Updated Phase II Groundwater Assessment

Otay Mesa Southwest Village

San Diego, CA

Prepared For:

Dave Evans and Rod Mikesell,

Geocon Incorporated, San Diego CA

Prepared By:

Steve Dickey, CHG, CEG

Dudek, Encinitas, CA

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Introduction

This report updates a previous report submitted to Geocon in October 2022 with an additional year of groundwater monitoring in six exploration coreholes at Otay Mesa that were cased and equipped to function as monitoring wells. The daily rainfall reported for the site was measured by National Weather Service station KSDM/3178 located at Brown Field Airport.

The focus of this groundwater investigation is to determine groundwater conditions, and especially the response of groundwater elevation to rainfall for the southwest and south facing slopes of Otay Mesa in an area of known landslides. The project area is designated as VTM-1 and VTM-2, and comprises a proposed residential development to be constructed by TriPointe Homes as shown in Figure 1. The lithologic and groundwater data discussed were generated from seven deep geotechnical core borings, specifically B-1, B-2, B-3A, B-4, B-22, B-23, and B-24.

The borings were drilled to investigate geologic and groundwater conditions pertaining to landslides under and adjacent to the VTM-1 and VTM-2 proposed projects. A map showing the proposed project development areas in relation to the international border, the local freeways, and two landslide complex areas is provided in Figure 1.

This report continues the groundwater investigation begun during the previous Phase I investigation by Geocon of the southwest slope below the VTM-1 area in 2021, during which B-1, B-2, B-3, and B-3A coreholes were drilled.

Two phases of geotechnical drilling and sampling were ultimately conducted. Initially three coreholes were drilled on the southwest slope of below Otay Mesa. At the end of this first phase, one of four coreholes was completed as a monitor well and equipped with an electronic water level transducer/recorder, and designated B-3. During the initial Phase I effort only B-3 was available as a completed monitoring well.

During a second Phase II investigation, additional work was done in the slope below VTM-1. B-1 was completed as a monitoring well, and B-4 was added at the top of the Mesa. In addition, three coreholes were drilled and completed as monitor wells in the VTM-2, Landslide Complex "C" area at the south side of Otay Mesa. These monitor wells are B-23, B-22, and B-24 proceeding from lowest to highest in elevation on the south slope.

The monitor wells were all completed with 2.5" PVC flush thread casings with a lower machine slotted section of casing, developed, and then equipped with water level recorder/transducers. The location of the monitor wells and most recent groundwater level data is shown in updated

Figure 2. Figure 2 has been updated to show the most current water levels measured. All of the borings were advanced, casings constructed, and sanitary annular seals placed by Cascade Drilling.

The water level recorder/transducers in the six monitoring wells continue to be deployed, and record water levels every half hour. An air pressure/temperature monitor is installed in well B-4 to allow barometric compensation of the water pressure readings taken by the six borehole recorders.

Geologic Conditions

The occurrence and behavior of groundwater beneath Otay Mesa and its side slopes is substantially affected by subsurface geologic conditions in addition to the quantity and distribution of precipitation.

This discussion of geologic conditions relies on current and previous work at Otay Mesa by Geocon (2001, 2021). Our initial 2021 discussion of groundwater conditions at the Mesa was restricted by very limited specific groundwater data available for the project area and specifically the Mesa area, which at that time consisted of a groundwater level measured at core boring B-3, interpretations of groundwater elevation based on geophysical measurements in coreholes B-1, B-2, and B-3 (Geovision 2021), and historic exploration boring data available for groundwater elevation at the toe of slope 2000 feet south of the Area A study section at the San Ysidro Intermodal Transportation Center (Geocon, 2001). For Landslide areas A and C, the subsequent addition of additional monitoring wells in 2021 and 2022 substantially removes those ambiguities.

For Landslide Complex A, monitor wells B-1, B-2, and B-3A were located within a 350 to 400 foot thick landslide mass, and were advanced to depth sufficient to penetrate the base of the slide mass. B-4 was drilled uphill of the main Complex A slide head scarp.

For Landslide Complex C, monitor wells B-23 and B-22 are located within the slide mass. Monitor well B-24 is located uphill of the Complex C head scarp, outside of the slide mass. These locations are shown in Figure 2.

Otay Mesa is an uplifted marine terrace surface. The geologic materials beneath the Mesa terrace surface consist of reworked surficial terrace deposits, underlain by sandstone, siltstone, claystone, and gravel/cobble conglomerate layers of the San Diego and Otay formations. Prior to the Geocon series of investigations discussed here the deepest holes were two 1500 to 1600 foot deep agricultural wells drilled by San Diego Pump and Well Drillers with cable tool equipment in 1955 and 1960, and three 1400 foot deep multi-port groundwater monitoring wells built by the USGS using rotary wash tools in mid 1990's below and west of Otay Mesa at Tijuana Valley and Otay River. No useful, specific groundwater elevation data was available for the Otay Mesa Landslide Complex A and C areas prior to the construction of the Geocon monitoring wells.

The west, southwest, and south slopes surrounding the relatively flat Otay Mesa surface are complex landslide topography showing various stages of development (Geocon, 2021). Steep-walled, approximately linear canyons cut into the Mesa at several locations. The water table intersects the ground surface and creates perennial surface water flow and associated riparian vegetation at the south edge of the site in Spring Canyon downslope from B-23 and adjacent to the International Border. An engineered intake/drainage/tunnel structure has been constructed by the Border Patrol and Corps of Engineers to convey the Spring Canyon surface water flow across the international border into Tijuana. The Spring Canyon surface water flow where it enters this drainage structure is shown in Figure 2 as a green dot at the base of the slope cross section.

As encountered in B-1, B-2, and B-3A, the west side landslide basal shear zone consists of sheared bentonite and remolded clay planes (at B-1), to disturbed mixtures of sand, clay and gravel (at B-2) to a thick zone of viscous deformation in a melange of remolded clay and fine sand (at B-3). The slide plane under Landslide A complex dips approximately 1 degree below horizontal, towards the west away from the scarp. These Landslide A borings were continued beneath the basal slide surface, and advanced into relatively thin bedded undisturbed Otay formation sandstone with a shallow dip angle.

In both the landslide A and landslide C complexes, the cores indicate that substantial thicknesses of the sedimentary rock slide masses are cemented lithic sandstone, siltstone, and/or claystone, or when not lithified, the core samples contain substantial percentages of clay and/or silt. These conditions, in addition to the presence of landslide plane surfaces within the slide masses could potentially create localized barriers, steps, or disruption of downgradient groundwater flow.

The Geocon field core logs have frequent references to HCL acid bubble reaction to tests, indicating that carbonate cementation of the rock matrix and coating of fractures is common. The consequence of the described lithology for groundwater movement is that it is probable that movement of groundwater recharge down to the main water table occurs substantially by direct downwards flow within fractures and tension cracks, rather than by porous media percolation flow, such as might occur in loose uncemented sand or soil. The substantially indurated and horizontal bedding characteristics of the rocks beneath Otay Mesa will also have a strong tendency to enable development of “perched” zones of groundwater above the main water table, which will vary in degree of development and persistence, depending on the variations of long term rainfall intensity.

The conclusion that active movement of groundwater within the local Otay Mesa aquifer is at least partially sustained by fracture flow is supported by the strongly lithified texture of a large percentage of the recovered core samples, and also by the generally high seismic P wave borehole velocities recorded by GeoVision in their 2021 borehole seismic survey of holes B-1, B-2, and B-3. In addition, some of the transient water level “spikes” recorded at B-23 and B-24 suggest small water level changes tightly linked to direct infiltration of daily rainfall. Below the water table, the seismic velocities measured by Geovision were generally 7500 to 10,000 feet per second, indicating rock rather than soil texture.

A consequence of fracture flow versus porous media groundwater flow is that vertical infiltration through fractures can selectively transport precipitation more rapidly to the groundwater table in some areas, and conversely temporarily block or reroute groundwater transport in other areas where fractures are infrequent or poorly connected.

Groundwater Level Hydrographs. Plate 1 summarizes all the groundwater level information recorded to date, with time-aligned hydrographs plotted along with a bar graph of daily rainfall at reported at Brown Field Airport, downloaded from the National Weather Service website. The maximum water level rise recorded to date in response to closely spaced rainfall events is approximately 1.7 feet at B-24 on the south slope of the Mesa; this event consisted of very rapid rise and fall back to the previous static level.

The hydrographs for wells B-23 and B-24 on Plate 1 also show a background water level trend of slow water level rise that ramps up over several months, which is more characteristic of porous media groundwater flow, or recharge through a dense network of fine fractures.

Monitor Well Completions in Cascade Drilling Diamond Coreholes

The locations of the Geocon Area A and C monitor wells are shown in Figure 2.

Drilling conditions encountered by the Cascade Drilling crew were non-uniform. For instance, during drilling of Borehole B-24 at the Mesa top above Landslide Complex C, it was difficult to maintain fluid and cuttings return to such an extent that several coring runs were completed “blind” with no fluid or cuttings return. During several days of drilling on this borehole, as much as two or three 3500 gallon water trucks of drilling water were used during an eight hour drilling shift in order to flush the borehole, re-start, and attempt to maintain circulation. This high rate of fluid loss occurred throughout most of the coring advance for B-24. Attempts by the Cascade driller to mitigate the fluid losses by adding viscosity with drilling polymer were only partially successful.

Conversely, during drilling of B-23 near the base of slope in Landslide Complex C, flowing water persisted during drilling operations and for significant time periods after drilling operations stopped at the end of drilling shifts. This behavior is tentatively attributed to temporary storage and “flow back” of drilling fluid accumulated in fractures above the water table, and also perhaps indicates an “out of balance” drilling fluid density condition.

The coreholes were advanced with diamond tools through flush threaded steel coring casing, with the core barrels recovered through the casing on Christensen and/or CME wireline apparatus. Upon reaching total borehole depth, the borehole drilling fluid was thickened with drilling polymer in order to stabilize loose fractured rock prior to withdrawing the wireline coring casing.

Following removal of the wireline casing, the open boreholes were cased with 2 1/2" flush thread PVC well casing, with .020 inch machine cut slots at bottom. After casing installation, Cemex filter pack sand was installed by free-fall into the outside annular space, and then the top 20 feet of the borehole annulus was sealed with neat cement grout. This was followed by construction of surface completions with vaults to protect the wells.

The basic facts of the borehole completions, locations, and well head elevations are summarized in Table 1. The order of corehole monitor well construction was as follows:

2021: B-1. This corehole was drilled near the toe of slope in Landslide area A, but not cased.

> B-3. This well was completed after a first drilling attempt failed and the decision was made to move the borehole to a nearby spot and begin again. The second attempted borehole successfully reached target depth, and was then cased and developed as a monitor well.
>
> <u>Geocon Borehole Seismic Measurements</u>: Open-hole borehole P and S wave seismic velocity surveys were conducted by GeoVision Inc. in coreholes B-1, B-2, and B-3 during the Phase I drilling effort to determine approximate formation groundwater depth, and check for occurrences of perched groundwater above the main water table.

2022: B-1. This corehole was re-drilled during the second Cascade Drilling mobilization and a monitor well casing installed.

2022: B-4, B-22, B-23, B-24 were drilled during the second Cascade Drilling mobilization. After reaching total depth in each borehole, the temporary casing was removed and 2 ½" PVC monitor well casing was installed.

The wells were developed by Cascade Drilling with a water well service rig running a 20 foot long bailer to efficiently remove borehole fluid from the narrow 2 ½" casing. Considerable residual drill fluid viscosity remained in the wells due to the polymer addition that facilitated casing installation. The polymer viscosity did not dissipate rapidly with development by bailing and the residual polymer viscosity was such that electric well sounder cables stuck to the side of the well casings and interfered with efficient water level measurement.

The excess fluid viscosity due the residual drilling polymer was then chemically broken down by addition of several gallons of 7.5% sodium hypochlorite solution (bleach) to each well, followed by thorough swabbing and mixing of the solution into the wells to oxidize the drilling polymer.

During further development, the groundwater level was then taken down significantly below initial level by baling to maximize replacement of drilling fluid with native formation water. Electrical conductivity of the development fluid was noted as development bailing progressed. In general, fluid electrical conductivity increased during bailing development work to several thousand microSiemens, indicating entry of native brackish formation fluid, and removal of introduced drilling fluid, which was low TDS water obtained from a nearby municipal hydrant.

Groundwater Level Measurements, Geocon Monitoring Wells

Table 2 provides an updated list manual water level measurements taken through May 2, 2023 with an electric well sounder tape in the Geocon monitoring wells, in conjunction with downloading of electronic water level recorders. The history of previous manual water level soundings in the wells is also provided in Table 2.

The earliest measurements for the site are for B-3, which begin in March 2021 shortly after it was completed. An electronic pressure transducer/datalogger was installed in B-3 on April 2, 2021 to record groundwater level response, if any to rainfall events.

B-1 was redrilled and completed as a monitoring well at the start of the Phase II exploration drilling, and the first water level measurement was taken in October 2021. A pressure transducer/datalogger was installed in B-1 on January 11, 2022.

After Phase II drilling was completed, water level recorder/transducers were installed in the remaining wells B-4, B-22, B-23, and B-24 on March 11, 2022. The transducers are Solinst Levelogger 5 units, which have an approximate 10 year lithium battery life, and a memory capacity of 150,000 water level/fluid temperature data pairs. The existing B-1 and B-3 transducers were replaced with new dedicated Levelogger 5 units on March 11, 2022.

The dataloggers are programmed to record data every half hour and are suspended from the monitor well casing top with stainless steel aircraft cable. The transducers record water levels at a nominal accuracy of .05 feet, with a resolution of .02 feet. This measurement frequency and resolution is sufficient to monitor for and detect slow groundwater level changes and also rapid transient events that could be important to landslide mass stability assessment. Appendix D provides manufacturer specifications for the dataloggers.

Vent holes were drilled through the well casing tops in order to vent the well casings to allow changes in barometric pressure through the well cap into the wells. A barometric datalogger was installed in Well B-4 to record and facilitate localized correction of the raw transducer pressure measurements for barometric pressure oscillations.

The most recent groundwater measurements for May 2, 2023, are shown as depth-to-water/groundwater elevation pairs on the updated Figure 2 well location map. Groundwater elevations are based on well site elevations surveyed by Geocon.

This set of water level measurements is also shown in the updated Figure 3 slope cross sections for Complex A and Complex B, plotted at a 2X vertical exaggeration.

Figure 3 shows the slope of the water table beneath Otay Mesa Profile A is relatively flat, gradually descending southwest towards Tijuana Valley and the ocean.

Figure 3 also shows that groundwater levels under Profile B as almost flat into Spring Canyon, with the highest water level elevation on the profile located at B-22 in mid slope, not at the expected B-24 Mesa top location, which has the highest topographic elevation along Profile B, above and outside of the main landslide scarp. The groundwater elevation mid-slope in B-22 was 9.3 feet higher than in B-24 at the Mesa top on May 2, 2023, which is an unexpected result.

The detailed groundwater level records provided by the dataloggers allows observation of the transient impact of local rainfall on the groundwater table within the slide areas, along with more gradual seasonal groundwater level trends.

Plate 1 provides a bar graph plot of daily rainfall recorded at NWS weather station KSDM/3178 located 3 miles east-northeast of the Otay Mesa landslide investigation area at Brown Field Airport. The plot includes historic rainfall data from winter 2019 through April 2023, in order to provide context for the groundwater fluctuations recorded with the monitor wells beneath Otay Mesa.

A list of listing of the actual rainfall event days and rainfall quantities recorded at Brown Field from 2019 through April 2023 is provided in Table 3. Table 3 is organized by rainfall season, each season starting with first rainfall event in the fall.

The water levels electronically recorded by the dataloggers is plotted on Plate 1 as six time-aligned graphs placed above the rainfall bar graph to allow study of the groundwater responses, if any, at the six monitor well locations to the rainfall events. The manual groundwater level readings taken previous to datalogger installation are also plotted on the graphs as blue triangles, and manual sounder measurements taken when the dataloggers are pulled and downloaded during site visit monitoring events are provided as well.

Plate 1 visually summarizes all the available groundwater level measurements for the Otay Mesa monitoring wells. The response of each well is discussed as follows:

Well B-4. B-4, and was equipped with a water level transducer/recorder on March11, 2022. Prior to this a manual measurement is plotted taken on January 11, 2022. B-4 is located upslope and outside of the known area of landsliding.

In mid-March 2023 it was noted that surface stormwater had flowed into the surface completion of B-4, filled the well vault above the casing top, and was draining into the well. This flow path has since been routed away from the well. Other than the unexpected incursion of surface water, and its anomalous effect on B-4 groundwater level, there has been minimal response of the B-4 water levels to rain events recorded at Brown Field. Outside of the anomalous surface water injection, the response of B-4 to rainfall from fall 2019 to spring 2023 has been less than 1 foot. A photo of B-4 with evidence of surface water intrusion, along with a magnified section of the affected hydrograph is provided in Appendix D.

B-3. B-3 has recorded less than a foot of water level response to rainfall events recorded at Brown Field. A water level transducer/recorder was placed in monitor well B-3 on April 2, 2021, soon after the well was cased and developed. The B-3 transducer failed and stopped recording from November 30, 2022 through February 17, 2023, and was replaced with a new unit.

B-1. B-1 is located near the toe of the Landslide A complex. The water level transducer/recorder was placed in this well starting January 11, 2022, soon after well casing installation and development was completed. The initial two months of the hydrograph show a stable groundwater level, which gradually increases approximately 0.15 ft starting approximately March 10, 2022 in response to late February and early March 2022 rain events. This groundwater level change is so small as to be near the limit of what can be reliably detected, given barometric pressure effects on the groundwater table.

The updated record shown in Plate 1 indicates the total water level variation from January 2022 through May 2, 2023 has been less than half a foot.

B-23. B-23 is located at the bottom of slope in the Landslide C complex area. The first recorded level on the hydrograph is a single manual sounding taken on January 6, 2022. The water level record started thereafter with transducer/recorder unit installation on March 11, 2022 shows very slow water level decline from January 6 through June 12, then a gradual rise through January 15, 2023 ending in a rapid one foot spike in water level on January 15-16. Since April 20, 2023 the water level has been slowly declining. The water table elevation in B-23 is consistent with the nearby surface water flow elevation in the downhill adjacent Spring Canyon stream channel. The total water level change throughout the record is approximately 1.8 feet.

B-22. B-22 is located at mid slope in Landslide Complex C. The combination of the January 11, 2022 and subsequent transducer/recorder electronic record starting March 11, 2022 show gradually increasing water level elevation from January 11 through April 5 of approximately 0.7 feet. Thereafter, the groundwater elevation remained essentially constant through June 12, 2022. The water level rise beginning early in this record may result from cumulative effects of the previous rainfall which occurred in December 2021 in addition to the early spring 2022 rainfall events.

A slow groundwater level rise at B-22 beginning in September 2022 has continued through the end of this record on May 2, 2023. A rapid one foot rise in groundwater level starts in mid-April 2023, and does not appear to be tightly linked timewise to daily precipitation events, but rather is a delayed response to a concentrated series of rains that fell in early to mid April, 2023. The groundwater elevation in well B-22 is approximately 9.4 feet greater than well B-24 at the top of slope, an unexpected result.

B-24. B-24 is located at the top of Otay Mesa , beyond the slide scarp for Landslide Complex C. The record begins with a single January 6, 2022 manual measurement, followed by the electronic transducer/recorder record from March 11, 2022 through May 12, 2022. The record shows essentially constant slow groundwater level rise of 1.6 feet during the 440 day measurement period. The water level remains essentially unchanged from May, 2022 through February 2023, then drops approximately 0.3-0.4 feet through the end of the record on May 2, 2023, interrupted by two rapid spikes of water level rise in early to mid March, 2023.

The total water level span of B-24 has been approximately 2.8 feet, including the water level spike responses. This is the greatest response to rainfall of the six installed monitor wells.

Conclusions Regarding Groundwater Level Data Recorded at Otay Mesa Landslide Complexes A and C

Table 3 provides the date and magnitude of daily rainfall recorded by the NWS weather station at Brown Field Airport near Otay Mesa; the bar graph at the bottom of Plate 1 shows the distribution of rainfall events. The precipitation totals for the rainfall seasons, taken from Table 3 are as follows:

September 2019 – June, 2020:	17.69 inches
November 2020 – May, 2021:	5.91 inches
September 2021 – May, 2022:	9.67 inches
September 2022 – April, 2023	16.10 inches

The following conclusions are based on the span of groundwater level observations recorded at the Mesa to date:

Well B-1 near the base of Landslide A Complex slope continues to show minimal response of less than 0.5 feet to rainfall events from January 2022 through May 2023.

Approximately 26 months of electronic water level records in Well B-3 in the center of slope in Landslide Complex A continues to show minimal response to rainfall events in 2021, 2022, and 2023.

Well B-4 at the top of the Landslide Complex A slope responded to an anomalous surface water entry into the well box with a rapid rise of approximately 0.9 feet on March 15-16, 2023 in response to a series of clustered rain events in January through March o f 2023. When the transducer was downloaded in May, the previous surface water entry was discovered and photographed. This is summarized in Appendix D. Our conclusion is that there have been no significant natural water level changes at the B-4 location since the well was installed.

Well B-23 is located near the base of the Complex C slope, near the Spring Canyon surface flow. The most significant water level change on the record is a sudden water level rise and retreat of approximately 0.8 feet January 14-15, 2023. The total span of the hydrograph is approximately 1.5 feet.

B-22 is located midslope in Complex C and records a continuous water level rise totaling 1.9 feet from January 2022 to Jamy 2, 2023.

B-24 is at the top of slope, above and outside of the slide scarp at the top of Complex C. The hydrograph includes a gradual rise of 2.8 feet from January 2022 through June 2022, then a stable water level from June 2022 through approximately January 20, 2023. After January 20, 2023 the water level slowly declines approximately 0.6 feet until May 2, 2023; this trend is interrupted by two rapid spike in water level of 1.1 and 1.6 feet in April 2023, both of which drained out rapidly.

Larger responses to winter 2022 and winter 2023 rainfall events are captured by the records from monitor wells B-22, B-23, and B-24 in Landslide Complex C. These records captured groundwater level rise of 0. 7 to 0.9 feet, respectively. The maximum daily rainfall immediately preceding these events during the monitoring period were 0.84 and 1.19 inches.

The relationship of groundwater elevation between wells B-22 and B-24, located at mid slope and top of slope in Landslide Complex C is unexpected as B-22 currently has 9.4 foot higher groundwater elevation than B-24 as of May 2, 2023 (reference, Table 2).

Based on the groundwater data recorded with the monitor wells to date it can be stated that qualitatively, it appears that groundwater level response of wells in Complex A is significantly less than the response to rainfall in Complex C and that the water table beneath Complex C is more reactive to precipitation events than the water table beneath Complex A.

The rates of groundwater level rise recorded by the data recorded to date are not especially rapid, as compared to other areas we have worked where recharge via direct rock fracture flow is dominant, of much larger magnitude, and more rapid.

The six wells installed in the exploration coreholes provide useful data to verify and monitor present and future groundwater elevations in the subject landslide areas.

Stephen K. Dickey, CEG 1070, CHG 386

Senior Hydrogeologist

Dudek

Attachments: (1) electronic groundwater level and barometric pressure spreadsheet files, (2) electronic spreadsheet NWS daily precipitation file for Station KSDM, Brown Field, San Diego, CA

References:

Geocon, 2021. Supplemental Geotechnical Investigation and Slope Stability Analysis, Southwest Village VTM-1, San Diego, CA. Prepared for Tri-Pointe Homes.

Geocon, 2021. Preliminary Geotechnical Evaluation and Slope Stability Analysis, Southwest Village VTM-2 (Borrow/Fill Site), San Diego, California. Prepared for Tri-Pointe Homes.

Geocon, 2001. Geotechnical Investigation, Intermodal Transportation Center, San Ysidro, CA. Prepared for Kimley-Horn & Associates.

GeoVision, 2021. Borehole Geophysics, San Ysidro, CA.

National Weather Service, daily precipitation data for Brown Field Municipal Airport, NWS Station KSDM/3178, 2010 through April 2023.

Geocon, 2021 – 2022. Draft boring logs for coreholes B-1, B-3, B-4, B-22, B-23, B-24.

TABLE 1
Principal Facts, Geocon/Otay Mesa Groundwater Monitor Wells
Southwest Village

Well	Lattitude	Longitude	State Plane Northing, Feet	State Plane Easting, Feet	Elevation Feet, NAVD88	Total Depth, Feet	Bottom Elevation NAVD88	Depth to Water 5/2/2023	Groundwater Elevation NAVD88
B1	32.55158	-117.03080	1,781,374.95	6,321,069.95	186.00	206.0	-20.0	67.90	118.10
B3	32.55348	-117.02745	1,782,058.54	6,322,107.42	360.00	272.4	87.6	192.90	167.10
B4	32.55527	-117.02504	1,782,704.28	6,322,854.89	490.87	501.0	-10.1	321.45	169.42
B22	32.54792	-117.01428	1,780,005.58	6,326,150.87	351.00	300.0	51.0	171.33	179.67
B23	32.54555	-117.01342	1,779,141.33	6,326,409.58	229.55	254.5	-25.0	61.00	168.55
B24	32.54963	-117.01493	1,780,629.21	6,325,955.13	475.74	400.0	75.7	305.45	170.29

TABLE 2
Manual Groundwater Level Measurements
Otay Mesa Monitoring Wells, Landslide Areas A and C

Date	B1 DTW	B1 Water Elev.	B3 DTW	B3 Water Elev.	B4 DTW	B4 Water Elev.	B23 DTW	B23 Water Elev.	B22 DTW	B22 Water Elev.	B24 DTW	B24 Water Elev.	Comments
4/2/2021			193.04	166.96									
10/27/2021	73.51	112.49	193.21	166.79									
12/16/2021			193.33	166.67					*149.52*	*201.48*			
1/5/2022	78.03	107.97			*325.85*	*165.02*	*58.98*	*170.57*	*152.41*	*198.59*	*306.17*	*169.57*	pre development
1/6/2022	67.55	118.45			320.58	170.29	60.68	168.87	173.81	177.19	306.53	169.21	approx. 10 hours after Development
1/11/2022	67.43	118.57	193.43	166.57	320.7	170.17	60.79	168.76	173.83	177.17	306.47	169.27	
3/8/2022			193.04	166.96	320.75	170.12	60.59	168.96	173.31	177.69	306.18	169.56	Post chlorination
3/11/2022	67.64	118.36	193.22	166.78	320.76	170.11	60.65	168.9	173.35	177.65	306.11	169.63	Transducers installed in all Wells
4/14/2022	67.67	118.33	193.12	166.88	320.82	170.05	60.79	168.76	173.38	177.62	305.87	169.87	
5/12/2022	67.97	118.03	193.10	166.90	320.81	170.06	60.96	168.59	173.40	177.60	305.57	170.17	
6/16/2022	67.65	118.65	192.81	167.17	320.58	170.28	61.06	168.66	173.16	177.86	304.90	170.54	
5/2/2023	67.90	118.10	192.90	167.10	321.45	169.42	61.00	168.55	171.33	179.67	305.45	170.29	

NOTES: all water level measurements above taken with electric sounder tape.
"DTW" = Depth to water, feet below ground surface
B-4, B-22, B-23, and B-24 water levels bracketed with stars are potenially incorrect, affected by thick, viscous drilling polymer
Starred wells treated with sodium hypochlorite (chlorine bleach) to oxydize/remove thick drilling polymer
Groundwater elevations are feet, NAVD88

Table 3 Daily Rainfall Events at Brown Field Airport, Page 1 of 4

September 2019 - May 2023

NWS Station ID: KSDM

Station Location: 32.5728 Degrees North, 116.99306 Degrees West
Station Elevation: 538 Feet
Distance to Otay Mesa Southwest Village Site: 2.5 miles

Rainfall Season: Fall 2019- Spring 2020

Date	Rainfall, Inches		Date	Rainfall, Inches
09/04/19	0.14		03/02/20	0.05
09/25/19	0.02		03/07/20	0.02
09/27/19	0.02		03/08/20	0.15
11/19/19	0.41		03/09/20	0.15
11/20/19	1.04		03/10/20	0.38
11/21/19	0.62		03/12/20	0.39
11/27/19	0.29		03/13/20	0.30
11/28/19	1.69		03/14/20	0.04
11/29/19	0.26		03/16/20	0.24
11/30/19	0.11		03/17/20	0.20
12/03/19	0.04		03/18/20	0.46
12/04/19	1.61		03/19/20	0.29
12/06/19	0.15		03/22/20	0.03
12/07/19	0.16		03/23/20	0.21
12/08/19	0.05		03/25/20	0.02
12/23/19	1.43		03/26/20	0.06
12/24/19	0.34		03/27/20	0.53
12/25/19	0.03		04/05/20	0.01
12/26/19	1.13		04/06/20	0.22
01/09/20	0.07		04/07/20	0.64
01/17/20	0.04		04/08/20	0.57
01/20/20	0.01		04/09/20	0.32
01/21/20	0.19		04/10/20	1.51
02/09/20	0.12		04/12/20	0.02
02/10/20	0.41		04/13/20	0.03
02/22/20	0.25		04/18/20	0.04
02/23/20	0.01		06/05/20	0.03
03/01/20	0.09		06/29/20	0.05
Total of Rainfall, Fall 2019-Spring 2020:			17.69	Inch

Table 3, Page 2 of 4					
Daily Precipitation at Brown Field					
Rainfall Season: Fall 2020- Spring 2021					
Date	**Rainfall, Inches**				
11/06/20	0.02				
11/07/20	0.21				
11/08/20	0.21				
12/14/20	0.08				
12/17/20	0.04				
12/24/20	0.01				
12/28/20	0.80				
12/29/20	0.03				
01/20/21	0.02				
01/21/21	0.01				
01/22/21	0.01				
01/23/21	0.42				
01/24/21	0.20				
01/25/21	0.32				
01/29/21	1.11				
02/12/21	0.03				
02/13/21	0.02				
02/16/21	0.19				
03/03/21	0.77				
03/10/21	0.62				
03/11/21	0.15				
03/12/21	0.02				
03/13/21	0.04				
03/15/21	0.15				
03/16/21	0.06				
03/23/21	0.01				
03/25/21	0.04				
03/26/21	0.14				
04/21/21	0.01				
04/23/21	0.06				
04/26/21	0.05				
04/27/21	0.01				
05/02/21	0.05				
Total of Rainfall, Fall 2020-Spring 2021:			5.91	Inch	

Table 3, Page 3 of 4

Daily Precipitation at Brown Field

Rainfall Season: Fall 2021- Spring 2022

Date	Rainfall, Inches
09/24/21	0.06
10/04/21	0.44
10/05/21	0.12
10/08/21	0.10
10/25/21	0.27
12/07/21	0.02
12/09/21	0.39
12/14/21	1.07
12/16/21	0.01
12/23/21	0.52
12/24/21	0.34
12/25/21	0.21
12/26/21	0.27
12/27/21	0.10
12/28/21	0.40
12/29/21	0.12
12/31/21	0.02
01/15/22	0.04
01/17/22	0.27
01/18/22	0.19
02/15/22	0.19
02/16/22	0.23
02/21/22	0.04
02/22/22	0.54
02/23/22	0.33
03/04/22	0.84
03/05/22	0.02
03/19/22	0.02
03/20/22	0.27
03/28/22	1.19
03/29/22	0.66
04/02/22	0.01
04/03/22	0.03
04/11/22	0.16
04/21/22	0.01
04/22/22	0.16
05/20/22	0.01

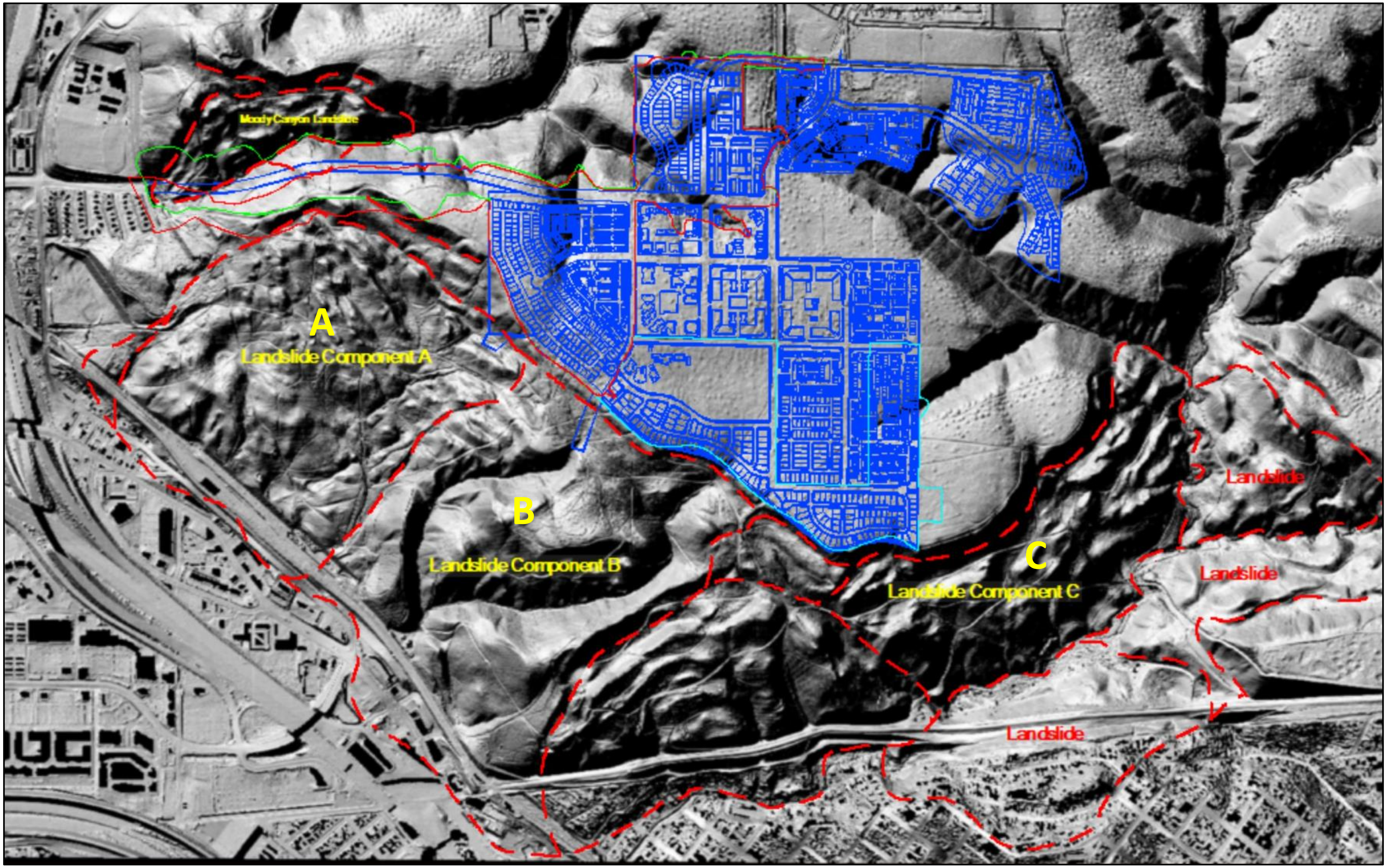
Total of Rainfall, Fall 2021-Spring 2022: 9.67 Inch

Table 3, Page 4 of 4

Daily Precipitation at Brown Field

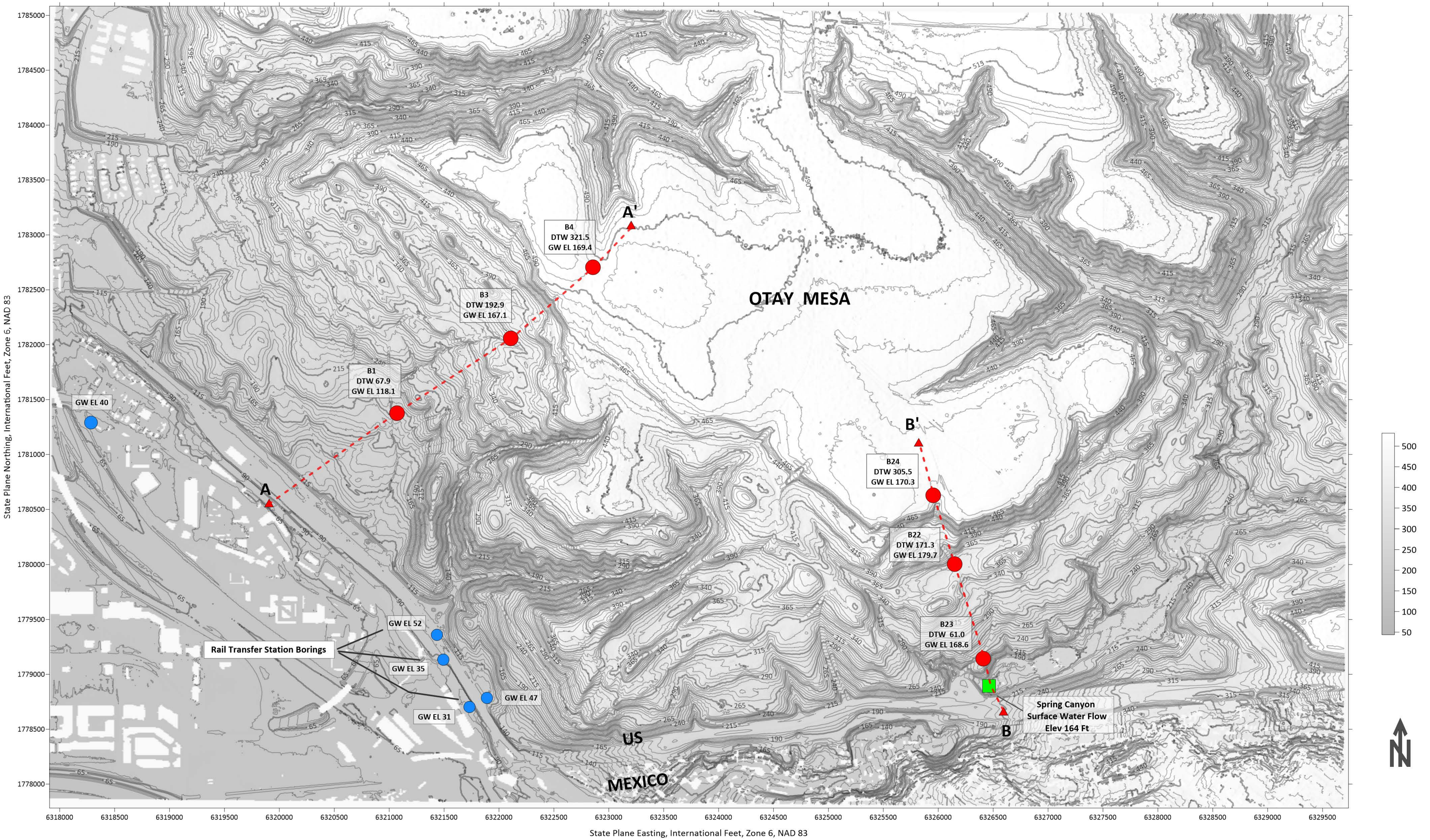
Rainfall Season: Fall 2022- Spring 2023

Date	Rainfall, Inches		Date	Rainfall, Inches
09/09/22	0.27		02/22/23	0.06
09/11/22	0.01		02/23/23	0.22
10/06/22	0.02		02/25/23	0.99
10/11/22	0.04		02/26/23	0.07
10/22/22	0.09		02/27/23	0.05
10/23/22	0.03		02/28/23	0.25
11/02/22	0.05		03/01/23	0.47
11/03/22	0.07		03/10/23	0.57
11/07/22	0.01		03/11/23	0.21
11/08/22	2.17		03/14/23	0.06
11/09/22	0.10		03/15/23	0.79
11/29/22	0.01		03/19/23	0.03
12/05/22	0.01		03/20/23	0.03
12/11/22	0.62		03/21/23	1.02
12/12/22	0.04		03/22/23	0.25
12/27/22	0.10		03/23/23	0.19
12/28/22	0.49		03/29/23	0.25
12/31/22	0.01		03/30/23	0.30
01/01/23	1.16		04/03/23	0.03
01/02/23	0.04		04/13/23	0.06
01/03/23	0.15		04/18/23	0.01
01/04/23	0.02			
01/05/23	0.08			
01/10/23	0.27			
01/14/23	0.84			
01/15/23	1.35			
01/16/23	0.80			
01/17/23	0.06			
01/19/23	0.05			
01/29/23	0.13			
01/30/23	0.45			
01/31/23	0.26			
02/06/23	0.01			
02/12/23	0.27			
02/13/23	0.02			
02/14/23	0.02			
02/21/23	0.07			
Total of Rainfall, Fall 2022-Spring 2023:			16.10	Inches



NOTES:
Red dashed lines outline landslide groups
Yelow letter labels identifiy the landslide groups
Blue residential street footprint is proposed development

FIGURE 1
Otay Mesa Landslide Zones
Per Geocon, Inc. 2021



- Diamond Exploration Corehole And Groundwater Monitoring Well
- Historic Water Level From Geocon Boring for Rail Transfer Facility, 2001
- Elevation of Surface Water Flow in Spring Canyon at International Border

Groundwater levels in monitor wells Measured 5/2/2023, for this revision.

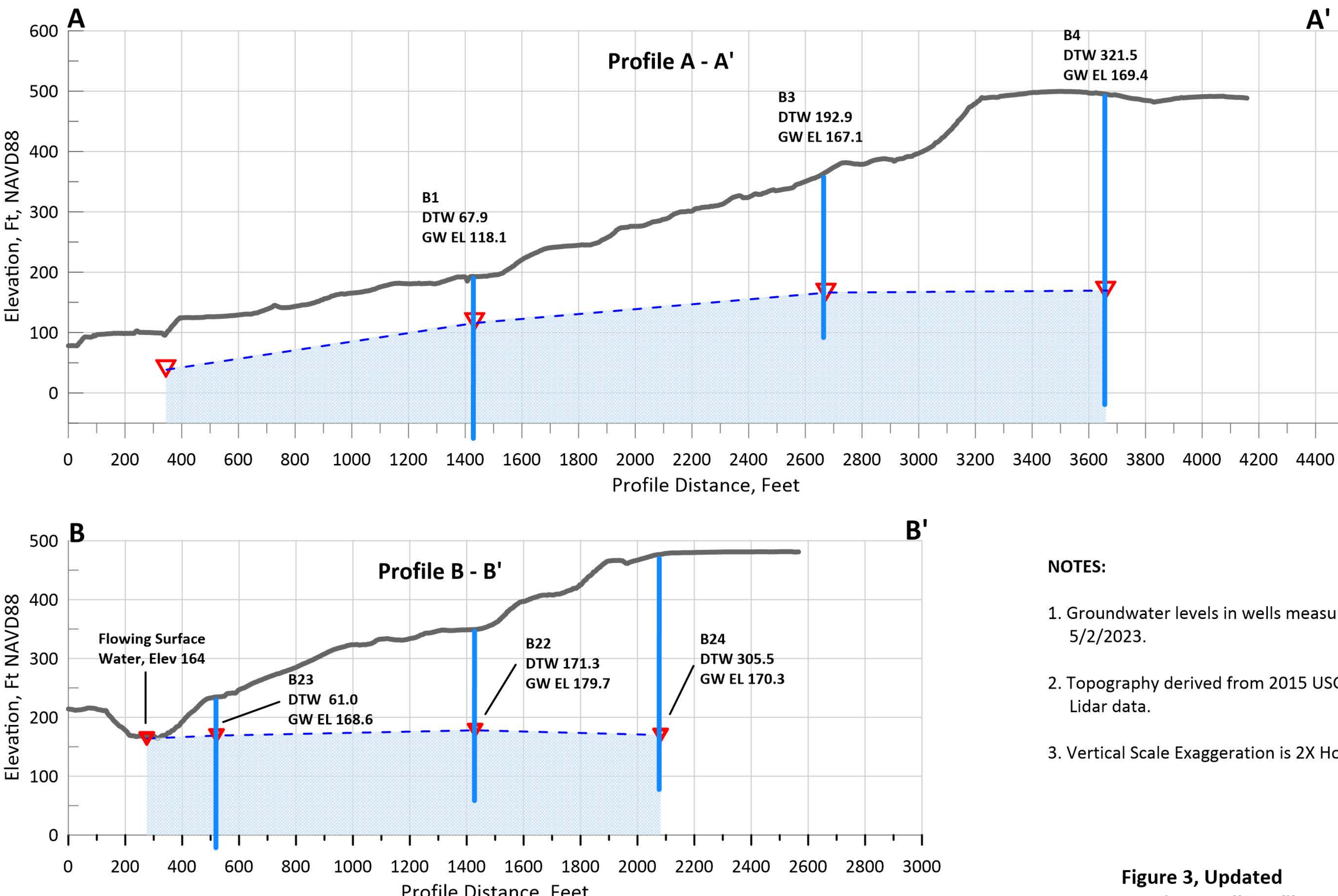
Five foot topographic contours and shaded relief topo rendering computed from 2015 USGS/NOAA Lidar dataset. Elev Datum is NAVD88, International Feet

0 1000 2000 3000 4000
Distance, Feet

FIGURE 2, Revised

Shaded Relief Topographic Map Showing Geocon Landslide Investigation Coreholes and Monitor Well Locations Otay Mesa, San Diego County, CA

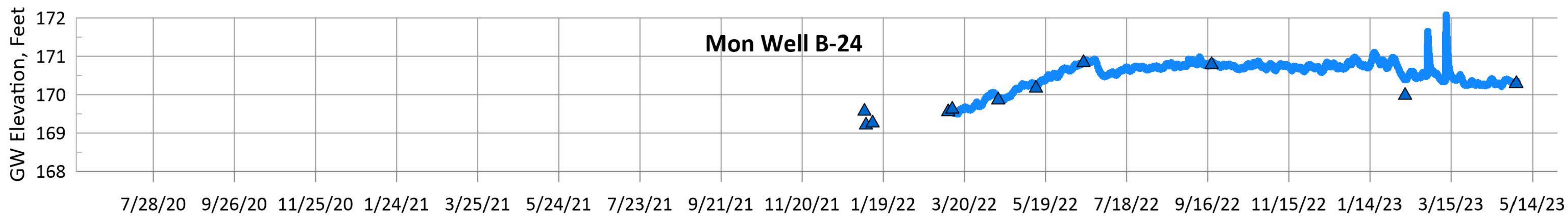
DUDEK

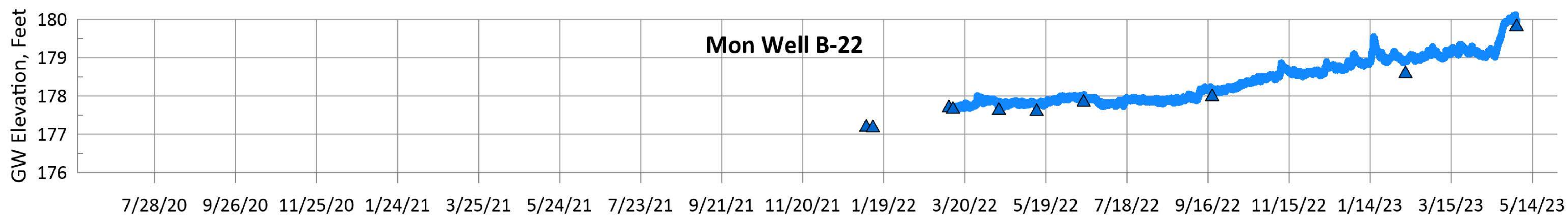


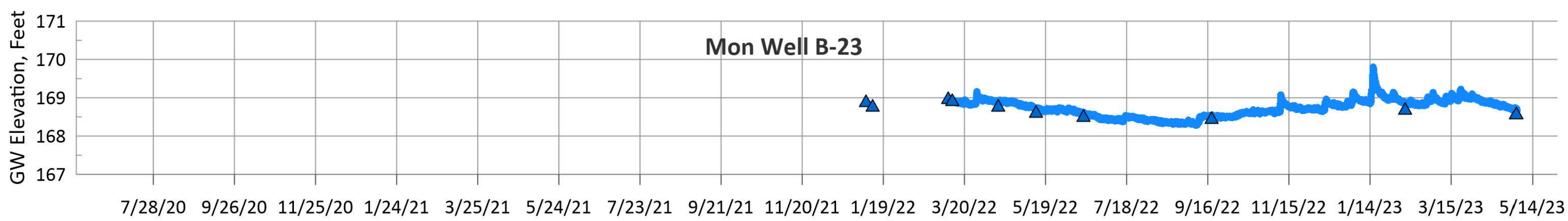
NOTES:

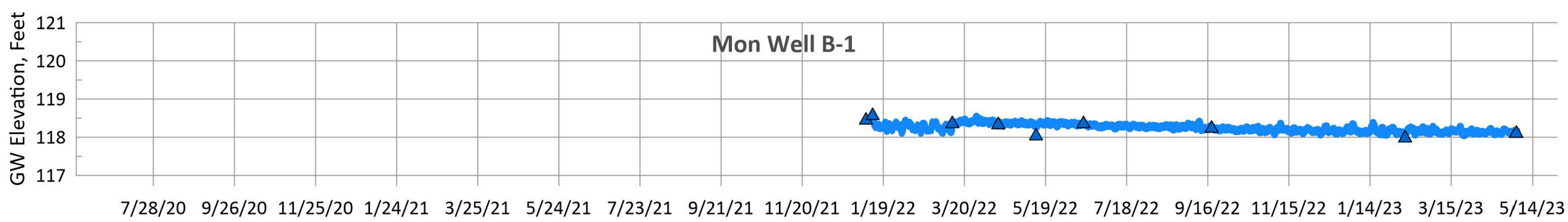
1. Groundwater levels in wells measured 5/2/2023.
2. Topography derived from 2015 USGS/NOAA Lidar data.
3. Vertical Scale Exaggeration is 2X Horizontal

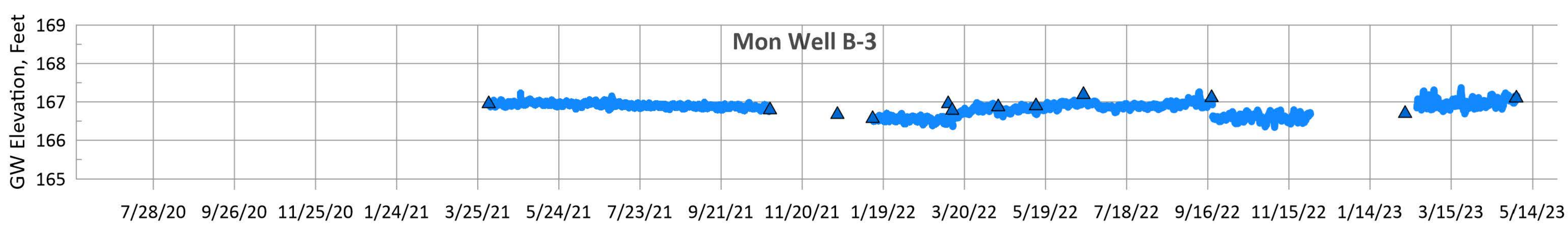
Figure 3, Updated
Monitor Well Profiles A and B
Otay Mesa, Geocon Landslide Areas A and C
San Diego County, CA

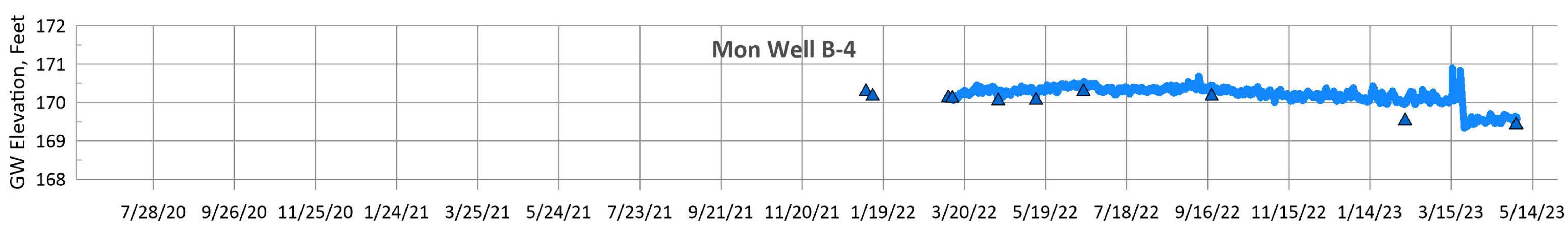


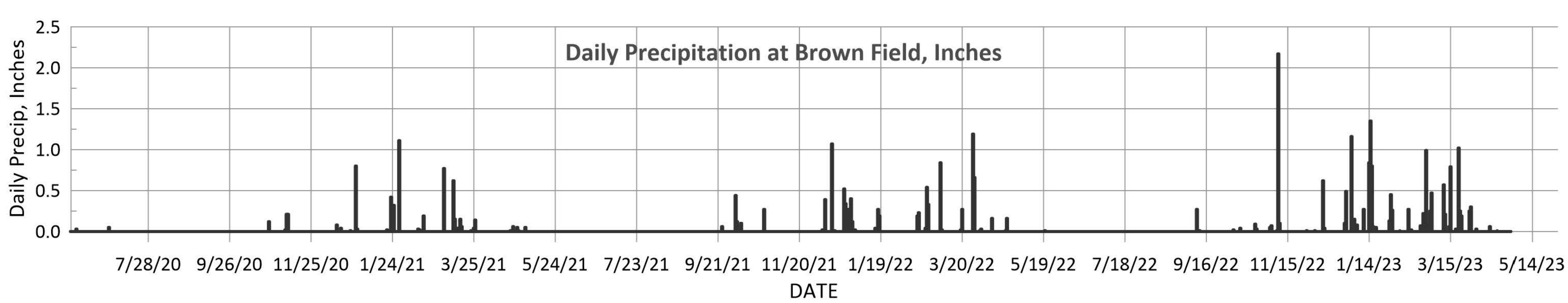












NOTES:

B-23 Water level elevation, logged by Solinst transducer/recorder

B23 Manual water level, measured with electric water level sounder

Daily rainfall recorded at NWS weather station 3178, Brown Field Airport

PLATE 1

Daily Rainfall Fall 2019 to Spring 2023
Groundwater Elevations In
Geocon Exploration Core Borings
Through May 3, 2023
Otay Mesa, San Diego County, CA

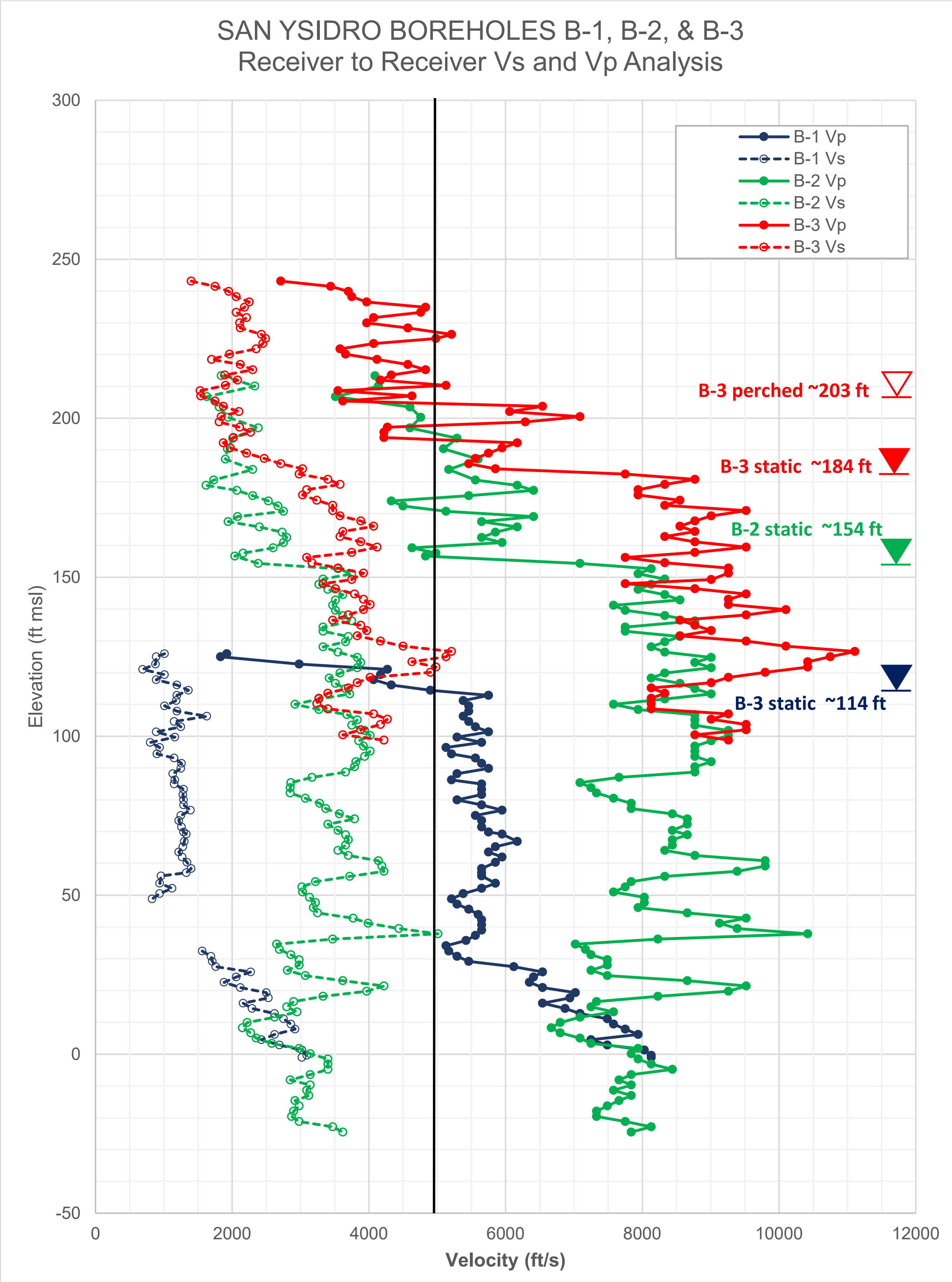
Monitor Well Levels Updated May 03, 2023

DUDEK

Appendix A

Results, Geovision Borehole Seismic Measurements in B-1, B-2, B-3

Phase I Exploration Drilling, 2021


SAN YSIDRO BOREHOLES B-1, B-2, & B-3
Receiver to Receiver Vs and Vp Analysis
B-1 Vp
B-1 Vs
B-2 Vp
B-2 Vs
B-3 Vp
B-3 Vs
B-3 perched ~203 ft
B-3 static ~184 ft
B-2 static ~154 ft
B-3 static ~114 ft
Elevation (ft msl)
Velocity (ft/s)
300
250
200
150
100
50
0
-50
0
2000
4000
6000
8000
10000
12000

Appendix B

CORE PHOTOGRAPHS, EXPLORATION BOREHOLE B-3


B3:44-56
44-45
46-47
49
51
53-56
57
50.
48
50
52
46
48
46-47
51
53
47


B3:107-116
Qls
107
109
111
113
115
112
115.5
108
110
112
114
116
117


332
327


B3@328
Remolded
Primary Basal Shear Zone

APPENDIX C

SPECIFICATION SHEET, SOLINST LEVELOGGER 5

WATER LEVEL PRESSURE TRANSDUCER AND DATALOGGER

Levelogger® 5

Model 3001

The Levelogger 5 records highly accurate groundwater and surface water level and temperature measurements. It combines a pressure sensor, temperature detector, 10-year lithium battery, and datalogger, sealed within a 22 mm x 160 mm (7/8" x 6.3") stainless steel housing with a corrosion-resistant coating baked-on using polymerization technology.

The Levelogger 5 measures absolute pressure using a Hastelloy® pressure sensor, offering high resolution and an accuracy of 0.05% FS. Readings are stable in extreme pressure and temperature conditions. The Hastelloy sensor can withstand 2 times over-pressure without permanent damage. Combined with the durable coating inside and out, the Levelogger 5 has high corrosion and abrasion resistance in harsh environments.

The Levelogger 5 uses a Faraday cage design, which protects against power surges or electrical spikes caused by lightning. Its durable maintenance-free design, high accuracy and stability, make the Levelogger 5 the most reliable instrument for long-term, continuous water level recording.

Applications

- Aquifer characterization: pumping tests, slug tests, etc.
- Watershed, drainage basin and recharge monitoring
- Stream gauging, lake and reservoir management
- Harbour and tidal fluctuation measurement
- Wetlands and stormwater run-off monitoring
- Water supply and tank level measurement
- Mine water and landfill leachate management
- Long-term water level monitoring in wells, surface water bodies and seawater environments

Fast communication and downloading speeds with a high speed Field Reader 5

Get Quote

Upgraded Features

- Increased stability for communication: single-eye optical interface—easier to clean, more scratch resistant
- Increased memory: 150,000 sets of data
- Stronger, more robust design: double o-ring seals for increased leakage protection
- Better thermistor sensitivity: upgraded platinum RTD
- Superior protection in harsh environments: corrosion and abrasion resistant coating—inside and out
- Enhanced Levelogger Software: improved Diagnostic Utility for more proactive user "self-tests"

Single-eye optical interface

The Levelogger 5 features a smooth, single-eye optical interface, which allows for easy cleaning and more reliable, faster communication. Using a Solinst USB device, including the new Field Reader 5, and Levelogger PC Software, programming and data downloading speeds are 57,600 bps.

Flexible Communication

Levelogger Software is streamlined, making it easy to program dataloggers, and view and compensate data in the office or the field. Data compensation is made simple; multiple data files can be barometrically compensated at once.

The Levelogger 5 App Interface on your in-field Leveloggers creates a *Bluetooth®* connection between your dataloggers and the Solinst Levelogger App on your smart device. The Solinst Readout Unit (SRU) connects to your deployed Leveloggers to display and save real-time water level readings that are automatically barometrically compensated. Also an option, the DataGrabber 5 is a field-ready USB data transfer unit.

Remote monitoring options include the LevelSender 5, a simple and compact device that fits right in a 2" well, STS Telemetry Systems, and the RRL Remote Radio Link. In addition, Levelogger 5 Series dataloggers are SDI-12 compatible.

Levelogger Setup

Programming Leveloggers is extremely intuitive. Simply connect to a PC using an Optical Reader (Desktop Reader 5 or Field Reader 5) or PC Interface Cable. Use a single screen to fill in your project information and sampling regime. Templates of settings can be saved for easy re-use.

The Levelogger time may be synchronized to the computer clock. There are options for immediate start or future start and stop times. The percentage battery life remaining and the amount of free memory are indicated on the settings screen.

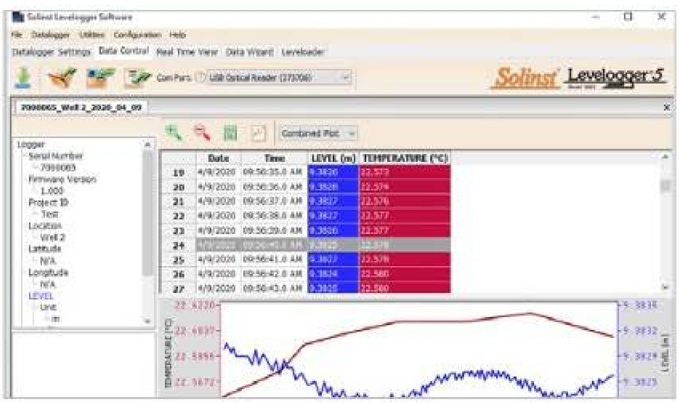
Leveloggers can also be programmed with a sampling regime and start/stop times using the Solinst Levelogger App on your smart device.

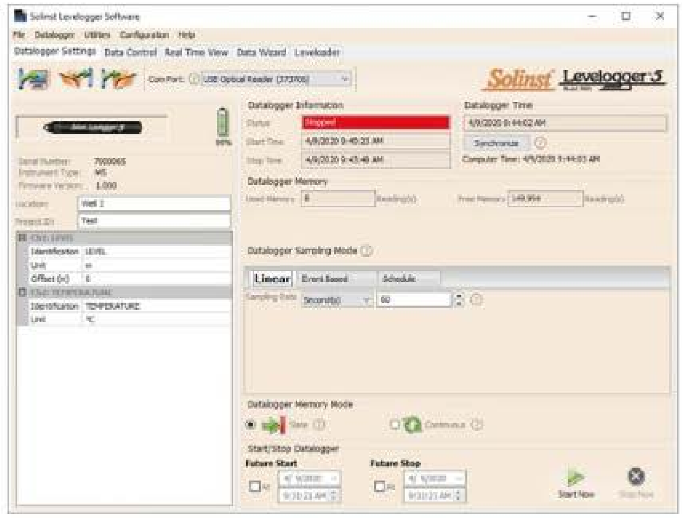
Convenient Sampling Options

Leveloggers can be programmed with linear, event-based, or a user-selectable sampling schedule. Linear sampling can be set from 1/8 second to 99 hours.

Event-based sampling can be set to record when the level changes by a selected threshold. Readings are checked at the selected time interval, but only recorded in memory if the condition has been met. A default reading is taken every 24 hours if no "event" occurs.

The Schedule option allows up to 30 schedule items, each with its own sampling rate and duration. For convenience, there is an option to automatically repeat the schedule.





Data Download, Viewing and Export

Data is downloaded to a PC with the click of a screen icon. There are multiple options for downloading data, including 'Append Data' and 'All Data'. The software also allows immediate viewing of the data in graph or table format using 'Real Time View'.

Level data is automatically compensated for temperature; the temperature data is also downloaded. Barometric compensation of Levelogger data is performed using the Data Wizard, which can also be used to input manual data adjustments, elevation, offsets, density, and adjust for Barometric efficiency. The Levelogger Software allows easy export of the data into a spreadsheet or database for further processing.

The Solinst Levelogger App also allows you to view and save real-time or logged data right on your smart device, or you can view and save the data using an SRU.

Helpful Utilities

The Diagnostic Utility can be used in case of an unexpected problem. It checks the functioning of the program, calibration, backup and logging memories, the pressure transducer, temperature sensor and battery voltage, as well as enabling a complete Memory Dump, if required. A firmware upgrade will be available from time to time, to allow upgrading of the Levelogger 5, as new features are added.

Levelogger 5 App Interface

The Levelogger 5 App Interface uses *Bluetooth*® technology to connect your Levelogger to your smart device. With the Solinst Levelogger App, you can download data, view real-time data, and program your Leveloggers. Data can be e-mailed from your smart device directly to your office (see Model 3001 Levelogger 5 App Interface data sheets).

Download on the App Store

GET IT ON Google play

Standard Cable Deployment

Leveloggers may be suspended on a stainless steel wireline or Kevlar® cord. This is a very inexpensive method of deployment, and if in a well, allows the Levelogger to be easily locked out of sight and inaccessible. Solinst offers wireline and cord assemblies in a variety of lengths.

Solinst 3001 Well Cap Assembly

The 2" Locking Well Caps are designed for both standard and Direct Read Cable deployment options.

The well cap has a convenient eyelet for suspending Leveloggers using wireline or Kevlar cord. The Well Cap insert has two openings to accommodate direct read cables for both a Levelogger and Barologger. Adaptors are available to fit 4" wells.

The cap is vented to equalize atmospheric pressure in the well. It slips over the casing, and can be secured using a lock with a 9.5 mm (3/8") shackle diameter.

Levelogger 2" Locking Well Cap Installations (see Well Caps data sheet for more details)

L5 Direct Read Cables

When it is desired to get real-time data and communicate with Leveloggers without removal from the water, they can be deployed using L5 Direct Read Cables. This allows viewing of data, downloading, and programming in the field using a portable PC, or Solinst Levelogger 5 App Interface. You can view and save data to an SRU, or just download data with a DataGrabber 5.

Leveloggers can be connected to an SDI-12 datalogger using the Solinst SDI-12 Interface Cable attached to a L5 Direct Read Cable.

Cable Specifications

L5 Direct Read Cables are available for attachment to any Levelogger in lengths up to 1500 ft. The 3.175 mm dia. (1/8") coaxial cable has an outer polyurethane jacket for strength and durability. The stranded stainless steel conductor gives non-stretch accuracy.

Barologger 5 and Levelogger 5 installed in Well Using L5 Direct Read Cables

Accurate Barometric Compensation

Leveloggers measure absolute pressure (water pressure + atmospheric pressure) expressed in feet, meters, centimeters, psi, kPa, or bar.

The most accurate method of obtaining changes in water level is to compensate for atmospheric pressure fluctuations using a Barologger 5, avoiding time lag in the compensation.

The Barologger 5 is set above high water level in one location on site. One Barologger can be used to compensate all Leveloggers in a 30 km (20 mile) radius and/or with every 300 m (1000 ft.) change in elevation.

The Levelogger Software Data Compensation Wizard automatically produces compensated data files using the synchronized data files from the Barologger and Leveloggers on site.

The Barologger 5 uses pressure algorithms based on air rather than water pressure, giving superior accuracy.

The recorded barometric information can also be very useful to help determine barometric lag and/or barometric efficiency of the monitored aquifer.

The Barologger 5 records atmospheric pressure in psi, kPa, or mbar. When compensating submerged Levelogger 5, Edge, Gold or Junior data, Levelogger Software can recognize the type of Levelogger and compensate using the same units found in the submerged data file (e.g. feet or meters). This makes the Barologger 5 backwards compatible.

Synchronize and Simplify Barometric Compensation Across Entire Site

Levelogger 5 Specifications

Level Sensor:	Piezoresistive Silicon with Hastelloy Sensor
Accuracy:	± 0.05% FS (Barologger 5: ± 0.05 kPa)
Stability of Readings:	Superior, low noise
Resolution:	0.002% FS to 0.0006% FS
Units of Measure:	m, cm, ft., psi, kPa, bar, C. F (Barologger 5: psi, kPa, mbar, C, F)
Normalization:	Automatic Temperature Compensation
Temp. Comp. Range:	0 to 50 C (Barologger 5: -10 to +50 C)
Temperature Sensor:	Platinum Resistance Temperature Detector (RTD)
Temp. Sensor Accuracy:	± 0.05 C
Temp. Sensor Resolution:	0.003°C
Battery Life:	10 Years – based on 1 reading/minute
Clock Accuracy (typical):	± 1 minute/year (-20 C to 80 C)
Operating Temperature:	-20 C to 80 C
Maximum # Readings:	150,000 sets of readings
Memory Mode:	Slate and Continuous
Communication:	Optical high-speed: USB, SDI-12 57,600 bps with USB
Size:	22 mm x 160 mm (7/8" x 6.3")
Weight:	146 grams (5.2 oz)
Corrosion Resistance:	Baked-on coating using polymerization technology (inside and out)
Other Wetted Materials:	Delrin®, Viton®, 316L stainless steel, Hastelloy, PFAS-free PTFE coating
Sampling Modes:	Linear, Event & User-Selectable with Repeat Mode, Future Start, Future Stop, Real-Time View
Measurement Rates:	1/8 sec to 99 hrs
Barometric Compensation:	Software Wizard and one Barologger 5 in local area (approx. 30 km/20 miles radius)

Models	Full Scale (FS)	Accuracy	Resolution
Barologger	Air only	± 0.05 kPa	0.002% FS
M5	5 m (16.4 ft.)	± 0.3 cm (0.010 ft.)	0.001% FS
M10	10 m (32.8 ft.)	± 0.5 cm (0.016 ft.)	0.0006% FS
M20	20 m (65.6 ft.)	± 1 cm (0.032 ft.)	0.0006% FS
M30	30 m (98.4 ft.)	± 1.5 cm (0.064 ft.)	0.0006% FS
M100	100 m (328.1 ft.)	± 5 cm (0.164 ft.)	0.0006% FS
M200	200 m (656.2 ft.)	± 10 cm (0.328 ft.)	0.0006% FS

Low Cost Datalogging: See Levelogger 5 Junior data sheet.
Vented Dataloggers: See LevelVent 5 & AquaVent 5 data sheets.
Conductivity Datalogging: See Levelogger 5 LTC data sheet.

® Delrin and Viton are registered trademarks of DuPont Corp.

DataGrabber 5

The DataGrabber 5 is a field-ready data transfer device that allows you to copy data from a Levelogger onto a USB flash key (Dual USB & USB-C key provided).The DataGrabber 5 is compact and very easy to transport. It connects to the top end of a Levelogger's Direct Read Cable, or directly to a Levelogger using an adaptor. One push-button is used to download all of the data in a Levelogger's memory to a USB device.

Solinst Readout Unit (SRU)

Connect an SRU to an in-field Levelogger via an L5 Direct Read Cable or L5 Threaded or Slip Fit Adaptor to display instant water level readings, Levelogger status, save a real-time logging session, and download data to the SRU memory.

LevelSender 5 Telemetry

The LevelSender 5 is a simple, low cost telemetry system designed to send data from Leveloggers in the field, to your smart device and PC database via cellular communication.

Initial set up is done through a user-friendly software wizard at the Home Station. There is two-way communication between the LevelSender 5 and Home Station, allowing remote updates.

Each LevelSender 5 device has a single port to connect one Levelogger with an optional splitter that allows the connection of two.

LevelSender 5 stations are compact in design, which allows them to be discreetly installed inside a 2" (50 mm) well (see Model 9500 data sheet).

STS Telemetry

STS Telemetry provides an efficient method to send Levelogger data from the field to your desktop. Cellular communication options give the flexibility to suit any project. STS Systems are designed to save costs by enabling the self-management of data. Alarm notification, remote firmware upgrades and diagnostic reporting make system maintenance simple (see Model 9100 data sheet).

RRL Remote Radio Link

The RRL Remote Radio Link is ideal for closed-loop, short range applications up to 30 km (20 miles). The RRL can be linked to an STS telemetry station to change from a closed-loop telemetry system to one which can be accessed from anywhere through internet connectivity. (see Model 9200 data sheet).

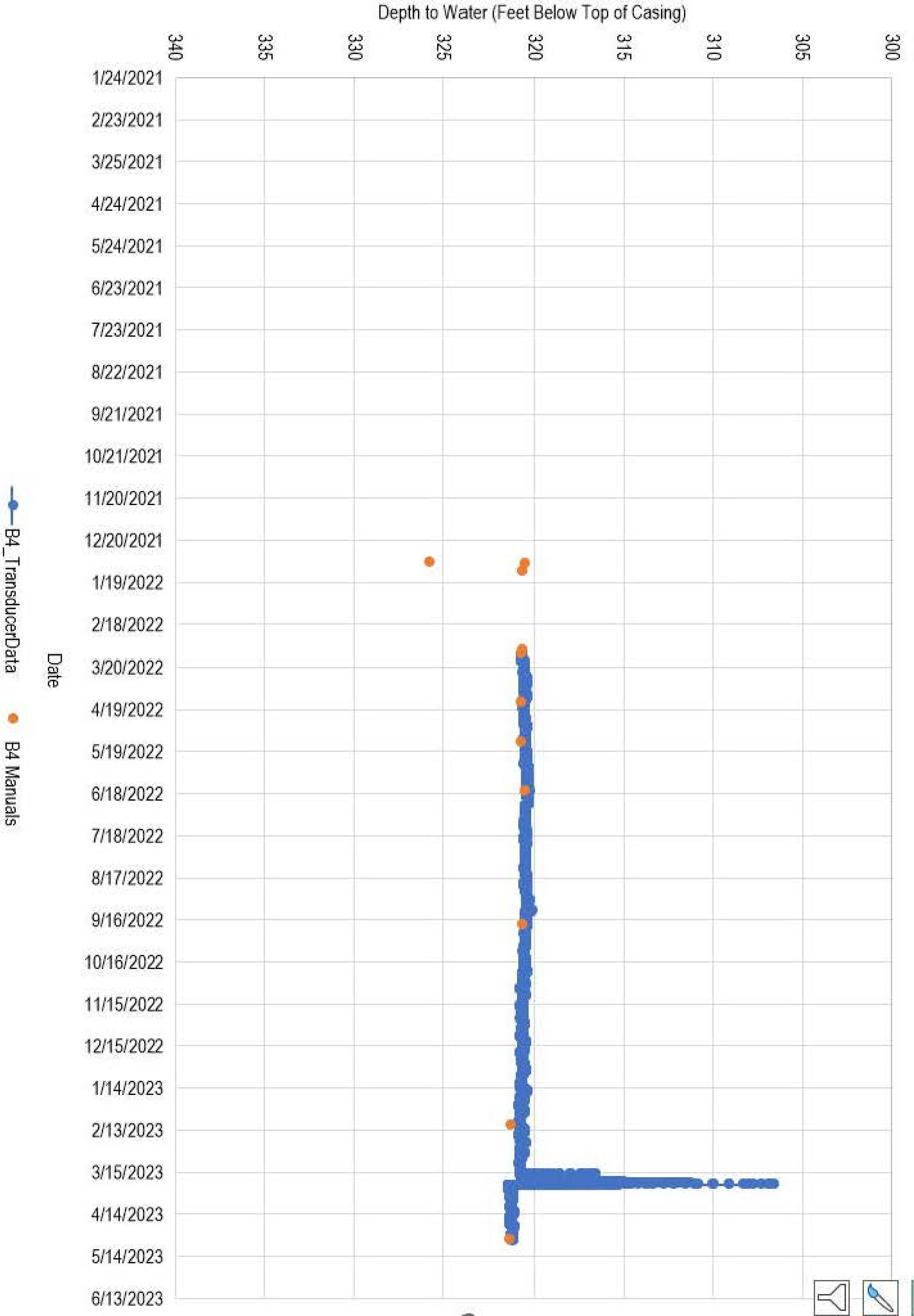
APPENDIX D

Photograph and Portion of Groundwater Level

Hydrograph for Monitor Well B-4

Showing Anomalous Rise of Groundwater Due to

Entry of Surface Water Into Well Vault During Rainfall Events



Depth to Water (Feet Below Top of Casing)
340
335
330
325
320
315
310
305
300
1/24/2021
2/23/2021
3/25/2021
4/24/2021
5/24/2021
6/23/2021
7/23/2021
8/22/2021
9/21/2021
10/21/2021
11/20/2021
12/20/2021
1/19/2022
2/18/2022
3/20/2022
4/19/2022
5/19/2022
6/18/2022
7/18/2022
8/17/2022
9/16/2022
10/16/2022
11/15/2022
12/15/2022
1/14/2023
2/13/2023
3/15/2023
4/14/2023
5/14/2023
6/13/2023
Date
B4_TransducerData
B4 Manuals