the water type (Matrix) is not specified on the chain of custody, MAI will default to metals by E200.8.

Please provide an adequate volume of sample. If the volume is not sufficient for a MS/MSD a LCS/LCSD will be prepared in its place and noted in the report.

Comments / Instructions

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
Wessam Zanaty / Pitcher Services, LLC.	01/11/22	1155		1/11/22	1155
	1/11/22	1400		1/11/22	1400

Matrix Code: DW=Drinking Water, GW=Ground Water, WW=Waste Water, SW=Seawater, S=Soil, SL=Sludge, A=Air, WP=Wipe, O=Other
Preservative Code: 1=4°C 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=ZnOAc/NaOH 7=None

Temp 2.1 °C Initials

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Sample Receipt Checklist

Client Name: **Pitcher Services LLC**
Project: **P7211091; ACWD-Niles Cone GW Basin Extraction**

WorkOrder №: **2201393** Matrix: Sludge
Carrier: Benjamin Yslas (MAI Courier)

Date and Time Received: **1/11/2022 14:00**
Date Logged: **1/11/2022**
Received by: Lilly Ortiz
Logged by: Lilly Ortiz

Chain of Custody (COC) Information

Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Sample IDs noted by Client on COC?	Yes ☑	No ☐	
Date and Time of collection noted by Client on COC?	Yes ☑	No ☐	
Sampler's name noted on COC?	Yes ☑	No ☐	
COC agrees with Quote?	Yes ☐	No ☐	NA ☑

Sample Receipt Information

Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	NA ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	NA ☑
Shipping container/cooler in good condition?	Yes ☑	No ☐	
Samples in proper containers/bottles?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	

Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes ☑	No ☐	NA ☐
Samples Received on Ice?	Yes ☑	No ☐	
(Ice Type: WET ICE)			
Sample/Temp Blank temperature	Temp: 3.1°C		NA ☐
ZHS conditional analyses: VOA meets zero headspace requirement (VOCs, TPHg/BTEX, RSK)?	Yes ☐	No ☐	NA ☑
Sample labels checked for correct preservation?	Yes ☑	No ☐	
pH acceptable upon receipt (Metal: <2; Nitrate 353.2/4500NO3: <2; 522: <4; 218.7: >8)?	Yes ☐	No ☐	NA ☑
UCMR Samples:			
pH tested and acceptable upon receipt (200.7: ≤2; 533: 6 - 8; 537.1: 6 - 8)?	Yes ☐	No ☐	NA ☑
Free Chlorine tested and acceptable upon receipt (<0.1mg/L) [not applicable to 200.7]?	Yes ☐	No ☐	NA ☑

Comments:

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Analytical Report

WorkOrder: 2111936

Report Created for: Pitcher Services LLC

218 Demeter St.
East Palo Alto, CA 94303

Project Contact: Wessam Zanaty
Project P.O.: 10097
Project: P7211081; ACWD-Niles Cone GW Basin Extraction

Project Received: 11/16/2021

Analytical Report reviewed & approved for release on 11/23/2021 by:

Yen Cao
Project Manager

The report shall not be reproduced except in full, without the written approval of the laboratory. The analytical results relate only to the items tested. Results reported conform to the most current NELAP standards, where applicable, unless otherwise stated in a case narrative.

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Glossary of Terms & Qualifier Definitions

Client: Pitcher Services LLC
Project: P7211081; ACWD-Niles Cone GW Basin Extraction
WorkOrder: 2111936

Glossary Abbreviation

%D	Serial Dilution Percent Difference
95% Interval	95% Confident Interval
CPT	Consumer Product Testing not NELAP Accredited
DF	Dilution Factor
DI WET	(DISTLC) Waste Extraction Test using DI water
DISS	Dissolved (direct analysis of 0.45 µm filtered and acidified water sample)
DLT	Dilution Test (Serial Dilution)
DUP	Duplicate
EDL	Estimated Detection Limit
ERS	External reference sample. Second source calibration verification.
ITEF	International Toxicity Equivalence Factor
LCS	Laboratory Control Sample
LQL	Lowest Quantitation Level
MB	Method Blank
MB % Rec	% Recovery of Surrogate in Method Blank, if applicable
MDL	Method Detection Limit
ML	Minimum Level of Quantitation
MS	Matrix Spike
MSD	Matrix Spike Duplicate
N/A	Not Applicable
ND	Not detected at or above the indicated MDL or RL
NR	Data Not Reported due to matrix interference or insufficient sample amount.
PDS	Post Digestion Spike
PDSD	Post Digestion Spike Duplicate
PF	Prep Factor
RD	Relative Difference
RL	Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)
RPD	Relative Percent Deviation
RRT	Relative Retention Time
SPK Val	Spike Value
SPKRef Val	Spike Reference Value
SPLP	Synthetic Precipitation Leachate Procedure
ST	Sorbent Tube
TCLP	Toxicity Characteristic Leachate Procedure
TEQ	Toxicity Equivalents
TZA	TimeZone Net Adjustment for sample collected outside of MAI's UTC.
WET (STLC)	Waste Extraction Test (Soluble Threshold Limit Concentration)

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Glossary of Terms & Qualifier Definitions

Client: Pitcher Services LLC
Project: P7211081; ACWD-Niles Cone GW Basin Extraction
WorkOrder: 2111936

Analytical Qualifiers

S	Surrogate recovery outside accepted recovery limits.
c2	Surrogate recovery outside of the control limits due to matrix interference.
e2	Diesel range compounds are detected; no recognizable pattern.
e7	Oil range compounds are detected.

Quality Control Qualifiers

F2	LCS/LCSD recovery and/or RPD/RSD is out of acceptance criteria.
F3	The surrogate standard recovery and/or RPD is outside of acceptance limits.

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Analytical Report

Client:	Pitcher Services LLC	**WorkOrder:**	2111936
Date Received:	11/16/2021 16:40	**Extraction Method:**	SW5030B
Date Prepared:	11/16/2021	**Analytical Method:**	SW8260B
Project:	P7211081; ACWD-Niles Cone GW Basin Extraction	**Unit:**	mg/kg

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
ACWD Niles Cone Ground Water Basin Extractio	2111936-001A	Sludge	11/16/2021 08:30	GC18 11182133.D	233830

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	0.20	1	11/19/2021 04:44
tert-Amyl methyl ether (TAME)	ND	0.0050	1	11/19/2021 04:44
Benzene	ND	0.0050	1	11/19/2021 04:44
Bromobenzene	ND	0.0050	1	11/19/2021 04:44
Bromochloromethane	ND	0.0050	1	11/19/2021 04:44
Bromodichloromethane	ND	0.0050	1	11/19/2021 04:44
Bromoform	ND	0.0050	1	11/19/2021 04:44
Bromomethane	ND	0.0050	1	11/19/2021 04:44
2-Butanone (MEK)	ND	0.10	1	11/19/2021 04:44
t-Butyl alcohol (TBA)	ND	0.050	1	11/19/2021 04:44
n-Butyl benzene	ND	0.0050	1	11/19/2021 04:44
sec-Butyl benzene	ND	0.0050	1	11/19/2021 04:44
tert-Butyl benzene	ND	0.0050	1	11/19/2021 04:44
Carbon Disulfide	ND	0.0050	1	11/19/2021 04:44
Carbon Tetrachloride	ND	0.0050	1	11/19/2021 04:44
Chlorobenzene	ND	0.0050	1	11/19/2021 04:44
Chloroethane	ND	0.0050	1	11/19/2021 04:44
Chloroform	ND	0.0050	1	11/19/2021 04:44
Chloromethane	ND	0.0050	1	11/19/2021 04:44
2-Chlorotoluene	ND	0.0050	1	11/19/2021 04:44
4-Chlorotoluene	ND	0.0050	1	11/19/2021 04:44
Dibromochloromethane	ND	0.0050	1	11/19/2021 04:44
1,2-Dibromo-3-chloropropane	ND	0.00050	1	11/19/2021 04:44
1,2-Dibromoethane (EDB)	ND	0.00025	1	11/19/2021 04:44
Dibromomethane	ND	0.0050	1	11/19/2021 04:44
1,2-Dichlorobenzene	ND	0.0050	1	11/19/2021 04:44
1,3-Dichlorobenzene	ND	0.0050	1	11/19/2021 04:44
1,4-Dichlorobenzene	ND	0.0050	1	11/19/2021 04:44
Dichlorodifluoromethane	ND	0.0050	1	11/19/2021 04:44
1,1-Dichloroethane	ND	0.0050	1	11/19/2021 04:44
1,2-Dichloroethane (1,2-DCA)	ND	0.00010	1	11/19/2021 04:44
1,1-Dichloroethene	ND	0.0050	1	11/19/2021 04:44
cis-1,2-Dichloroethene	ND	0.0050	1	11/19/2021 04:44
trans-1,2-Dichloroethene	ND	0.0050	1	11/19/2021 04:44
1,2-Dichloropropane	ND	0.0050	1	11/19/2021 04:44
1,3-Dichloropropane	ND	0.0050	1	11/19/2021 04:44
2,2-Dichloropropane	ND	0.0050	1	11/19/2021 04:44

(Cont.)

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Analytical Report

Client:	Pitcher Services LLC	**WorkOrder:**	2111936
Date Received:	11/16/2021 16:40	**Extraction Method:**	SW5030B
Date Prepared:	11/16/2021	**Analytical Method:**	SW8260B
Project:	P7211081; ACWD-Niles Cone GW Basin Extraction	**Unit:**	mg/kg

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
ACWD Niles Cone Ground Water Basin Extractio	2111936-001A	Sludge	11/16/2021 08:30	GC18 11182133.D	233830

Analytes	Result	RL	DF	Date Analyzed
1,1-Dichloropropene	ND	0.0050	1	11/19/2021 04:44
cis-1,3-Dichloropropene	ND	0.0050	1	11/19/2021 04:44
trans-1,3-Dichloropropene	ND	0.0050	1	11/19/2021 04:44
Diisopropyl ether (DIPE)	ND	0.0050	1	11/19/2021 04:44
Ethylbenzene	ND	0.0050	1	11/19/2021 04:44
Ethyl tert-butyl ether (ETBE)	ND	0.0050	1	11/19/2021 04:44
Freon 113	ND	0.0050	1	11/19/2021 04:44
Hexachlorobutadiene	ND	0.0050	1	11/19/2021 04:44
Hexachloroethane	ND	0.0050	1	11/19/2021 04:44
2-Hexanone	ND	0.0050	1	11/19/2021 04:44
Isopropylbenzene	ND	0.0050	1	11/19/2021 04:44
4-Isopropyl toluene	ND	0.0050	1	11/19/2021 04:44
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	11/19/2021 04:44
Methylene chloride	ND	0.020	1	11/19/2021 04:44
4-Methyl-2-pentanone (MIBK)	ND	0.0050	1	11/19/2021 04:44
Naphthalene	ND	0.0050	1	11/19/2021 04:44
n-Propyl benzene	ND	0.0050	1	11/19/2021 04:44
Styrene	ND	0.0050	1	11/19/2021 04:44
1,1,1,2-Tetrachloroethane	ND	0.0050	1	11/19/2021 04:44
1,1,2,2-Tetrachloroethane	ND	0.0050	1	11/19/2021 04:44
Tetrachloroethene	ND	0.0050	1	11/19/2021 04:44
Toluene	ND	0.0050	1	11/19/2021 04:44
1,2,3-Trichlorobenzene	ND	0.0050	1	11/19/2021 04:44
1,2,4-Trichlorobenzene	ND	0.0050	1	11/19/2021 04:44
1,1,1-Trichloroethane	ND	0.0050	1	11/19/2021 04:44
1,1,2-Trichloroethane	ND	0.0050	1	11/19/2021 04:44
Trichloroethene	ND	0.0050	1	11/19/2021 04:44
Trichlorofluoromethane	ND	0.0050	1	11/19/2021 04:44
1,2,3-Trichloropropane	ND	0.00025	1	11/19/2021 04:44
1,2,4-Trimethylbenzene	ND	0.0050	1	11/19/2021 04:44
1,3,5-Trimethylbenzene	ND	0.0050	1	11/19/2021 04:44
Vinyl Chloride	ND	0.00025	1	11/19/2021 04:44
m,p-Xylene	ND	0.0050	1	11/19/2021 04:44
o-Xylene	ND	0.0050	1	11/19/2021 04:44
Xylenes, Total	ND	0.0050	1	11/19/2021 04:44

(Cont.)

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Analytical Report

Client:	Pitcher Services LLC	**WorkOrder:**	2111936
Date Received:	11/16/2021 16:40	**Extraction Method:**	SW5030B
Date Prepared:	11/16/2021	**Analytical Method:**	SW8260B
Project:	P7211081; ACWD-Niles Cone GW Basin Extraction	**Unit:**	mg/kg

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
ACWD Niles Cone Ground Water Basin Extractio	2111936-001A	Sludge	11/16/2021 08:30	GC18 11182133.D	233830

Analytes	Result	RL	DF	Date Analyzed
Surrogates	**REC (%)**	**Limits**		
Dibromofluoromethane	115	70-140		11/19/2021 04:44
Toluene-d8	116	70-140		11/19/2021 04:44
4-BFB	96	70-140		11/19/2021 04:44
Benzene-d6	110	50-140		11/19/2021 04:44
Ethylbenzene-d10	105	50-140		11/19/2021 04:44
1,2-DCB-d4	79	40-140		11/19/2021 04:44

Analyst(s): KF

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Analytical Report

Client:	Pitcher Services LLC	**WorkOrder:**	2111936
Date Received:	11/16/2021 16:40	**Extraction Method:**	SW3050B
Date Prepared:	11/18/2021	**Analytical Method:**	SW6020
Project:	P7211081; ACWD-Niles Cone GW Basin Extraction	**Unit:**	mg/Kg

CAM / CCR 17 Metals

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
ACWD Niles Cone Ground Water Basin Extractio	2111936-001A	Sludge	11/16/2021 08:30	ICP-MS5 168SMPL.d	233938

Analytes	Result	RL	DF	Date Analyzed
Antimony	ND	0.50	1	11/19/2021 13:40
Arsenic	**4.6**	0.50	1	11/19/2021 13:40
Barium	**100**	5.0	1	11/19/2021 13:40
Beryllium	ND	0.50	1	11/19/2021 13:40
Cadmium	ND	0.50	1	11/19/2021 13:40
Chromium	**49**	0.50	1	11/19/2021 13:40
Cobalt	**7.9**	0.50	1	11/19/2021 13:40
Copper	**17**	0.50	1	11/19/2021 13:40
Lead	**4.9**	0.50	1	11/19/2021 13:40
Mercury	ND	0.050	1	11/19/2021 13:40
Molybdenum	ND	0.50	1	11/19/2021 13:40
Nickel	**59**	0.50	1	11/19/2021 13:40
Selenium	ND	0.50	1	11/19/2021 13:40
Silver	ND	0.50	1	11/19/2021 13:40
Thallium	ND	0.50	1	11/19/2021 13:40
Vanadium	**30**	0.50	1	11/19/2021 13:40
Zinc	**35**	5.0	1	11/19/2021 13:40

Surrogates	REC (%)	Limits	
Terbium	103	70-130	11/19/2021 13:40

Analyst(s): WV

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Analytical Report

Client:	Pitcher Services LLC	**WorkOrder:**	2111936
Date Received:	11/16/2021 16:40	**Extraction Method:**	SW5035
Date Prepared:	11/16/2021	**Analytical Method:**	SW8021B/8015Bm
Project:	P7211081; ACWD-Niles Cone GW Basin Extraction	**Unit:**	mg/Kg

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
ACWD Niles Cone Ground Water Basin Extractio	2111936-001A	Sludge	11/16/2021 08:30	GC3 11212124.D	233775

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	ND	1.0	1	11/21/2021 21:47
MTBE	---	0.050	1	11/21/2021 21:47
Benzene	---	0.0050	1	11/21/2021 21:47
Toluene	---	0.0050	1	11/21/2021 21:47
Ethylbenzene	---	0.0050	1	11/21/2021 21:47
m,p-Xylene	---	0.010	1	11/21/2021 21:47
o-Xylene	---	0.0050	1	11/21/2021 21:47
Xylenes	---	0.0050	1	11/21/2021 21:47

Surrogates	REC (%)	Qualifiers	Limits	
2-Fluorotoluene	49	S	62-126	11/21/2021 21:47

Analyst(s): HD Analytical Comments: c2

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Analytical Report

Client:	Pitcher Services LLC	**WorkOrder:**	2111936
Date Received:	11/16/2021 16:40	**Extraction Method:**	SW3550B
Date Prepared:	11/16/2021	**Analytical Method:**	SW8015B
Project:	P7211081; ACWD-Niles Cone GW Basin Extraction	**Unit:**	mg/Kg

Total Extractable Petroleum Hydrocarbons w/out SG Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
ACWD Niles Cone Ground Water Basin Extractio	2111936-001A	Sludge	11/16/2021 08:30	GC11B 11192131.D	233817

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	**7.7**	2.0	1	11/20/2021 01:44
TPH-Motor Oil (C18-C36)	**47**	10	1	11/20/2021 01:44

Surrogates	REC (%)	Limits	
C9	101	70-130	11/20/2021 01:44

Analyst(s): JIS Analytical Comments: e2,e7

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Quality Control Report

Client:	Pitcher Services LLC	**WorkOrder:**	2111936
Date Prepared:	11/16/2021	**BatchID:**	233830
Date Analyzed:	11/18/2021	**Extraction Method:**	SW5030B
Instrument:	GC18	**Analytical Method:**	SW8260B
Matrix:	Soil	**Unit:**	mg/kg
Project:	P7211081; ACWD-Niles Cone GW Basin Extraction	**Sample ID:**	MB/LCS/LCSD-233830

QC Summary Report for SW8260B

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
Acetone	ND	0.120	0.200	-	-	-
tert-Amyl methyl ether (TAME)	ND	0.00120	0.00500	-	-	-
Benzene	ND	0.000950	0.00500	-	-	-
Bromobenzene	ND	0.00120	0.00500	-	-	-
Bromochloromethane	ND	0.00110	0.00500	-	-	-
Bromodichloromethane	ND	0.000230	0.00500	-	-	-
Bromoform	ND	0.00380	0.00500	-	-	-
Bromomethane	ND	0.00180	0.00500	-	-	-
2-Butanone (MEK)	ND	0.0400	0.100	-	-	-
t-Butyl alcohol (TBA)	ND	0.0240	0.0500	-	-	-
n-Butyl benzene	ND	0.00160	0.00500	-	-	-
sec-Butyl benzene	ND	0.00180	0.00500	-	-	-
tert-Butyl benzene	ND	0.00210	0.00500	-	-	-
Carbon Disulfide	ND	0.00110	0.00500	-	-	-
Carbon Tetrachloride	ND	0.000170	0.00500	-	-	-
Chlorobenzene	ND	0.00120	0.00500	-	-	-
Chloroethane	ND	0.00170	0.00500	-	-	-
Chloroform	ND	0.000320	0.00500	-	-	-
Chloromethane	ND	0.00170	0.00500	-	-	-
2-Chlorotoluene	ND	0.00160	0.00500	-	-	-
4-Chlorotoluene	ND	0.00130	0.00500	-	-	-
Dibromochloromethane	ND	0.000400	0.00500	-	-	-
1,2-Dibromo-3-chloropropane	ND	0.000480	0.000500	-	-	-
1,2-Dibromoethane (EDB)	ND	0.000130	0.000250	-	-	-
Dibromomethane	ND	0.00120	0.00500	-	-	-
1,2-Dichlorobenzene	ND	0.00170	0.00500	-	-	-
1,3-Dichlorobenzene	ND	0.00150	0.00500	-	-	-
1,4-Dichlorobenzene	ND	0.00150	0.00500	-	-	-
Dichlorodifluoromethane	ND	0.000630	0.00500	-	-	-
1,1-Dichloroethane	ND	0.00150	0.00500	-	-	-
1,2-Dichloroethane (1,2-DCA)	ND	0.0000700	0.000100	-	-	-
1,1-Dichloroethene	ND	0.000110	0.00500	-	-	-
cis-1,2-Dichloroethene	ND	0.00120	0.00500	-	-	-
trans-1,2-Dichloroethene	ND	0.00120	0.00500	-	-	-
1,2-Dichloropropane	ND	0.00130	0.00500	-	-	-
1,3-Dichloropropane	ND	0.000880	0.00500	-	-	-
2,2-Dichloropropane	ND	0.00190	0.00500	-	-	-
1,1-Dichloropropene	ND	0.00180	0.00500	-	-	-

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Quality Control Report

Client:	Pitcher Services LLC	**WorkOrder:**	2111936
Date Prepared:	11/16/2021	**BatchID:**	233830
Date Analyzed:	11/18/2021	**Extraction Method:**	SW5030B
Instrument:	GC18	**Analytical Method:**	SW8260B
Matrix:	Soil	**Unit:**	mg/kg
Project:	P7211081; ACWD-Niles Cone GW Basin Extraction	**Sample ID:**	MB/LCS/LCSD-233830

QC Summary Report for SW8260B

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
cis-1,3-Dichloropropene	ND	0.000980	0.00500	-	-	-
trans-1,3-Dichloropropene	ND	0.000970	0.00500	-	-	-
Diisopropyl ether (DIPE)	ND	0.00180	0.00500	-	-	-
Ethylbenzene	ND	0.00110	0.00500	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	0.00140	0.00500	-	-	-
Freon 113	ND	0.00110	0.00500	-	-	-
Hexachlorobutadiene	ND	0.00120	0.00500	-	-	-
Hexachloroethane	ND	0.000640	0.00500	-	-	-
2-Hexanone	ND	0.00270	0.00500	-	-	-
Isopropylbenzene	ND	0.00180	0.00500	-	-	-
4-Isopropyl toluene	ND	0.00190	0.00500	-	-	-
Methyl-t-butyl ether (MTBE)	ND	0.00150	0.00500	-	-	-
Methylene chloride	ND	0.0120	0.0200	-	-	-
4-Methyl-2-pentanone (MIBK)	ND	0.00170	0.00500	-	-	-
Naphthalene	ND	0.00300	0.00500	-	-	-
n-Propyl benzene	ND	0.00190	0.00500	-	-	-
Styrene	ND	0.00140	0.00500	-	-	-
1,1,1,2-Tetrachloroethane	ND	0.00130	0.00500	-	-	-
1,1,2,2-Tetrachloroethane	ND	0.000440	0.00500	-	-	-
Tetrachloroethene	ND	0.000290	0.00500	-	-	-
Toluene	ND	0.00160	0.00500	-	-	-
1,2,3-Trichlorobenzene	ND	0.00210	0.00500	-	-	-
1,2,4-Trichlorobenzene	ND	0.00160	0.00500	-	-	-
1,1,1-Trichloroethane	ND	0.00160	0.00500	-	-	-
1,1,2-Trichloroethane	ND	0.00120	0.00500	-	-	-
Trichloroethene	ND	0.00140	0.00500	-	-	-
Trichlorofluoromethane	ND	0.00130	0.00500	-	-	-
1,2,3-Trichloropropane	ND	0.000170	0.000250	-	-	-
1,2,4-Trimethylbenzene	ND	0.00160	0.00500	-	-	-
1,3,5-Trimethylbenzene	ND	0.00170	0.00500	-	-	-
Vinyl Chloride	ND	0.000120	0.000250	-	-	-
m,p-Xylene	ND	0.00260	0.00500	-	-	-
o-Xylene	ND	0.00140	0.00500	-	-	-

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Quality Control Report

Client:	Pitcher Services LLC	**WorkOrder:**	2111936
Date Prepared:	11/16/2021	**BatchID:**	233830
Date Analyzed:	11/18/2021	**Extraction Method:**	SW5030B
Instrument:	GC18	**Analytical Method:**	SW8260B
Matrix:	Soil	**Unit:**	mg/kg
Project:	P7211081; ACWD-Niles Cone GW Basin Extraction	**Sample ID:**	MB/LCS/LCSD-233830

QC Summary Report for SW8260B

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
Surrogate Recovery						
Dibromofluoromethane	0.138			0.125	111	70-140
Toluene-d8	0.157			0.125	126	70-140
4-BFB	0.0130			0.0125	104	70-140
Benzene-d6	0.139			0.1	139	70-140
Ethylbenzene-d10	0.141			0.1	141,F3	70-140
1,2-DCB-d4	0.0942			0.1	94	70-140

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Quality Control Report

Client:	Pitcher Services LLC	**WorkOrder:**	2111936
Date Prepared:	11/16/2021	**BatchID:**	233830
Date Analyzed:	11/18/2021	**Extraction Method:**	SW5030B
Instrument:	GC18	**Analytical Method:**	SW8260B
Matrix:	Soil	**Unit:**	mg/kg
Project:	P7211081; ACWD-Niles Cone GW Basin Extraction	**Sample ID:**	MB/LCS/LCSD-233830

QC Summary Report for SW8260B

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Acetone	0.213	0.227	0.20	106	113	60-140	6.31	20
tert-Amyl methyl ether (TAME)	0.0161	0.0171	0.020	81	85	50-140	5.64	20
Benzene	0.0179	0.0190	0.020	89	95	60-140	6.13	20
Bromobenzene	0.0184	0.0193	0.020	92	97	60-140	5.09	20
Bromochloromethane	0.0201	0.0216	0.020	101	108	60-140	7.09	20
Bromodichloromethane	0.0172	0.0182	0.020	86	91	60-140	5.55	20
Bromoform	0.0143	0.0147	0.020	71	73	40-140	2.75	20
Bromomethane	0.0320	0.0341	0.020	160,F2	171,F2	30-140	6.61	20
2-Butanone (MEK)	0.0746	0.0781	0.080	93	98	50-140	4.58	20
t-Butyl alcohol (TBA)	0.0741	0.0761	0.080	93	95	50-140	2.66	20
n-Butyl benzene	0.0287	0.0304	0.020	144	152,F2	60-150	5.53	20
sec-Butyl benzene	0.0273	0.0286	0.020	136	143	60-150	4.61	20
tert-Butyl benzene	0.0245	0.0258	0.020	122	129	60-140	5.12	20
Carbon Disulfide	0.0198	0.0204	0.020	99	102	50-140	2.79	20
Carbon Tetrachloride	0.0201	0.0211	0.020	100	106	60-140	5.09	20
Chlorobenzene	0.0190	0.0199	0.020	95	99	60-140	4.33	20
Chloroethane	0.0173	0.0183	0.020	87	92	50-140	5.67	20
Chloroform	0.0194	0.0203	0.020	97	101	60-140	4.55	20
Chloromethane	0.0216	0.0232	0.020	108	116	20-140	7.03	20
2-Chlorotoluene	0.0227	0.0238	0.020	113	119	60-140	4.96	20
4-Chlorotoluene	0.0220	0.0224	0.020	110	112	60-140	1.89	20
Dibromochloromethane	0.0164	0.0171	0.020	82	85	50-140	4.00	20
1,2-Dibromo-3-chloropropane	0.00786	0.00804	0.010	79	80	30-140	2.35	20
1,2-Dibromoethane (EDB)	0.00965	0.0102	0.010	96	102	40-140	5.09	20
Dibromomethane	0.0177	0.0187	0.020	88	94	60-140	5.51	20
1,2-Dichlorobenzene	0.0154	0.0161	0.020	77	81	60-140	4.79	20
1,3-Dichlorobenzene	0.0198	0.0208	0.020	99	104	60-140	4.52	20
1,4-Dichlorobenzene	0.0193	0.0198	0.020	96	99	60-140	2.83	20
Dichlorodifluoromethane	0.0120	0.0130	0.020	60	65	10-140	7.82	20
1,1-Dichloroethane	0.0192	0.0203	0.020	96	101	60-140	5.27	20
1,2-Dichloroethane (1,2-DCA)	0.0180	0.0190	0.020	90	95	60-140	5.17	20
1,1-Dichloroethene	0.0182	0.0190	0.020	91	95	60-140	4.35	20
cis-1,2-Dichloroethene	0.0193	0.0204	0.020	96	102	60-140	5.57	20
trans-1,2-Dichloroethene	0.0188	0.0197	0.020	94	99	60-140	4.73	20
1,2-Dichloropropane	0.0181	0.0193	0.020	91	96	60-140	6.23	20
1,3-Dichloropropane	0.0191	0.0200	0.020	96	100	60-140	4.76	20
2,2-Dichloropropane	0.0306	0.0319	0.020	153,F2	159,F2	60-140	4.05	20
1,1-Dichloropropene	0.0191	0.0205	0.020	96	102	60-140	6.82	20

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Quality Control Report

Client:	Pitcher Services LLC	**WorkOrder:**	2111936
Date Prepared:	11/16/2021	**BatchID:**	233830
Date Analyzed:	11/18/2021	**Extraction Method:**	SW5030B
Instrument:	GC18	**Analytical Method:**	SW8260B
Matrix:	Soil	**Unit:**	mg/kg
Project:	P7211081; ACWD-Niles Cone GW Basin Extraction	**Sample ID:**	MB/LCS/LCSD-233830

QC Summary Report for SW8260B

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
cis-1,3-Dichloropropene	0.0227	0.0236	0.020	113	118	60-140	4.06	20
trans-1,3-Dichloropropene	0.0226	0.0236	0.020	113	118	60-140	4.10	20
Diisopropyl ether (DIPE)	0.0161	0.0170	0.020	80	85	60-140	5.91	20
Ethylbenzene	0.0214	0.0222	0.020	107	111	60-140	3.84	20
Ethyl tert-butyl ether (ETBE)	0.0163	0.0173	0.020	81	87	60-140	6.35	20
Freon 113	0.0189	0.0198	0.020	94	99	50-140	4.74	20
Hexachlorobutadiene	0.0245	0.0257	0.020	123	128	60-140	4.61	20
Hexachloroethane	0.0264	0.0276	0.020	132	138	60-140	4.38	20
2-Hexanone	0.0157	0.0155	0.020	78	78	40-140	1.07	20
Isopropylbenzene	0.0259	0.0269	0.020	130	134	60-140	3.65	20
4-Isopropyl toluene	0.0258	0.0274	0.020	129	137	60-150	5.74	20
Methyl-t-butyl ether (MTBE)	0.0183	0.0196	0.020	92	98	50-140	6.86	20
Methylene chloride	0.0213	0.0224	0.020	106	112	60-140	5.05	20
4-Methyl-2-pentanone (MIBK)	0.0144	0.0149	0.020	72	74	50-140	3.21	20
Naphthalene	0.0103	0.0102	0.020	51	51	30-140	0.937	20
n-Propyl benzene	0.0252	0.0264	0.020	126	132	60-140	4.88	20
Styrene	0.0167	0.0175	0.020	84	87	60-140	4.51	20
1,1,1,2-Tetrachloroethane	0.0180	0.0191	0.020	90	96	60-140	5.87	20
1,1,2,2-Tetrachloroethane	0.0169	0.0185	0.020	85	92	40-140	8.86	20
Tetrachloroethene	0.0198	0.0208	0.020	99	104	60-140	4.73	20
Toluene	0.0200	0.0210	0.020	100	105	60-140	5.01	20
1,2,3-Trichlorobenzene	0.0112	0.0114	0.020	56	57	40-140	1.76	20
1,2,4-Trichlorobenzene	0.0144	0.0147	0.020	72	73	50-140	1.87	20
1,1,1-Trichloroethane	0.0197	0.0209	0.020	98	105	60-140	6.06	20
1,1,2-Trichloroethane	0.0181	0.0189	0.020	91	95	60-140	4.42	20
Trichloroethene	0.0197	0.0208	0.020	98	104	60-140	5.64	20
Trichlorofluoromethane	0.0192	0.0200	0.020	96	100	50-140	3.91	20
1,2,3-Trichloropropane	0.00933	0.00982	0.010	93	98	40-140	5.17	20
1,2,4-Trimethylbenzene	0.0228	0.0234	0.020	114	117	30-140	2.91	20
1,3,5-Trimethylbenzene	0.0245	0.0255	0.020	122	127	60-140	4.13	20
Vinyl Chloride	0.00928	0.00974	0.010	93	97	30-140	4.77	20
m,p-Xylene	0.0387	0.0407	0.040	97	102	60-140	4.96	20
o-Xylene	0.0196	0.0202	0.020	98	101	60-140	3.27	20

(Cont.)

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Quality Control Report

Client:	Pitcher Services LLC	**WorkOrder:**	2111936
Date Prepared:	11/16/2021	**BatchID:**	233830
Date Analyzed:	11/18/2021	**Extraction Method:**	SW5030B
Instrument:	GC18	**Analytical Method:**	SW8260B
Matrix:	Soil	**Unit:**	mg/kg
Project:	P7211081; ACWD-Niles Cone GW Basin Extraction	**Sample ID:**	MB/LCS/LCSD-233830

QC Summary Report for SW8260B

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Surrogate Recovery								
Dibromofluoromethane	0.146	0.147	0.12	117	118	70-140	0.359	20
Toluene-d8	0.154	0.155	0.12	123	124	70-140	0.388	20
4-BFB	0.0134	0.0134	0.012	108	107	70-140	0.357	20
Benzene-d6	0.133	0.139	0.10	133	139	70-140	4.20	20
Ethylbenzene-d10	0.133	0.135	0.10	133	135	70-140	1.44	20
1,2-DCB-d4	0.0951	0.0960	0.10	95	96	70-140	0.940	20

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Quality Control Report

Client:	Pitcher Services LLC	**WorkOrder:**	2111936
Date Prepared:	11/18/2021	**BatchID:**	233938
Date Analyzed:	11/18/2021	**Extraction Method:**	SW3050B
Instrument:	ICP-MS5	**Analytical Method:**	SW6020
Matrix:	Soil	**Unit:**	mg/kg
Project:	P7211081; ACWD-Niles Cone GW Basin Extraction	**Sample ID:**	MB/LCS/LCSD-233938

QC Summary Report for Metals

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
Antimony	ND	0.160	0.500	-	-	-
Arsenic	ND	0.140	0.500	-	-	-
Barium	ND	0.680	5.00	-	-	-
Beryllium	ND	0.0830	0.500	-	-	-
Cadmium	ND	0.0940	0.500	-	-	-
Chromium	ND	0.130	0.500	-	-	-
Cobalt	ND	0.0690	0.500	-	-	-
Copper	ND	0.230	0.500	-	-	-
Lead	ND	0.0690	0.500	-	-	-
Mercury	ND	0.0380	0.0500	-	-	-
Molybdenum	ND	0.140	0.500	-	-	-
Nickel	ND	0.0810	0.500	-	-	-
Selenium	ND	0.320	0.500	-	-	-
Silver	ND	0.110	0.500	-	-	-
Thallium	ND	0.0720	0.500	-	-	-
Vanadium	ND	0.150	0.500	-	-	-
Zinc	ND	3.20	5.00	-	-	-
Surrogate Recovery						
Terbium	490			500	98	70-130

(Cont.)

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Quality Control Report

Client:	Pitcher Services LLC	**WorkOrder:**	2111936
Date Prepared:	11/18/2021	**BatchID:**	233938
Date Analyzed:	11/18/2021	**Extraction Method:**	SW3050B
Instrument:	ICP-MS5	**Analytical Method:**	SW6020
Matrix:	Soil	**Unit:**	mg/kg
Project:	P7211081; ACWD-Niles Cone GW Basin Extraction	**Sample ID:**	MB/LCS/LCSD-233938

QC Summary Report for Metals

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Antimony	47.3	49.7	50	95	99	75-125	4.91	20
Arsenic	48.9	51.5	50	98	103	75-125	5.25	20
Barium	483	510	500	97	102	75-125	5.41	20
Beryllium	50.8	53.9	50	102	108	75-125	5.87	20
Cadmium	47.5	49.7	50	95	99	75-125	4.47	20
Chromium	47.5	50.5	50	95	101	75-125	6.00	20
Cobalt	49.6	51.9	50	99	104	75-125	4.42	20
Copper	48.9	51.0	50	98	102	75-125	4.18	20
Lead	47.0	49.8	50	94	100	75-125	5.77	20
Mercury	1.19	1.27	1.25	95	101	75-125	6.10	20
Molybdenum	48.5	50.9	50	97	102	75-125	4.76	20
Nickel	49.1	51.0	50	98	102	75-125	3.91	20
Selenium	48.0	50.6	50	96	101	75-125	5.30	20
Silver	47.1	49.4	50	94	99	75-125	4.83	20
Thallium	47.0	49.8	50	94	100	75-125	5.76	20
Vanadium	47.6	50.2	50	95	100	75-125	5.30	20
Zinc	490	512	500	98	102	75-125	4.39	20
Surrogate Recovery								
Terbium	489	514	500	98	103	70-130	4.97	20

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Quality Control Report

Client:	Pitcher Services LLC	**WorkOrder:**	2111936
Date Prepared:	11/16/2021	**BatchID:**	233775
Date Analyzed:	11/16/2021 - 11/17/2021	**Extraction Method:**	SW5035
Instrument:	GC7	**Analytical Method:**	SW8021B/8015Bm
Matrix:	Soil	**Unit:**	mg/Kg
Project:	P7211081; ACWD-Niles Cone GW Basin Extraction	**Sample ID:**	MB/LCS/LCSD-233775

QC Summary Report for SW8021B/8015Bm

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
TPH(g) (C6-C12)	ND	0.610	1.00	-	-	-
MTBE	ND	0.00340	0.0500	-	-	-
Benzene	ND	0.00190	0.00500	-	-	-
Toluene	ND	0.00240	0.00500	-	-	-
Ethylbenzene	ND	0.00170	0.00500	-	-	-
m,p-Xylene	ND	0.00260	0.0100	-	-	-
o-Xylene	ND	0.000910	0.00500	-	-	-
Surrogate Recovery						
2-Fluorotoluene	0.0914			0.1	91	75-134

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
TPH(btex)	0.661	0.562	0.60	110	94	82-118	16.1	20
MTBE	0.103	0.0998	0.10	103	100	61-119	2.87	20
Benzene	0.110	0.110	0.10	110	110	77-128	0.418	20
Toluene	0.114	0.115	0.10	114	115	74-132	1.34	20
Ethylbenzene	0.116	0.120	0.10	116	120	84-127	2.92	20
m,p-Xylene	0.236	0.239	0.20	118	120	80-120	1.44	20
o-Xylene	0.113	0.117	0.10	113	117	80-120	3.34	20
Surrogate Recovery								
2-Fluorotoluene	0.0928	0.0967	0.10	93	97	75-134	4.12	20

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Quality Control Report

Client:	Pitcher Services LLC	**WorkOrder:**	2111936
Date Prepared:	11/16/2021	**BatchID:**	233817
Date Analyzed:	11/17/2021	**Extraction Method:**	SW3550B
Instrument:	GC9b	**Analytical Method:**	SW8015B
Matrix:	Soil	**Unit:**	mg/Kg
Project:	P7211081; ACWD-Niles Cone GW Basin Extraction	**Sample ID:**	MB/LCS/LCSD-233817

QC Report for SW8015B w/out SG Clean-Up

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
TPH-Diesel (C10-C23)	ND	0.780	2.00	-	-	-
TPH-Motor Oil (C18-C36)	ND	4.60	10.0	-	-	-
Surrogate Recovery						
C9	25.4			25	102	70-130

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
TPH-Diesel (C10-C23)	38.2	37.2	40	95	93	70-130	2.58	20
Surrogate Recovery								
C9	25.2	25.0	25	101	100	70-130	0.792	20

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CHAIN-OF-CUSTODY RECORD

WorkOrder: 2111936 **ClientCode: PD**

☐ WaterTrax ☐ CLIP ☐ EDF ☒ EQuIS ☒ Dry-Weight ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag
☒ Detection Summary ☐ Excel

Report to:
Wessam Zanaty
Pitcher Services LLC
218 Demeter St.
East Palo Alto, CA 94303
650-328-8910 FAX: 650-328-3621

Email: wzanaty@pitcherservicesllc.com; bporter@
cc/3rd Party:
PO: 10097
Project: P7211081; ACWD-Niles Cone GW Basin Extraction

Bill to:
Kerry Tross
Pitcher Services LLC
218 Demeter St.
East Palo Alto, CA 94303
ktross@pitcherservicesllc.com

Requested TAT: **5 days;**

Date Received: **11/16/2021**
Date Logged: **11/16/2021**

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
2111936-001	ACWD Niles Cone Ground Water Basin	Sludge	11/16/2021 08:30	☐	A	A	A	A	A							

Test Legend:

1	8260B_S	2	CAM17MS_TTLC_S	3	G-MBTEX_S	4	PRDisposal Fee
5	TPH(DMO)_S	6		7		8	
9		10		11		12	

Prepared by: Lilly Ortiz

The following SampID: 001A contains testgroup Multi Range_S.

Comments:

NOTE: Soil samples are discarded 60 days after receipt unless other arrangements are made (Water samples are 30 days).
Hazardous samples will be returned to client or disposed of at client expense.

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WORK ORDER SUMMARY

Client Name: PITCHER SERVICES LLC
Client Contact: Wessam Zanaty
Contact's Email: wzanaty@pitcherservicesllc.com; bporter@pitcherservicesllc.com

Project: P7211081; ACWD-Niles Cone GW Basin Extraction
Comments

Work Order: 2111936
QC Level: LEVEL 2
Date Logged: 11/16/2021

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☐ EQuIS ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

LabID	ClientSampID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	Head Space	Dry-Weight	Collection Date & Time	TAT	Test Due Date	Sediment Content	Hold	SubOut
001A	ACWD Niles Cone Ground Water Basin Extractio	Sludge	Multi-Range TPH	1	1LA, Unpres	☐	☐	11/16/2021 8:30	5 days	11/23/2021		☐	
			SW6020 (CAM 17)			☐	☐		5 days	11/23/2021		☐	
			SW8260B (VOCs)			☐	☐		5 days	11/23/2021		☐	

NOTES: * STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

- MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.

General COC

MAI Work Order # 211936

7

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CHAIN OF CUSTODY RECORD

Turn Around Time: 1 Day Rush [ ] 2 Day Rush [ ] 3 Day Rush [ ] STD [●] Quote # [ ]
J-Flag / MDL [ ] ESL [ ] Cleanup Approved [ ] Dry Weight [ ] Bottle Order # [ ]
Delivery Format: PDF [●] GeoTracker EDF [ ] EDD [ ] Write On (DW) [ ] Detect Summary [ ]

Report To: Wessam Zanaty Bill To: ktross@pitcherservicesllc.com
Company: Pitcher Services, LLC
Address: 218 Demeter Street, East Palo Alto, Ca 94303
Email: wzanaty@pitcherservicesllc.com Tele: (650) 328-8910
Project Name: ACWD-Niles Cone GW Basin extraction Project #: P7211081
Project Location: Eggers Dr. X Blacow Rd., Fremont PO # 10097
Sampler Signature:

SAMPLE ID Location / Field Point	Sampling Date	Sampling Time	#Containers	Matrix	Preservative
ACWD	11/16/21	8:30	1	Sludge	N/A
Niles Cone Ground Water					
Basin Extraction Well Site					
Evaluation Project					
Fremont					
(Well Site-3)					
3-TF					

Analysis Requested

Multi Range as Gas, Diesel, and Motor Oil (8021/8015)	BTEX & TPH as Gas (8021/ 8015) MTBE	TPH as Diesel (8015) + Motor Oil Without Silica Gel	TPH as Diesel (8015) + Motor Oil With Silica Gel	Total Oil & Grease (1664 / 9071) Without Silica Gel	Total Petroleum Hydrocarbons - Oil & Grease (1664 / 9071) With Silica Gel	Total Petroleum Hydrocarbons (418.1) With Silica Gel	EPA 505/ 608 / 8081 (Cl Pesticides)	EPA 608 / 8082 PCB's ; Aroclors only	EPA 524.2 / 624 / 8260 (VOCs)	EPA 525.2 / 625 / 8270 (SVOCs)	EPA 8270 SIM / 8310 (PAHs / PNAs)	CAM 17 Metals (200.8 / 6020)*	Metals (200.8 / 6020)*	Baylands Requirements	Lab to filter sample for dissolved metals analysis	STLC for any metals that trigger 10x's Rule	TCLP for any metals that trigger 20x's Rule	
		+ Gas																
		●							●			●				●	●	

MAI clients MUST disclose any dangerous chemicals known to be present in their submitted samples in concentrations that may cause immediate harm or serious future health endangerment as a result of brief, gloved, open air, sample handling by MAI staff. Non-disclosure incurs an immediate $250 surcharge and the client is subject to full legal liability for harm suffered. Thank you for your understanding and for allowing us to work safely.

* If metals are requested for water samples and the water type (Matrix) is not specified on the chain of custody, MAI will default to metals by E200.8.

Please provide an adequate volume of sample. If the volume is not sufficient for a MS/MSD a LCS/LCSD will be prepared in its place and noted in the report.

Comments / Instructions

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
Wessam Zanaty / Pitcher Services, LLC	11/16/21	1245		11/16/21	1245
	11/16/21	1640		11/16/21	1640

Matrix Code: DW=Drinking Water, GW=Ground Water, WW=Waste Water, SW=Seawater, S=Soil, SL=Sludge, A=Air, WP=Wipe, O=Other
Preservative Code: 1=4°C 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=ZnOAc/NaOH 7=None

Temp 4.7 °C Initials

Page ___ of ___

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Sample Receipt Checklist

Client Name: **Pitcher Services LLC**
Project: **P7211081; ACWD-Niles Cone GW Basin Extraction**

WorkOrder №: **2111936** Matrix: Sludge
Carrier: Benjamin Yslas (MAI Courier)

Date and Time Received: **11/16/2021 16:40**
Date Logged: **11/16/2021**
Received by: Lilly Ortiz
Logged by: Lilly Ortiz

Chain of Custody (COC) Information

Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Sample IDs noted by Client on COC?	Yes ☑	No ☐	
Date and Time of collection noted by Client on COC?	Yes ☑	No ☐	
Sampler's name noted on COC?	Yes ☑	No ☐	
COC agrees with Quote?	Yes ☐	No ☐	NA ☑

Sample Receipt Information

Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	NA ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	NA ☑
Shipping container/cooler in good condition?	Yes ☑	No ☐	
Samples in proper containers/bottles?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	

Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes ☑	No ☐	NA ☐
Samples Received on Ice?	Yes ☑	No ☐	
(Ice Type: WET ICE)			
Sample/Temp Blank temperature	Temp: 4.7°C		NA ☐
ZHS conditional analyses: VOA meets zero headspace requirement (VOCs, TPHg/BTEX, RSK)?	Yes ☐	No ☐	NA ☑
Sample labels checked for correct preservation?	Yes ☑	No ☐	
pH acceptable upon receipt (Metal: <2; Nitrate 353.2/4500NO3: <2; 522: <4; 218.7: >8)?	Yes ☐	No ☐	NA ☑
UCMR Samples:			
pH tested and acceptable upon receipt (200.7: ≤2; 533: 6 - 8; 537.1: 6 - 8)?	Yes ☐	No ☐	NA ☑
Free Chlorine tested and acceptable upon receipt (<0.1mg/L) [not applicable to 200.7]?	Yes ☐	No ☐	NA ☑

Comments:

Appendix 10. Safety Data Sheets

HALLIBURTON

SAFETY DATA SHEET

Product Trade Name: **AQUA-CLEAR® PFD**

Revision Date: 17-Feb-2016 **Revision Number:** 17

1. Identification

1.1. Product Identifier

Product Trade Name: AQUA-CLEAR® PFD
Synonyms None
Chemical Family: Blend
Internal ID Code HM004116

1.2 Recommended use and restrictions on use

Application: Additive
Uses advised against No information available

1.3 Manufacturer's Name and Contact Details

Manufacturer/Supplier
Baroid Fluid Services
Product Service Line of Halliburton
P.O. Box 1675
Houston, TX 77251
Telephone: (281) 575-5000
Emergency Telephone: 1-866-519-4752 (US, Canada, Mexico) or 1-760-476-3962

Halliburton Energy Services
645 - 7th Ave SW Suite 2200
Calgary, AB
T2P 4G8
Canada

Prepared By Chemical Stewardship
Telephone: 1-281-871-6107
e-mail: fdunexchem@halliburton.com

1.4. Emergency telephone number

Emergency Telephone Number 1-866-519-4752 or 1-760-476-3962

2. Hazard(s) Identification

2.1 Classification in accordance with paragraph (d) of §1910.1200

As adopted by the competent authority, this product does not require an SDS or hazard warning label.

Not classified

2.2. Label Elements

Hazard pictograms

Signal Word Not Classified

Hazard Statements Not Hazardous

Precautionary Statements

Prevention	None
Response	None
Storage	None
Disposal	None

2.3 Hazards not otherwise classified

None known

3. Composition/information on Ingredients

Substances	CAS Number	PERCENT (w/w)	GHS Classification - US
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	60 - 100%	Not classified

The exact percentage (concentration) of the composition has been withheld as proprietary.

4. First-Aid Measures

4.1. Description of first aid measures

Inhalation If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

Eyes In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.

Skin Wash with soap and water. Get medical attention if irritation persists.

Ingestion Under normal conditions, first aid procedures are not required.

4.2 Most important symptoms/effects, acute and delayed

No significant hazards expected.

4.3. Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically.

5. Fire-fighting measures

5.1. Extinguishing media

Suitable Extinguishing Media

Water fog, carbon dioxide, foam, dry chemical.

Extinguishing media which must not be used for safety reasons

None known.

5.2 Specific hazards arising from the substance or mixture

Special exposure hazards in a fire

Decomposition in fire may produce harmful gases. Spills produce extremely slippery surfaces.

5.3 Special protective equipment and precautions for fire-fighters

Special protective equipment for firefighters

Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Use appropriate protective equipment. Spills of this product are very slippery. Avoid contact with skin, eyes and clothing. Avoid breathing vapors. Ensure adequate ventilation.
See Section 8 for additional information

6.2. Environmental precautions

Prevent from entering sewers, waterways, or low areas.

6.3. Methods and material for containment and cleaning up

Isolate spill and stop leak where safe. Contain spill with sand or other inert materials. Scoop up and remove.

7. Handling and storage

7.1. Precautions for safe handling

Handling Precautions
Avoid contact with eyes, skin, or clothing. Wash hands after use. Avoid breathing vapors. Ensure adequate ventilation. Use appropriate protective equipment.
Hygiene Measures
Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Storage Information
Store away from oxidizers. Store in a cool, dry location. Product has a shelf life of 24 months.

8. Exposure Controls/Personal Protection

8.1 Occupational Exposure Limits

Substances	CAS Number	OSHA PEL-TWA	ACGIH TLV-TWA
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable

8.2 Appropriate engineering controls

Engineering Controls Use in a well ventilated area.

8.3 Individual protection measures, such as personal protective equipment

Personal Protective Equipment If engineering controls and work practices cannot prevent excessive exposures, the selection and proper use of personal protective equipment should be determined by an industrial hygienist or other qualified professional based on the specific application of this product.
Respiratory Protection Not normally necessary.

Hand Protection Impervious rubber gloves.
Skin Protection Normal work coveralls.
Eye Protection Safety glasses.
Other Precautions None known.

9. Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Physical State: Liquid
Odor: Slight
Color Yellowish
Odor No information available

Property Remarks/ - Method	Values **Threshold:**
pH:	7 - 9
Freezing Point / Range	No data available
Melting Point / Range	No data available
Boiling Point / Range	No data available
Flash Point	> 100 °C / > 212 °F Cleveland Open Cup (COC)
Flammability (solid, gas)	No data available
Upper flammability limit	No data available
Lower flammability limit	No data available
Evaporation rate	No data available
Vapor Pressure	No data available
Vapor Density	No data available
Specific Gravity	1.3
Water Solubility	Soluble in water
Solubility in other solvents	No data available
Partition coefficient: n-octanol/water	No data available
Autoignition Temperature	No data available
Decomposition Temperature	No data available
Viscosity	No data available
Explosive Properties	No information available
Oxidizing Properties	No information available

9.2. Other information

VOC Content (%) No data available

10. Stability and Reactivity

10.1. Reactivity

Not expected to be reactive.

10.2. Chemical stability

Stable

10.3. Possibility of hazardous reactions

Will Not Occur

10.4. Conditions to avoid

None anticipated

10.5. Incompatible materials

Strong oxidizers.

10.6. Hazardous decomposition products

Carbon monoxide and carbon dioxide.

11. Toxicological Information

11.1 Information on likely routes of exposure

Principle Route of Exposure Eye or skin contact, inhalation.

11.2 Symptoms related to the physical, chemical and toxicological characteristics

Acute Toxicity

Inhalation May cause mild respiratory irritation.

Eye Contact May cause mild eye irritation.

Skin Contact Prolonged or repeated contact may cause slight skin irritation.

Ingestion Swallowing a relatively large amount of this material is unlikely to produce serious illness or death.

Chronic Effects/Carcinogenicity No data available to indicate product or components present at greater than 0.1% are chronic health hazards.

11.3 Toxicity data

Toxicology data for the components

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No data available	No data available	No data available

12. Ecological Information

12.1. Toxicity

Ecotoxicity effects

Product Ecotoxicity Data

No data available

Substance Ecotoxicity Data

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available	No information available	No information available	No information available

12.2. Persistence and degradability

Substances	CAS Number	Persistence and Degradability
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

12.3. Bioaccumulative potential

Substances	CAS Number	Log Pow
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

12.4. Mobility in soil

Substances	CAS Number	Mobility
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

12.5 Other adverse effects

No information available

13. Disposal Considerations

13.1. Waste treatment methods

Disposal methods Disposal should be made in accordance with federal, state, and local regulations.
Contaminated Packaging Follow all applicable national or local regulations.

14. Transport Information

US DOT

UN Number Not restricted
UN proper shipping name Not restricted
Transport Hazard Class(es) Not applicable
Packing Group: Not applicable
Environmental Hazards Not applicable

Canadian TDG

UN Number Not restricted
UN proper shipping name Not restricted
Transport Hazard Class(es) Not applicable
Packing Group: Not applicable
Environmental Hazards Not applicable

IMDG/IMO

UN Number Not restricted
UN proper shipping name Not restricted
Transport Hazard Class(es) Not applicable
Packing Group: Not applicable
Environmental Hazards Not applicable

IATA/ICAO

UN Number Not restricted
UN proper shipping name Not restricted
Transport Hazard Class(es) Not applicable
Packing Group: Not applicable
Environmental Hazards Not applicable

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable
Special Precautions for User None

15. Regulatory Information

US Regulations

US TSCA Inventory All components listed on inventory or are exempt.

TSCA Significant New Use Rules - S5A2

Substances	CAS Number	TSCA Significant New Use Rules - S5A2
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable

EPA SARA Title III Extremely Hazardous Substances

Substances	CAS Number	EPA SARA Title III Extremely Hazardous Substances
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable

EPA SARA (311,312) Hazard Class

None

EPA SARA (313) Chemicals

Substances	CAS Number	Toxic Release Inventory (TRI) - Group I	Toxic Release Inventory (TRI) - Group II
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable

EPA CERCLA/Superfund Reportable Spill Quantity

Substances	CAS Number	CERCLA RQ
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable

EPA RCRA Hazardous Waste Classification

If product becomes a waste, it does NOT meet the criteria of a hazardous waste as defined by the US EPA.

California Proposition 65 All components listed do not apply to the California Proposition 65 Regulation.

MA Right-to-Know Law Does not apply.

NJ Right-to-Know Law Does not apply.

PA Right-to-Know Law Does not apply.

NFPA Ratings: Health 1, Flammability 1, Reactivity 0
HMIS Ratings: Health 1, Flammability 0, Physical Hazard 0 , PPE: B

Canadian Regulations

Canadian Domestic Substances List (DSL) All components listed on inventory or are exempt.

16. Other information

Preparation Information

Prepared By
Chemical Stewardship
Telephone: 1-281-871-6107
e-mail: fdunexchem@halliburton.com

Revision Date: 17-Feb-2016

Reason for Revision SDS sections updated:
7

Additional information

For additional information on the use of this product, contact your local Halliburton representative.

For questions about the Safety Data Sheet for this or other Halliburton products, contact Chemical Stewardship at 1-580-251-4335.

Key or legend to abbreviations and acronyms used in the safety data sheet
bw – body weight
CAS – Chemical Abstracts Service
EC50 – Effective Concentration 50%
ErC50 – Effective Concentration growth rate 50%
LC50 – Lethal Concentration 50%
LD50 – Lethal Dose 50%
LL50 – Lethal Loading 50%
mg/kg – milligram/kilogram
mg/L – milligram/liter
NIOSH – National Institute for Occupational Safety and Health
NTP – National Toxicology Program
OEL – Occupational Exposure Limit
PEL – Permissible Exposure Limit
ppm – parts per million
STEL – Short Term Exposure Limit
TWA – Time-Weighted Average
UN – United Nations
h - hour
mg/m^3 - milligram/cubic meter
mm - millimeter
mmHg - millimeter mercury
w/w - weight/weight
d - day

Key literature references and sources for data
www.ChemADVISOR.com/

Disclaimer Statement
This information is furnished without warranty, expressed or implied, as to accuracy or completeness. The information is obtained from various sources including the manufacturer and other third party sources. The information may not be valid under all conditions nor if this material is used in combination with other materials or in any process. Final determination of suitability of any material is the sole responsibility of the user.

End of Safety Data Sheet

Appendix 11. Transducer Installation Procedures

Standard Operating Procedures
Solinst Levelogger 5 with Direct Read System
Last modified: 3/31/2022

I. Logging in to the laptop.

Username: Your regular username for logging into your desktop computer.
Password: Your current password for your desktop.
Note
You must have logged into the laptop while it is connected to the network at the office, otherwise, it will not allow you to log in while in the field.

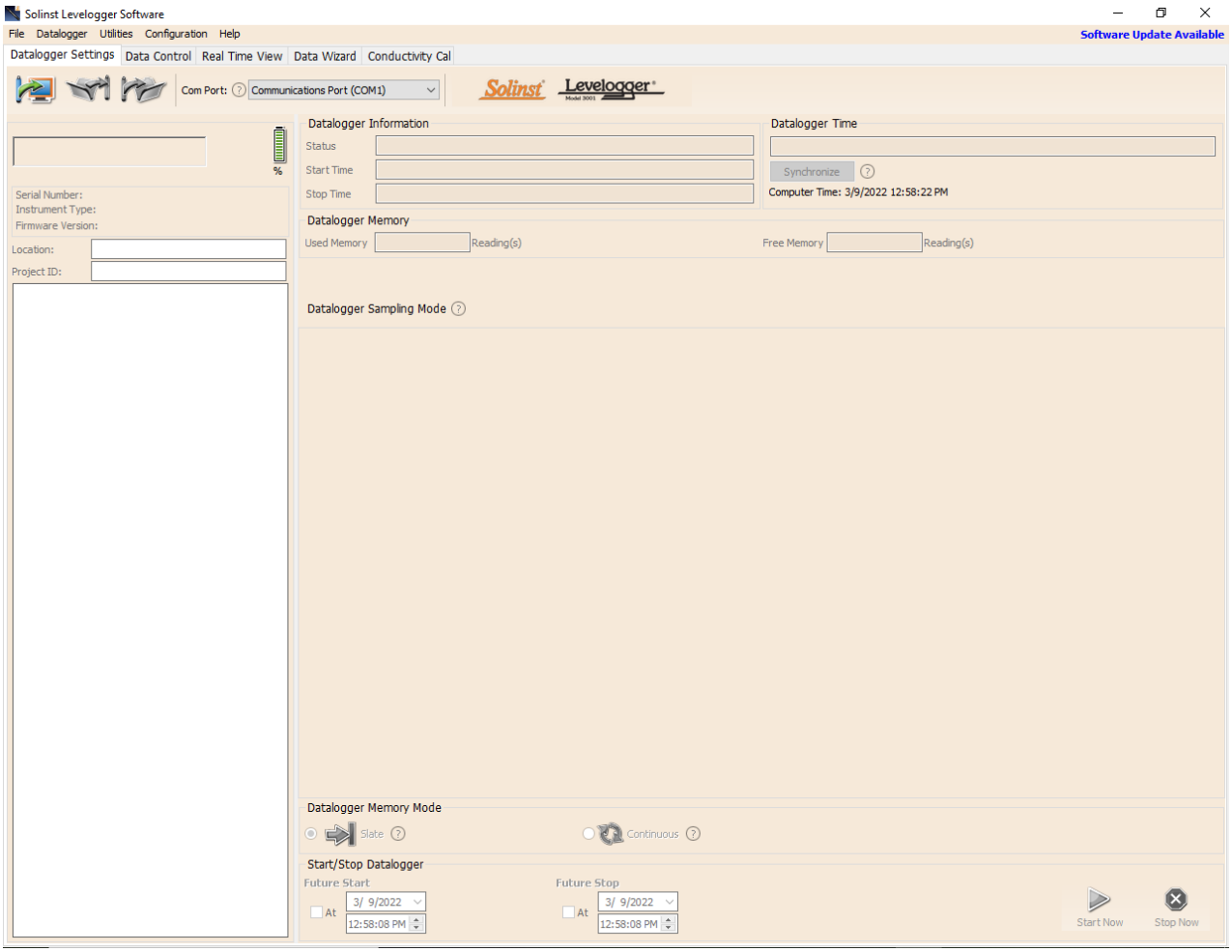
II. Transducer Setup

1. Connect the transducer to the Direct Read Cable.
    a. Check the optical sensor at the end of the transducer and cable to make sure they are clean. Gently clean with touch screen wipe, if needed.
    b. Check green o-ring is on the transducer. Make sure, it's not cracked or damaged.
    c. Attach the transducer by holding the cable end steady and turning the transducer until tight and green o-ring is no longer visible.
2. Connect PC Interface Cable to Direct Read Cable.
    a. Check brown o-ring is on the Direct Read end of the cable.
    b. Attach the cables by holding the Direct Read Cable steady and turning the medal coupling on the PC Interface Cable.
    c. Attach the PC Interface Cable to the laptop using the USB port.

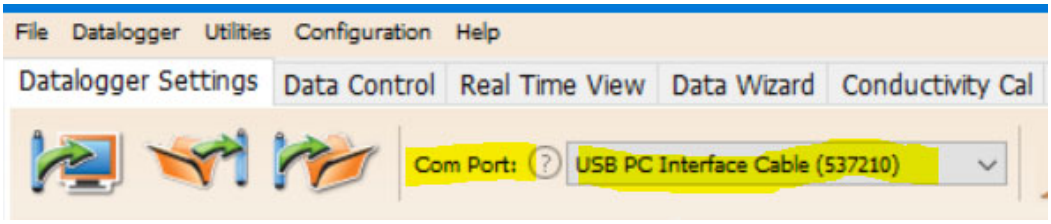
It's recommended that you connect the transducer/cables to the computer before starting the Levelogger software



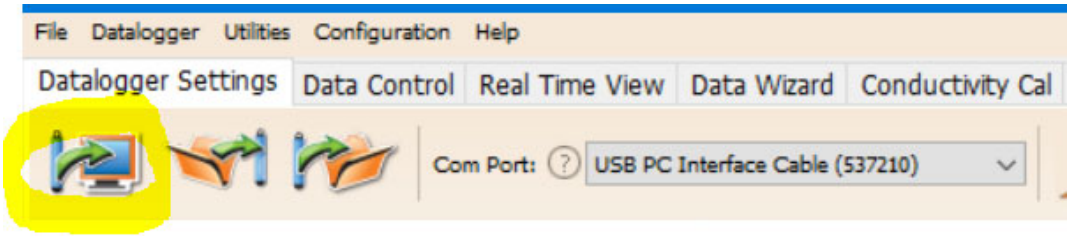
3. Open Levelogger Program. The opening screen should look as below.



4. Select the correct communication port you are using. Usually, they are easily identified in the drop-down menu (e.g., Field Reader, PC Interface Cable, etc.). Selecting the correct one allows the program to detect the transducer in the following steps.



5. In the Datalogger Settings tab, click Retrieve Datalogger Settings (see heighted icon below). At this point, you will see a status for the transducer that you are connected to (e.g., “Stopped”, “Started”, etc.). If the transducer is not stopped, click Stop Now. (If downloading data, see Section IV. Downloading data from transducer.)



6. When the transducer is stopped, the Location and Project ID fields will no longer be grayed out and can be edited. For Location, type in the well ID for whichever well the transducer will be installed in. For Project ID, check with project manager.

7. In the center box, there should be a field where you can set the sampling interval. This is where you tell the transducer how often you want it to take a reading. The data will be saved in the transducer. Under Linear Sampling, set the sampling interval (e.g., 1 minute, 1 hour, 1 day, etc).
8. Under Datalogger Memory Mode, make sure the Slate option is selected. This will ensure that old data is not overwritten if the transducer runs out of memory space. Under Datalogger memory check amount of Free Memory remaining. Max is 150,000 readings for the Levelogger 5 and 40,000 readings for Levelogger Edge.
9. At the bottom, under Future Start, set the date and time for when you want the transducer to start recording. When finished, click the Future Start button on the right. You will be asked if you want to synchronize the transducer time with the computer time. Say yes.
10. At this point, the status of the transducer will change from “Stopped” to “Future Start”. You are now free to close the Levelogger program and install the transducer in the well.

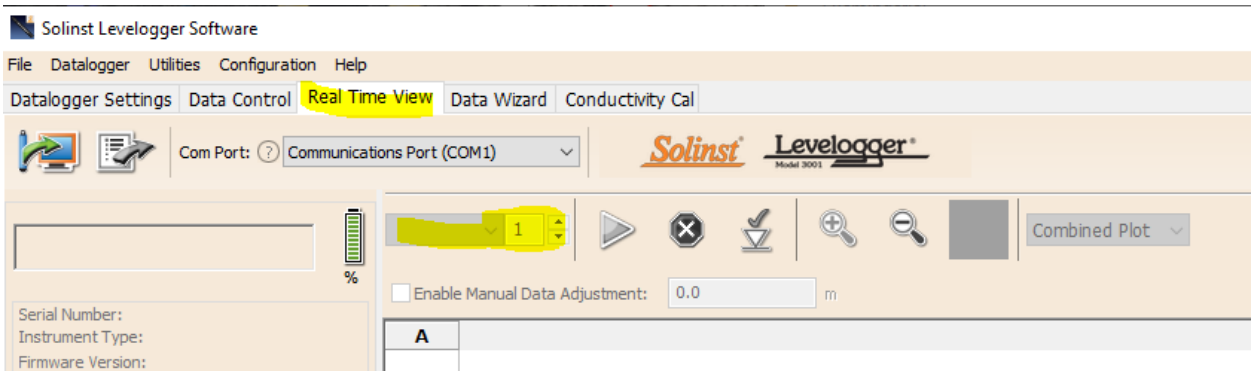
III. Installing a transducer in a well

1. Open the wellbox lid and well cap. Measure the current water level in the well.
2. The transducer needs to be constantly submerged in water. Determine what depth to set the transducer. The Levelogger 5 (M100) can be submerged up to approximately 300 feet; the Levelogger 5 (M30) can only be submerged up to approximately 90 feet. We have 300 feet of direct read cable. Therefore, maximum depth to set the transducer (M100) from top of the well is about 290 ft.
3. Attach the transducer cable to the hanging bracket to help secure the transducer to the well head. The use of the bracket is not required, but it is a good safeguard for preventing losing the transducer down the well during installation.
4. Make sure all the connections are secured.
5. Lower the transducer gently into the well, to the designated depth.
6. Secure the transducer to the wellhead. This could be done with the hanging bracket, tape, zip-tie, or combinations of. Just make sure to consider the following:
    a. The transducer is not going to move during the monitoring period.

b. Doesn't get in the way of hand measurements.
c. The setup can be secured overnight, if needed.

Real Time View:

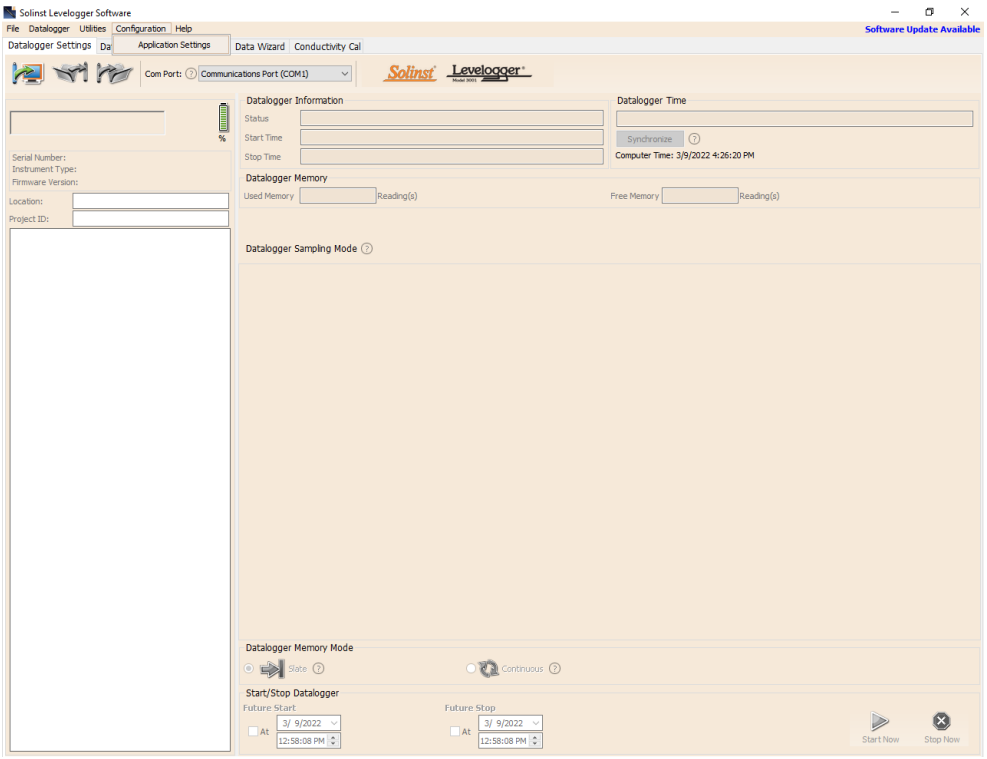
Once the transducer is installed, the measurements can be view in real time by selecting the Real Time View tab. The data viewing frequency can be adjusted in the highlighted box below. Adjusting the rate here will not impact the data being recorded by the transducer.

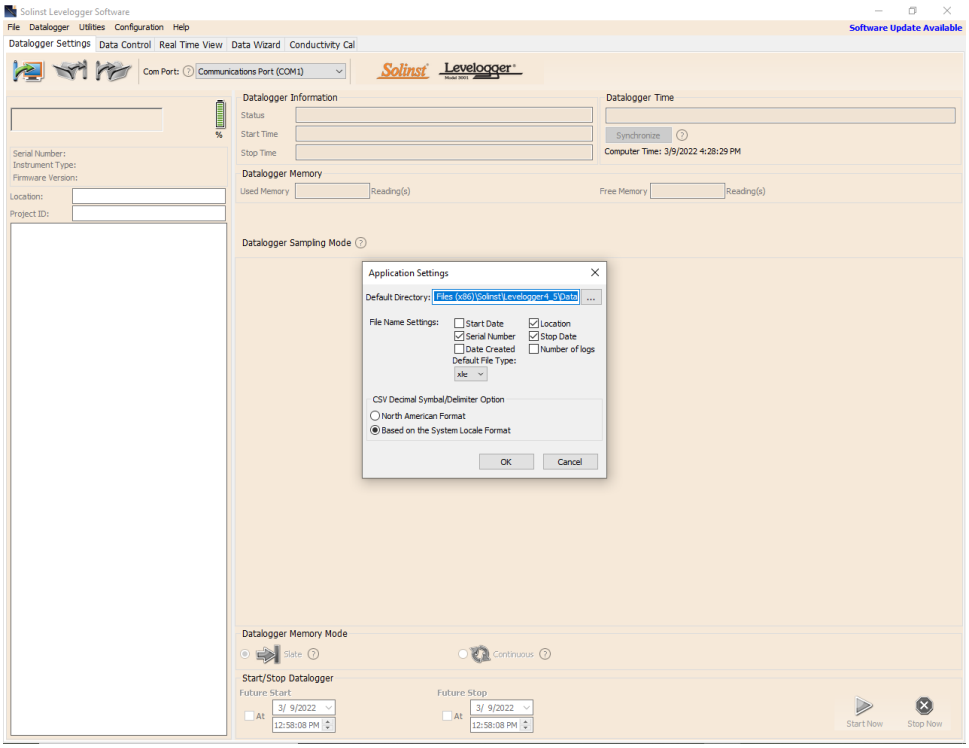


To start viewing the data, click on the start icon. To stop, click on the stop icon. Once you stop the Real Time View or click away from the tab, the data will be lost. If you want a copy of the data in the Real Time View, you can save it by clicking the export icon .

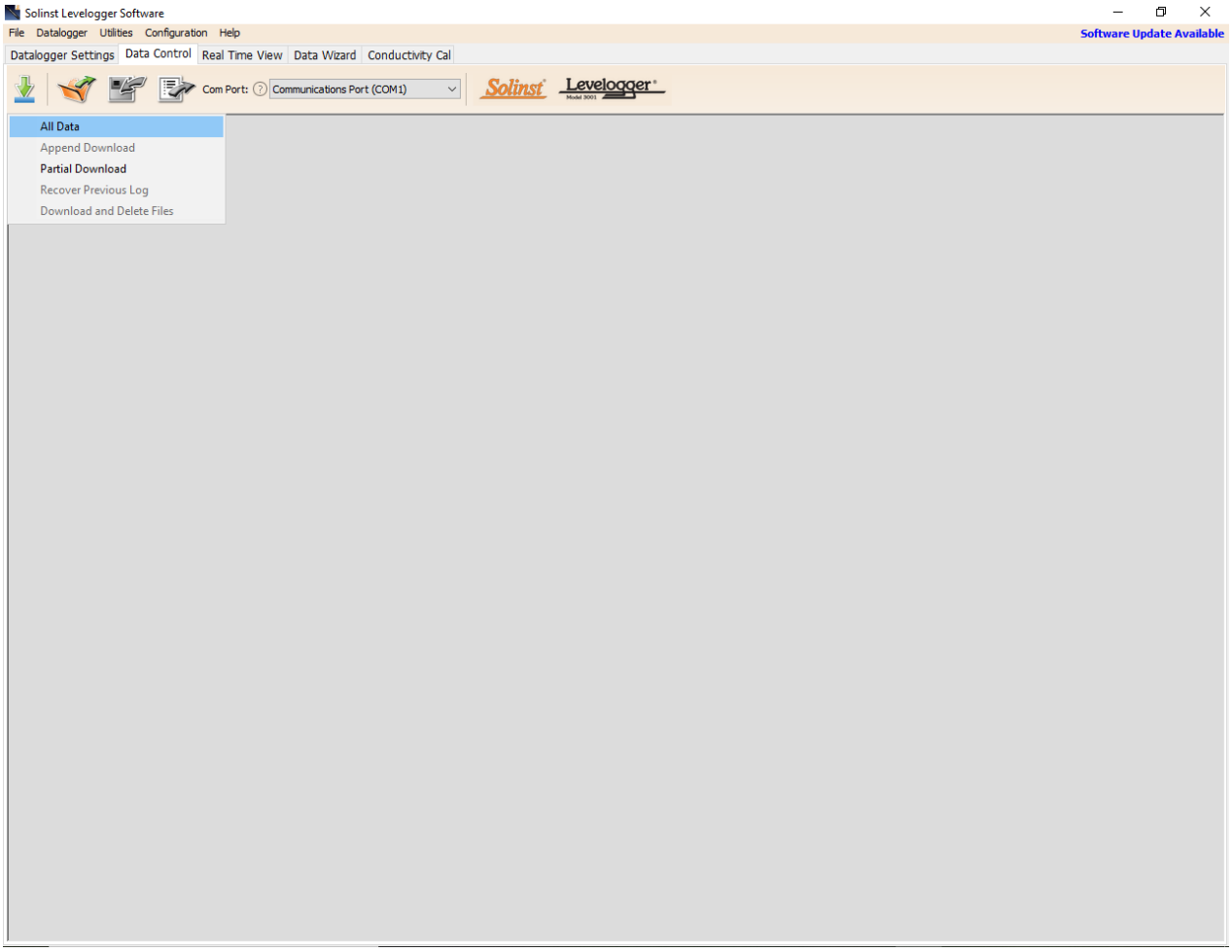
IV. Downloading data from a transducer

1. Remove the transducer from the well.
    a. Optional: Take a hand measurement of the water level in the well. You will need a hand measurement to compensate the data later on, but it does not have to be from when you visit the well that day. It could also be a hand measurement from the monthly data (if it is a monthly well).
2. Turn on and login to the laptop.
3. Open the Levelogger program. The opening screen should be the same as (II) Step 1 above.
4. Before you download any data, you will need to set a directory for where you want to save that data. Levelogger automatically saves when you download data, but if you do not tell it otherwise, it will automatically save the data in a default folder. To create a directory, click on Configuration at the top, then select Application Settings. Under Default Directory, you can name whatever filepath you want to save the data in.

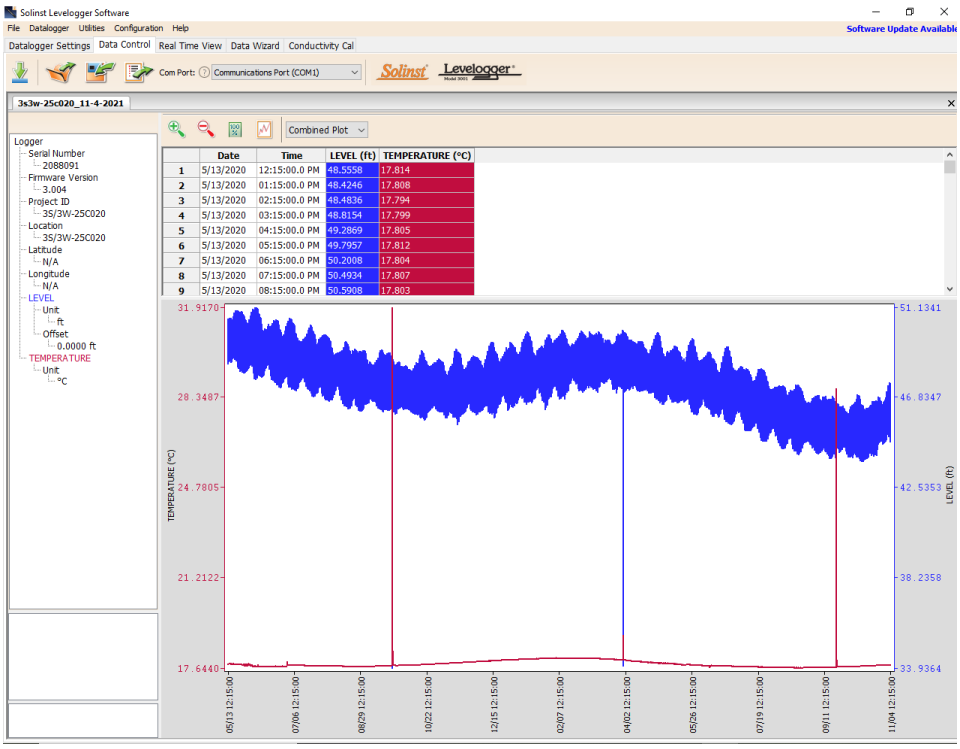

Solinst Levelogger Software
File Datalogger Utilities Configuration Help
Software Update Available
Datalogger Settings Da Application Settings Data Wizard Conductivity Cal
Com Port: Communications Port (COM1)
Solinst Levelogger
Serial Number:
Instrument Type:
Firmware Version:
Location:
Project ID:
Datalogger Information
Status
Start Time
Stop Time
Datalogger Time
Synchronize
Computer Time: 3/9/2022 4:26:20 PM
Datalogger Memory
Used Memory Reading(s)
Free Memory Reading(s)
Datalogger Sampling Mode
Datalogger Memory Mode
Slate
Continuous
Start/Stop Datalogger
Future Start
At
3/ 9/2022
12:58:08 PM
Future Stop
Start Now
Stop Now


Solinst Levelogger Software
File Datalogger Utilities Configuration Help
Software Update Available
Datalogger Settings Data Control Real Time View Data Wizard Conductivity Cal
Com Port: Communications Port (COM1)
Solinst Levelogger
Serial Number:
Instrument Type:
Firmware Version:
Location:
Project ID:
Datalogger Information
Status
Start Time
Stop Time
Datalogger Time
Synchronize
Computer Time: 3/9/2022 4:28:29 PM
Datalogger Memory
Used Memory Reading(s)
Free Memory Reading(s)
Datalogger Sampling Mode
Application Settings
Default Directory: Files (x86)\Solinst\Levelogger4_5\Data
File Name Settings:
Start Date
Location
Serial Number
Stop Date
Date Created
Number of logs
Default File Type:
xle
CSV Decimal Symbol/Delimiter Option
North American Format
Based on the System Locale Format
OK
Cancel
Datalogger Memory Mode
Slate
Continuous
Start/Stop Datalogger
Future Start
At
3/ 9/2022
12:58:08 PM
Future Stop
Start Now
Stop Now

5. Connect the transducer to the laptop using the reader. Make sure the transducer is dry before connecting it to the laptop.
6. Click Retrieve Datalogger Settings. This allows the program to "see" the transducer and will show its status. Ideally, its status should say "Started", meaning it is running and recording data.
7. Click Stop Now. This will stop the recording.
8. Click on the Data Control tab.
9. Under Data Control, click Download Data. In the drop-down menu, click All Data.



10. In a few seconds, the data will be downloaded and saved to the filepath that you indicated in Step 4 above. When finished, it will also display the data for you as shown in the example below.
    a. Optional: You can also export the data as an excel file by clicking on "Export Data". It is not necessary for the raw data that you just downloaded, but sometimes it becomes necessary when manual compensation is needed (this is rare, however). Exporting the data can also be done anytime and does not need to be done in the field.



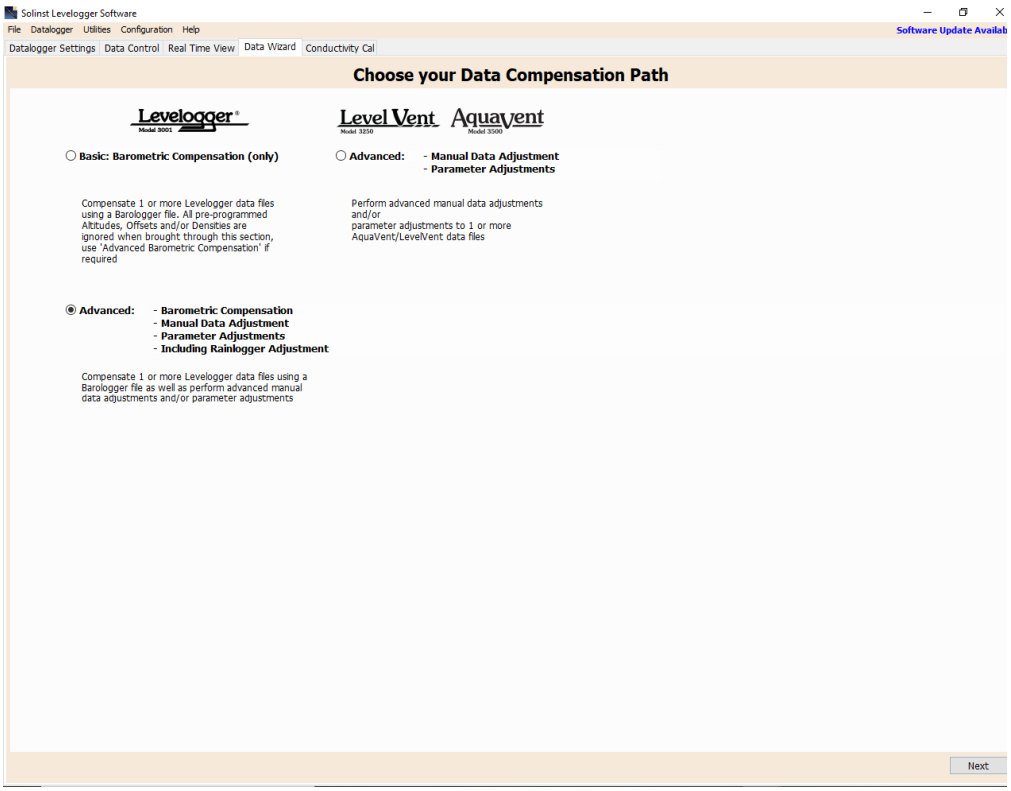
11. Go back to the Datalogger Settings tab. At the bottom, under Future Start, set the date and time you wish for the transducer to start recording again.
    Important Note
    DO NOT restart the transducer until after you have downloaded the data. When the transducer is restarted, it deletes all data that it had on it, so make sure you downloaded everything beforehand.
12. Click the start button on the right. You will be asked if you want to synchronize the transducer time with the computer time. Say yes (you can also do this by clicking the Synchronize button near the top).
13. The status of the transducer will change from “Stopped” to “Future Start”. You may now put the transducer back in the well.

V. Compensating transducer data

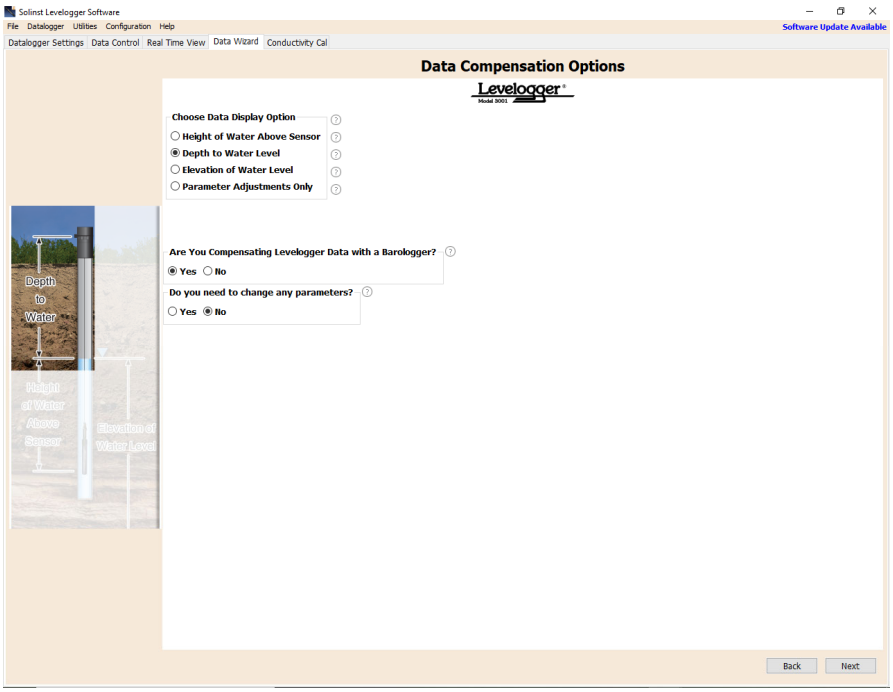
Concept: The raw data recorded by transducers are the height of the water columns above them combined with the air columns above the water. A separate special transducer is needed to measure atmospheric pressure (air column). This, along with a hand measurement, is factored into the compensation process to subtract the height of the air column and give us a depth to water measurement. **The atmospheric transducer, called the barologger, is located in well 4S/1W-28M010 (Capitol and Hastings cluster).** It has a radius of influence such that its data can be applied to any of the transducers in our area.

1. After you are done collecting data from all other transducers, pay a visit to well 4S/1W-28M010.

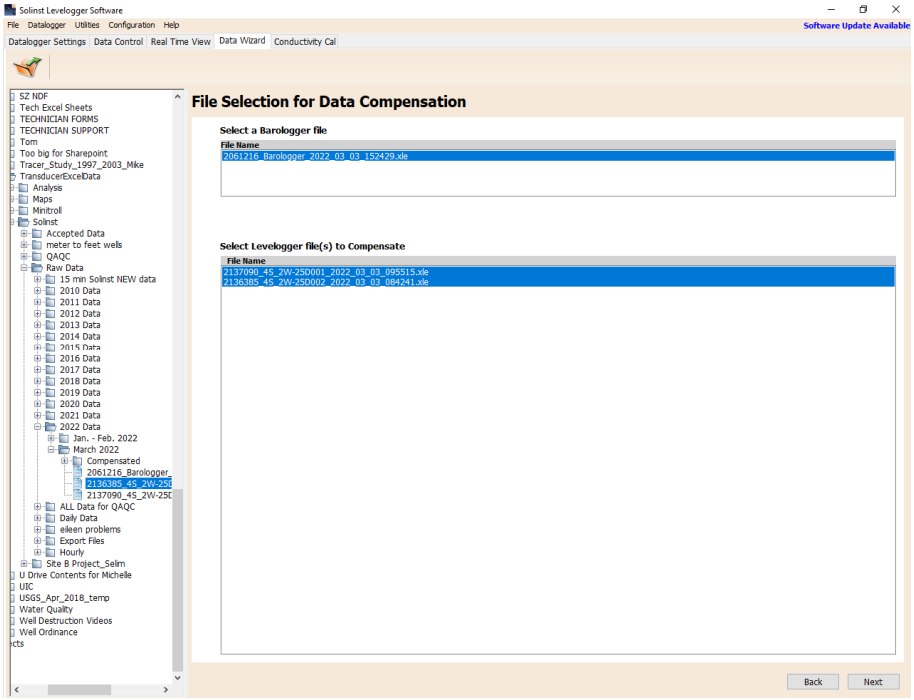
2. Remove the transducer from the well. This is the barologger. Unlike the other transducers, this one is not submerged in water and is only hanging 3 ft. (or similar depth) down.
3. Download the data from the barologger the same way that you did for the other transducers. It is important to remember to do this AFTER you have collected data from all the other transducers because the atmospheric data must coincide with the data recorded by the other transducers (matching dates and times, etc.). All of the above procedures from previous sections for collecting data from transducers still apply here.
4. Once you are done collecting the data, put the transducer back in the well and return to the office.
5. Once back at the office, open the Levelogger program. Click on the Data Wizard tab. Under Levelogger, click the Advanced option. It should look as below:



6. Click Next.
7. On the next screen, for the data to display, select Depth to Water Level.
8. When asked if you are using a barologger for data compensation, say yes. When asked about changing any parameters, say no. Your screen should look like this:

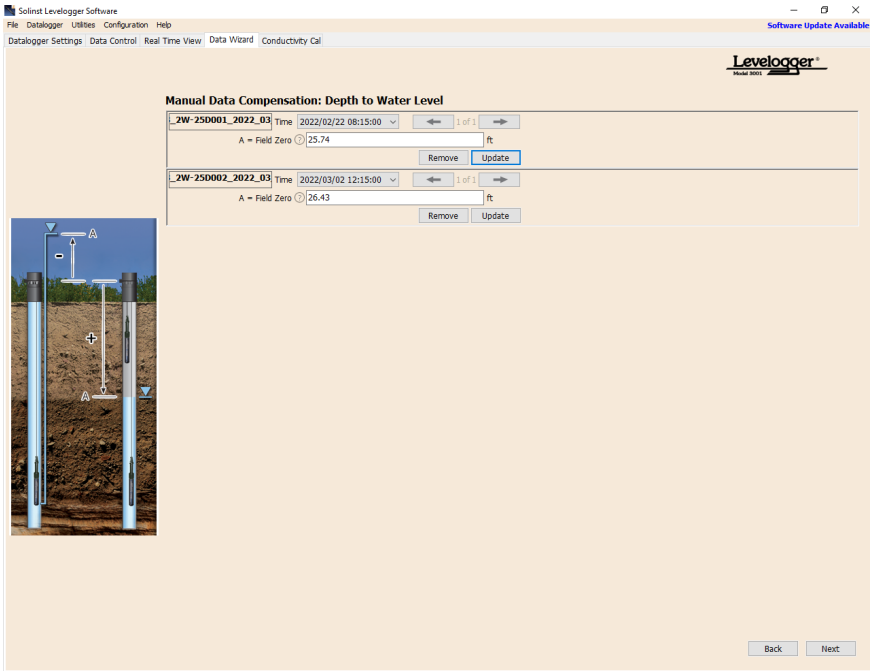


9. Click next.
10. The next screen is where you select the files to compensate. In the left column, navigate to where you saved the downloaded transducer files. First, select the barologger file. Then select all the files you wish to compensate. Make sure all files in the boxes are highlighted.

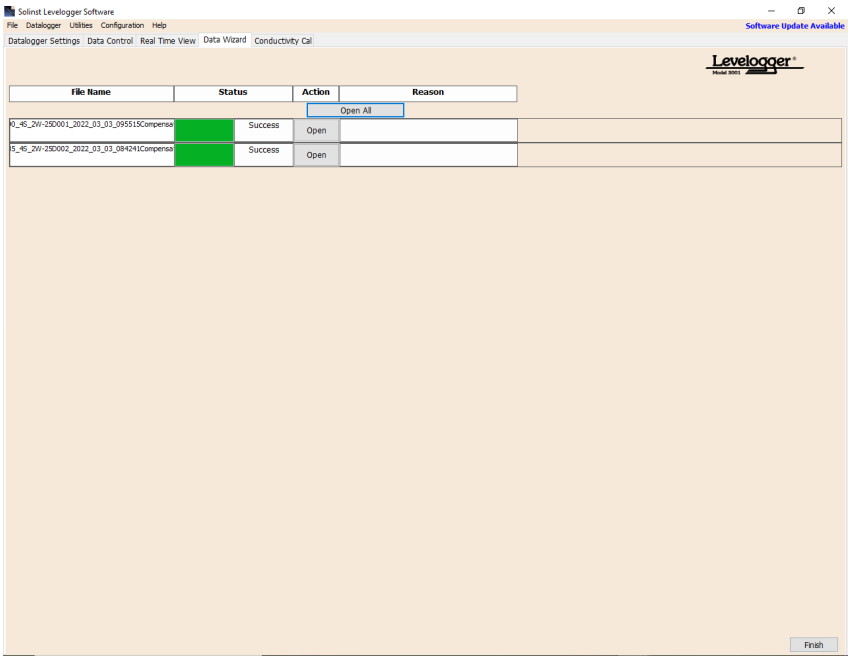


11. Click next.
12. The next screen is where you enter hand measurement data. This would be either the measurements you took in the field during data collection, or the monthly data. The hand measurements are used as reference points to normalize the data. First, you will notice that each well entry has a drop-down menu with dates and times. For each well, you must select the date and time that is closest to the date and time of your hand measurement. They will rarely be precise, but they should be as close as possible.

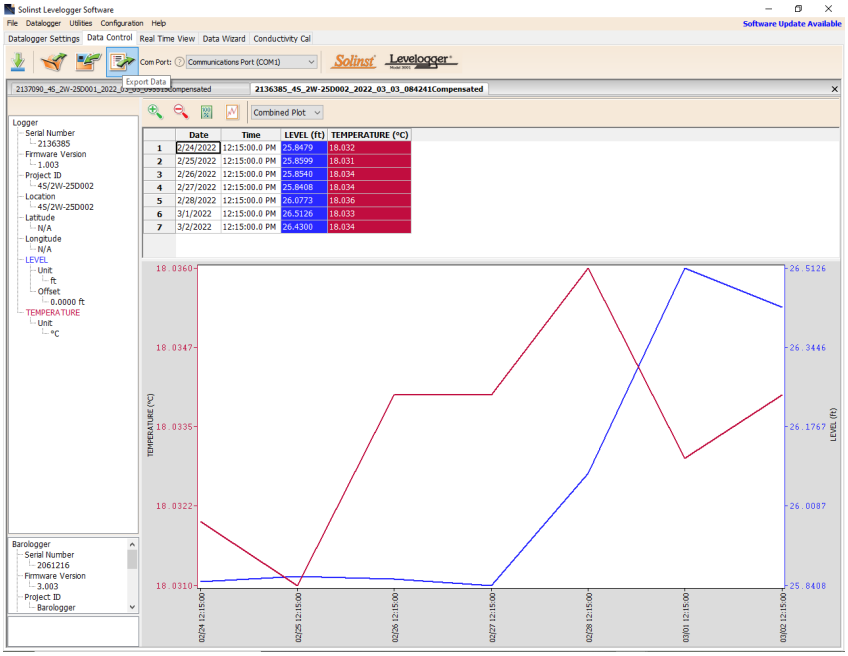
13. Once a date and time is selected, enter the hand measurement value and click Add. Note: once you click Add, that button changes to Update. If you have to change the number for whatever reason, be sure to click Update afterward. When you are finished, click Next.



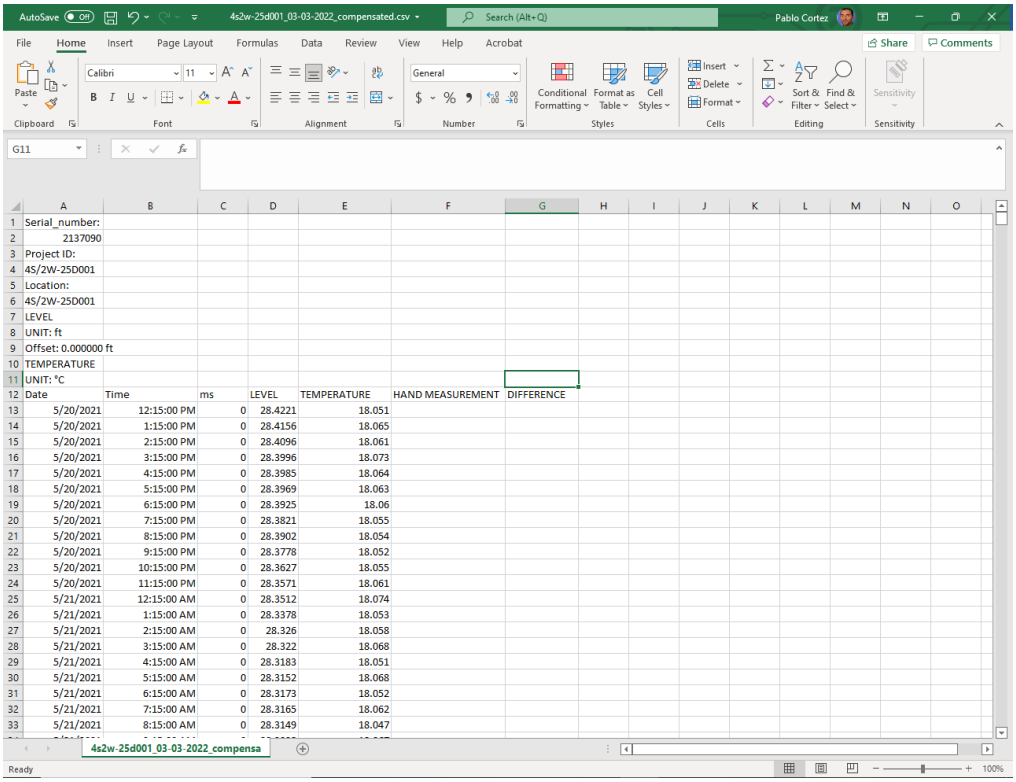
14. At this point, the data have been compensated and you will be met with the screen shown below. To see the new, compensated data, click Open All.



15. The data should now be showing depth to water levels. Each dataset has its own tab. Select whichever one you want to view. However, this time you must export the data as an excel file (with the raw data you got from the field, this step was optional, now it's mandatory). Click Export Data near the top of the screen. Save the file as an excel file with the well ID, date, and "compensated" in the file name. Note: the compensated Levelogger file was automatically saved in the file path you selected in the Configuration menu.

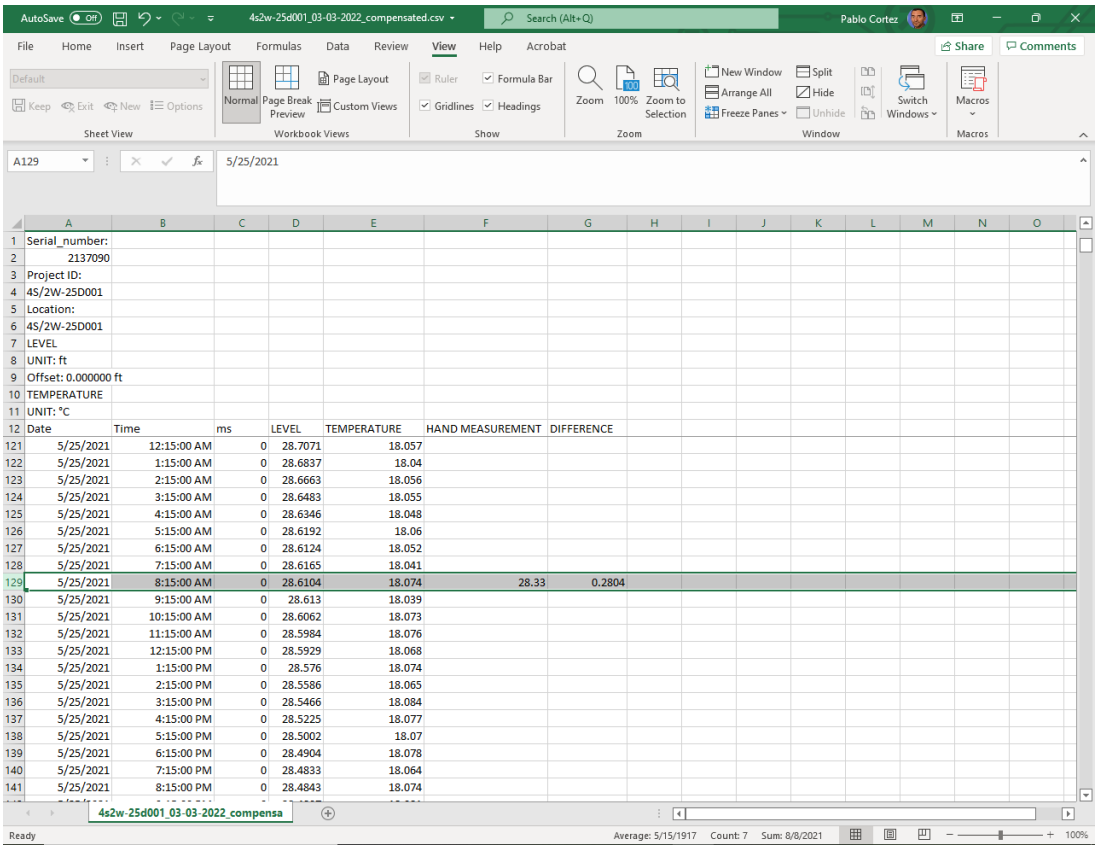


16. At this point, you no longer need the Levelogger program and can close it out.
17. Navigate to where you saved the compensated excel files.
18. Open the excel file of your choice.
19. Next to the Temperature column, add two addional columns. Call the first one “Hand Measurement” and the other “Difference”.



	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	Serial_number:														
2	2137090														
3	Project ID:														
4	4S/2W-25D001														
5	Location:														
6	4S/2W-25D001														
7	LEVEL														
8	UNIT: ft														
9	Offset: 0.000000 ft														
10	TEMPERATURE														
11	UNIT: °C														
12	Date	Time	ms	LEVEL	TEMPERATURE	HAND MEASUREMENT	DIFFERENCE								
13	5/20/2021	12:15:00 PM	0	28.4221	18.051										
14	5/20/2021	1:15:00 PM	0	28.4156	18.065										
15	5/20/2021	2:15:00 PM	0	28.4096	18.061										
16	5/20/2021	3:15:00 PM	0	28.3996	18.073										
17	5/20/2021	4:15:00 PM	0	28.3985	18.064										
18	5/20/2021	5:15:00 PM	0	28.3969	18.063										
19	5/20/2021	6:15:00 PM	0	28.3925	18.06										
20	5/20/2021	7:15:00 PM	0	28.3821	18.055										
21	5/20/2021	8:15:00 PM	0	28.3902	18.054										
22	5/20/2021	9:15:00 PM	0	28.3778	18.052										
23	5/20/2021	10:15:00 PM	0	28.3627	18.055										
24	5/20/2021	11:15:00 PM	0	28.3571	18.061										
25	5/21/2021	12:15:00 AM	0	28.3512	18.074										
26	5/21/2021	1:15:00 AM	0	28.3378	18.053										
27	5/21/2021	2:15:00 AM	0	28.326	18.058										
28	5/21/2021	3:15:00 AM	0	28.322	18.068										
29	5/21/2021	4:15:00 AM	0	28.3183	18.051										
30	5/21/2021	5:15:00 AM	0	28.3152	18.068										
31	5/21/2021	6:15:00 AM	0	28.3173	18.052										
32	5/21/2021	7:15:00 AM	0	28.3165	18.062										
33	5/21/2021	8:15:00 AM	0	28.3149	18.047										

20. Using the monthly data binders, compare the numbers in the Level column with the hand measurements of the monthlies. Match the dates and times of the monthly measurements as closely as possible with those of the transducer readings.
21. Type in the hand measurements in the column you created for them.
22. Subtract the difference between the transducer reading and the hand measurement and place that number in the Difference column. Ideally, the difference between the hand measurement and the transducer reading should be 0, but they are most often within 0.5 ft. of each other.



	A	B	C	D	E	F	G
1	Serial_number:						
2	2137090						
3	Project ID:						
4	4S/2W-25D001						
5	Location:						
6	4S/2W-25D001						
7	LEVEL						
8	UNIT: ft						
9	Offset: 0.000000 ft						
10	TEMPERATURE						
11	UNIT: °C						
12	Date	Time	ms	LEVEL	TEMPERATURE	HAND MEASUREMENT	DIFFERENCE
121	5/25/2021	12:15:00 AM	0	28.7071	18.057		
122	5/25/2021	1:15:00 AM	0	28.6837	18.04		
123	5/25/2021	2:15:00 AM	0	28.6663	18.056		
124	5/25/2021	3:15:00 AM	0	28.6483	18.055		
125	5/25/2021	4:15:00 AM	0	28.6346	18.048		
126	5/25/2021	5:15:00 AM	0	28.6192	18.06		
127	5/25/2021	6:15:00 AM	0	28.6124	18.052		
128	5/25/2021	7:15:00 AM	0	28.6165	18.041		
129	5/25/2021	8:15:00 AM	0	28.6104	18.074	28.33	0.2804
130	5/25/2021	9:15:00 AM	0	28.613	18.039		
131	5/25/2021	10:15:00 AM	0	28.6062	18.073		
132	5/25/2021	11:15:00 AM	0	28.5984	18.076		
133	5/25/2021	12:15:00 PM	0	28.5929	18.068		
134	5/25/2021	1:15:00 PM	0	28.576	18.074		
135	5/25/2021	2:15:00 PM	0	28.5586	18.065		
136	5/25/2021	3:15:00 PM	0	28.5466	18.084		
137	5/25/2021	4:15:00 PM	0	28.5225	18.077		
138	5/25/2021	5:15:00 PM	0	28.5002	18.07		
139	5/25/2021	6:15:00 PM	0	28.4904	18.078		
140	5/25/2021	7:15:00 PM	0	28.4833	18.064		
141	5/25/2021	8:15:00 PM	0	28.4843	18.074		

23. Do these comparisons for all of the monthly dates that are within the dataset. If the numbers closely align with the hand measurements, then the transducer is reading accurately and all is well. If they are too far off (generally, more than 0.5 ft.), then something may be wrong and the supervising MCP staff should be notified.
24. Repeat this procedure for all of the compensated excel files. Save the changes you made to each of them. At this point, you are finished and all data has been collected and compensated.

VI. Where to find and save the data

1. When data collection and compensation is complete, all transducer data should be saved on the M drive. Copies of the data can remain on the laptops if you wish, but the M drive is where all finalized data should be saved.
2. Transducer data can be found and saved at M:\WR\GWR\Projects\TransducerExcelData\Solinst\Raw Data.
3. In the Raw Data folder, the data is divided by year.
4. Pick a folder for any year and the data within that is divided by month.
5. Within each month, there should be a folder for compensated data. This is where the compensated data for that month should be saved, as opposed to the raw data, which is outside that folder. The raw data should be kept separately from the compensated data.
6. If there is no folder for the month/year of the data you collected, feel free to create one and follow the above formatting.