



January 14, 2021

Dave Eller  
RockSol Consulting Group, Inc.  
566 West Crete Circle, Suite 2  
Grand Junction, CO 81505  
[eller@rocksol.com](mailto:eller@rocksol.com)

**Subject: 24 and G Road Pedestrian Underpass Groundwater Study  
City of Grand Junction, Colorado**

Greetings, Mr. Eller:

DOWL recently performed a groundwater study at Canyon View Park to determine groundwater conditions and potential pumping requirements for the proposed 24 and G Road Pedestrian Underpass project in Grand Junction, Colorado. We constructed groundwater monitoring and testing wells, installed instrumentation, and performed a series of field tests to estimate groundwater parameters at this site. Our methods, field findings, and the results of our analysis are presented in this report.

### **Project Background**

The project site is located in the southwest corner of Canyon View Park and at the northeast corner of the G Road and 24 Road intersection (see the attached Map 1 - Vicinity Map). A pedestrian underpass is planned under G Road as part of a regional trail system. A branch of West Leach Creek flows to the south between the west edge of the park and the east side of 24 Road.

Based on RockSol's geotechnical report for the "*24 Road and G Road Improvements*" dated July 24, 2020 for the City of Grand Junction (RockSol Project #599.07), two boreholes were drilled near the underpass location east of the intersection. The borehole on the north side of G Road (boring UP-1) was drilled to 30 feet and groundwater was measured at 7 feet below ground surface during the June 10, 2020 drilling. The borehole on the south side of G Road (boring UP-2) was drilled to 25 feet and groundwater was measured at 9 feet below ground surface during drilling on June 10 and at 6 feet below ground surface after the monitoring well was constructed in that borehole on June 15, 2020.

Based on these observed shallow groundwater conditions, the project geotechnical lead (RockSol), the design engineers (SGM), and the City of Grand Junction engineering staff have requested more information about the potential need for construction dewatering and the need to install a permanent sump system to dewater the underpass. Therefore, this report is intended to provide a better understanding of groundwater conditions and aquifer characteristics to assist in design of a temporary dewatering system for construction and a permanent sump system for emergency dewatering.



## Methods

To further evaluate the hydrogeologic conditions of the site we installed two monitoring wells and a pumping well. Then, after well construction and development, we installed temporary groundwater monitoring data loggers in all the wells and conducted a series of aquifer tests. As seen in the attached Site Plan (Map 2), we drilled three boreholes on the north side of G Road with one of them serving as a test (or pumping) well (TW-1) and two of them serving as monitoring wells (MW-1 and MW-2). As seen on Map 2, MW-1 is located within the proposed underpass corridor, while MW-2 is located on the northwest side and TW-1 is on the south side of the corridor. A third monitoring well (MW-3), located on the south side of G Road, was used in our study which had been installed in borehole UP-2 by RockSol during their June 2020 geotechnical investigation.

Solinst data loggers were installed in the wells and programmed to record water levels at pre-determined intervals. Various tests including step tests, constant rate pumping tests, and slug tests were performed to evaluate the aquifer conditions and provide estimates of aquifer parameters including hydraulic conductivity, storativity, transmissivity, and pumping rates.

## Boreholes & Well Installations

Prior to drilling the boreholes, a vacuum truck was used at each drill spot to locate and “clear” any shallow underground utilities that may have been present. Therefore, approximately the top 6 feet of each borehole was a void due to the flushing action and the soils could not be accurately identified. A visual inspection of the top 6 feet of each borehole wall indicates mostly gravelly fill material is present.

Boreholes were then drilled by DA Smith Drilling on December 9, 2020 using a Simco 9100 truck mounted drill rig. Hollow stem augers (HSA) were used and Standard Penetration Tests (SPT) were taken every roughly 2.5 feet to gather blow counts and obtain split spoon samples for USCS field classification of soil types. The borehole logs are included in Appendix A as BH#1 through BH#3 for MW-2, MW-1 and TW-1 respectively. In the three boreholes, we generally found soft to very soft, moist to saturated, clayey silt (ML) to silty clay (CL) with minor discontinuous lenses of silty fine sand. Typical blow counts ranged from 0 (weight of hammer) to less than 5.

The subsurface materials encountered during this investigation are consistent with those reported by RockSol (Project #599.07). Therefore, a detailed discussion of the geologic conditions, surface and subsurface soils conditions has not been repeated here.

The boreholes for MW-1 and MW-2 were drilled to 25 feet (using 7.5" O.D. HSA's). Monitoring wells were then constructed with 2-inch prepacked PVC screens from 5 to 20 feet and blank pipe from 0 to 5 feet. The annular space of the screened section was filled with silica sand while the blank section was filled with bentonite. The borehole for TW-1 was drilled to 30 feet (using 11" O.D. HSA's) with a 6-inch prepacked PVC screen from 10 to 20 feet and blank pipe from 20 to 25 feet and 0 to 5 feet. The annular space of the screen section was filled with silica sand, while the annular space of any blank section was filled with bentonite chips. Upon completion,



the three new wells were flushed and developed by airlifting. The existing 1.5-inch PVC well at MW-3 was also flushed and developed. Then, all the wells were outfitted with concrete encased flush-mount manhole covers.

By Friday, December 11, all the wells were constructed, developed, and groundwater levels had begun to equilibrate. So, the temporary pump was installed in TW-1 and groundwater level monitoring data loggers were installed in all four wells. The wells were then allowed to continue equilibrating throughout the weekend. See attached Photo Log for various site photographs.

## **Well Testing**

The originally proposed well testing program included the following phases:

### Phase 1 - Pre-Testing Background Monitoring

Monitoring water levels in all the wells for a period of 3 or 4 days prior to testing to allow the groundwater time to equilibrate in each newly constructed well and to establish the natural background trend of groundwater level.

### Phase 2 - Step Drawdown Test

Conducting a step drawdown test on the pumping well (TW-1) to establish the maximum constant rate that it could sustain for up to 24-hours of continuous pumping.

### Phase 3 - 24-Hour Constant Rate Drawdown Test

Conducting a 24-hour constant rate pumping test that included pumping TW-1 and monitoring water levels in all the wells to document the amount of drawdown.

### Phase 4 - Recovery Test

Conducting a recovery test that included shutting the pump in TW-1 off and accurately monitoring the recovery rate of the water levels in all the wells for up to 48-hours.

### Phase 5 - Post Testing Background Monitoring

Monitoring water levels in all the wells for a period of 2 to 3 days after the recovery test to further establish the natural background trend of groundwater level.

However, due to extremely slow recharge rates and the reality of dewatering the well in a relatively short period of time even with a very low pumping rate, the well testing protocol was modified to the following phases:

### Phase 1 - Pre-Testing Background Monitoring

This occurred between when the wells were constructed and developed on Friday, December 11 through Tuesday December 15.

### Phase 2 - Step Drawdown Tests

These tests were first attempted on December 15<sup>th</sup> when we tried to pump TW-1 at 3 gallons per minute (gpm). The well pumped dry after approximately 12 minutes and a constant sustainable pumping rate could not be established. The following day, December 16<sup>th</sup>, we again tried to pump TW-1 at a lower rate of 0.36 gpm, but it again



pumped dry after approximately 40 minutes. This was the lowest pumping rate that the temporary pump (Tornado Plastic 12-Volt) could be set.

These attempted step drawdown tests show that TW-1 will produce little to no groundwater on a continual basis. This is despite the quality well construction that included an oversize borehole, sand/filter pack, prepack screen, and development. Also, the data collected during these tests has little value because it cannot be evaluated to determine aquifer parameters.

#### Phase 3 – Slug Testing

Since the 24-Hour Constant Rate Drawdown Test could not be conducted because the pumping well (TW-1) makes little to no water, a series of Slug Tests were performed in MW-1 on December 15 and 16. A slug test is an aquifer test where water or a solid bailer is quickly added or removed from a groundwater well, and the change in head (water column height) is monitored through time. The data that is collected is used to estimate the near-well aquifer parameters such as transmissivity, hydraulic conductivity, and storativity.

Slug tests were only conducted in MW-1 because it is at the center of the pedestrian tunnel project and because the soil lithology and drilling results of this well are consistent with the other wells. We believe that additional slug tests in other wells may produce similar results. Additional testing slug testing can be done if needed since the wells are still in place.

#### Phase 4 - Recovery Test

This test could not be conducted as planned because the pumping well (TW-1) could not be pumped for 24 hours. However, recovery data was collected after the step drawdown tests were concluded, as shown in Figure 1 (Appendix B).

#### Phase 5 - Post Testing Background monitoring

This testing occurred after the Slug Testing (further described below) was completed. This occurred between Wednesday December 16<sup>th</sup> through Monday December 21<sup>st</sup>, 2020.

All the data collected during the tests described above is provided as Figures 1 through 4 in Appendix B. Tables of each data set are provided in Appendix C in the following order: TW-1, MW-1, MW-2, and MW-3.

As noted on the chart for MW-3, groundwater levels recovered very slowly after developing this well and did not fully recover. Consequently, the groundwater levels measured in this well during this monitoring period do not represent natural groundwater conditions. Only the first data point on 12/9/2020 is considered valid. Over long term the water level may recover in MW-3 and again represent natural groundwater conditions.

The slug testing data and evaluation results are included in Appendix D. First a composite figure of all the slug tests is presented in Figure 1. Then the data tables and finally the AQTESOLV analytical results.



## Groundwater Evaluation

While drilling the boreholes, groundwater was encountered at depths of approximately 7 to 9 feet below ground surface and continued to be present in the soils, making them saturated to the total depth of all the borings. This is consistent with RockSol's investigation, where saturated soils were documented from between 4 to 9 feet below ground to the total depth of their borings when drilled in the summer of 2020. RockSol had three borings (T-1 through T-3) that extended through the full thickness of the alluvium and colluvium to bedrock (shale/claystone) that is present at 46 to 53 feet below ground surface.

Based on boring logs, groundwater underlies this site in a shallow, relatively thin alluvial aquifer with a saturated thickness between 45 to 48 feet. The boring logs indicate that there are distinct layers within the aquifer and a solid impermeable bottom. In general, this includes:

### Clay with silt (layer 1)

From: 8-9 feet below ground (the water table)  
To: 37 feet (approximate top of the gravel layer)

### Gravel, sandy with cobbles (layer 2)

From: 37 feet (approximate top of the gravel layer)  
To: 46 feet (approximate bottom of the gravel layer)

### Clay, sandy, weathered claystone and Shale / Bedrock (bottom)

From: 46 feet (approximate bottom of the gravel layer)  
To: Unknown thickness, but to at least 72.1 feet at RockSol borehole T-3.

This investigation focused on the upper portion of the aquifer (layer 1) since this is where construction of the pedestrian tunnel will occur and where the pedestrian tunnel will reside. The lower portion of the aquifer (layer 2) has notably different and likely much higher value aquifer parameters. Layer 2 was not investigated because it is well below the pedestrian tunnel, as understood from RockSol's report, and would not be intersected with open excavation construction activities.

Groundwater levels measured on December 11<sup>th</sup>, 2020 are presented on the attached groundwater elevation map (Map-3). This map shows that the groundwater gradient is sloping to the south east and dropping approximately 1-foot between the endpoints (i.e. between MW-2 and MW-3). These observations represent groundwater conditions during the monitoring period only, and may not be indicative of other times, or at other locations. Groundwater conditions can change with varying seasonal and weather conditions, and other factors.

Both layers of the alluvium/colluvium deposits previously described are saturated with groundwater. In the upper fine-grained soils layer (layer 1) groundwater is in an unconfined condition. In the underlying coarse-grained soils layer (layer 2) the groundwater condition is not known but is likely in a leaky confined (or semi confined) condition.



## Engineering Analysis & Recommendations

Groundwater modeling was conducted by analyzing the slug tests with AQTESOLV. Results are presented in Table 1. Details of the analytical results for each test are presented in Appendix D. As mentioned, slug tests provide estimates of hydraulic conductivity and transmissivity. Depending on the analytical solution used values of storativity are also estimated. The Dagan method used here, does not provide a value for storativity.

**Table 1. Slug Test Results**

Well Number	Analytical Solution <sup>1</sup>	Hydraulic Conductivity, K		Transmissivity	
		(ft/day)	(cm/second)	Ft <sup>2</sup> /day	cm <sup>2</sup> /second
MW-1 Test #1	Dagan	0.083	2.94 E-5	2.42	0.026
MW-1 Test #2	Dagan	0.089	3.16 E-5	2.61	0.028

<sup>1</sup> Dagan (1978), a semi-analytical method for an overdamped slug test in a well screened across the water table in a homogeneous, anisotropic unconfined aquifer.

Hydraulic conductivity determined with these slug tests are consistent with the clay and silty soils identified while drilling the borings. Results are also consistent with published hydraulic conductivity values for silt. See the highlighted row in Table 2.

**Table 2. Published Values of Hydraulic Conductivity for Unconsolidated Sedimentary Materials**

Material	Hydraulic Conductivity			
	(feet/day)		(centimeters/second)	
	From	To	From	To
Gravel	85.02	8,501.76	3.00E-02	3.00E+00
Coarse sand	0.26	1,700.35	9.00E-05	6.00E-01
Medium sand	0.26	141.70	9.00E-05	5.00E-02
Fine sand	0.06	56.7	2.00E-05	2.00E-02
Silt, loess	2.83E-04	5.7	1.00E-07	2.00E-03
Till	2.83E-07	0.57	1.00E-10	2.00E-04
Clay	2.83E-06	1.33E-03	1.00E-09	4.70E-07
Unweathered marine clay	2.27E-07	5.67E-04	2.27E-05	2.00E-07

The following tables show representative values of hydraulic conductivity for various unconsolidated sedimentary materials, sedimentary rocks and crystalline rocks (from Domenico and Schwartz 1990):



The next step in evaluating this site and possible dewatering pumping requirements would have been to enter these hydraulic conductivity values into AQTESOLV and model a dewatering well system layout. But, this was not possible because of the low hydraulic conductivity of these soils. Actively pumping water from wells out of this low hydraulic conductivity aquifer is not possible because groundwater will not flow into the wells at a high enough rate to sustain pumping. The soils are too tight to adequately yield water to a pumping well. This was proved while attempting to step test the pumping well (TW-1) where even a very low pumping rate of 0.38 gpm could not be sustained. Despite not being able to pump water from TW-1, the testing showed that TW-1 did fill back up with water in approximately 20 hours. Therefore, groundwater is present in the upper (layer 1) of the aquifer and is continuously being recharged, likely from the underlying gravel (layer 2).

### **Conclusions & Recommendations**

- 1) An active dewatering system including higher capacity wells is not feasible or applicable.
- 2) An active dewatering system including closely spaced well points, header piping, and a vacuum pump(s) is a potential option depending on the construction schedule, sequence, and dewatering expertise of a contractor.
- 3) A passive dewatering system that allows for gravity flow of groundwater through the sides and bottom of the excavation(s) and into shallow ditches and sump(s) strategically located may be another alternative. But, again, this depends on the construction schedule, sequence, and dewatering expertise of a contractor.
- 4) If drilled shafts (as described in Section 8.1 of RockSolv's report) are to be utilized for the deep foundations, and if the shaft needs to remain open for a period of time during construction, then the coarse grained soils and groundwater present in the lower layer of gravelly material (layer 2) may be problematic. This layer (layer 2) is likely in a semi confined condition and groundwater could rise upwards in the shaft causing the soils to become unstable and slough into the shaft. Therefore, temporarily casing the drilled shaft may be necessary to stabilize the shaft borehole during construction.
- 5) Due to the limited data collected in this study and the inability to complete sustained pumping, we strongly recommend that the selected dewatering system (both temporary and permanent) be further evaluated prior to implementation. In no case should a dewatering method be used, particularly for a permanent system, without consultation with an experienced dewatering contractor.
- 6) Consideration will need to be given to the geotechnical effects of dewatering (either temporary or permanent) to the foundation soils.

## Limitations

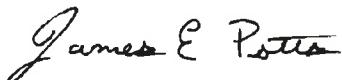
DOWL based the conclusions and recommendations presented in this report on the assumption that site conditions are not substantially different than those exposed by the explorations. If during construction, subsurface conditions are different from those encountered in the explorations, advise DOWL at once to review those conditions and reconsider recommendations if necessary.

DOWL prepared this report for RockSol Consulting Group, Inc.'s use on this project. DOWL recommends you make this report available to The City of Grand Junction, the design team, and prospective contractors for information and factual data only, but not as a warranty of subsurface conditions. DOWL prepared this report, including engineering analyses, recommendations, and figures specifically for the 24 and G Road Pedestrian Underpass project. These recommendations are not applicable to other sites. Do not separate the figures from the text for independent use.

DOWL performed these services consistent with the level of care and skill ordinarily exercised by members of the profession currently practicing in this area under similar time and budgetary constraints. No warranty is made or implied.

Any conclusions made by a construction contractor or bidder relating to construction means, methods, techniques, sequences, or costs based upon the information provided in this report are not the responsibility of RockSol, the City of Grand Junction, or DOWL.

Sincerely,  
**DOWL**



James E. Potts, EIT  
Senior Hydrologist



Laurie J. Brandt, CPG  
Certified Professional Geologist



Attachments: Photo Log  
Map 1 – Vicinity Map  
Map 2 – Site Plan  
Map 3 – Groundwater Elevation Contour Map

- |            |  |
|------------|--|
| Appendix A | TW-1, MW-1, MW-2 Borehole logs<br>TW-1, MW-1, MW-2 and MW-3 Form GWS-31 Well Construction and Yield Estimate Reports |
| Appendix B | TW-1, MW-1, MW-2 and MW-3 Groundwater Level Charts   |
| Appendix C | TW-1, MW-1, MW-2 and MW-3 Groundwater Level Data Tables  |
| Appendix D | MW-1 Slug Tests Analytical Solutions and Data Tables   |

PROJECT NAME: City of Grand Junction 24 & G Rd Pedestrian Underpass

PROJECT NUMBER: 7131.75159.01 REPORT NO: 1

DATE: Dec 2020

NOTES: DA Smith Drilling



FIGURE: 1 – View west at drilling BH#2 (MW-1).



FIGURE: 2 – Sample prepacked well pipe.



FIGURE: 3 – Clay soil stuck to augers (BH#2).



FIGURE: 4 – Developing well (MW-1).



FIGURE: 5 – Drawdown test in TW-1.



FIGURE: 6 – Slug test in MW-1.

## **ATTACHMENTS**

**MAP 1 – VICINITY MAP**

**MAP 2 – SITE PLAN**

**MAP 3 – GROUNDWATER ELEVATION CONTOUR MAP**



**City of Grand Junction  
Pedestrian Underpass  
24 & G Roads**

Drawn By: L. Brandt

Project No: 7131.75159.01

Date: 11/23/2020

MAP 1 – VICINITY MAP

# Site Plan



Location of Monitoring Wells (MW)  
and Test Well (TW)  
(not to scale)



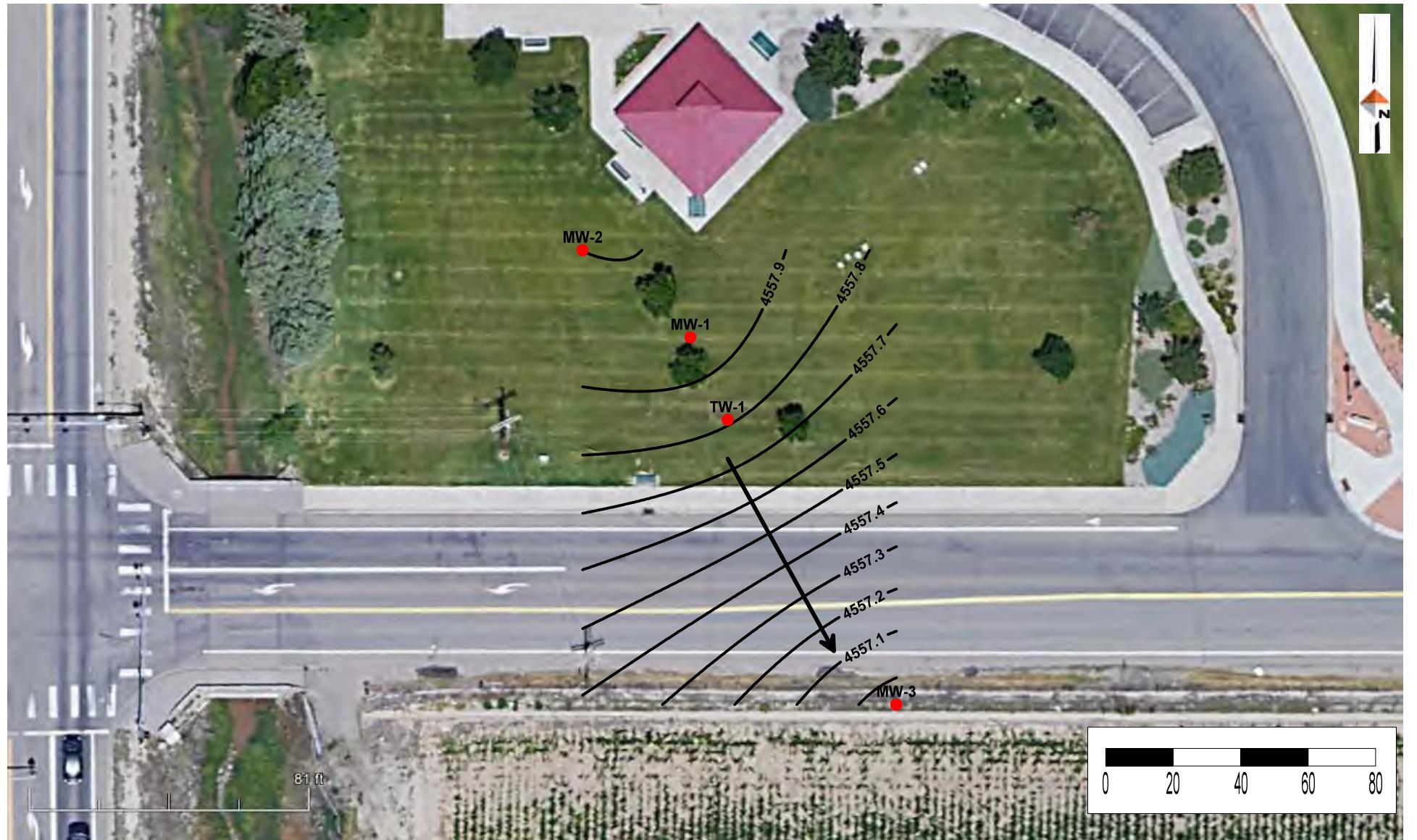
City of Grand Junction  
Pedestrian Underpass  
24 & G Roads

Drawn By: L. Brandt

Project No: 7131.75159.01

Date: 11/23/2020

MAP 2 – SITE PLAN



**City Of Grand Junction  
Pedestrian Underpass  
24 & G Roads**

**GROUNDWATER ELEVATION CONTOUR MAP 12-11-2020**

**Map-3**

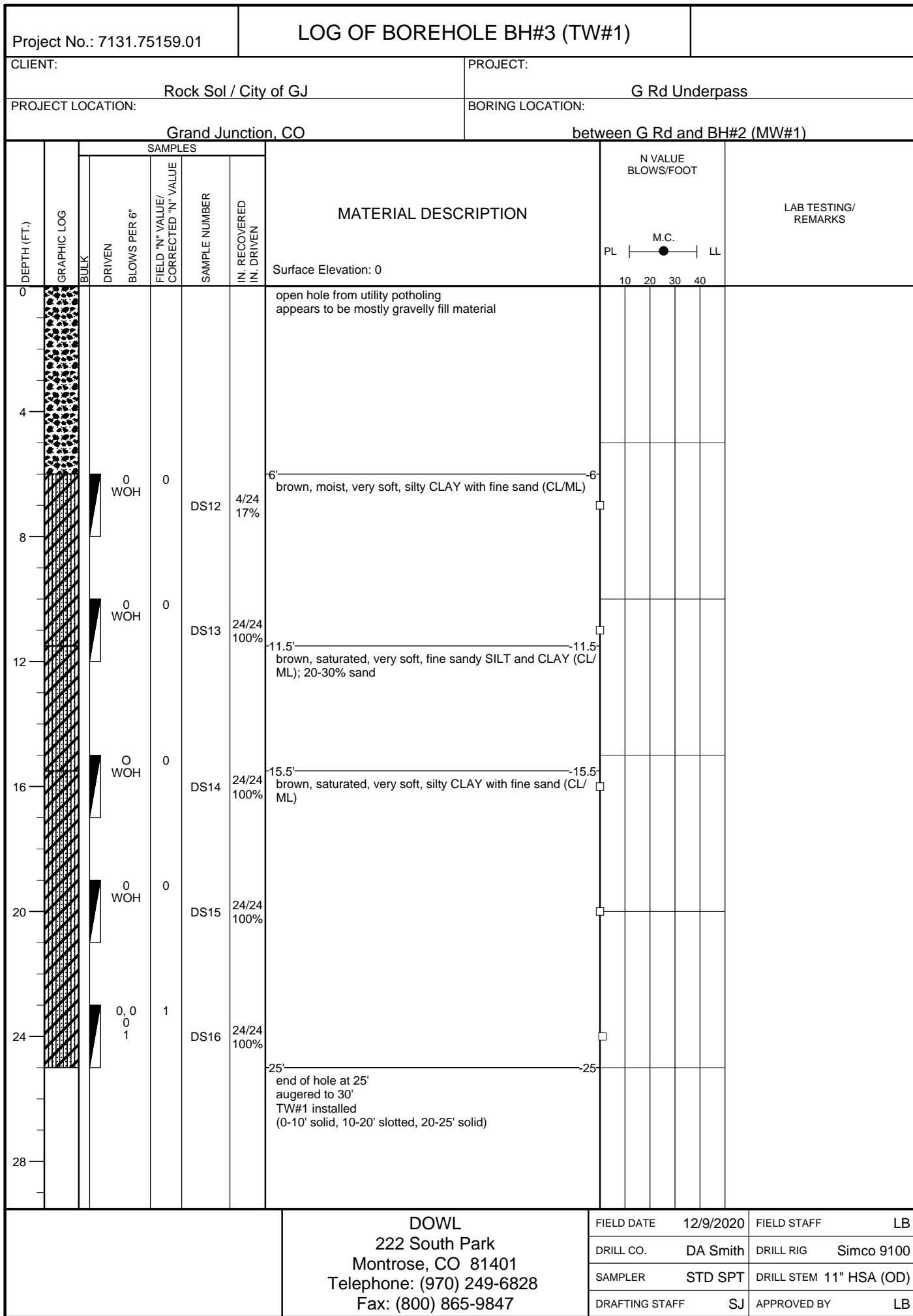
## **APPENDIX A**

### **BOREHOLE LOGS**

**FORM GWS-31 WELL CONSTRUCTION AND YIELD ESTIMATE REPORTS**

Project No.: 7131.75159.01			LOG OF BOREHOLE BH#1 (MW#2)													
CLIENT: Rock Sol / City of GJ						PROJECT: G Rd Underpass										
PROJECT LOCATION: Grand Junction, CO						BORING LOCATION: NW MW by pavilion										
DEPTH (FT.)	GRAPHIC LOG	BULK	DRIVEN	BLOWS PER 6"	FIELD "N" VALUE/ CORRECTED "N" VALUE	SAMPLE NUMBER	IN. RECOVERED IN. DRIVEN	MATERIAL DESCRIPTION				N VALUE BLOWS/FOOT	LAB TESTING/ REMARKS			
0								Surface Elevation: 0				PL 10 20 30 40 M.C. LL				
4								open hole from potholing appears to be mostly gravelly fill material								
8			0 WOH	0		DS1	24/24 100%	6' brown, rusty mottling, moist, very soft, clayey SILT (ML)								
12			0 2 1	3		DS2	18/18 100%	7' brown, rusty mottling, saturated, very soft, clayey SILT with fine sand (CL/ML) ; variable clay and sand content								
16			0 WOH	0		DS3	18/18 100%									
20			0, 0 1 1	2		DS4	24/24 100%	tight clay at 16' for 5"								
24			0 0 1	1		DS5	18/18 100%	18' brown, saturated, soft to very soft, silty CLAY with some fine SAND (CL)								
28			0, 0 3 3	6		DS6	24/24 100%	22' end of hole at 22' (SPT) driller augered to 25' MW#2 installed to 20' (0-5' solid, 5-20' slotted)								
						DOWL 222 South Park Montrose, CO 81401 Telephone: (970) 249-6828 Fax: (800) 865-9847				FIELD DATE	12/9/2020	FIELD STAFF	LB			
										DRILL CO.	DA Smith	DRILL RIG	Simco 9100			
										SAMPLER	STD SPT	DRILL STEM	7.5" OD HSA			
										DRAFTING STAFF	SJ	APPROVED BY	LB			

Project No.: 7131.75159.01			LOG OF BOREHOLE BH#2 (MW#1)							
CLIENT: Rock Sol / City of GJ					PROJECT: G Rd Underpass					
PROJECT LOCATION: Grand Junction, CO					BORING LOCATION: S of pavilion & SE of MW#2					
DEPTH (FT.)	GRAPHIC LOG	BULK	DRIVEN BLOWS PER 6"	FIELD "N" VALUE/ CORRECTED "N" VALUE	SAMPLE NUMBER	IN. RECOVERED IN. DRIVEN	MATERIAL DESCRIPTION	N VALUE BLOWS/FOOT	LAB TESTING/ REMARKS	
0							Surface Elevation: 0	PL 10 20 30 40 M.C. LL		
4							open hole from utility potholing appears to be mostly gravelly fill material			
8			0, 0 WOH	0	DS7	9/24 38%	6'-6' brown, moist to saturated, very soft, clayey SILT to silty CLAY with fine sand (CL/ML)			
12			0, 0 WOH	0	DS8	24/24 100%				
16			0, 0 0 2	2	DS9	24/24 100%	13'-13' brown, saturated, very soft, fine sandy SILT and CLAY (CL/ML); 30% fine sand			
20			0, 0 0 0	0	DS10	24/24 100%	16'-16' brown, saturated, very soft, silty CLAY with fine sand (CL/ML)			
24			0, 0 3 2	5	DS11		20'-20' end of hole at 20' augered to 25' MW#1 installed to 20' (0-5' solid, 5-20' slotted)			
28										
				DOWL 222 South Park Montrose, CO 81401 Telephone: (970) 249-6828 Fax: (800) 865-9847				FIELD DATE	12/9/2020	FIELD STAFF
								DRILL CO.	DA Smith	DRILL RIG
								SAMPLER	STD SPT	DRILL STEM
								DRAFTING STAFF	SJ	7.5" HSA
								APPROVED BY		LB







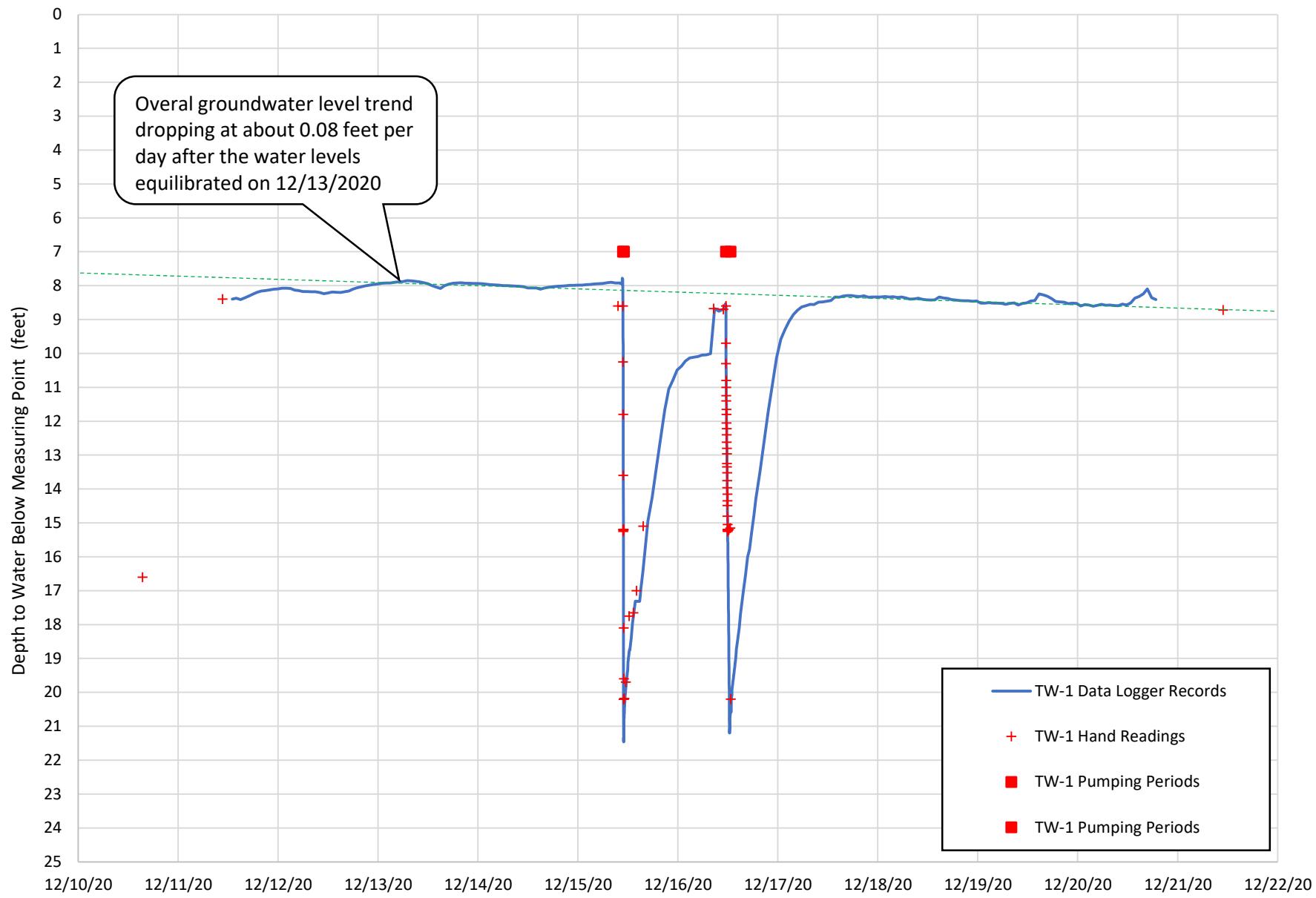




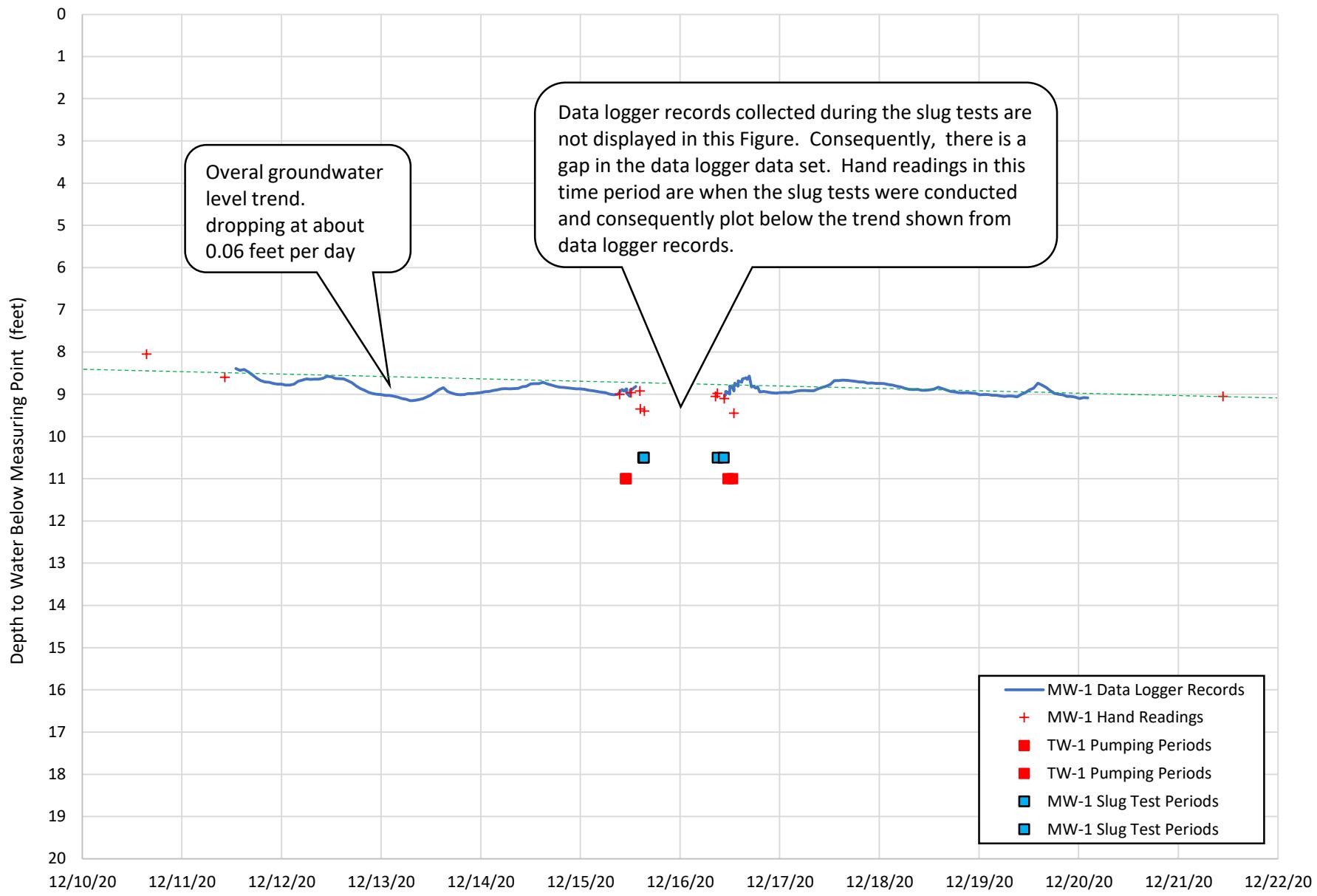
## **APPENDIX B**

### **GROUNDWATER LEVEL DATA CHARTS**

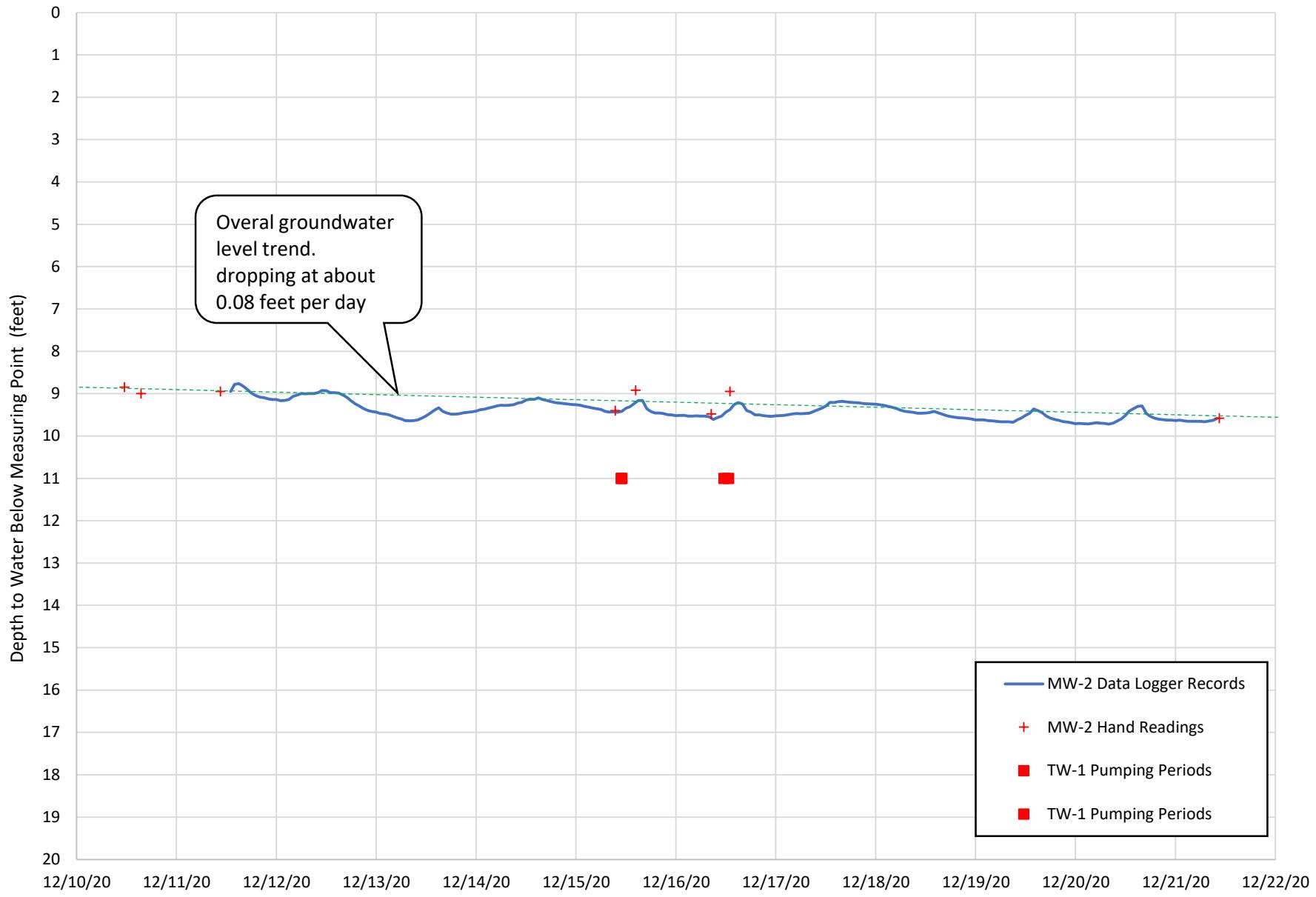
## TW-1 Groundwater Level Records



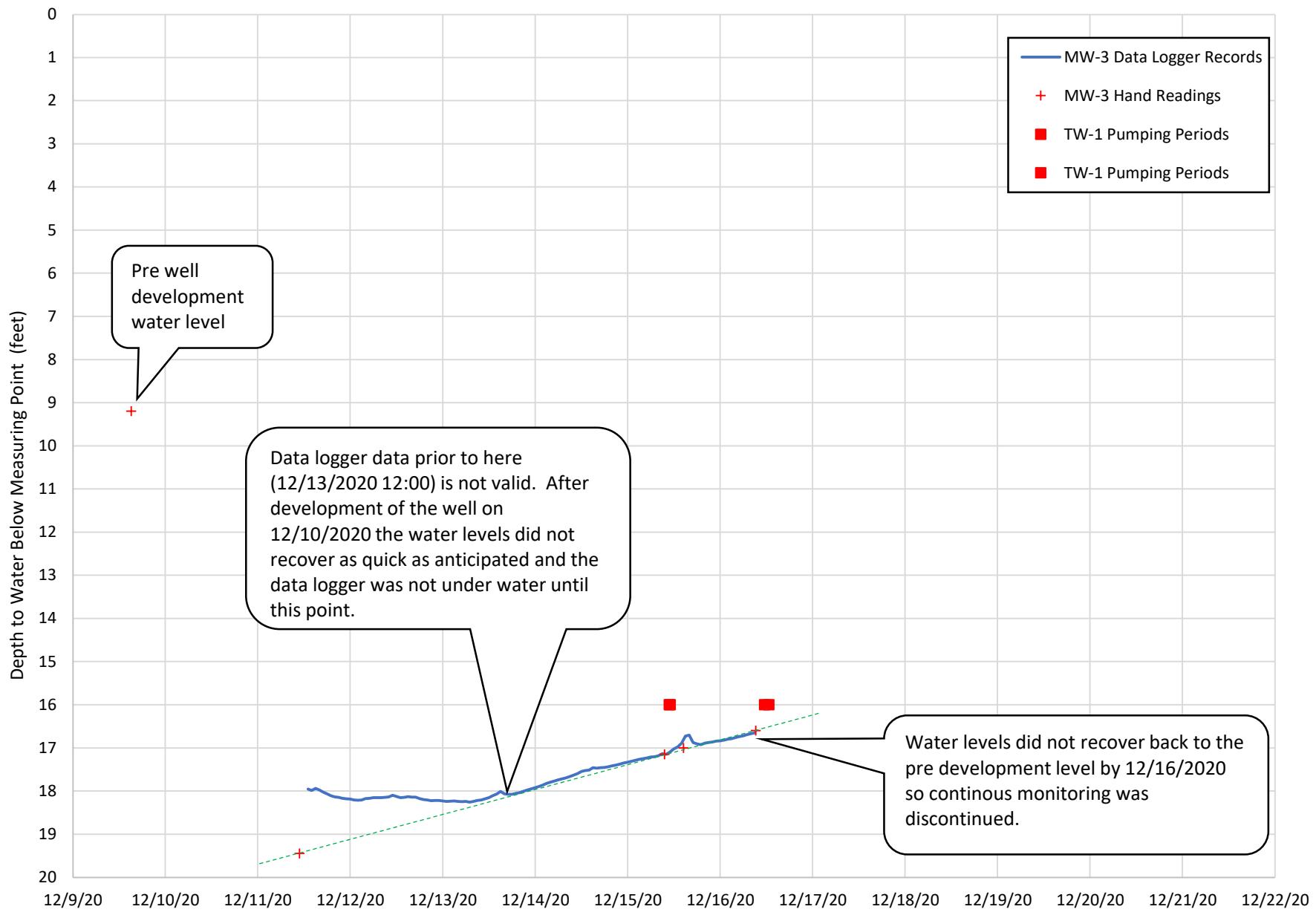
## MW-1 Groundwater Level Records



## MW-2 Groundwater Level Records



## MW-3 Groundwater Level Records



## **APPENDIX C**

### **GROUNDWATER LEVEL DATA TABLES**

## 24 Road and G Road Improvements, Grand Junction Colorado

### Hydrogeologic Evaluation

<b>Well</b>	<b>TW-1</b>
<b>Northing</b>	50,061.72
<b>Easting</b>	79,074.24
<b>Rim Elevation</b>	4,566.52
<b>Top PVC Elevation (Measuring Point)</b>	4,566.25
<b>Top PVC From Rim</b>	-0.27

#### TW-1 Hand Readings

Date - Time	Depth to Water Below (MP)	Temperature C	Comment
12/10/2020 15:30	16.6	Not recorded	initial level
12/11/2020 10:40	8.4	Not recorded	install logger
12/15/2020 9:37	8.6	Not recorded	background
12/15/2020 10:49	8.6	Not recorded	start pump
12/15/2020 10:51	10.25	Not recorded	pump 3 gpm
12/15/2020 10:52	11.8	Not recorded	pump 3 gpm
12/15/2020 10:53	13.6	Not recorded	pump 3 gpm
12/15/2020 10:54	15.25	Not recorded	pump 3 gpm
12/15/2020 10:55	15.2	Not recorded	pump 3 gpm
12/15/2020 10:56	15.2	Not recorded	pump 3 gpm
12/15/2020 10:57	15.2	Not recorded	pump 3 gpm
12/15/2020 10:58	15.2	Not recorded	pump 3 gpm
12/15/2020 10:59	18.1	Not recorded	pump 3 gpm
12/15/2020 11:00	20.2	Not recorded	pump 3 gpm
12/15/2020 11:01	20.2	Not recorded	pump 3 gpm
12/15/2020 11:03	19.6	Not recorded	Stop pump
12/15/2020 11:09	20.18	Not recorded	recovery
12/15/2020 11:32	19.7	Not recorded	recovery
12/15/2020 12:20	17.75	Not recorded	recovery
12/15/2020 13:20	17.65	Not recorded	recovery
12/15/2020 14:05	17	Not recorded	recovery
12/15/2020 15:40	15.1	Not recorded	recovery
12/16/2020 8:35	8.68	Not recorded	recovery
12/16/2020 10:55	8.7	Not recorded	recovery
12/16/2020 11:33	8.6	Not recorded	start pump
12/16/2020 11:34	9.7	Not recorded	pump 0.36 gpm
12/16/2020 11:35	10.3	Not recorded	pump 0.36 gpm
12/16/2020 11:36	10.8	Not recorded	pump 0.36 gpm
12/16/2020 11:37	11	Not recorded	pump 0.36 gpm
12/16/2020 11:38	11.25	Not recorded	pump 0.36 gpm
12/16/2020 11:39	11.4	Not recorded	pump 0.36 gpm
12/16/2020 11:40	11.65	Not recorded	pump 0.36 gpm

Date - Time	Depth to Water Below (MP)	Temperature C	Comment
12/16/2020 11:41	11.8	Not recorded	pump 0.36 gpm
12/16/2020 11:42	12.05	Not recorded	pump 0.36 gpm
12/16/2020 11:43	12.22	Not recorded	pump 0.36 gpm
12/16/2020 11:44	12.4	Not recorded	pump 0.36 gpm
12/16/2020 11:45	12.62	Not recorded	pump 0.36 gpm
12/16/2020 11:46	12.8	Not recorded	pump 0.36 gpm
12/16/2020 11:47	12.96	Not recorded	pump 0.36 gpm
12/16/2020 11:48	13.25	Not recorded	pump 0.36 gpm
12/16/2020 11:49	13.35	Not recorded	pump 0.36 gpm
12/16/2020 11:50	13.52	Not recorded	pump 0.36 gpm
12/16/2020 11:51	13.75	Not recorded	pump 0.36 gpm
12/16/2020 11:52	13.96	Not recorded	pump 0.36 gpm
12/16/2020 11:53	14.15	Not recorded	pump 0.36 gpm
12/16/2020 11:54	14.35	Not recorded	pump 0.36 gpm
12/16/2020 11:55	14.49	Not recorded	pump 0.36 gpm
12/16/2020 11:56	14.8	Not recorded	pump 0.36 gpm
12/16/2020 11:57	15.05	Not recorded	pump 0.36 gpm
12/16/2020 11:58	15.25	Not recorded	pump 0.36 gpm
12/16/2020 11:59	15.2	Not recorded	pump 0.36 gpm
12/16/2020 12:00	15.2	Not recorded	pump 0.36 gpm
12/16/2020 12:01	15.2	Not recorded	pump 0.36 gpm
12/16/2020 12:02	15.2	Not recorded	pump 0.36 gpm
12/16/2020 12:03	15.2	Not recorded	pump 0.36 gpm
12/16/2020 12:15	15.2	Not recorded	pump 0.36 gpm
12/16/2020 12:27		Not recorded	pump off
12/16/2020 12:37	15.15	Not recorded	recovery
12/16/2020 12:41	20.2	Not recorded	recovery
12/21/2020 10:56	8.72	Not recorded	recovery

#### TW-1 Data Logger Records

Date - Time	Depth to Water Below (MP)	Temperature C	Comments
12/11/2020 13:00	8.40	13.33	background
12/11/2020 14:00	8.37	13.33	background
12/11/2020 15:00	8.41	13.34	background
12/11/2020 16:00	8.36	13.34	background
12/11/2020 17:00	8.30	13.34	background
12/11/2020 18:00	8.25	13.35	background
12/11/2020 19:00	8.19	13.35	background
12/11/2020 20:00	8.16	13.35	background
12/11/2020 21:00	8.15	13.36	background
12/11/2020 22:00	8.12	13.36	background
12/11/2020 23:00	8.11	13.36	background
12/12/2020 0:00	8.10	13.36	background
12/12/2020 1:00	8.08	13.36	background

Date - Time	Depth to Water Below (MP)	Temperature C	Comment
12/12/2020 2:00	8.07	13.37	background
12/12/2020 3:00	8.08	13.37	background
12/12/2020 4:00	8.13	13.37	background
12/12/2020 5:00	8.14	13.37	background
12/12/2020 6:00	8.17	13.37	background
12/12/2020 7:00	8.18	13.37	background
12/12/2020 8:00	8.18	13.38	background
12/12/2020 9:00	8.18	13.38	background
12/12/2020 10:00	8.20	13.38	background
12/12/2020 11:00	8.24	13.38	background
12/12/2020 12:00	8.22	13.38	background
12/12/2020 13:00	8.19	13.38	background
12/12/2020 14:00	8.19	13.38	background
12/12/2020 15:00	8.20	13.38	background
12/12/2020 16:00	8.18	13.39	background
12/12/2020 17:00	8.16	13.39	background
12/12/2020 18:00	8.10	13.39	background
12/12/2020 19:00	8.06	13.39	background
12/12/2020 20:00	8.04	13.39	background
12/12/2020 21:00	8.00	13.39	background
12/12/2020 22:00	7.98	13.39	background
12/12/2020 23:00	7.97	13.39	background
12/13/2020 0:00	7.95	13.39	background
12/13/2020 1:00	7.92	13.39	background
12/13/2020 2:00	7.92	13.39	background
12/13/2020 3:00	7.92	13.39	background
12/13/2020 4:00	7.90	13.39	background
12/13/2020 5:00	7.88	13.39	background
12/13/2020 6:00	7.88	13.40	background
12/13/2020 7:00	7.85	13.39	background
12/13/2020 8:00	7.86	13.40	background
12/13/2020 9:00	7.87	13.40	background
12/13/2020 10:00	7.89	13.40	background
12/13/2020 11:00	7.91	13.40	background
12/13/2020 12:00	7.95	13.40	background
12/13/2020 13:00	8.00	13.40	background
12/13/2020 14:00	8.04	13.40	background
12/13/2020 15:00	8.08	13.40	background
12/13/2020 16:00	8.00	13.40	background
12/13/2020 17:00	7.95	13.40	background
12/13/2020 18:00	7.93	13.40	background
12/13/2020 19:00	7.92	13.40	background
12/13/2020 20:00	7.91	13.40	background
12/13/2020 21:00	7.93	13.40	background
12/13/2020 22:00	7.92	13.40	background

Date - Time	Depth to Water Below (MP)	Temperature C	Comment
12/13/2020 23:00	7.93	13.40	background
12/14/2020 0:00	7.94	13.40	background
12/14/2020 1:00	7.94	13.40	background
12/14/2020 2:00	7.95	13.40	background
12/14/2020 3:00	7.97	13.40	background
12/14/2020 4:00	7.98	13.40	background
12/14/2020 5:00	7.99	13.40	background
12/14/2020 6:00	8.00	13.40	background
12/14/2020 7:00	8.00	13.40	background
12/14/2020 8:00	8.00	13.40	background
12/14/2020 9:00	8.01	13.40	background
12/14/2020 10:00	8.02	13.41	background
12/14/2020 11:00	8.03	13.40	background
12/14/2020 12:00	8.07	13.40	background
12/14/2020 13:00	8.07	13.40	background
12/14/2020 14:00	8.07	13.40	background
12/14/2020 15:00	8.10	13.40	background
12/14/2020 16:00	8.07	13.40	background
12/14/2020 17:00	8.05	13.41	background
12/14/2020 18:00	8.03	13.41	background
12/14/2020 19:00	8.02	13.41	background
12/14/2020 20:00	8.01	13.40	background
12/14/2020 21:00	8.00	13.41	background
12/14/2020 22:00	7.99	13.41	background
12/14/2020 23:00	7.99	13.41	background
12/15/2020 0:00	7.99	13.41	background
12/15/2020 1:00	7.98	13.41	background
12/15/2020 2:00	7.97	13.41	background
12/15/2020 3:00	7.96	13.41	background
12/15/2020 4:00	7.95	13.41	background
12/15/2020 5:00	7.94	13.41	background
12/15/2020 6:00	7.93	13.41	background
12/15/2020 7:00	7.91	13.41	background
12/15/2020 8:00	7.90	13.41	background
12/15/2020 9:00	7.92	13.41	background
12/15/2020 10:00	7.92	13.44	background
12/15/2020 10:15	7.92	13.13	background
12/15/2020 10:16	7.93	13.13	background
12/15/2020 10:17	7.93	13.13	background
12/15/2020 10:18	7.93	13.13	background
12/15/2020 10:19	7.93	13.12	background
12/15/2020 10:20	7.93	13.12	background
12/15/2020 10:21	7.93	13.12	background
12/15/2020 10:22	7.93	13.12	background
12/15/2020 10:23	7.93	13.12	background

Date - Time	Depth to Water Below (MP)	Temperature C	Comment
12/15/2020 10:24	7.94	13.12	background
12/15/2020 10:25	7.94	13.11	background
12/15/2020 10:26	7.94	13.11	background
12/15/2020 10:27	7.94	13.11	background
12/15/2020 10:28	7.94	13.11	background
12/15/2020 10:29	7.94	13.11	background
12/15/2020 10:30	7.94	13.11	background
12/15/2020 10:31	7.94	13.11	background
12/15/2020 10:32	7.94	13.11	background
12/15/2020 10:33	7.94	13.11	background
12/15/2020 10:34	7.94	13.11	background
12/15/2020 10:35	7.94	13.11	background
12/15/2020 10:36	7.94	13.11	background
12/15/2020 10:37	7.94	13.11	background
12/15/2020 10:38	7.94	13.11	background
12/15/2020 10:39	7.94	13.11	background
12/15/2020 10:40	7.94	13.11	background
12/15/2020 10:41	7.78	13.11	background
12/15/2020 10:42	7.79	13.11	background
12/15/2020 10:43	7.80	13.11	background
12/15/2020 10:44	7.80	13.11	background
12/15/2020 10:45	7.81	13.11	background
12/15/2020 10:46	7.81	13.11	background
12/15/2020 10:47	7.81	13.14	background
12/15/2020 10:48	7.81	13.15	background
12/15/2020 10:49	8.60	13.15	background
12/15/2020 10:50	8.60	13.16	Start pump
12/15/2020 10:51	9.49	13.16	pumping
12/15/2020 10:52	9.77	13.17	pumping
12/15/2020 10:53	11.57	13.17	pumping
12/15/2020 10:54	13.31	13.18	pumping
12/15/2020 10:55	15.01	13.18	pumping
12/15/2020 10:56	16.76	13.19	pumping
12/15/2020 10:57	18.45	13.19	pumping
12/15/2020 10:58	20.18	13.19	pumping
12/15/2020 10:59	21.46	13.19	pumping
12/15/2020 11:00	21.34	13.18	pumping
12/15/2020 11:01	21.43	13.18	pumping
12/15/2020 11:02	21.36	13.18	pumping
12/15/2020 11:03	20.91	13.15	recovery
12/15/2020 11:04	20.85	13.16	recovery
12/15/2020 11:05	20.80	13.16	recovery
12/15/2020 11:06	20.75	13.18	recovery
12/15/2020 11:07	20.69	13.18	recovery
12/15/2020 11:08	20.65	13.18	recovery

Date - Time	Depth to Water Below (MP)	Temperature C	Comment
12/15/2020 11:09	20.60	13.18	recovery
12/15/2020 11:10	20.55	13.19	recovery
12/15/2020 11:11	20.50	13.19	recovery
12/15/2020 11:12	20.46	13.19	recovery
12/15/2020 11:13	20.41	13.19	recovery
12/15/2020 11:14	20.36	13.19	recovery
12/15/2020 11:15	20.32	13.19	recovery
12/15/2020 11:16	20.28	13.19	recovery
12/15/2020 11:17	20.24	13.19	recovery
12/15/2020 11:18	20.20	13.19	recovery
12/15/2020 11:19	20.17	13.20	recovery
12/15/2020 11:20	20.14	13.20	recovery
12/15/2020 11:21	20.11	13.20	recovery
12/15/2020 11:22	20.08	13.20	recovery
12/15/2020 11:23	20.05	13.20	recovery
12/15/2020 11:24	20.03	13.20	recovery
12/15/2020 11:25	20.00	13.20	recovery
12/15/2020 11:26	19.98	13.20	recovery
12/15/2020 11:27	19.96	13.20	recovery
12/15/2020 11:28	19.93	13.20	recovery
12/15/2020 11:29	19.91	13.20	recovery
12/15/2020 11:30	19.89	13.20	recovery
12/15/2020 11:31	19.87	13.20	recovery
12/15/2020 11:32	19.85	13.20	recovery
12/15/2020 11:33	19.83	13.20	recovery
12/15/2020 11:34	19.80	13.20	recovery
12/15/2020 11:35	19.78	13.20	recovery
12/15/2020 11:36	19.76	13.20	recovery
12/15/2020 11:37	19.74	13.20	recovery
12/15/2020 11:38	19.72	13.20	recovery
12/15/2020 11:39	19.70	13.20	recovery
12/15/2020 11:40	19.68	13.20	recovery
12/15/2020 11:41	19.66	13.20	recovery
12/15/2020 11:42	19.64	13.20	recovery
12/15/2020 11:43	19.62	13.20	recovery
12/15/2020 11:44	19.60	13.20	recovery
12/15/2020 11:45	19.58	13.20	recovery
12/15/2020 11:46	19.56	13.20	recovery
12/15/2020 11:47	19.54	13.20	recovery
12/15/2020 11:48	19.52	13.20	recovery
12/15/2020 11:49	19.50	13.20	recovery
12/15/2020 11:50	19.48	13.20	recovery
12/15/2020 11:51	19.46	13.20	recovery
12/15/2020 11:52	19.44	13.20	recovery
12/15/2020 11:53	19.42	13.20	recovery

Date - Time	Depth to Water Below (MP)	Temperature C	Comment
12/15/2020 11:54	19.41	13.20	recovery
12/15/2020 11:55	19.39	13.20	recovery
12/15/2020 11:56	19.37	13.20	recovery
12/15/2020 11:57	19.35	13.20	recovery
12/15/2020 11:58	19.34	13.20	recovery
12/15/2020 11:59	19.32	13.20	recovery
12/15/2020 12:00	19.14	13.20	recovery
12/15/2020 12:01	19.13	13.20	recovery
12/15/2020 12:02	19.11	13.20	recovery
12/15/2020 12:03	19.09	13.20	recovery
12/15/2020 12:04	19.07	13.21	recovery
12/15/2020 12:05	19.06	13.21	recovery
12/15/2020 12:06	19.04	13.21	recovery
12/15/2020 12:07	19.02	13.21	recovery
12/15/2020 12:08	19.01	13.21	recovery
12/15/2020 12:09	18.99	13.21	recovery
12/15/2020 12:10	18.97	13.21	recovery
12/15/2020 12:11	18.95	13.21	recovery
12/15/2020 12:12	18.93	13.21	recovery
12/15/2020 12:13	18.92	13.21	recovery
12/15/2020 12:14	18.90	13.21	recovery
12/15/2020 12:15	18.88	13.22	recovery
12/15/2020 12:16	18.86	13.21	recovery
12/15/2020 12:17	18.85	13.21	recovery
12/15/2020 12:18	18.83	13.22	recovery
12/15/2020 12:19	18.81	13.22	recovery
12/15/2020 12:20	18.79	13.22	recovery
12/15/2020 12:21	18.78	13.22	recovery
12/15/2020 12:22	18.76	13.22	recovery
12/15/2020 12:23	18.74	13.22	recovery
12/15/2020 12:28	18.74	13.22	recovery
12/15/2020 12:38	18.57	13.21	recovery
12/15/2020 12:48	18.39	13.21	recovery
12/15/2020 12:58	18.21	13.20	recovery
12/15/2020 13:08	17.97	13.20	recovery
12/15/2020 13:18	17.81	13.20	recovery
12/15/2020 13:28	17.64	13.20	recovery
12/15/2020 13:38	17.48	13.20	recovery
12/15/2020 13:48	17.31	13.20	recovery
12/15/2020 14:48	17.32	13.23	recovery
12/15/2020 14:58	17.14	13.23	recovery
12/15/2020 15:08	16.96	13.23	recovery
12/15/2020 15:18	16.79	13.23	recovery
12/15/2020 15:28	16.61	13.22	recovery
12/15/2020 15:38	16.43	13.23	recovery

Date - Time	Depth to Water Below (MP)	Temperature C	Comment
12/15/2020 15:50	16.15	13.55	recovery
12/15/2020 16:50	14.94	13.21	recovery
12/15/2020 17:50	14.24	13.21	recovery
12/15/2020 18:50	13.40	13.21	recovery
12/15/2020 19:50	12.53	13.23	recovery
12/15/2020 20:50	11.67	13.24	recovery
12/15/2020 21:50	11.05	13.25	recovery
12/15/2020 22:50	10.78	13.26	recovery
12/15/2020 23:50	10.49	13.26	recovery
12/16/2020 0:50	10.38	13.26	recovery
12/16/2020 1:50	10.23	13.27	recovery
12/16/2020 2:50	10.13	13.25	recovery
12/16/2020 3:50	10.11	13.25	recovery
12/16/2020 4:50	10.09	13.24	recovery
12/16/2020 5:50	10.05	13.24	recovery
12/16/2020 6:50	10.04	13.23	recovery
12/16/2020 7:50	10.00	13.23	recovery
12/16/2020 8:50	8.68	13.23	background
12/16/2020 9:50	8.75	13.22	background
12/16/2020 10:50	8.70	13.22	background
12/16/2020 11:02	8.67	12.20	background
12/16/2020 11:03	8.66	12.61	background
12/16/2020 11:04	8.66	12.80	background
12/16/2020 11:05	8.65	12.89	background
12/16/2020 11:06	8.65	12.94	background
12/16/2020 11:07	8.66	12.98	background
12/16/2020 11:08	8.66	13.01	background
12/16/2020 11:09	8.66	13.04	background
12/16/2020 11:10	8.66	13.05	background
12/16/2020 11:11	8.66	13.07	background
12/16/2020 11:12	8.67	13.08	background
12/16/2020 11:13	8.67	13.09	background
12/16/2020 11:14	8.67	13.10	background
12/16/2020 11:15	8.67	13.11	background
12/16/2020 11:16	8.67	13.12	background
12/16/2020 11:17	8.68	13.12	background
12/16/2020 11:18	8.68	13.13	background
12/16/2020 11:19	8.68	13.13	background
12/16/2020 11:20	8.68	13.14	background
12/16/2020 11:21	8.68	13.14	background
12/16/2020 11:22	8.69	13.14	background
12/16/2020 11:23	8.69	13.15	background
12/16/2020 11:24	8.69	13.15	background
12/16/2020 11:25	8.69	13.15	background
12/16/2020 11:26	8.53	13.15	background

Date - Time	Depth to Water Below (MP)	Temperature C	Comment
12/16/2020 11:27	8.55	13.15	background
12/16/2020 11:28	8.56	13.15	background
12/16/2020 11:29	8.57	13.16	background
12/16/2020 11:30	8.58	13.16	background
12/16/2020 11:31	8.58	13.16	background
12/16/2020 11:32	8.59	13.21	background
12/16/2020 11:33	8.81	13.35	start pump
12/16/2020 11:34	9.64	13.20	pumping
12/16/2020 11:35	10.19	13.20	pumping
12/16/2020 11:36	10.71	13.20	pumping
12/16/2020 11:37	11.11	13.20	pumping
12/16/2020 11:38	11.28	13.21	pumping
12/16/2020 11:39	11.47	13.21	pumping
12/16/2020 11:40	11.65	13.21	pumping
12/16/2020 11:41	11.86	13.21	pumping
12/16/2020 11:42	12.05	13.21	pumping
12/16/2020 11:43	12.25	13.21	pumping
12/16/2020 11:44	12.44	13.21	pumping
12/16/2020 11:45	12.64	13.21	pumping
12/16/2020 11:46	12.82	13.21	pumping
12/16/2020 11:47	13.02	13.21	pumping
12/16/2020 11:48	13.22	13.21	pumping
12/16/2020 11:49	13.41	13.21	pumping
12/16/2020 11:50	13.61	13.21	pumping
12/16/2020 11:51	13.81	13.20	pumping
12/16/2020 11:52	14.00	13.20	pumping
12/16/2020 11:53	14.20	13.20	pumping
12/16/2020 11:54	14.41	13.21	pumping
12/16/2020 11:55	14.64	13.21	pumping
12/16/2020 11:56	14.86	13.21	pumping
12/16/2020 11:57	15.08	13.21	pumping
12/16/2020 11:58	15.32	13.21	pumping
12/16/2020 11:59	15.54	13.21	pumping
12/16/2020 12:00	15.57	13.21	pumping
12/16/2020 12:01	15.82	13.20	pumping
12/16/2020 12:02	16.02	13.20	pumping
12/16/2020 12:03	16.23	13.20	pumping
12/16/2020 12:04	16.44	13.20	pumping
12/16/2020 12:05	16.65	13.20	pumping
12/16/2020 12:06	16.87	13.16	pumping
12/16/2020 12:07	17.08	13.16	pumping
12/16/2020 12:08	17.29	13.17	pumping
12/16/2020 12:09	17.51	13.18	pumping
12/16/2020 12:10	17.73	13.19	pumping
12/16/2020 12:11	17.94	13.21	pumping

Date - Time	Depth to Water Below (MP)	Temperature C	Comment
12/16/2020 12:12	18.17	13.22	pumping
12/16/2020 12:13	18.38	13.22	pumping
12/16/2020 12:14	18.60	13.23	pumping
12/16/2020 12:15	18.80	13.24	pumping
12/16/2020 12:16	19.03	13.24	pumping
12/16/2020 12:17	19.24	13.25	pumping
12/16/2020 12:18	19.48	13.26	pumping
12/16/2020 12:19	19.73	13.27	pumping
12/16/2020 12:20	19.98	13.28	pumping
12/16/2020 12:21	20.22	13.29	pumping
12/16/2020 12:22	20.47	13.30	pumping
12/16/2020 12:23	20.71	13.30	pumping
12/16/2020 12:24	20.95	13.31	pumping
12/16/2020 12:25	21.20	13.31	pumping
12/16/2020 12:26	21.17	13.31	pumping
12/16/2020 12:27	21.03	13.31	pumping
12/16/2020 12:28	20.83	13.32	pumping
12/16/2020 12:29	20.75	13.32	pumping
12/16/2020 12:30	20.73	13.32	pumping
12/16/2020 12:31	20.72	13.32	pumping
12/16/2020 12:32	20.70	13.33	pumping
12/16/2020 12:33	20.68	13.33	pumping
12/16/2020 12:34	20.66	13.33	pumping
12/16/2020 12:35	20.64	13.33	pumping
12/16/2020 12:36	20.62	13.34	pumping
12/16/2020 12:37	20.61	13.34	pumping
12/16/2020 12:38	20.59	13.34	pumping
12/16/2020 12:44	20.20	13.36	recovery
12/16/2020 12:44	20.20	13.36	recovery
12/16/2020 12:44	20.20	13.37	recovery
12/16/2020 12:44	20.20	13.37	recovery
12/16/2020 12:44	20.20	13.37	recovery
12/16/2020 12:44	20.20	13.38	recovery
12/16/2020 12:44	20.20	13.38	recovery
12/16/2020 12:44	20.20	13.38	recovery
12/16/2020 12:44	20.19	13.38	recovery
12/16/2020 12:44	20.20	13.38	recovery
12/16/2020 12:44	20.20	13.38	recovery
12/16/2020 12:44	20.20	13.38	recovery
12/16/2020 12:44	20.19	13.38	recovery
12/16/2020 12:44	20.19	13.38	recovery
12/16/2020 12:44	20.19	13.38	recovery
12/16/2020 12:44	20.19	13.38	recovery
12/16/2020 12:44	20.19	13.38	recovery



Date - Time	Depth to Water Below (MP)	Temperature C	Comment
12/16/2020 12:45	20.17	13.36	recovery
12/16/2020 12:45	20.16	13.36	recovery
12/16/2020 12:45	20.16	13.36	recovery
12/16/2020 12:46	20.16	13.36	recovery
12/16/2020 12:46	20.58	13.36	recovery
12/16/2020 12:46	20.22	13.36	recovery
12/16/2020 12:46	20.22	13.36	recovery
12/16/2020 12:46	20.22	13.36	recovery
12/16/2020 12:46	20.21	13.36	recovery
12/16/2020 12:47	20.21	13.36	recovery
12/16/2020 12:47	20.21	13.36	recovery
12/16/2020 12:47	20.21	13.35	recovery
12/16/2020 12:47	20.21	13.36	recovery
12/16/2020 12:47	20.21	13.35	recovery
12/16/2020 12:47	20.21	13.35	recovery
12/16/2020 12:48	20.21	13.35	recovery
12/16/2020 12:48	20.21	13.35	recovery
12/16/2020 12:48	20.20	13.35	recovery
12/16/2020 12:48	20.20	13.35	recovery
12/16/2020 12:48	20.20	13.35	recovery
12/16/2020 12:49	20.20	13.35	recovery
12/16/2020 12:49	20.20	13.35	recovery
12/16/2020 12:50	20.19	13.35	recovery
12/16/2020 12:50	20.19	13.35	recovery
12/16/2020 12:51	20.19	13.35	recovery
12/16/2020 12:51	20.18	13.35	recovery
12/16/2020 12:52	20.17	13.35	recovery
12/16/2020 12:52	20.17	13.35	recovery
12/16/2020 12:53	20.16	13.34	recovery
12/16/2020 12:53	20.15	13.34	recovery
12/16/2020 12:54	20.15	13.34	recovery
12/16/2020 12:56	20.11	13.34	recovery
12/16/2020 12:58	20.08	13.34	recovery
12/16/2020 13:00	19.92	13.34	recovery
12/16/2020 13:02	19.89	13.34	recovery
12/16/2020 13:04	19.86	13.34	recovery
12/16/2020 13:09	19.77	13.33	recovery
12/16/2020 13:14	19.68	13.33	recovery
12/16/2020 13:19	19.60	13.33	recovery
12/16/2020 13:24	19.52	13.33	recovery
12/16/2020 13:29	19.43	13.33	recovery
12/16/2020 13:34	19.34	13.33	recovery
12/16/2020 13:39	19.25	13.34	recovery
12/16/2020 13:44	19.17	13.34	recovery

Date - Time	Depth to Water Below (MP)	Temperature C	Comment
12/16/2020 13:54	19.00	13.34	recovery
12/16/2020 14:04	18.71	13.36	recovery
12/16/2020 14:14	18.56	13.36	recovery
12/16/2020 14:24	18.41	13.36	recovery
12/16/2020 14:34	18.25	13.36	recovery
12/16/2020 14:44	18.09	13.37	recovery
12/16/2020 15:04	17.69	13.37	recovery
12/16/2020 15:24	17.35	13.36	recovery
12/16/2020 15:44	17.02	13.36	recovery
12/16/2020 16:14	16.56	13.34	recovery
12/16/2020 16:44	16.00	13.32	recovery
12/16/2020 17:14	15.78	13.31	recovery
12/16/2020 17:44	15.28	13.31	recovery
12/16/2020 18:14	14.81	13.30	recovery
12/16/2020 18:44	14.28	13.30	recovery
12/16/2020 19:44	13.49	13.31	recovery
12/16/2020 20:44	12.57	13.34	recovery
12/16/2020 21:44	11.70	13.33	recovery
12/16/2020 22:44	10.90	13.33	recovery
12/16/2020 23:44	10.13	13.33	recovery
12/17/2020 0:44	9.58	13.32	recovery
12/17/2020 1:44	9.29	13.31	recovery
12/17/2020 2:44	9.05	13.30	recovery
12/17/2020 3:44	8.85	13.28	recovery
12/17/2020 4:44	8.73	13.27	recovery
12/17/2020 5:44	8.63	13.26	recovery
12/17/2020 6:44	8.59	13.25	recovery
12/17/2020 7:44	8.55	13.24	recovery
12/17/2020 8:44	8.56	13.24	recovery
12/17/2020 9:44	8.49	13.23	recovery
12/17/2020 10:44	8.48	13.22	recovery
12/17/2020 11:44	8.46	13.22	recovery
12/17/2020 12:44	8.44	13.21	recovery
12/17/2020 13:44	8.34	13.21	recovery
12/17/2020 14:44	8.34	13.20	recovery
12/17/2020 15:44	8.31	13.20	recovery
12/17/2020 16:44	8.29	13.20	recovery
12/17/2020 17:44	8.29	13.19	recovery
12/17/2020 18:44	8.31	13.19	recovery
12/17/2020 19:44	8.32	13.18	recovery
12/17/2020 20:44	8.30	13.18	recovery
12/17/2020 21:44	8.34	13.18	recovery
12/17/2020 22:44	8.33	13.18	recovery
12/17/2020 23:44	8.33	13.17	recovery
12/18/2020 0:44	8.33	13.17	recovery

Date - Time	Depth to Water Below (MP)	Temperature C	Comment
12/18/2020 1:44	8.32	13.17	recovery
12/18/2020 2:44	8.33	13.17	recovery
12/18/2020 3:44	8.32	13.17	recovery
12/18/2020 4:44	8.35	13.16	recovery
12/18/2020 5:44	8.34	13.16	recovery
12/18/2020 6:44	8.36	13.16	recovery
12/18/2020 7:44	8.40	13.16	recovery
12/18/2020 8:44	8.39	13.16	recovery
12/18/2020 9:44	8.37	13.16	recovery
12/18/2020 10:44	8.40	13.16	recovery
12/18/2020 11:44	8.42	13.16	recovery
12/18/2020 12:44	8.43	13.16	recovery
12/18/2020 13:44	8.42	13.16	recovery
12/18/2020 14:44	8.33	13.15	recovery
12/18/2020 15:44	8.36	13.15	recovery
12/18/2020 16:44	8.37	13.15	recovery
12/18/2020 17:44	8.41	13.15	recovery
12/18/2020 18:44	8.42	13.15	recovery
12/18/2020 19:44	8.44	13.15	recovery
12/18/2020 20:44	8.45	13.15	recovery
12/18/2020 21:44	8.45	13.15	recovery
12/18/2020 22:44	8.46	13.15	recovery
12/18/2020 23:44	8.45	13.15	recovery
12/19/2020 0:44	8.52	13.15	recovery
12/19/2020 1:44	8.51	13.15	recovery
12/19/2020 2:44	8.50	13.15	recovery
12/19/2020 3:44	8.52	13.15	recovery
12/19/2020 4:44	8.52	13.15	recovery
12/19/2020 5:44	8.52	13.15	recovery
12/19/2020 6:44	8.55	13.14	recovery
12/19/2020 7:44	8.53	13.14	recovery
12/19/2020 8:44	8.51	13.14	recovery
12/19/2020 9:44	8.57	13.14	recovery
12/19/2020 10:44	8.53	13.14	recovery
12/19/2020 11:44	8.51	13.14	recovery
12/19/2020 12:44	8.46	13.14	recovery
12/19/2020 13:44	8.44	13.14	recovery
12/19/2020 14:44	8.25	13.14	recovery
12/19/2020 15:44	8.27	13.14	recovery
12/19/2020 16:44	8.31	13.14	recovery
12/19/2020 17:44	8.38	13.14	recovery
12/19/2020 18:44	8.47	13.14	recovery
12/19/2020 19:44	8.48	13.14	recovery
12/19/2020 20:44	8.49	13.14	recovery
12/19/2020 21:44	8.53	13.14	recovery

Date - Time	Depth to Water Below (MP)	Temperature C	Comment
12/19/2020 22:44	8.52	13.14	recovery
12/19/2020 23:44	8.53	13.14	recovery
12/20/2020 0:44	8.60	13.14	recovery
12/20/2020 1:44	8.56	13.14	recovery
12/20/2020 2:44	8.57	13.14	recovery
12/20/2020 3:44	8.61	13.14	recovery
12/20/2020 4:44	8.58	13.14	recovery
12/20/2020 5:44	8.55	13.14	recovery
12/20/2020 6:44	8.58	13.14	recovery
12/20/2020 7:44	8.57	13.14	recovery
12/20/2020 8:44	8.59	13.14	recovery
12/20/2020 9:44	8.59	13.14	recovery
12/20/2020 10:44	8.54	13.14	recovery
12/20/2020 11:44	8.57	13.14	recovery
12/20/2020 12:44	8.51	13.14	recovery
12/20/2020 13:44	8.37	13.14	recovery
12/20/2020 14:44	8.32	13.14	recovery
12/20/2020 15:44	8.25	13.14	recovery
12/20/2020 16:44	8.10	13.14	recovery
12/20/2020 17:44	8.35	13.14	recovery
12/20/2020 18:44	8.41	13.14	recovery

## 24 Road and G Road Improvements, Grand Junction Colorado

### Hydrogeologic Evaluation

<b>Well</b>	<b>MW-1</b>
<b>Northing</b>	50,084.17
<b>Easting</b>	79,064.05
<b>Rim Elevation</b>	4,566.99
<b>Top PVC Elevation (Measuring Point)</b>	4,566.60
<b>Top PVC From Rim</b>	-0.39

#### MW-1 Hand Readings

Date - Time	Depth to Water Below (MP)	Temperature C	Comment
12/10/2020 15:30	8.05	Not Recorded	Initial
12/11/2020 10:20	8.6	Not Recorded	Install logger
12/15/2020 9:25	9	Not Recorded	
12/15/2020 12:13	8.96	Not Recorded	
12/15/2020 14:21	8.92	Not Recorded	
12/15/2020 14:25	9.35	Not Recorded	
12/15/2020 15:25	9.4	Not Recorded	
12/16/2020 8:32	9.05	Not Recorded	
12/16/2020 9:00	8.98	Not Recorded	
12/16/2020 10:38	9.1	Not Recorded	
12/16/2020 12:59	9.45	Not Recorded	
12/21/2020 10:48	9.05	Not Recorded	

#### MW-1 Data Logger Records

Date - Time	Depth to Water Below (MP)	Temperature C	Comments
12/11/2020 13:00	8.39	13.43	background
12/11/2020 14:00	8.43	13.43	background
12/11/2020 15:00	8.41	13.44	background
12/11/2020 16:00	8.47	13.44	background
12/11/2020 17:00	8.54	13.45	background
12/11/2020 18:00	8.62	13.45	background
12/11/2020 19:00	8.67	13.45	background
12/11/2020 20:00	8.71	13.45	background
12/11/2020 21:00	8.71	13.45	background
12/11/2020 22:00	8.74	13.45	background
12/11/2020 23:00	8.76	13.45	background
12/12/2020 0:00	8.76	13.45	background
12/12/2020 1:00	8.78	13.45	background
12/12/2020 2:00	8.78	13.45	background
12/12/2020 3:00	8.76	13.45	background
12/12/2020 4:00	8.69	13.45	background

Date - Time	Depth to Water Below (MP)	Temperature C	Comment
12/12/2020 5:00	8.66	13.45	background
12/12/2020 6:00	8.64	13.45	background
12/12/2020 7:00	8.65	13.45	background
12/12/2020 8:00	8.64	13.45	background
12/12/2020 9:00	8.64	13.45	background
12/12/2020 10:00	8.62	13.46	background
12/12/2020 11:00	8.57	13.46	background
12/12/2020 12:00	8.58	13.46	background
12/12/2020 13:00	8.63	13.46	background
12/12/2020 14:00	8.63	13.46	background
12/12/2020 15:00	8.64	13.46	background
12/12/2020 16:00	8.68	13.46	background
12/12/2020 17:00	8.73	13.47	background
12/12/2020 18:00	8.80	13.47	background
12/12/2020 19:00	8.87	13.47	background
12/12/2020 20:00	8.91	13.47	background
12/12/2020 21:00	8.96	13.47	background
12/12/2020 22:00	8.98	13.47	background
12/12/2020 23:00	9.00	13.47	background
12/13/2020 0:00	9.00	13.47	background
12/13/2020 1:00	9.03	13.47	background
12/13/2020 2:00	9.03	13.47	background
12/13/2020 3:00	9.04	13.48	background
12/13/2020 4:00	9.07	13.48	background
12/13/2020 5:00	9.10	13.48	background
12/13/2020 6:00	9.12	13.48	background
12/13/2020 7:00	9.15	13.48	background
12/13/2020 8:00	9.15	13.48	background
12/13/2020 9:00	9.13	13.48	background
12/13/2020 10:00	9.11	13.48	background
12/13/2020 11:00	9.06	13.48	background
12/13/2020 12:00	9.02	13.48	background
12/13/2020 13:00	8.95	13.48	background
12/13/2020 14:00	8.89	13.48	background
12/13/2020 15:00	8.84	13.48	background
12/13/2020 16:00	8.93	13.48	background
12/13/2020 17:00	8.98	13.48	background
12/13/2020 18:00	9.00	13.48	background
12/13/2020 19:00	9.01	13.48	background
12/13/2020 20:00	9.00	13.48	background
12/13/2020 21:00	8.99	13.48	background
12/13/2020 22:00	8.98	13.48	background
12/13/2020 23:00	8.97	13.48	background
12/14/2020 0:00	8.96	13.48	background
12/14/2020 1:00	8.94	13.48	background

Date - Time	Depth to Water Below (MP)	Temperature C	Comment
12/14/2020 2:00	8.93	13.48	background
12/14/2020 3:00	8.91	13.48	background
12/14/2020 4:00	8.90	13.48	background
12/14/2020 5:00	8.87	13.48	background
12/14/2020 6:00	8.86	13.48	background
12/14/2020 7:00	8.87	13.48	background
12/14/2020 8:00	8.87	13.48	background
12/14/2020 9:00	8.86	13.48	background
12/14/2020 10:00	8.82	13.46	background
12/14/2020 11:00	8.81	13.47	background
12/14/2020 12:00	8.76	13.47	background
12/14/2020 13:00	8.75	13.48	background
12/14/2020 14:00	8.75	13.48	background
12/14/2020 15:00	8.71	13.48	background
12/14/2020 16:00	8.76	13.48	background
12/14/2020 17:00	8.78	13.48	background
12/14/2020 18:00	8.81	13.48	background
12/14/2020 19:00	8.83	13.48	background
12/14/2020 20:00	8.84	13.48	background
12/14/2020 21:00	8.85	13.48	background
12/14/2020 22:00	8.86	13.48	background
12/14/2020 23:00	8.87	13.48	background
12/15/2020 0:00	8.87	13.48	background
12/15/2020 1:00	8.88	13.48	background
12/15/2020 2:00	8.91	13.48	background
12/15/2020 3:00	8.92	13.48	background
12/15/2020 4:00	8.94	13.48	background
12/15/2020 5:00	8.95	13.48	background
12/15/2020 6:00	8.96	13.48	background
12/15/2020 7:00	9.00	13.49	background
12/15/2020 8:00	9.01	13.48	background
12/15/2020 9:00	9.00	13.49	background
12/15/2020 10:00	8.89	13.61	background
12/15/2020 10:01	8.89	13.58	background
12/15/2020 10:02	8.89	13.57	background
12/15/2020 10:03	8.89	13.55	background
12/15/2020 10:04	8.89	13.54	background
12/15/2020 10:05	8.90	13.53	background
12/15/2020 10:06	8.90	13.53	background
12/15/2020 10:07	8.90	13.53	background
12/15/2020 10:08	8.90	13.52	background
12/15/2020 10:09	8.90	13.52	background
12/15/2020 10:10	8.90	13.52	background
12/15/2020 10:11	8.90	13.52	background
12/15/2020 10:12	8.90	13.52	background

Date - Time	Depth to Water Below (MP)	Temperature C	Comment
12/15/2020 10:13	8.90	13.51	background
12/15/2020 10:14	8.91	13.51	background
12/15/2020 10:15	8.91	13.51	background
12/15/2020 10:16	8.91	13.51	background
12/15/2020 10:17	8.91	13.51	background
12/15/2020 10:18	8.91	13.51	background
12/15/2020 10:19	8.91	13.51	background
12/15/2020 10:20	8.91	13.51	background
12/15/2020 10:21	8.91	13.51	background
12/15/2020 10:22	8.92	13.51	background
12/15/2020 10:23	8.91	13.51	background
12/15/2020 10:24	8.92	13.51	background
12/15/2020 10:25	8.92	13.51	background
12/15/2020 10:26	8.92	13.51	background
12/15/2020 10:27	8.92	13.51	background
12/15/2020 10:28	8.92	13.51	background
12/15/2020 10:29	8.91	13.51	background
12/15/2020 10:30	8.91	13.51	background
12/15/2020 10:31	8.91	13.51	background
12/15/2020 10:32	8.91	13.51	background
12/15/2020 10:33	8.91	13.51	background
12/15/2020 10:34	8.91	13.51	background
12/15/2020 10:35	8.91	13.51	background
12/15/2020 10:36	8.91	13.51	background
12/15/2020 10:37	8.91	13.51	background
12/15/2020 10:38	8.91	13.51	background
12/15/2020 10:39	8.91	13.51	background
12/15/2020 10:40	8.91	13.51	background
12/15/2020 10:41	8.91	13.51	background
12/15/2020 10:42	8.91	13.51	background
12/15/2020 10:43	8.91	13.51	background
12/15/2020 10:44	8.91	13.51	background
12/15/2020 10:45	8.91	13.51	background
12/15/2020 10:46	8.91	13.51	background
12/15/2020 10:47	8.91	13.51	background
12/15/2020 10:48	8.91	13.50	background
12/15/2020 10:49	8.92	13.50	background
12/15/2020 10:50	8.91	13.50	pump TW-1
12/15/2020 10:51	8.91	13.50	pump TW-1
12/15/2020 10:52	8.92	13.51	pump TW-1
12/15/2020 10:53	8.92	13.50	pump TW-1
12/15/2020 10:54	8.92	13.50	pump TW-1
12/15/2020 10:55	8.92	13.50	pump TW-1
12/15/2020 10:56	8.92	13.50	pump TW-1
12/15/2020 10:57	8.92	13.50	pump TW-1

Date - Time	Depth to Water Below (MP)	Temperature C	Comment
12/15/2020 10:58	8.92	13.50	pump TW-1
12/15/2020 10:59	8.92	13.50	pump TW-1
12/15/2020 11:00	8.87	13.50	pump TW-1
12/15/2020 11:01	8.87	13.50	pump TW-1
12/15/2020 11:02	8.87	13.50	pump TW-1
12/15/2020 11:03	8.87	13.50	background
12/15/2020 11:04	8.88	13.50	background
12/15/2020 11:05	8.88	13.50	background
12/15/2020 11:06	8.88	13.50	background
12/15/2020 11:07	8.88	13.50	background
12/15/2020 11:08	8.96	13.50	background
12/15/2020 11:09	8.96	13.50	background
12/15/2020 11:10	8.97	13.50	background
12/15/2020 11:11	8.97	13.51	background
12/15/2020 11:12	8.97	13.51	background
12/15/2020 11:13	8.97	13.51	background
12/15/2020 11:14	8.98	13.51	background
12/15/2020 11:15	8.98	13.50	background
12/15/2020 11:16	8.98	13.50	background
12/15/2020 11:17	8.98	13.50	background
12/15/2020 11:18	8.98	13.50	background
12/15/2020 11:19	8.99	13.50	background
12/15/2020 11:20	8.99	13.50	background
12/15/2020 11:21	8.99	13.50	background
12/15/2020 11:22	8.99	13.49	background
12/15/2020 11:23	8.99	13.49	background
12/15/2020 11:24	8.99	13.49	background
12/15/2020 11:25	8.99	13.49	background
12/15/2020 11:26	8.99	13.49	background
12/15/2020 11:27	8.99	13.49	background
12/15/2020 11:28	9.00	13.49	background
12/15/2020 11:29	9.00	13.49	background
12/15/2020 11:30	9.00	13.49	background
12/15/2020 11:31	9.00	13.49	background
12/15/2020 11:32	9.00	13.49	background
12/15/2020 11:33	9.01	13.49	background
12/15/2020 11:34	9.01	13.49	background
12/15/2020 11:35	9.01	13.49	background
12/15/2020 11:36	9.01	13.49	background
12/15/2020 11:37	9.01	13.49	background
12/15/2020 11:38	9.01	13.49	background
12/15/2020 11:39	9.02	13.49	background
12/15/2020 11:40	9.02	13.49	background
12/15/2020 11:41	9.02	13.49	background
12/15/2020 11:42	9.02	13.49	background

Date - Time	Depth to Water Below (MP)	Temperature C	Comment
12/15/2020 11:43	9.02	13.49	background
12/15/2020 11:44	9.03	13.49	background
12/15/2020 11:45	9.03	13.49	background
12/15/2020 11:46	9.03	13.49	background
12/15/2020 11:47	9.03	13.49	background
12/15/2020 11:48	9.03	13.49	background
12/15/2020 11:49	9.03	13.49	background
12/15/2020 11:50	9.03	13.49	background
12/15/2020 11:51	9.04	13.49	background
12/15/2020 11:52	9.04	13.49	background
12/15/2020 11:53	9.04	13.49	background
12/15/2020 11:54	9.04	13.49	background
12/15/2020 11:55	9.04	13.49	background
12/15/2020 11:56	9.04	13.49	background
12/15/2020 11:57	9.04	13.49	background
12/15/2020 11:58	9.05	13.49	background
12/15/2020 11:59	9.05	13.49	background
12/15/2020 12:00	8.89	13.49	background
12/15/2020 12:01	8.89	13.49	background
12/15/2020 12:02	8.89	13.49	background
12/15/2020 12:03	8.89	13.49	background
12/15/2020 12:04	8.89	13.49	background
12/15/2020 12:05	8.90	13.49	background
12/15/2020 12:06	8.90	13.49	background
12/15/2020 12:07	8.90	13.49	background
12/15/2020 12:08	8.90	13.49	background
12/15/2020 12:09	8.90	13.49	background
12/15/2020 12:10	8.90	13.49	background
12/15/2020 12:11	8.90	13.49	background
12/15/2020 12:12	8.90	13.49	background
12/15/2020 13:20	8.81	13.51	background
			Slug Testing Data Gap
12/16/2020 10:41	9.06	13.73	background
12/16/2020 10:42	9.05	13.46	background
12/16/2020 10:43	9.04	13.31	background
12/16/2020 10:44	9.04	13.24	background
12/16/2020 10:45	9.04	13.22	background
12/16/2020 10:46	9.04	13.21	background
12/16/2020 10:47	9.03	13.21	background
12/16/2020 10:48	9.03	13.21	background
12/16/2020 10:49	9.03	13.21	background
12/16/2020 10:50	9.02	13.22	background
12/16/2020 10:51	9.02	13.22	background
12/16/2020 10:52	9.02	13.22	background
12/16/2020 10:53	9.02	13.23	background

Date - Time	Depth to Water Below (MP)	Temperature C	Comment
12/16/2020 10:54	9.02	13.23	background
12/16/2020 10:55	9.01	13.23	background
12/16/2020 10:56	9.01	13.24	background
12/16/2020 10:57	9.01	13.24	background
12/16/2020 10:58	9.01	13.25	background
12/16/2020 10:59	9.01	13.25	background
12/16/2020 11:00	8.94	13.25	background
12/16/2020 11:01	8.94	13.26	background
12/16/2020 11:02	8.94	13.26	background
12/16/2020 11:03	8.94	13.26	background
12/16/2020 11:04	8.94	13.27	background
12/16/2020 11:05	8.94	13.27	background
12/16/2020 11:06	8.94	13.27	background
12/16/2020 11:07	8.94	13.28	background
12/16/2020 11:08	8.94	13.28	background
12/16/2020 11:09	8.94	13.28	background
12/16/2020 11:10	8.94	13.29	background
12/16/2020 11:11	8.94	13.29	background
12/16/2020 11:12	8.94	13.29	background
12/16/2020 11:13	8.94	13.29	background
12/16/2020 11:14	8.94	13.30	background
12/16/2020 11:15	8.94	13.30	background
12/16/2020 11:16	8.95	13.30	background
12/16/2020 11:17	8.95	13.30	background
12/16/2020 11:18	8.95	13.31	background
12/16/2020 11:19	8.95	13.31	background
12/16/2020 11:20	8.95	13.31	background
12/16/2020 11:21	8.95	13.31	background
12/16/2020 11:22	8.95	13.32	background
12/16/2020 11:23	8.95	13.32	background
12/16/2020 11:24	8.95	13.32	background
12/16/2020 11:25	8.96	13.32	background
12/16/2020 11:26	8.96	13.33	background
12/16/2020 11:27	8.96	13.33	background
12/16/2020 11:28	8.96	13.33	background
12/16/2020 11:29	8.96	13.33	background
12/16/2020 11:30	8.96	13.33	background
12/16/2020 11:31	8.96	13.34	background
12/16/2020 11:32	8.96	13.34	background
12/16/2020 11:33	8.96	13.34	Pump TW-1
12/16/2020 11:34	8.97	13.34	Pump TW-1
12/16/2020 11:35	8.97	13.34	Pump TW-1
12/16/2020 11:36	8.97	13.35	Pump TW-1
12/16/2020 11:37	8.97	13.35	Pump TW-1
12/16/2020 11:38	8.97	13.35	Pump TW-1

Date - Time	Depth to Water Below (MP)	Temperature C	Comment
12/16/2020 11:39	8.97	13.35	Pump TW-1
12/16/2020 11:40	8.97	13.35	Pump TW-1
12/16/2020 11:41	8.97	13.35	Pump TW-1
12/16/2020 11:42	8.98	13.36	Pump TW-1
12/16/2020 11:43	8.98	13.36	Pump TW-1
12/16/2020 11:44	8.98	13.36	Pump TW-1
12/16/2020 11:45	8.98	13.36	Pump TW-1
12/16/2020 11:46	8.98	13.36	Pump TW-1
12/16/2020 11:47	8.98	13.36	Pump TW-1
12/16/2020 11:48	8.98	13.36	Pump TW-1
12/16/2020 11:49	8.98	13.37	Pump TW-1
12/16/2020 11:50	8.98	13.37	Pump TW-1
12/16/2020 11:51	8.98	13.37	Pump TW-1
12/16/2020 11:52	8.98	13.37	Pump TW-1
12/16/2020 11:53	8.99	13.37	Pump TW-1
12/16/2020 11:54	8.99	13.37	Pump TW-1
12/16/2020 11:55	8.99	13.37	Pump TW-1
12/16/2020 11:56	8.99	13.37	Pump TW-1
12/16/2020 11:57	8.99	13.37	Pump TW-1
12/16/2020 11:58	8.99	13.38	Pump TW-1
12/16/2020 11:59	9.00	13.38	Pump TW-1
12/16/2020 12:00	8.81	13.38	Pump TW-1
12/16/2020 12:01	8.81	13.38	Pump TW-1
12/16/2020 12:02	8.81	13.38	Pump TW-1
12/16/2020 12:03	8.81	13.38	Pump TW-1
12/16/2020 12:04	8.81	13.38	Pump TW-1
12/16/2020 12:05	8.81	13.39	Pump TW-1
12/16/2020 12:06	8.81	13.39	Pump TW-1
12/16/2020 12:07	8.81	13.39	Pump TW-1
12/16/2020 12:08	8.82	13.39	Pump TW-1
12/16/2020 12:09	8.82	13.39	Pump TW-1
12/16/2020 12:10	8.82	13.39	Pump TW-1
12/16/2020 12:11	8.82	13.39	Pump TW-1
12/16/2020 12:12	8.82	13.39	Pump TW-1
12/16/2020 12:13	8.82	13.39	Pump TW-1
12/16/2020 12:14	8.82	13.40	Pump TW-1
12/16/2020 12:15	8.82	13.40	Pump TW-1
12/16/2020 12:16	8.82	13.40	Pump TW-1
12/16/2020 12:17	8.82	13.40	Pump TW-1
12/16/2020 12:18	8.82	13.40	Pump TW-1
12/16/2020 12:19	8.82	13.40	Pump TW-1
12/16/2020 12:20	8.83	13.40	Pump TW-1
12/16/2020 12:21	8.83	13.40	Pump TW-1
12/16/2020 12:22	8.83	13.40	Pump TW-1
12/16/2020 12:23	8.83	13.40	Pump TW-1

Date - Time	Depth to Water Below (MP)	Temperature C	Comment
12/16/2020 12:24	8.83	13.40	Pump TW-1
12/16/2020 12:25	8.83	13.41	Pump TW-1
12/16/2020 12:26	8.83	13.41	Pump TW-1
12/16/2020 12:27	8.83	13.41	Pump TW-1
12/16/2020 12:28	8.83	13.41	Pump TW-1
12/16/2020 12:29	8.84	13.41	Pump TW-1
12/16/2020 12:30	8.84	13.41	Pump TW-1
12/16/2020 12:31	8.84	13.41	Pump TW-1
12/16/2020 12:32	8.84	13.41	Pump TW-1
12/16/2020 12:33	8.84	13.41	Pump TW-1
12/16/2020 12:34	8.84	13.41	Pump TW-1
12/16/2020 12:35	8.84	13.41	Pump TW-1
12/16/2020 12:36	8.85	13.41	Pump TW-1
12/16/2020 12:37	8.85	13.41	Pump TW-1
12/16/2020 12:38	8.85	13.42	Pump TW-1
12/16/2020 12:39	8.85	13.42	background
12/16/2020 12:40	8.85	13.42	background
12/16/2020 12:41	8.85	13.42	background
12/16/2020 12:42	8.85	13.42	background
12/16/2020 12:43	8.85	13.42	background
12/16/2020 12:44	8.86	13.42	background
12/16/2020 12:45	8.86	13.42	background
12/16/2020 12:46	8.86	13.42	background
12/16/2020 12:47	8.86	13.42	background
12/16/2020 12:48	8.86	13.42	background
12/16/2020 12:49	8.86	13.42	background
12/16/2020 12:50	8.86	13.43	background
12/16/2020 12:51	8.86	13.43	background
12/16/2020 12:52	8.86	13.43	background
12/16/2020 12:53	8.87	13.43	background
12/16/2020 12:54	8.87	13.43	background
12/16/2020 12:55	8.87	13.43	background
12/16/2020 12:56	8.87	13.43	background
12/16/2020 12:57	8.91	13.43	background
12/16/2020 12:58	8.92	13.43	background
12/16/2020 12:59	8.92	13.43	background
12/16/2020 13:00	8.80	13.42	background
12/16/2020 13:01	8.80	13.42	background
12/16/2020 13:02	8.80	13.42	background
12/16/2020 13:03	8.80	13.42	background
12/16/2020 13:04	8.80	13.41	background
12/16/2020 13:05	8.81	13.41	background
12/16/2020 13:12	8.75	12.91	background
12/16/2020 13:12	8.76	12.92	background
12/16/2020 13:12	8.75	12.93	background

Date - Time	Depth to Water Below (MP)	Temperature C	Comment
12/16/2020 13:12	8.75	12.94	background
12/16/2020 13:12	8.75	12.95	background
12/16/2020 13:12	8.75	12.95	background
12/16/2020 13:12	8.75	12.96	background
12/16/2020 13:12	8.75	12.97	background
12/16/2020 13:12	8.75	12.97	background
12/16/2020 13:12	8.75	12.98	background
12/16/2020 13:12	8.75	12.98	background
12/16/2020 13:12	8.75	12.99	background
12/16/2020 13:12	8.75	12.99	background
12/16/2020 13:12	8.75	13.00	background
12/16/2020 13:12	8.75	13.00	background
12/16/2020 13:12	8.75	13.01	background
12/16/2020 13:12	8.75	13.01	background
12/16/2020 13:12	8.75	13.02	background
12/16/2020 13:12	8.75	13.02	background
12/16/2020 13:12	8.75	13.02	background
12/16/2020 13:12	8.75	13.03	background
12/16/2020 13:12	8.75	13.03	background
12/16/2020 13:12	8.75	13.03	background
12/16/2020 13:12	8.75	13.04	background
12/16/2020 13:12	8.75	13.04	background
12/16/2020 13:12	8.75	13.05	background
12/16/2020 13:12	8.75	13.05	background
12/16/2020 13:12	8.75	13.05	background
12/16/2020 13:12	8.75	13.06	background
12/16/2020 13:12	8.75	13.06	background
12/16/2020 13:12	8.75	13.06	background
12/16/2020 13:12	8.75	13.07	background
12/16/2020 13:12	8.75	13.07	background
12/16/2020 13:12	8.75	13.07	background
12/16/2020 13:12	8.75	13.08	background
12/16/2020 13:12	8.75	13.08	background
12/16/2020 13:12	8.75	13.08	background
12/16/2020 13:12	8.75	13.08	background
12/16/2020 13:12	8.75	13.09	background
12/16/2020 13:12	8.75	13.09	background
12/16/2020 13:12	8.75	13.09	background
12/16/2020 13:12	8.75	13.09	background
12/16/2020 13:12	8.75	13.10	background
12/16/2020 13:12	8.75	13.10	background
12/16/2020 13:12	8.75	13.10	background
12/16/2020 13:12	8.75	13.11	background
12/16/2020 13:12	8.75	13.11	background
12/16/2020 13:12	8.75	13.11	background

Date - Time	Depth to Water Below (MP)	Temperature C	Comment
12/16/2020 13:12	8.75	13.11	background
12/16/2020 13:12	8.75	13.12	background
12/16/2020 13:12	8.75	13.12	background
12/16/2020 13:12	8.75	13.12	background
12/16/2020 13:12	8.75	13.12	background
12/16/2020 13:12	8.75	13.13	background
12/16/2020 13:12	8.75	13.13	background
12/16/2020 13:12	8.75	13.13	background
12/16/2020 13:12	8.75	13.14	background
12/16/2020 13:12	8.75	13.14	background
12/16/2020 13:12	8.75	13.14	background
12/16/2020 13:13	8.75	13.14	background
12/16/2020 13:13	8.75	13.13	background
12/16/2020 13:13	8.75	13.14	background
12/16/2020 13:13	8.75	13.16	background
12/16/2020 13:13	8.75	13.17	background
12/16/2020 13:13	8.75	13.18	background
12/16/2020 13:14	8.75	13.20	background
12/16/2020 13:14	8.75	13.21	background
12/16/2020 13:14	8.75	13.22	background
12/16/2020 13:14	8.75	13.23	background
12/16/2020 13:14	8.75	13.24	background
12/16/2020 13:14	8.75	13.25	background
12/16/2020 13:15	8.75	13.26	background
12/16/2020 13:15	8.75	13.26	background
12/16/2020 13:15	8.75	13.27	background
12/16/2020 13:15	8.75	13.28	background
12/16/2020 13:15	8.75	13.28	background
12/16/2020 13:15	8.75	13.29	background
12/16/2020 13:16	8.75	13.29	background
12/16/2020 13:16	8.75	13.30	background
12/16/2020 13:16	8.75	13.30	background
12/16/2020 13:16	8.75	13.31	background
12/16/2020 13:16	8.75	13.31	background
12/16/2020 13:16	8.75	13.32	background
12/16/2020 13:17	8.75	13.32	background
12/16/2020 13:17	8.76	13.33	background
12/16/2020 13:18	8.75	13.33	background
12/16/2020 13:18	8.76	13.34	background
12/16/2020 13:19	8.76	13.35	background
12/16/2020 13:19	8.76	13.36	background
12/16/2020 13:20	8.76	13.36	background
12/16/2020 13:20	8.76	13.37	background
12/16/2020 13:21	8.76	13.37	background

Date - Time	Depth to Water Below (MP)	Temperature C	Comment
12/16/2020 13:21	8.76	13.37	background
12/16/2020 13:22	8.76	13.38	background
12/16/2020 13:24	8.76	13.39	background
12/16/2020 13:26	8.76	13.40	background
12/16/2020 13:28	8.77	13.41	background
12/16/2020 13:30	8.77	13.41	background
12/16/2020 13:32	8.77	13.41	background
12/16/2020 13:37	8.78	13.42	background
12/16/2020 13:42	8.78	13.42	background
12/16/2020 13:47	8.79	13.43	background
12/16/2020 13:52	8.80	13.43	background
12/16/2020 13:57	8.81	13.43	background
12/16/2020 14:02	8.68	13.44	background
12/16/2020 14:07	8.69	13.44	background
12/16/2020 14:12	8.69	13.44	background
12/16/2020 14:22	8.70	13.45	background
12/16/2020 14:32	8.70	13.45	background
12/16/2020 14:42	8.71	13.45	background
12/16/2020 14:52	8.72	13.46	background
12/16/2020 15:02	8.64	13.46	background
12/16/2020 15:12	8.63	13.46	background
12/16/2020 15:32	8.62	13.46	background
12/16/2020 15:52	8.61	13.46	background
12/16/2020 16:12	8.65	13.47	background
12/16/2020 16:42	8.57	13.47	background
12/16/2020 17:12	8.83	13.48	background
12/16/2020 17:42	8.81	13.48	background
12/16/2020 18:12	8.85	13.48	background
12/16/2020 18:42	8.82	13.49	background
12/16/2020 19:12	8.94	13.48	background
12/16/2020 20:12	8.93	13.48	background
12/16/2020 21:12	8.95	13.48	background
12/16/2020 22:12	8.97	13.48	background
12/16/2020 23:12	8.97	13.48	background
12/17/2020 0:12	8.96	13.48	background
12/17/2020 1:12	8.96	13.48	background
12/17/2020 2:12	8.96	13.48	background
12/17/2020 3:12	8.94	13.48	background
12/17/2020 4:12	8.92	13.48	background
12/17/2020 5:12	8.91	13.48	background
12/17/2020 6:12	8.91	13.48	background
12/17/2020 7:12	8.92	13.48	background
12/17/2020 8:12	8.92	13.48	background
12/17/2020 9:12	8.87	13.49	background
12/17/2020 10:12	8.84	13.49	background

Date - Time	Depth to Water Below (MP)	Temperature C	Comment
12/17/2020 11:12	8.81	13.48	background
12/17/2020 12:12	8.76	13.48	background
12/17/2020 13:12	8.68	13.48	background
12/17/2020 14:12	8.68	13.48	background
12/17/2020 15:12	8.67	13.48	background
12/17/2020 16:12	8.67	13.48	background
12/17/2020 17:12	8.68	13.49	background
12/17/2020 18:12	8.69	13.49	background
12/17/2020 19:12	8.71	13.49	background
12/17/2020 20:12	8.71	13.49	background
12/17/2020 21:12	8.74	13.49	background
12/17/2020 22:12	8.73	13.49	background
12/17/2020 23:12	8.74	13.49	background
12/18/2020 0:12	8.75	13.49	background
12/18/2020 1:12	8.75	13.49	background
12/18/2020 2:12	8.77	13.49	background
12/18/2020 3:12	8.78	13.49	background
12/18/2020 4:12	8.81	13.49	background
12/18/2020 5:12	8.83	13.49	background
12/18/2020 6:12	8.86	13.49	background
12/18/2020 7:12	8.88	13.49	background
12/18/2020 8:12	8.89	13.49	background
12/18/2020 9:12	8.88	13.49	background
12/18/2020 10:12	8.91	13.49	background
12/18/2020 11:12	8.90	13.49	background
12/18/2020 12:12	8.90	13.49	background
12/18/2020 13:12	8.88	13.49	background
12/18/2020 14:12	8.84	13.49	background
12/18/2020 15:12	8.87	13.49	background
12/18/2020 16:12	8.90	13.49	background
12/18/2020 17:12	8.93	13.49	background
12/18/2020 18:12	8.95	13.49	background
12/18/2020 19:12	8.96	13.49	background
12/18/2020 20:12	8.97	13.49	background
12/18/2020 21:12	8.96	13.49	background
12/18/2020 22:12	8.97	13.49	background
12/18/2020 23:12	8.98	13.49	background
12/19/2020 0:12	9.01	13.49	background
12/19/2020 1:12	9.01	13.49	background
12/19/2020 2:12	9.00	13.49	background
12/19/2020 3:12	9.02	13.49	background
12/19/2020 4:12	9.02	13.49	background
12/19/2020 5:12	9.04	13.49	background
12/19/2020 6:12	9.05	13.49	background
12/19/2020 7:12	9.04	13.49	background

Date - Time	Depth to Water Below (MP)	Temperature C	Comment
12/19/2020 8:12	9.04	13.49	background
12/19/2020 9:12	9.06	13.49	background
12/19/2020 10:12	9.00	13.49	background
12/19/2020 11:12	8.96	13.49	background
12/19/2020 12:12	8.90	13.49	background
12/19/2020 13:12	8.86	13.49	background
12/19/2020 14:12	8.74	13.49	background
12/19/2020 15:12	8.78	13.49	background
12/19/2020 16:12	8.84	13.49	background
12/19/2020 17:12	8.91	13.49	background
12/19/2020 18:12	8.98	13.49	background
12/19/2020 19:12	9.00	13.48	background
12/19/2020 20:12	9.01	13.49	background
12/19/2020 21:12	9.05	13.48	background
12/19/2020 22:12	9.05	13.49	background
12/19/2020 23:12	9.07	13.49	background
12/20/2020 0:12	9.10	13.49	background
12/20/2020 1:12	9.08	13.49	background
12/20/2020 2:12	9.09	13.48	background
12/20/2020 3:12	9.09	13.486	background
12/20/2020 4:12	9.07	13.483	background
12/20/2020 5:12	9.06	13.484	background
12/20/2020 6:12	9.08	13.483	background
12/20/2020 7:12	9.08	13.486	background
12/20/2020 8:12	9.10	13.484	background
12/20/2020 9:12	9.09	13.484	background
12/20/2020 10:12	9.03	13.484	background
12/20/2020 11:12	8.99	13.482	background
12/20/2020 12:12	8.91	13.482	background
12/20/2020 13:12	8.80	13.482	background
12/20/2020 14:12	8.75	13.482	background
12/20/2020 15:12	8.70	13.481	background
12/20/2020 16:12	8.66	13.483	background
12/20/2020 17:12	8.86	13.481	background
12/20/2020 18:12	8.92	13.482	background
12/20/2020 19:12	8.99	13.48	background

## 24 Road and G Road Improvements, Grand Junction Colorado

### Hydrogeologic Evaluation

<b>Well</b>	<b>MW-2</b>
Northing	50,107.94
Easting	79,034.62
Rim Elevation	4,567.33
Top PVC Elevation (Measuring Point)	4,566.95
Top PVC From Rim	-0.38

#### MW-2 Hand Readings

Date - Time	Depth to Water Below (MP)	Temperature C	Comment
12/10/2020 11:30	8.85	Not recorded	Initial
12/10/2020 15:30	9	Not recorded	
12/11/2020 10:33	8.95	Not recorded	Install logger
12/15/2020 9:27	9.4	Not recorded	
12/15/2020 14:21	8.92	Not recorded	
12/16/2020 8:30	9.48	Not recorded	
12/16/2020 12:58	8.95	Not recorded	
12/21/2020 10:35	9.58	Not recorded	

#### MW-2 Data Logger Records

Date - Time	Depth to Water Below (MP)	Temperature C	Comments
12/11/2020 13:00	8.95	14.10	background
12/11/2020 14:00	8.78	14.07	background
12/11/2020 15:00	8.76	14.05	background
12/11/2020 16:00	8.82	14.04	background
12/11/2020 17:00	8.90	14.04	background
12/11/2020 18:00	8.99	14.03	background
12/11/2020 19:00	9.04	14.03	background
12/11/2020 20:00	9.08	14.03	background
12/11/2020 21:00	9.09	14.03	background
12/11/2020 22:00	9.12	14.03	background
12/11/2020 23:00	9.14	14.03	background
12/12/2020 0:00	9.14	14.03	background
12/12/2020 1:00	9.16	14.03	background
12/12/2020 2:00	9.16	14.03	background
12/12/2020 3:00	9.14	14.03	background
12/12/2020 4:00	9.07	14.02	background
12/12/2020 5:00	9.03	14.02	background
12/12/2020 6:00	9.00	14.02	background
12/12/2020 7:00	9.01	14.02	background

Date - Time	Depth to Water Below (MP)	Temperature C	Comment
12/12/2020 8:00	9.00	14.02	background
12/12/2020 9:00	9.00	14.03	background
12/12/2020 10:00	8.98	14.03	background
12/12/2020 11:00	8.93	14.02	background
12/12/2020 12:00	8.93	14.02	background
12/12/2020 13:00	8.97	14.02	background
12/12/2020 14:00	8.98	14.02	background
12/12/2020 15:00	8.99	14.03	background
12/12/2020 16:00	9.03	14.03	background
12/12/2020 17:00	9.09	14.03	background
12/12/2020 18:00	9.17	14.03	background
12/12/2020 19:00	9.24	14.03	background
12/12/2020 20:00	9.30	14.03	background
12/12/2020 21:00	9.35	14.03	background
12/12/2020 22:00	9.40	14.03	background
12/12/2020 23:00	9.42	14.03	background
12/13/2020 0:00	9.44	14.03	background
12/13/2020 1:00	9.47	14.03	background
12/13/2020 2:00	9.48	14.03	background
12/13/2020 3:00	9.50	14.03	background
12/13/2020 4:00	9.53	14.03	background
12/13/2020 5:00	9.57	14.03	background
12/13/2020 6:00	9.60	14.03	background
12/13/2020 7:00	9.64	14.03	background
12/13/2020 8:00	9.64	14.03	background
12/13/2020 9:00	9.63	14.03	background
12/13/2020 10:00	9.62	14.03	background
12/13/2020 11:00	9.58	14.02	background
12/13/2020 12:00	9.53	14.02	background
12/13/2020 13:00	9.46	14.02	background
12/13/2020 14:00	9.39	14.02	background
12/13/2020 15:00	9.34	14.02	background
12/13/2020 16:00	9.42	14.02	background
12/13/2020 17:00	9.46	14.02	background
12/13/2020 18:00	9.48	14.02	background
12/13/2020 19:00	9.49	14.02	background
12/13/2020 20:00	9.48	14.02	background
12/13/2020 21:00	9.45	14.02	background
12/13/2020 22:00	9.44	14.02	background
12/13/2020 23:00	9.43	14.02	background
12/14/2020 0:00	9.41	14.02	background
12/14/2020 1:00	9.38	14.02	background
12/14/2020 2:00	9.37	14.02	background
12/14/2020 3:00	9.34	14.02	background
12/14/2020 4:00	9.32	14.02	background

Date - Time	Depth to Water Below (MP)	Temperature C	Comment
12/14/2020 5:00	9.29	14.02	background
12/14/2020 6:00	9.27	14.02	background
12/14/2020 7:00	9.28	14.02	background
12/14/2020 8:00	9.27	14.02	background
12/14/2020 9:00	9.26	14.02	background
12/14/2020 10:00	9.22	14.01	background
12/14/2020 11:00	9.21	14.01	background
12/14/2020 12:00	9.15	14.01	background
12/14/2020 13:00	9.13	14.01	background
12/14/2020 14:00	9.13	14.01	background
12/14/2020 15:00	9.10	14.01	background
12/14/2020 16:00	9.14	14.01	background
12/14/2020 17:00	9.16	14.01	background
12/14/2020 18:00	9.19	14.01	background
12/14/2020 19:00	9.21	14.01	background
12/14/2020 20:00	9.22	14.01	background
12/14/2020 21:00	9.23	14.02	background
12/14/2020 22:00	9.25	14.01	background
12/14/2020 23:00	9.26	14.02	background
12/15/2020 0:00	9.26	14.02	background
12/15/2020 1:00	9.27	14.02	background
12/15/2020 2:00	9.30	14.02	background
12/15/2020 3:00	9.32	14.02	background
12/15/2020 4:00	9.34	14.02	background
12/15/2020 5:00	9.36	14.02	background
12/15/2020 6:00	9.38	14.02	background
12/15/2020 7:00	9.42	14.02	background
12/15/2020 8:00	9.44	14.02	background
12/15/2020 9:00	9.43	14.02	background
12/15/2020 10:00	9.44	14.02	background
12/15/2020 11:00	9.42	14.02	background
12/15/2020 12:00	9.35	14.02	background
12/15/2020 13:00	9.31	14.02	background
12/15/2020 14:00	9.23	14.02	background
12/15/2020 15:00	9.16	14.02	background
12/15/2020 16:00	9.16	14.01	background
12/15/2020 17:00	9.36	14.01	background
12/15/2020 18:00	9.43	14.02	background
12/15/2020 19:00	9.46	14.02	background
12/15/2020 20:00	9.46	14.02	background
12/15/2020 21:00	9.47	14.02	background
12/15/2020 22:00	9.49	14.02	background
12/15/2020 23:00	9.50	14.01	background
12/16/2020 0:00	9.52	14.01	background
12/16/2020 1:00	9.52	14.02	background

Date - Time	Depth to Water Below (MP)	Temperature C	Comment
12/16/2020 2:00	9.51	14.02	background
12/16/2020 3:00	9.53	14.02	background
12/16/2020 4:00	9.53	14.01	background
12/16/2020 5:00	9.53	14.01	background
12/16/2020 6:00	9.53	14.02	background
12/16/2020 7:00	9.53	14.01	background
12/16/2020 8:00	9.55	14.02	background
12/16/2020 9:00	9.61	14.02	background
12/16/2020 10:00	9.56	14.02	background
12/16/2020 11:00	9.53	14.02	background
12/16/2020 12:00	9.44	14.02	background
12/16/2020 13:00	9.38	14.02	background
12/16/2020 14:00	9.26	14.01	background
12/16/2020 15:00	9.21	14.01	background
12/16/2020 16:00	9.24	14.01	background
12/16/2020 17:00	9.40	14.01	background
12/16/2020 18:00	9.43	14.01	background
12/16/2020 19:00	9.50	14.01	background
12/16/2020 20:00	9.50	14.01	background
12/16/2020 21:00	9.52	14.01	background
12/16/2020 22:00	9.53	14.01	background
12/16/2020 23:00	9.54	14.01	background
12/17/2020 0:00	9.52	14.01	background
12/17/2020 1:00	9.52	14.01	background
12/17/2020 2:00	9.52	14.01	background
12/17/2020 3:00	9.50	14.01	background
12/17/2020 4:00	9.48	14.01	background
12/17/2020 5:00	9.47	14.01	background
12/17/2020 6:00	9.47	14.01	background
12/17/2020 7:00	9.47	14.01	background
12/17/2020 8:00	9.47	14.01	background
12/17/2020 9:00	9.43	14.01	background
12/17/2020 10:00	9.38	14.01	background
12/17/2020 11:00	9.34	14.01	background
12/17/2020 12:00	9.29	14.01	background
12/17/2020 13:00	9.21	14.01	background
12/17/2020 14:00	9.21	14.01	background
12/17/2020 15:00	9.19	14.01	background
12/17/2020 16:00	9.18	14.01	background
12/17/2020 17:00	9.19	14.01	background
12/17/2020 18:00	9.20	14.01	background
12/17/2020 19:00	9.21	14.01	background
12/17/2020 20:00	9.22	14.01	background
12/17/2020 21:00	9.24	14.01	background
12/17/2020 22:00	9.24	14.01	background

Date - Time	Depth to Water Below (MP)	Temperature C	Comment
12/17/2020 23:00	9.24	14.01	background
12/18/2020 0:00	9.25	14.01	background
12/18/2020 1:00	9.26	14.01	background
12/18/2020 2:00	9.28	14.01	background
12/18/2020 3:00	9.30	14.01	background
12/18/2020 4:00	9.33	14.01	background
12/18/2020 5:00	9.35	14.01	background
12/18/2020 6:00	9.39	14.01	background
12/18/2020 7:00	9.42	14.01	background
12/18/2020 8:00	9.43	14.01	background
12/18/2020 9:00	9.44	14.01	background
12/18/2020 10:00	9.46	14.01	background
12/18/2020 11:00	9.47	14.01	background
12/18/2020 12:00	9.46	14.01	background
12/18/2020 13:00	9.45	14.01	background
12/18/2020 14:00	9.42	14.01	background
12/18/2020 15:00	9.45	14.01	background
12/18/2020 16:00	9.49	14.01	background
12/18/2020 17:00	9.52	14.01	background
12/18/2020 18:00	9.54	14.01	background
12/18/2020 19:00	9.56	14.01	background
12/18/2020 20:00	9.57	14.01	background
12/18/2020 21:00	9.58	14.01	background
12/18/2020 22:00	9.58	14.01	background
12/18/2020 23:00	9.60	14.01	background
12/19/2020 0:00	9.62	14.01	background
12/19/2020 1:00	9.62	14.01	background
12/19/2020 2:00	9.62	14.01	background
12/19/2020 3:00	9.63	14.01	background
12/19/2020 4:00	9.64	14.01	background
12/19/2020 5:00	9.65	14.01	background
12/19/2020 6:00	9.66	14.01	background
12/19/2020 7:00	9.66	14.01	background
12/19/2020 8:00	9.66	14.01	background
12/19/2020 9:00	9.67	14.01	background
12/19/2020 10:00	9.62	14.01	background
12/19/2020 11:00	9.58	14.01	background
12/19/2020 12:00	9.52	14.00	background
12/19/2020 13:00	9.47	14.00	background
12/19/2020 14:00	9.36	14.00	background
12/19/2020 15:00	9.40	14.00	background
12/19/2020 16:00	9.45	14.00	background
12/19/2020 17:00	9.53	14.00	background
12/19/2020 18:00	9.58	14.00	background
12/19/2020 19:00	9.61	14.01	background

Date - Time	Depth to Water Below (MP)	Temperature C	Comment
12/19/2020 20:00	9.63	14.00	background
12/19/2020 21:00	9.66	14.00	background
12/19/2020 22:00	9.67	14.00	background
12/19/2020 23:00	9.69	14.00	background
12/20/2020 0:00	9.71	14.00	background
12/20/2020 1:00	9.71	14.00	background
12/20/2020 2:00	9.71	14.00	background
12/20/2020 3:00	9.71	14.00	background
12/20/2020 4:00	9.70	14.00	background
12/20/2020 5:00	9.69	14.00	background
12/20/2020 6:00	9.70	14.00	background
12/20/2020 7:00	9.71	14.00	background
12/20/2020 8:00	9.72	14.00	background
12/20/2020 9:00	9.70	14.00	background
12/20/2020 10:00	9.65	14.00	background
12/20/2020 11:00	9.60	14.00	background
12/20/2020 12:00	9.51	14.00	background
12/20/2020 13:00	9.41	14.00	background
12/20/2020 14:00	9.35	14.00	background
12/20/2020 15:00	9.30	14.00	background
12/20/2020 16:00	9.29	14.00	background
12/20/2020 17:00	9.47	14.00	background
12/20/2020 18:00	9.53	14.00	background
12/20/2020 19:00	9.58	14.00	background
12/20/2020 20:00	9.60	14.00	background
12/20/2020 21:00	9.61	14.00	background
12/20/2020 22:00	9.62	14.00	background
12/20/2020 23:00	9.63	14.00	background
12/21/2020 0:00	9.64	14.00	background
12/21/2020 1:00	9.63	14.00	background
12/21/2020 2:00	9.64	14.00	background
12/21/2020 3:00	9.65	14.00	background
12/21/2020 4:00	9.65	14.00	background
12/21/2020 5:00	9.65	14.00	background
12/21/2020 6:00	9.65	14.00	background
12/21/2020 7:00	9.67	14.00	background
12/21/2020 8:00	9.65	14.00	background
12/21/2020 9:00	9.63	14.00	background
12/21/2020 10:00	9.58	14.00	background

## 24 Road and G Road Improvements, Grand Junction Colorado

### Hydrogeologic Evaluation

<b>Well</b>	<b>MW-3</b>
Northing	49,984.22
Easting	79,120.27
Rim Elevation	4,566.22
Top PVC Elevation (Measuring Point)	4,566.08
Top PVC From Rim	-0.15

#### MW-3 Hand Readings

Date - Time	Depth to Water Below (MP)	Temperature C	Comment
12/9/2020 15:10	9.2	Not recorded	
12/11/2020 10:50	19.45	Not recorded	install logger
12/15/2020 9:35	17.15	Not recorded	
12/15/2020 14:32	17	Not recorded	
12/16/2020 9:15	16.6	Not recorded	

#### MW-3 Data Logger Records

Date - Time	Depth to Water Below (MP)	Temperature C	Comments
12/11/2020 13:00	17.96	17.43	background
12/11/2020 14:00	17.99	17.42	background
12/11/2020 15:00	17.94	17.42	background
12/11/2020 16:00	17.98	17.42	background
12/11/2020 17:00	18.02	17.42	background
12/11/2020 18:00	18.07	17.42	background
12/11/2020 19:00	18.11	17.43	background
12/11/2020 20:00	18.14	17.43	background
12/11/2020 21:00	18.15	17.43	background
12/11/2020 22:00	18.17	17.43	background
12/11/2020 23:00	18.18	17.43	background
12/12/2020 0:00	18.19	17.43	background
12/12/2020 1:00	18.21	17.43	background
12/12/2020 2:00	18.21	17.43	background
12/12/2020 3:00	18.21	17.43	background
12/12/2020 4:00	18.17	17.43	background
12/12/2020 5:00	18.17	17.43	background
12/12/2020 6:00	18.15	17.43	background
12/12/2020 7:00	18.15	17.43	background
12/12/2020 8:00	18.15	17.43	background
12/12/2020 9:00	18.15	17.43	background
12/12/2020 10:00	18.13	17.43	background
12/12/2020 11:00	18.10	17.43	background

Date - Time	Depth to Water Below (MP)	Temperature C	Comment
12/12/2020 12:00	18.12	17.43	background
12/12/2020 13:00	18.16	17.43	background
12/12/2020 14:00	18.15	17.43	background
12/12/2020 15:00	18.13	17.43	background
12/12/2020 16:00	18.14	17.43	background
12/12/2020 17:00	18.14	17.43	background
12/12/2020 18:00	18.18	17.43	background
12/12/2020 19:00	18.20	17.43	background
12/12/2020 20:00	18.21	17.43	background
12/12/2020 21:00	18.22	17.43	background
12/12/2020 22:00	18.22	17.43	background
12/12/2020 23:00	18.22	17.43	background
12/13/2020 0:00	18.23	17.43	background
12/13/2020 1:00	18.24	17.43	background
12/13/2020 2:00	18.24	17.43	background
12/13/2020 3:00	18.23	17.43	background
12/13/2020 4:00	18.24	17.43	background
12/13/2020 5:00	18.25	17.43	background
12/13/2020 6:00	18.24	17.43	background
12/13/2020 7:00	18.26	17.43	background
12/13/2020 8:00	18.24	17.43	background
12/13/2020 9:00	18.22	17.43	background
12/13/2020 10:00	18.21	17.43	background
12/13/2020 11:00	18.18	17.43	background
12/13/2020 12:00	18.15	17.43	background
12/13/2020 13:00	18.11	17.42	background
12/13/2020 14:00	18.07	17.42	background
12/13/2020 15:00	18.01	17.41	background
12/13/2020 16:00	18.06	17.41	background
12/13/2020 17:00	18.08	17.41	background
12/13/2020 18:00	18.07	17.41	background
12/13/2020 19:00	18.05	17.41	background
12/13/2020 20:00	18.04	17.41	background
12/13/2020 21:00	18.00	17.41	background
12/13/2020 22:00	17.98	17.41	background
12/13/2020 23:00	17.95	17.41	background
12/14/2020 0:00	17.92	17.41	background
12/14/2020 1:00	17.89	17.41	background
12/14/2020 2:00	17.86	17.42	background
12/14/2020 3:00	17.83	17.41	background
12/14/2020 4:00	17.80	17.42	background
12/14/2020 5:00	17.77	17.42	background
12/14/2020 6:00	17.74	17.42	background
12/14/2020 7:00	17.72	17.42	background
12/14/2020 8:00	17.70	17.42	background

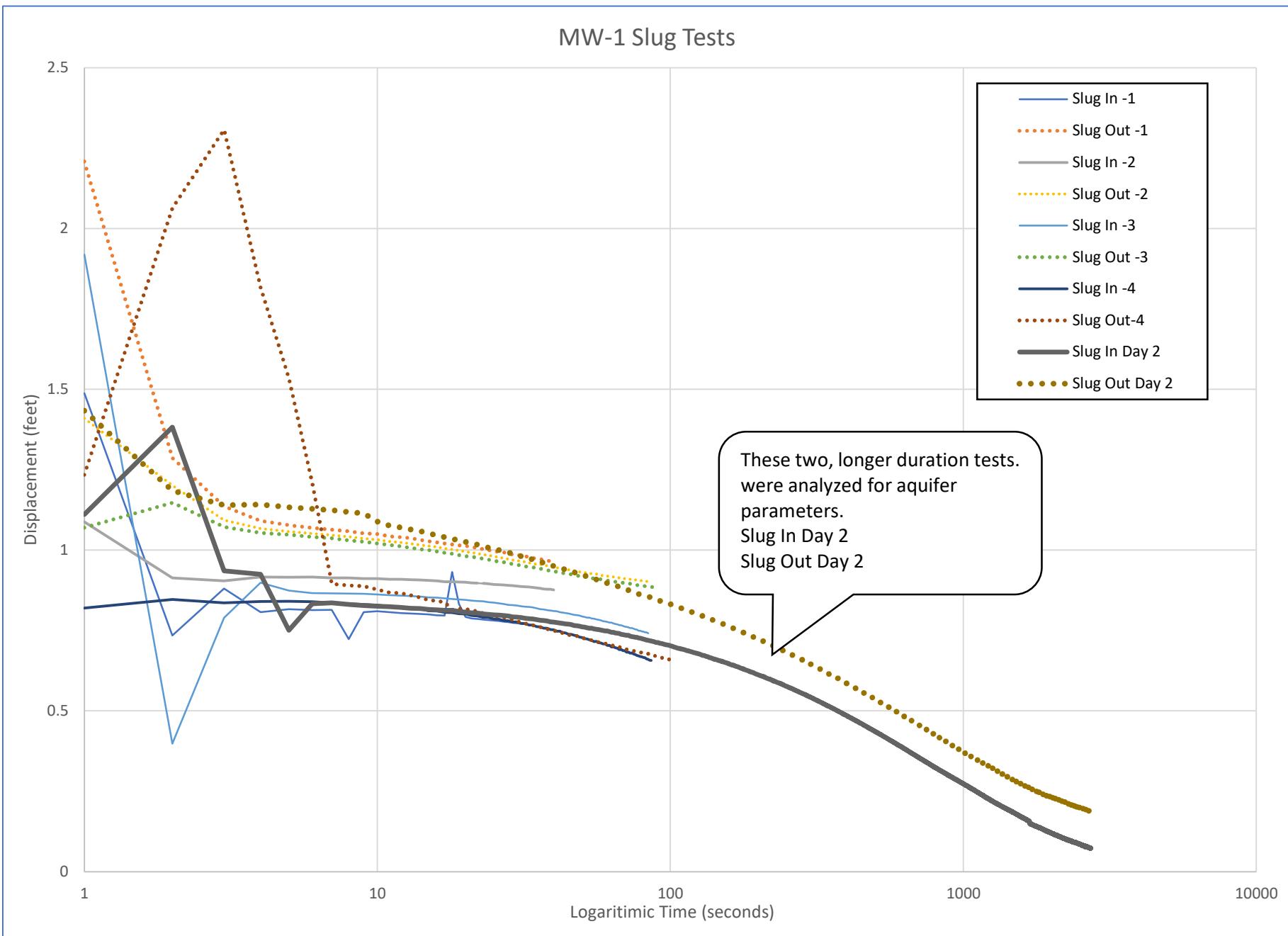
Data prior to here is not usefull. The water level did not recover as quick as anticipated and the data logger was not under water until this point.

Date - Time	Depth to Water Below (MP)	Temperature C	Comment
12/14/2020 9:00	17.66	17.42	background
12/14/2020 10:00	17.63	17.38	background
12/14/2020 11:00	17.60	17.40	background
12/14/2020 12:00	17.55	17.41	background
12/14/2020 13:00	17.53	17.41	background
12/14/2020 14:00	17.51	17.41	background
12/14/2020 15:00	17.46	17.41	background
12/14/2020 16:00	17.47	17.41	background
12/14/2020 17:00	17.46	17.41	background
12/14/2020 18:00	17.45	17.41	background
12/14/2020 19:00	17.44	17.41	background
12/14/2020 20:00	17.42	17.41	background
12/14/2020 21:00	17.40	17.41	background
12/14/2020 22:00	17.38	17.41	background
12/14/2020 23:00	17.35	17.41	background
12/15/2020 0:00	17.33	17.41	background
12/15/2020 1:00	17.31	17.41	background
12/15/2020 2:00	17.29	17.41	background
12/15/2020 3:00	17.27	17.41	background
12/15/2020 4:00	17.25	17.41	background
12/15/2020 5:00	17.23	17.41	background
12/15/2020 6:00	17.21	17.41	background
12/15/2020 7:00	17.20	17.41	background
12/15/2020 8:00	17.18	17.41	background
12/15/2020 9:00	17.13	17.41	background
12/15/2020 10:00	17.15	17.36	background
12/15/2020 11:00	17.10	17.41	background
12/15/2020 12:00	17.02	17.43	background
12/15/2020 13:00	16.98	17.43	background
12/15/2020 14:00	16.89	17.43	background
12/15/2020 15:00	16.73	17.37	background
12/15/2020 16:00	16.71	17.39	background
12/15/2020 17:00	16.88	17.39	background
12/15/2020 18:00	16.91	17.40	background
12/15/2020 19:00	16.92	17.40	background
12/15/2020 20:00	16.89	17.40	background
12/15/2020 21:00	16.88	17.40	background
12/15/2020 22:00	16.86	17.40	background
12/15/2020 23:00	16.84	17.40	background
12/16/2020 0:00	16.84	17.40	background
12/16/2020 1:00	16.82	17.40	background
12/16/2020 2:00	16.80	17.40	background
12/16/2020 3:00	16.79	17.40	background
12/16/2020 4:00	16.76	17.40	background
12/16/2020 5:00	16.74	17.40	background

Date - Time	Depth to Water Below (MP)	Temperature C	Comment
12/16/2020 6:00	16.72	17.40	background
12/16/2020 7:00	16.69	17.40	background
12/16/2020 8:00	16.67	17.40	background
12/16/2020 9:00	16.65	17.40	background

## **APPENDIX D**

**MW-1 SLUG TESTS ANALYTICAL SOLUTIONS AND DATA TABLES**



## 24 Road and G Road Improvements, Grand Junction Colorado

### Hydrogeologic Evaluation

Slug In -1	
Seconds	Displace-ment
0	2.7958
1	1.4878
2	0.734
3	0.8801
4	0.8069
5	0.8163
6	0.8129
7	0.8137
8	0.7233
9	0.8066
10	0.8097
11	0.8068
12	0.8043
13	0.8025
14	0.8008
15	0.7995
16	0.797
17	0.796
18	0.9317
19	0.8325
20	0.7921
21	0.7869
22	0.7857
23	0.7837
24	0.7822
25	0.7806
26	0.7792
27	0.7774
28	0.7758
29	0.7738
30	0.7719
31	0.7711
32	0.7692
33	0.7679

Slug Out -1	
Seconds	Displace-ment
1	2.2087
2	1.2866
3	1.1359

4	1.0911
5	1.0777
6	1.0688
7	1.0638
8	1.0586
9	1.052
10	1.0498
11	1.0432
12	1.0403
13	1.0377
14	1.0314
15	1.0278
16	1.0242
17	1.0207
18	1.0178
19	1.0149
20	1.0133
21	1.0089
22	1.0072
23	1.003
24	0.9998
25	0.9966
26	0.9952
27	0.9926
28	0.9893
29	0.9861
30	0.9851
31	0.9822
32	0.9813
33	0.978
34	0.9754
35	0.9735
36	0.972
37	0.9696
38	0.9676
39	0.9658
40	0.965

Slug In -2	
Seconds	Displace-ment
0	1.3927
1	1.088
2	0.9134
3	0.904
4	0.9161

5	0.9153
6	0.9159
7	0.9136
8	0.9135
9	0.9115
10	0.9112
11	0.9093
12	0.9089
13	0.9079
14	0.9071
15	0.9056
16	0.9041
17	0.9016
18	0.9015
19	0.9005
20	0.9
21	0.8981
22	0.8974
23	0.8961
24	0.8948
25	0.8927
26	0.8921
27	0.8911
28	0.8899
29	0.8893
30	0.8882
31	0.8867
32	0.8855
33	0.8848
34	0.8837
35	0.882
36	0.881
37	0.879
38	0.8779
39	0.8777
40	0.8761

Slug Out -2	
Seconds	Displace-ment
0	1.7975
1	1.4098
2	1.2008
3	1.0931
4	1.0669
5	1.0581

6	1.0518
7	1.0466
8	1.0417
9	1.0361
10	1.0324
11	1.0271
12	1.0241
13	1.0195
14	1.0161
15	1.0124
16	1.0096
17	1.0052
18	1.002
19	0.9984
20	0.9954
21	0.9919
22	0.9893
23	0.9862
24	0.9836
25	0.98
26	0.978
27	0.9746
28	0.9721
29	0.9693
30	0.9668
31	0.9654
32	0.9631
33	0.9608
34	0.9587
35	0.9558
36	0.9553
37	0.9527
38	0.9513
39	0.9486
40	0.9475
41	0.9451
42	0.9442
43	0.9419
44	0.9409
45	0.9384
46	0.9382
47	0.9359
48	0.9349
49	0.9325
50	0.9318

51	0.9302
52	0.9292
53	0.9276
54	0.9265
55	0.9251
56	0.925
57	0.9229
58	0.9214
59	0.9206
60	0.92
61	0.919
62	0.9182
63	0.9177
64	0.9169
65	0.9147
66	0.9142
67	0.9139
68	0.9133
69	0.9119
70	0.9109
71	0.9109
72	0.9102
73	0.9092
74	0.9087
75	0.9073
76	0.9077
77	0.9061
78	0.906
79	0.9057
80	0.9044
81	0.9037
82	0.9036
83	0.9026
84	0.9019
85	0.9016

Slug In -3	
Seconds	Displace-ment
0	2.9078
1	1.919
2	0.3981
3	0.7894
4	0.8986
5	0.8735
6	0.8661

7	0.8656
8	0.8646
9	0.8636
10	0.8616
11	0.8598
12	0.8582
13	0.8568
14	0.8551
15	0.8525
16	0.8518
17	0.8499
18	0.8474
19	0.8464
20	0.845
21	0.8428
22	0.8412
23	0.8405
24	0.8376
25	0.8363
26	0.8344
27	0.8323
28	0.8293
29	0.8284
30	0.8269
31	0.825
32	0.8234
33	0.8231
34	0.8213
35	0.8191
36	0.816
37	0.815
38	0.8129
39	0.8119
40	0.8105
41	0.8093
42	0.8065
43	0.8051
44	0.8043
45	0.8023
46	0.8005
47	0.7984
48	0.7973
49	0.7959
50	0.7934
51	0.7923

52	0.79
53	0.7902
54	0.7867
55	0.7863
56	0.7839
57	0.7825
58	0.7813
59	0.7789
60	0.7776
61	0.7768
62	0.7742
63	0.7741
64	0.7713
65	0.7703
66	0.7686
67	0.7667
68	0.7657
69	0.7636
70	0.7616
71	0.7613
72	0.7592
73	0.7573
74	0.7572
75	0.7553
76	0.7532
77	0.7522
78	0.7493
79	0.7491
80	0.7471
81	0.7459
82	0.7439
83	0.7438
84	0.7415

Slug Out -3	
Seconds	Displace-ment
0	4.4294
1	1.0701
2	1.1474
3	1.0722
4	1.0538
5	1.0478
6	1.041
7	1.0364
8	1.0304

9	1.026
10	1.0208
11	1.0162
12	1.0118
13	1.007
14	1.003
15	0.9997
16	0.9956
17	0.9917
18	0.989
19	0.9844
20	0.9809
21	0.9798
22	0.976
23	0.9729
24	0.9701
25	0.9669
26	0.9643
27	0.9626
28	0.9586
29	0.9573
30	0.9545
31	0.9517
32	0.9494
33	0.9481
34	0.9466
35	0.9435
36	0.9419
37	0.9394
38	0.9373
39	0.9357
40	0.9331
41	0.9333
42	0.9305
43	0.9286
44	0.9274
45	0.9262
46	0.9243
47	0.9233
48	0.9213
49	0.919
50	0.9187
51	0.9179
52	0.9169
53	0.9149

54	0.9129
55	0.9119
56	0.9102
57	0.9102
58	0.9093
59	0.9074
60	0.9062
61	0.9057
62	0.9039
63	0.9035
64	0.9025
65	0.9016
66	0.9002
67	0.9
68	0.8987
69	0.8984
70	0.8972
71	0.8978
72	0.8949
73	0.8953
74	0.8939
75	0.8932
76	0.8916
77	0.8915
78	0.8895
79	0.8904
80	0.8894
81	0.8888
82	0.8877
83	0.8881
84	0.8869
85	0.886
86	0.8861
87	0.8854
88	0.8847
89	0.8848
90	0.8835

Slug In -4	
Seconds	Displace-ment
0	0.9198
1	0.8196
2	0.8464
3	0.8355
4	0.8398

5	0.8404
6	0.8391
7	0.8357
8	0.8326
9	0.8307
10	0.8284
11	0.8245
12	0.8217
13	0.8192
14	0.8174
15	0.8108
16	0.8106
17	0.8061
18	0.8053
19	0.8022
20	0.8011
21	0.7965
22	0.7947
23	0.7907
24	0.7902
25	0.7859
26	0.7846
27	0.7806
28	0.7797
29	0.7764
30	0.7765
31	0.7717
32	0.7716
33	0.7665
34	0.7663
35	0.7619
36	0.761
37	0.7566
38	0.7566
39	0.7526
40	0.7515
41	0.7479
42	0.7473
43	0.7436
44	0.7419
45	0.7379
46	0.7379
47	0.7348
48	0.7332
49	0.729

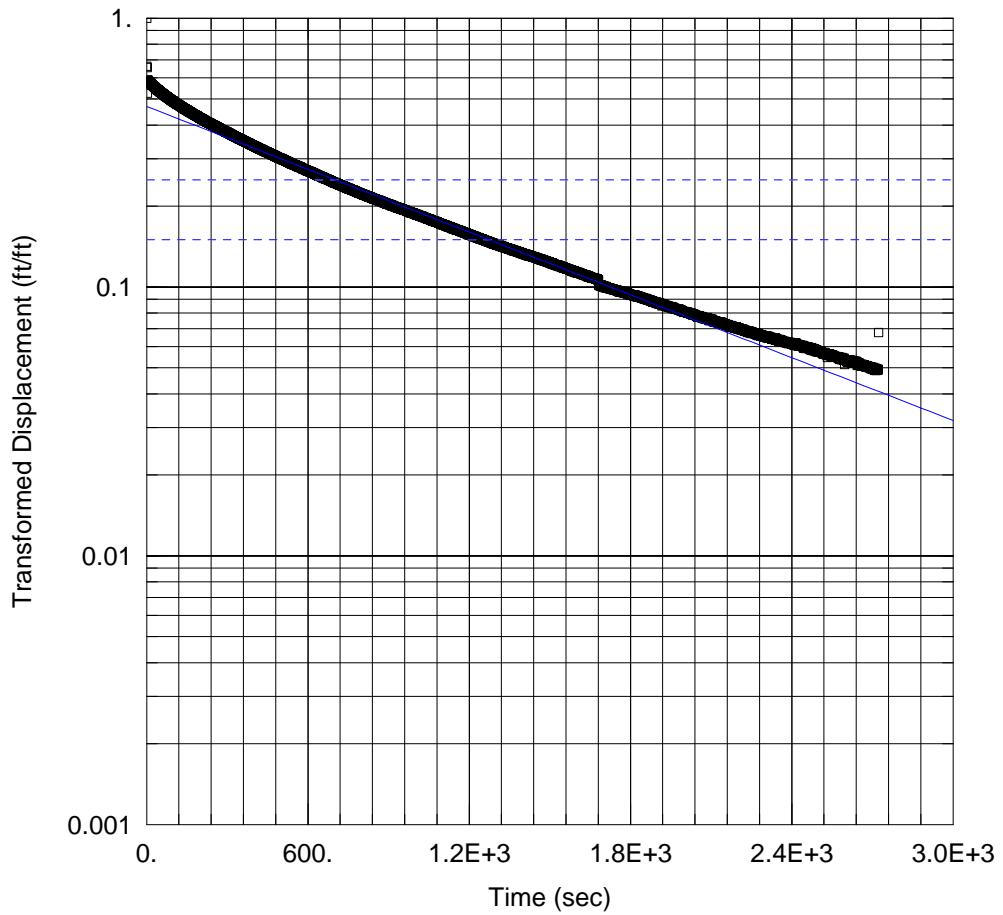
50	0.7277
51	0.7241
52	0.7234
53	0.7206
54	0.7186
55	0.7153
56	0.7159
57	0.7115
58	0.7108
59	0.708
60	0.7078
61	0.7031
62	0.7035
63	0.6984
64	0.6992
65	0.696
66	0.6947
67	0.6905
68	0.6904
69	0.6871
70	0.6869
71	0.6822
72	0.6827
73	0.6795
74	0.6802
75	0.6764
76	0.6749
77	0.6723
78	0.671
79	0.6687
80	0.6679
81	0.6656
82	0.6648
83	0.6613
84	0.6601
85	0.6573
86	0.6572

Slug Out-4	
Seconds	Displace-ment
0	4.5244
1	1.2341
2	2.0638
3	2.3077
4	1.8163

5	1.5337
6	1.2072
7	0.8947
8	0.89
9	0.8881
10	0.8776
11	0.8681
12	0.8661
13	0.8598
14	0.8529
15	0.8443
16	0.8423
17	0.8377
18	0.8142
19	0.8175
20	0.8166
21	0.8122
22	0.8095
23	0.8032
24	0.8018
25	0.795
26	0.7933
27	0.7905
28	0.7887
29	0.783
30	0.7778
31	0.776
32	0.772
33	0.7678
34	0.7663
35	0.7619
36	0.76
37	0.7552
38	0.7549
39	0.7501
40	0.7494
41	0.7465
42	0.7459
43	0.7415
44	0.7404
45	0.7366
46	0.7352
47	0.7324
48	0.7329
49	0.7277

50	0.7279
51	0.725
52	0.7239
53	0.7212
54	0.7192
55	0.7174
56	0.7162
57	0.7131
58	0.7131
59	0.7094
60	0.7095
61	0.7069
62	0.7057
63	0.7033
64	0.703
65	0.6998
66	0.7007
67	0.6981
68	0.6977
69	0.694
70	0.6947
71	0.6913
72	0.6914
73	0.6887
74	0.6882
75	0.6862
76	0.6865
77	0.684
78	0.684
79	0.6813
80	0.682
81	0.6791
82	0.679
83	0.6769
84	0.6774
85	0.6739
86	0.6747
87	0.672
88	0.6731
89	0.6702
90	0.6702
91	0.667
92	0.6674
93	0.6651
94	0.6652

95	0.6636
96	0.663
97	0.6606
98	0.6624
99	0.66
100	0.6599



#### 24 AND G ROAD IMPROVEMENTS SLUG TEST #1

##### PROJECT INFORMATION

Company: DOWL  
 Client: City of Grand Junction  
 Project: 7131.75159.01  
 Location: Grand Junction Colorado  
 Test Well: MW-1  
 Test Date: 12-16-2020

##### AQUIFER DATA

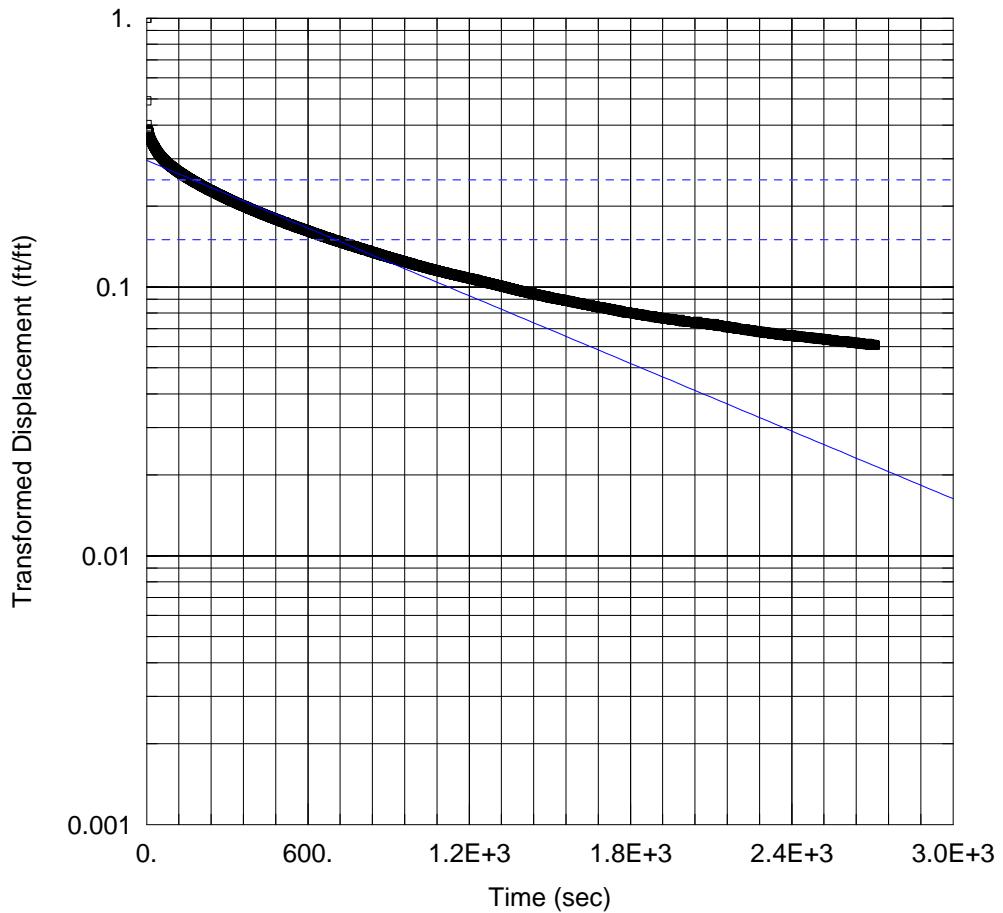
Saturated Thickness: 29. ft      Anisotropy Ratio (Kz/Kr): 1.

##### WELL DATA (MW-1)

Initial Displacement: <u>1.38</u> ft	Static Water Column Height: <u>11.02</u> ft
Total Well Penetration Depth: <u>10.</u> ft	Screen Length: <u>10.</u> ft
Casing Radius: <u>0.09</u> ft	Well Radius: <u>0.3125</u> ft

##### SOLUTION

Aquifer Model: <u>Unconfined</u>	Solution Method: <u>Dagan</u>
K = <u>0.08336</u> ft/day	y0 = <u>0.6721</u> ft



#### 24 AND G ROAD IMPROVEMENTS SLUG TEST #2

##### PROJECT INFORMATION

Company: DOWL  
 Client: City of Grand Junction  
 Project: 7131.75159.01  
 Location: Grand Junction Colorado  
 Test Well: MW-1  
 Test Date: 12-16-2020

##### AQUIFER DATA

Saturated Thickness: 29. ft      Anisotropy Ratio (Kz/Kr): 1.

##### WELL DATA (MW-1)

Initial Displacement: <u>2.71</u> ft	Static Water Column Height: <u>11.02</u> ft
Total Well Penetration Depth: <u>10.</u> ft	Screen Length: <u>10.</u> ft
Casing Radius: <u>0.09</u> ft	Well Radius: <u>0.3125</u> ft

##### SOLUTION

Aquifer Model: <u>Unconfined</u>	Solution Method: <u>Dagan</u>
K = <u>0.08981</u> ft/day	y0 = <u>0.8853</u> ft

Data Set: C:\Users\jpotts\Documents\My PC Work\Grand Junction\Slug Testing\MW-1 Slug In.aqt

Title: 24 and G Road Improvements Slug Test #1

Date: 01/13/21

Time: 12:50:49

---

### PROJECT INFORMATION

Company: DOWL

Client: City of Grand Junction

Project: 7131.75159.01

Location: Grand Junction Colorado

Test Date: 12-16-2020

Test Well: MW-1

---

### AQUIFER DATA

Saturated Thickness: 29. ft

Anisotropy Ratio (Kz/Kr): 1.

---

### SLUG TEST WELL DATA

Test Well: MW-1

X Location: 0. ft

Y Location: 0. ft

Initial Displacement: 1.38 ft

Static Water Column Height: 11.02 ft

Casing Radius: 0.09 ft

Well Radius: 0.3125 ft

Well Skin Radius: 0.3125 ft

Screen Length: 10. ft

Total Well Penetration Depth: 10. ft

No. of Observations: 2724

Observation Data			
Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
0.	1.382	1362.	0.2014
1.	0.9353	1363.	0.2004
2.	0.9246	1364.	0.2004
3.	0.7505	1365.	0.2012
4.	0.8331	1366.	0.2002
5.	0.8355	1367.	0.2008
6.	0.8305	1368.	0.2003

<u>Time (sec)</u>	<u>Displacement (ft)</u>	<u>Time (sec)</u>	<u>Displacement (ft)</u>
7.	0.8274	1369.	0.2
8.	0.8253	1370.	0.2005
9.	0.824	1371.	0.1997
10.	0.8217	1372.	0.1998
11.	0.8188	1373.	0.1997
12.	0.8182	1374.	0.1991
13.	0.8153	1375.	0.1994
14.	0.8138	1376.	0.1991
15.	0.8124	1377.	0.1988
16.	0.8124	1378.	0.1988
17.	0.8086	1379.	0.1981
18.	0.8071	1380.	0.1982
19.	0.8045	1381.	0.1984
20.	0.8037	1382.	0.1986
21.	0.8013	1383.	0.1987
22.	0.7994	1384.	0.198
23.	0.7983	1385.	0.1981
24.	0.7978	1386.	0.1982
25.	0.7963	1387.	0.1969
26.	0.7949	1388.	0.1976
27.	0.7919	1389.	0.1972
28.	0.7914	1390.	0.1961
29.	0.7898	1391.	0.1965
30.	0.7876	1392.	0.1968
31.	0.7862	1393.	0.197
32.	0.7859	1394.	0.1967
33.	0.7832	1395.	0.1955
34.	0.7812	1396.	0.1965
35.	0.7809	1397.	0.1966
36.	0.7793	1398.	0.1962
37.	0.7768	1399.	0.1948
38.	0.7759	1400.	0.1952
39.	0.7743	1401.	0.195
40.	0.7728	1402.	0.195
41.	0.7716	1403.	0.1944
42.	0.7704	1404.	0.195
43.	0.7692	1405.	0.194
44.	0.768	1406.	0.1951
45.	0.7655	1407.	0.1941
46.	0.7646	1408.	0.194
47.	0.7631	1409.	0.194
48.	0.7612	1410.	0.1944
49.	0.7604	1411.	0.1937
50.	0.7584	1412.	0.1941

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
51.	0.757	1413.	0.1934
52.	0.7568	1414.	0.194
53.	0.7544	1415.	0.1927
54.	0.7533	1416.	0.1936
55.	0.7522	1417.	0.1928
56.	0.7511	1418.	0.1927
57.	0.7497	1419.	0.1926
58.	0.7484	1420.	0.1913
59.	0.748	1421.	0.1922
60.	0.7464	1422.	0.1922
61.	0.7443	1423.	0.1922
62.	0.7439	1424.	0.1928
63.	0.7421	1425.	0.191
64.	0.7411	1426.	0.192
65.	0.7404	1427.	0.191
66.	0.738	1428.	0.1914
67.	0.737	1429.	0.1913
68.	0.7353	1430.	0.192
69.	0.7346	1431.	0.1906
70.	0.7347	1432.	0.1911
71.	0.7318	1433.	0.1908
72.	0.7308	1434.	0.1902
73.	0.7297	1435.	0.1901
74.	0.7288	1436.	0.1899
75.	0.7288	1437.	0.1905
76.	0.7261	1438.	0.1899
77.	0.7255	1439.	0.1899
78.	0.7242	1440.	0.1901
79.	0.7227	1441.	0.1892
80.	0.7217	1442.	0.1895
81.	0.7198	1443.	0.1895
82.	0.7194	1444.	0.1895
83.	0.7182	1445.	0.1895
84.	0.7174	1446.	0.1892
85.	0.716	1447.	0.1885
86.	0.7152	1448.	0.188
87.	0.7133	1449.	0.1888
88.	0.7126	1450.	0.188
89.	0.712	1451.	0.1884
90.	0.7103	1452.	0.1884
91.	0.7097	1453.	0.188
92.	0.7085	1454.	0.1878
93.	0.7071	1455.	0.1879
94.	0.7058	1456.	0.1872

<u>Time (sec)</u>	<u>Displacement (ft)</u>	<u>Time (sec)</u>	<u>Displacement (ft)</u>
95.	0.705	1457.	0.1876
96.	0.7045	1458.	0.1873
97.	0.7037	1459.	0.1872
98.	0.7024	1460.	0.1864
99.	0.7013	1461.	0.186
100.	0.7002	1462.	0.1867
101.	0.6984	1463.	0.1858
102.	0.6976	1464.	0.1862
103.	0.696	1465.	0.1867
104.	0.6947	1466.	0.1862
105.	0.6942	1467.	0.1849
106.	0.6937	1468.	0.1864
107.	0.6921	1469.	0.1846
108.	0.6918	1470.	0.1848
109.	0.6906	1471.	0.185
110.	0.6899	1472.	0.1852
111.	0.6881	1473.	0.1845
112.	0.6871	1474.	0.1845
113.	0.6866	1475.	0.1836
114.	0.6855	1476.	0.1848
115.	0.685	1477.	0.1849
116.	0.6833	1478.	0.1848
117.	0.6826	1479.	0.1834
118.	0.6813	1480.	0.184
119.	0.6805	1481.	0.1831
120.	0.6796	1482.	0.1831
121.	0.6787	1483.	0.1833
122.	0.6786	1484.	0.1836
123.	0.6767	1485.	0.1837
124.	0.676	1486.	0.1834
125.	0.6748	1487.	0.1831
126.	0.6735	1488.	0.1827
127.	0.6724	1489.	0.1821
128.	0.6719	1490.	0.1822
129.	0.6714	1491.	0.182
130.	0.6701	1492.	0.1823
131.	0.6689	1493.	0.1826
132.	0.6683	1494.	0.1817
133.	0.6671	1495.	0.1814
134.	0.6651	1496.	0.1817
135.	0.6647	1497.	0.182
136.	0.6642	1498.	0.1815
137.	0.6626	1499.	0.1813
138.	0.662	1500.	0.1808

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
139.	0.6604	1501.	0.1805
140.	0.6606	1502.	0.1802
141.	0.6597	1503.	0.1801
142.	0.6586	1504.	0.18
143.	0.658	1505.	0.1794
144.	0.6569	1506.	0.18
145.	0.656	1507.	0.1806
146.	0.6556	1508.	0.1801
147.	0.6535	1509.	0.1795
148.	0.6543	1510.	0.1796
149.	0.6527	1511.	0.1795
150.	0.6524	1512.	0.1789
151.	0.6507	1513.	0.1787
152.	0.65	1514.	0.1786
153.	0.6497	1515.	0.1784
154.	0.6488	1516.	0.178
155.	0.6476	1517.	0.1784
156.	0.6472	1518.	0.1783
157.	0.6453	1519.	0.1776
158.	0.6448	1520.	0.1775
159.	0.6438	1521.	0.1778
160.	0.6424	1522.	0.1777
161.	0.6416	1523.	0.1774
162.	0.6427	1524.	0.1777
163.	0.6403	1525.	0.1776
164.	0.6401	1526.	0.1776
165.	0.639	1527.	0.1765
166.	0.6376	1528.	0.1774
167.	0.6373	1529.	0.1762
168.	0.6367	1530.	0.1761
169.	0.6354	1531.	0.1761
170.	0.6352	1532.	0.1767
171.	0.633	1533.	0.1763
172.	0.6327	1534.	0.1766
173.	0.6319	1535.	0.175
174.	0.6316	1536.	0.176
175.	0.6298	1537.	0.1756
176.	0.6304	1538.	0.1754
177.	0.6287	1539.	0.1753
178.	0.6277	1540.	0.176
179.	0.6269	1541.	0.1751
180.	0.6264	1542.	0.1747
181.	0.6257	1543.	0.1742
182.	0.6251	1544.	0.1747

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
183.	0.624	1545.	0.1735
184.	0.6229	1546.	0.1738
185.	0.623	1547.	0.1743
186.	0.6208	1548.	0.1745
187.	0.6203	1549.	0.174
188.	0.62	1550.	0.1739
189.	0.6195	1551.	0.1738
190.	0.619	1552.	0.173
191.	0.6179	1553.	0.1724
192.	0.6166	1554.	0.1728
193.	0.6156	1555.	0.1726
194.	0.6146	1556.	0.1732
195.	0.6136	1557.	0.1727
196.	0.6133	1558.	0.1725
197.	0.6129	1559.	0.172
198.	0.6116	1560.	0.1729
199.	0.6109	1561.	0.1721
200.	0.6102	1562.	0.1722
201.	0.6097	1563.	0.1713
202.	0.6087	1564.	0.1709
203.	0.6079	1565.	0.1716
204.	0.6075	1566.	0.1712
205.	0.6067	1567.	0.1711
206.	0.6069	1568.	0.1714
207.	0.6048	1569.	0.171
208.	0.6052	1570.	0.1717
209.	0.604	1571.	0.1708
210.	0.603	1572.	0.1701
211.	0.6018	1573.	0.1707
212.	0.6012	1574.	0.1707
213.	0.6005	1575.	0.1699
214.	0.5994	1576.	0.1697
215.	0.5994	1577.	0.1698
216.	0.5981	1578.	0.1698
217.	0.5985	1579.	0.1693
218.	0.5968	1580.	0.1697
219.	0.5966	1581.	0.169
220.	0.5958	1582.	0.1694
221.	0.5953	1583.	0.1681
222.	0.5926	1584.	0.1693
223.	0.5932	1585.	0.168
224.	0.5932	1586.	0.1687
225.	0.5917	1587.	0.1683
226.	0.5909	1588.	0.1683

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
227.	0.591	1589.	0.1674
228.	0.5899	1590.	0.1685
229.	0.589	1591.	0.1682
230.	0.5881	1592.	0.1682
231.	0.5876	1593.	0.1674
232.	0.5865	1594.	0.1671
233.	0.5867	1595.	0.1671
234.	0.5859	1596.	0.1676
235.	0.5847	1597.	0.166
236.	0.5851	1598.	0.167
237.	0.5833	1599.	0.1663
238.	0.5831	1600.	0.1676
239.	0.5816	1601.	0.1661
240.	0.5815	1602.	0.1667
241.	0.5803	1603.	0.166
242.	0.5801	1604.	0.1661
243.	0.5793	1605.	0.1659
244.	0.5786	1606.	0.1662
245.	0.5771	1607.	0.1659
246.	0.577	1608.	0.1665
247.	0.5761	1609.	0.1656
248.	0.576	1610.	0.1656
249.	0.5746	1611.	0.1656
250.	0.5748	1612.	0.1657
251.	0.5736	1613.	0.1651
252.	0.5729	1614.	0.1648
253.	0.5711	1615.	0.1645
254.	0.572	1616.	0.1646
255.	0.5711	1617.	0.1641
256.	0.5702	1618.	0.164
257.	0.5694	1619.	0.1645
258.	0.5697	1620.	0.1648
259.	0.5684	1621.	0.1646
260.	0.5679	1622.	0.1635
261.	0.5665	1623.	0.1636
262.	0.5658	1624.	0.1638
263.	0.5663	1625.	0.1631
264.	0.5649	1626.	0.1634
265.	0.5644	1627.	0.1629
266.	0.563	1628.	0.1625
267.	0.5629	1629.	0.1628
268.	0.5615	1630.	0.1635
269.	0.5611	1631.	0.163
270.	0.561	1632.	0.1622

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
271.	0.5606	1633.	0.1624
272.	0.5597	1634.	0.1622
273.	0.5581	1635.	0.1623
274.	0.5581	1636.	0.1624
275.	0.5573	1637.	0.1617
276.	0.5565	1638.	0.162
277.	0.5565	1639.	0.1613
278.	0.556	1640.	0.162
279.	0.5546	1641.	0.1602
280.	0.5541	1642.	0.1607
281.	0.5535	1643.	0.161
282.	0.5527	1644.	0.1604
283.	0.5521	1645.	0.1608
284.	0.5517	1646.	0.1613
285.	0.5512	1647.	0.1602
286.	0.5514	1648.	0.1603
287.	0.5494	1649.	0.16
288.	0.5494	1650.	0.1595
289.	0.548	1651.	0.1599
290.	0.5489	1652.	0.1599
291.	0.5469	1653.	0.16
292.	0.5472	1654.	0.1595
293.	0.5458	1655.	0.1592
294.	0.5455	1656.	0.1596
295.	0.5444	1657.	0.1588
296.	0.5443	1658.	0.159
297.	0.5434	1659.	0.1587
298.	0.5436	1660.	0.1586
299.	0.5423	1661.	0.1583
300.	0.5414	1662.	0.1592
301.	0.5409	1663.	0.1587
302.	0.5411	1664.	0.1584
303.	0.5395	1665.	0.1584
304.	0.5398	1666.	0.1586
305.	0.5381	1667.	0.1584
306.	0.5381	1668.	0.1583
307.	0.5375	1669.	0.1579
308.	0.5363	1670.	0.1581
309.	0.5363	1671.	0.1574
310.	0.5351	1672.	0.1577
311.	0.5347	1673.	0.1573
312.	0.5342	1674.	0.1577
313.	0.5333	1675.	0.1574
314.	0.5332	1676.	0.1572

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
315.	0.532	1677.	0.1573
316.	0.5321	1678.	0.1564
317.	0.5301	1679.	0.156
318.	0.5309	1680.	0.1565
319.	0.5295	1681.	0.1561
320.	0.5288	1682.	0.1498
321.	0.5291	1683.	0.1499
322.	0.5281	1684.	0.1493
323.	0.5275	1685.	0.1496
324.	0.5269	1686.	0.1495
325.	0.5264	1687.	0.1482
326.	0.5253	1688.	0.148
327.	0.5251	1689.	0.1486
328.	0.5243	1690.	0.1484
329.	0.5239	1691.	0.1485
330.	0.5228	1692.	0.1493
331.	0.5227	1693.	0.1478
332.	0.5215	1694.	0.1493
333.	0.5209	1695.	0.1479
334.	0.5203	1696.	0.1482
335.	0.5202	1697.	0.1485
336.	0.5188	1698.	0.1487
337.	0.5186	1699.	0.148
338.	0.5183	1700.	0.1476
339.	0.5173	1701.	0.1467
340.	0.5175	1702.	0.1485
341.	0.5159	1703.	0.1474
342.	0.5157	1704.	0.1473
343.	0.515	1705.	0.1462
344.	0.5146	1706.	0.1472
345.	0.5138	1707.	0.1474
346.	0.5138	1708.	0.1468
347.	0.5132	1709.	0.1479
348.	0.5128	1710.	0.1474
349.	0.512	1711.	0.1458
350.	0.5116	1712.	0.1458
351.	0.5113	1713.	0.1465
352.	0.5103	1714.	0.146
353.	0.5095	1715.	0.1463
354.	0.5094	1716.	0.1457
355.	0.509	1717.	0.1453
356.	0.5083	1718.	0.1455
357.	0.5074	1719.	0.146
358.	0.5061	1720.	0.146

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
359.	0.5066	1721.	0.146
360.	0.5064	1722.	0.1454
361.	0.5053	1723.	0.1453
362.	0.5049	1724.	0.1447
363.	0.5045	1725.	0.1449
364.	0.5036	1726.	0.1454
365.	0.5032	1727.	0.1452
366.	0.5025	1728.	0.1451
367.	0.5019	1729.	0.1446
368.	0.5016	1730.	0.1445
369.	0.5007	1731.	0.145
370.	0.4998	1732.	0.1441
371.	0.4997	1733.	0.1449
372.	0.4988	1734.	0.1439
373.	0.498	1735.	0.1447
374.	0.4987	1736.	0.144
375.	0.4976	1737.	0.1443
376.	0.4967	1738.	0.1438
377.	0.4961	1739.	0.1438
378.	0.4955	1740.	0.1435
379.	0.495	1741.	0.1439
380.	0.4951	1742.	0.1438
381.	0.4943	1743.	0.1437
382.	0.4939	1744.	0.143
383.	0.4926	1745.	0.1433
384.	0.4929	1746.	0.1428
385.	0.4911	1747.	0.1432
386.	0.4914	1748.	0.1432
387.	0.4903	1749.	0.1431
388.	0.4904	1750.	0.142
389.	0.4894	1751.	0.1427
390.	0.4892	1752.	0.143
391.	0.4877	1753.	0.1424
392.	0.4887	1754.	0.1426
393.	0.4876	1755.	0.1426
394.	0.4868	1756.	0.1412
395.	0.4858	1757.	0.1426
396.	0.4858	1758.	0.1419
397.	0.4855	1759.	0.1422
398.	0.4852	1760.	0.1411
399.	0.4837	1761.	0.1414
400.	0.4842	1762.	0.1409
401.	0.4832	1763.	0.1416
402.	0.4832	1764.	0.1412

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
403.	0.4811	1765.	0.1407
404.	0.482	1766.	0.1405
405.	0.4813	1767.	0.1416
406.	0.4805	1768.	0.1418
407.	0.4805	1769.	0.1408
408.	0.4795	1770.	0.1416
409.	0.4796	1771.	0.1403
410.	0.478	1772.	0.141
411.	0.4783	1773.	0.1407
412.	0.4777	1774.	0.1403
413.	0.4761	1775.	0.1402
414.	0.4772	1776.	0.1398
415.	0.4761	1777.	0.1405
416.	0.4758	1778.	0.1403
417.	0.4747	1779.	0.1405
418.	0.4736	1780.	0.1406
419.	0.4732	1781.	0.14
420.	0.4736	1782.	0.1394
421.	0.4722	1783.	0.14
422.	0.4726	1784.	0.1393
423.	0.4722	1785.	0.1399
424.	0.4717	1786.	0.1401
425.	0.4707	1787.	0.1404
426.	0.4702	1788.	0.1391
427.	0.47	1789.	0.1388
428.	0.4686	1790.	0.1386
429.	0.4694	1791.	0.139
430.	0.4686	1792.	0.139
431.	0.4681	1793.	0.139
432.	0.4672	1794.	0.1382
433.	0.4667	1795.	0.1383
434.	0.4664	1796.	0.1386
435.	0.4653	1797.	0.1381
436.	0.4661	1798.	0.138
437.	0.4645	1799.	0.1382
438.	0.4646	1800.	0.1379
439.	0.4641	1801.	0.1382
440.	0.4629	1802.	0.1375
441.	0.4627	1803.	0.1373
442.	0.4619	1804.	0.1374
443.	0.4619	1805.	0.1372
444.	0.4614	1806.	0.1375
445.	0.461	1807.	0.1375
446.	0.4603	1808.	0.1378

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
447.	0.4601	1809.	0.1372
448.	0.4597	1810.	0.1367
449.	0.459	1811.	0.137
450.	0.4585	1812.	0.1375
451.	0.4587	1813.	0.1365
452.	0.4577	1814.	0.1365
453.	0.4571	1815.	0.137
454.	0.4566	1816.	0.1372
455.	0.4562	1817.	0.1375
456.	0.4547	1818.	0.1364
457.	0.4544	1819.	0.1367
458.	0.4546	1820.	0.1357
459.	0.4539	1821.	0.1362
460.	0.4535	1822.	0.136
461.	0.4525	1823.	0.1356
462.	0.453	1824.	0.1354
463.	0.4526	1825.	0.1356
464.	0.4522	1826.	0.1356
465.	0.4506	1827.	0.1359
466.	0.4505	1828.	0.1357
467.	0.45	1829.	0.1358
468.	0.4496	1830.	0.135
469.	0.4495	1831.	0.1354
470.	0.4486	1832.	0.1359
471.	0.4474	1833.	0.1352
472.	0.4483	1834.	0.1353
473.	0.4472	1835.	0.1349
474.	0.447	1836.	0.1349
475.	0.4469	1837.	0.1346
476.	0.446	1838.	0.1342
477.	0.4447	1839.	0.1349
478.	0.4448	1840.	0.1345
479.	0.4436	1841.	0.1346
480.	0.4434	1842.	0.1339
481.	0.4442	1843.	0.1341
482.	0.4428	1844.	0.1337
483.	0.4426	1845.	0.1343
484.	0.4422	1846.	0.1336
485.	0.442	1847.	0.1336
486.	0.4411	1848.	0.1342
487.	0.4409	1849.	0.1335
488.	0.4405	1850.	0.133
489.	0.4392	1851.	0.1334
490.	0.4397	1852.	0.133

<u>Time (sec)</u>	<u>Displacement (ft)</u>	<u>Time (sec)</u>	<u>Displacement (ft)</u>
491.	0.4385	1853.	0.1334
492.	0.4385	1854.	0.1329
493.	0.4381	1855.	0.1334
494.	0.4374	1856.	0.1328
495.	0.4382	1857.	0.1333
496.	0.4369	1858.	0.1331
497.	0.4359	1859.	0.1333
498.	0.4356	1860.	0.132
499.	0.4348	1861.	0.1321
500.	0.4355	1862.	0.1318
501.	0.4344	1863.	0.1328
502.	0.4345	1864.	0.1322
503.	0.4337	1865.	0.1316
504.	0.4336	1866.	0.1317
505.	0.4321	1867.	0.1317
506.	0.4334	1868.	0.1315
507.	0.4316	1869.	0.1316
508.	0.4308	1870.	0.1311
509.	0.4314	1871.	0.1314
510.	0.4304	1872.	0.1316
511.	0.4298	1873.	0.1317
512.	0.4296	1874.	0.1307
513.	0.4292	1875.	0.1306
514.	0.4289	1876.	0.1308
515.	0.4289	1877.	0.1308
516.	0.4282	1878.	0.1303
517.	0.427	1879.	0.1305
518.	0.4267	1880.	0.1305
519.	0.4269	1881.	0.1301
520.	0.4261	1882.	0.1294
521.	0.4264	1883.	0.1307
522.	0.4253	1884.	0.1301
523.	0.4245	1885.	0.1301
524.	0.4246	1886.	0.1298
525.	0.4242	1887.	0.1295
526.	0.4234	1888.	0.1295
527.	0.4233	1889.	0.1293
528.	0.4222	1890.	0.1292
529.	0.422	1891.	0.1295
530.	0.4221	1892.	0.1298
531.	0.4213	1893.	0.1294
532.	0.4212	1894.	0.1285
533.	0.4202	1895.	0.1296
534.	0.4202	1896.	0.128

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
535.	0.4193	1897.	0.1286
536.	0.4194	1898.	0.1288
537.	0.4177	1899.	0.1287
538.	0.418	1900.	0.1286
539.	0.418	1901.	0.129
540.	0.4179	1902.	0.1274
541.	0.4178	1903.	0.1285
542.	0.4167	1904.	0.1282
543.	0.4161	1905.	0.1276
544.	0.4153	1906.	0.1277
545.	0.4146	1907.	0.1284
546.	0.4147	1908.	0.1281
547.	0.4138	1909.	0.1276
548.	0.4139	1910.	0.1275
549.	0.4136	1911.	0.1274
550.	0.4128	1912.	0.1273
551.	0.413	1913.	0.128
552.	0.4124	1914.	0.127
553.	0.412	1915.	0.1273
554.	0.4115	1916.	0.1271
555.	0.4107	1917.	0.1252
556.	0.4101	1918.	0.1273
557.	0.4106	1919.	0.1274
558.	0.4104	1920.	0.1274
559.	0.4091	1921.	0.1264
560.	0.4088	1922.	0.1263
561.	0.408	1923.	0.1273
562.	0.4084	1924.	0.1265
563.	0.4079	1925.	0.1261
564.	0.4075	1926.	0.1261
565.	0.4072	1927.	0.1257
566.	0.4066	1928.	0.1266
567.	0.4059	1929.	0.1257
568.	0.4061	1930.	0.1251
569.	0.4053	1931.	0.1252
570.	0.405	1932.	0.1253
571.	0.4045	1933.	0.1245
572.	0.4048	1934.	0.1256
573.	0.4038	1935.	0.1252
574.	0.4042	1936.	0.1244
575.	0.4023	1937.	0.1247
576.	0.4025	1938.	0.1256
577.	0.4016	1939.	0.125
578.	0.402	1940.	0.1245

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
579.	0.4009	1941.	0.1249
580.	0.4003	1942.	0.1242
581.	0.3996	1943.	0.1242
582.	0.3997	1944.	0.1236
583.	0.3992	1945.	0.1245
584.	0.4	1946.	0.1243
585.	0.3987	1947.	0.1239
586.	0.3982	1948.	0.124
587.	0.3986	1949.	0.1238
588.	0.3976	1950.	0.1238
589.	0.3969	1951.	0.1242
590.	0.3969	1952.	0.1235
591.	0.3957	1953.	0.1229
592.	0.396	1954.	0.1243
593.	0.3955	1955.	0.123
594.	0.3956	1956.	0.1226
595.	0.3938	1957.	0.1229
596.	0.3948	1958.	0.1227
597.	0.3939	1959.	0.1238
598.	0.3932	1960.	0.1224
599.	0.3928	1961.	0.1223
600.	0.3925	1962.	0.1229
601.	0.3916	1963.	0.1226
602.	0.3915	1964.	0.1222
603.	0.3914	1965.	0.1227
604.	0.3914	1966.	0.1222
605.	0.391	1967.	0.122
606.	0.3905	1968.	0.1226
607.	0.3901	1969.	0.1221
608.	0.3894	1970.	0.1219
609.	0.3896	1971.	0.1221
610.	0.3897	1972.	0.122
611.	0.3883	1973.	0.1218
612.	0.3884	1974.	0.1219
613.	0.3881	1975.	0.1213
614.	0.3879	1976.	0.1214
615.	0.3867	1977.	0.1222
616.	0.387	1978.	0.121
617.	0.3859	1979.	0.1212
618.	0.3866	1980.	0.1209
619.	0.385	1981.	0.1214
620.	0.3859	1982.	0.121
621.	0.3848	1983.	0.1219
622.	0.3845	1984.	0.1206

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
623.	0.384	1985.	0.1204
624.	0.384	1986.	0.1205
625.	0.3827	1987.	0.121
626.	0.3823	1988.	0.1211
627.	0.3829	1989.	0.1206
628.	0.3819	1990.	0.1197
629.	0.3815	1991.	0.1202
630.	0.3813	1992.	0.1199
631.	0.3809	1993.	0.12
632.	0.3808	1994.	0.1199
633.	0.3796	1995.	0.1196
634.	0.38	1996.	0.1194
635.	0.3785	1997.	0.1188
636.	0.3791	1998.	0.119
637.	0.3788	1999.	0.1189
638.	0.3784	2000.	0.1193
639.	0.3772	2001.	0.1193
640.	0.3773	2002.	0.1196
641.	0.3774	2003.	0.1192
642.	0.3756	2004.	0.1189
643.	0.3764	2005.	0.1187
644.	0.3765	2006.	0.1185
645.	0.3756	2007.	0.1189
646.	0.375	2008.	0.1192
647.	0.375	2009.	0.1187
648.	0.3744	2010.	0.1188
649.	0.374	2011.	0.1178
650.	0.3736	2012.	0.118
651.	0.3728	2013.	0.1184
652.	0.3734	2014.	0.1175
653.	0.3722	2015.	0.1178
654.	0.3716	2016.	0.1184
655.	0.3712	2017.	0.1182
656.	0.3706	2018.	0.1176
657.	0.3702	2019.	0.1174
658.	0.3717	2020.	0.1176
659.	0.3696	2021.	0.1176
660.	0.3699	2022.	0.1173
661.	0.3699	2023.	0.1174
662.	0.3691	2024.	0.1168
663.	0.3684	2025.	0.1174
664.	0.3691	2026.	0.1175
665.	0.3676	2027.	0.1168
666.	0.3677	2028.	0.1175

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
667.	0.3672	2029.	0.1169
668.	0.3667	2030.	0.116
669.	0.3668	2031.	0.1168
670.	0.3659	2032.	0.1164
671.	0.3662	2033.	0.1168
672.	0.3656	2034.	0.1167
673.	0.3656	2035.	0.1167
674.	0.3648	2036.	0.1162
675.	0.3645	2037.	0.1167
676.	0.3644	2038.	0.116
677.	0.3633	2039.	0.1161
678.	0.3634	2040.	0.1163
679.	0.363	2041.	0.1161
680.	0.363	2042.	0.1158
681.	0.3624	2043.	0.1157
682.	0.362	2044.	0.1154
683.	0.3617	2045.	0.1153
684.	0.3616	2046.	0.1144
685.	0.3604	2047.	0.1153
686.	0.3613	2048.	0.1148
687.	0.3601	2049.	0.1153
688.	0.3597	2050.	0.1141
689.	0.3593	2051.	0.1145
690.	0.3593	2052.	0.1139
691.	0.3586	2053.	0.1147
692.	0.3579	2054.	0.1143
693.	0.3581	2055.	0.1151
694.	0.3585	2056.	0.1145
695.	0.3578	2057.	0.1145
696.	0.3576	2058.	0.1144
697.	0.3558	2059.	0.1146
698.	0.3565	2060.	0.1133
699.	0.356	2061.	0.1138
700.	0.3556	2062.	0.1136
701.	0.3549	2063.	0.1139
702.	0.3557	2064.	0.1142
703.	0.3549	2065.	0.1132
704.	0.3545	2066.	0.1134
705.	0.3537	2067.	0.114
706.	0.3531	2068.	0.1144
707.	0.3531	2069.	0.114
708.	0.353	2070.	0.113
709.	0.3522	2071.	0.1126
710.	0.3521	2072.	0.1131

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
711.	0.3518	2073.	0.1129
712.	0.3522	2074.	0.1122
713.	0.3511	2075.	0.1132
714.	0.3509	2076.	0.1129
715.	0.3507	2077.	0.1129
716.	0.3501	2078.	0.1123
717.	0.3492	2079.	0.1129
718.	0.3488	2080.	0.1126
719.	0.3487	2081.	0.1125
720.	0.3491	2082.	0.1128
721.	0.3485	2083.	0.113
722.	0.3485	2084.	0.1121
723.	0.3484	2085.	0.1123
724.	0.3479	2086.	0.112
725.	0.3472	2087.	0.1133
726.	0.3472	2088.	0.1115
727.	0.3469	2089.	0.1116
728.	0.3458	2090.	0.1117
729.	0.3456	2091.	0.112
730.	0.3461	2092.	0.1105
731.	0.3455	2093.	0.1112
732.	0.3459	2094.	0.1113
733.	0.3441	2095.	0.1114
734.	0.3444	2096.	0.1108
735.	0.343	2097.	0.1114
736.	0.3436	2098.	0.1118
737.	0.3441	2099.	0.1113
738.	0.3435	2100.	0.1113
739.	0.3425	2101.	0.1118
740.	0.3426	2102.	0.1114
741.	0.3411	2103.	0.1106
742.	0.3419	2104.	0.1109
743.	0.3407	2105.	0.1116
744.	0.3416	2106.	0.1103
745.	0.3406	2107.	0.1109
746.	0.3414	2108.	0.1096
747.	0.3408	2109.	0.1102
748.	0.3393	2110.	0.1101
749.	0.3393	2111.	0.1093
750.	0.3393	2112.	0.1094
751.	0.338	2113.	0.1104
752.	0.3382	2114.	0.1095
753.	0.3378	2115.	0.1099
754.	0.3375	2116.	0.1103

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
755.	0.3385	2117.	0.1094
756.	0.3375	2118.	0.1092
757.	0.3371	2119.	0.1094
758.	0.3368	2120.	0.1096
759.	0.3366	2121.	0.1098
760.	0.3356	2122.	0.1093
761.	0.3354	2123.	0.1095
762.	0.3352	2124.	0.1091
763.	0.335	2125.	0.1084
764.	0.3345	2126.	0.1096
765.	0.334	2127.	0.1086
766.	0.3348	2128.	0.1087
767.	0.333	2129.	0.1085
768.	0.3338	2130.	0.1089
769.	0.3337	2131.	0.1091
770.	0.3327	2132.	0.1087
771.	0.3319	2133.	0.1091
772.	0.3318	2134.	0.1078
773.	0.3322	2135.	0.1088
774.	0.3321	2136.	0.1081
775.	0.3308	2137.	0.1092
776.	0.3307	2138.	0.1077
777.	0.33	2139.	0.1075
778.	0.3309	2140.	0.1081
779.	0.3302	2141.	0.1081
780.	0.3293	2142.	0.1075
781.	0.3293	2143.	0.1076
782.	0.3287	2144.	0.1075
783.	0.3295	2145.	0.1077
784.	0.3281	2146.	0.1085
785.	0.3283	2147.	0.1071
786.	0.3275	2148.	0.1074
787.	0.3281	2149.	0.1074
788.	0.3266	2150.	0.1074
789.	0.3262	2151.	0.1074
790.	0.3271	2152.	0.1069
791.	0.326	2153.	0.1074
792.	0.3262	2154.	0.1069
793.	0.3257	2155.	0.1066
794.	0.3247	2156.	0.1063
795.	0.3249	2157.	0.1066
796.	0.3255	2158.	0.1062
797.	0.324	2159.	0.1067
798.	0.3241	2160.	0.1062

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
799.	0.3241	2161.	0.1061
800.	0.3235	2162.	0.1057
801.	0.3227	2163.	0.1067
802.	0.3231	2164.	0.1065
803.	0.3223	2165.	0.1062
804.	0.3227	2166.	0.1057
805.	0.3219	2167.	0.106
806.	0.3224	2168.	0.1045
807.	0.321	2169.	0.1057
808.	0.3214	2170.	0.105
809.	0.3207	2171.	0.1058
810.	0.3215	2172.	0.1046
811.	0.3199	2173.	0.1051
812.	0.3198	2174.	0.1056
813.	0.3198	2175.	0.1052
814.	0.3202	2176.	0.1055
815.	0.3193	2177.	0.106
816.	0.3191	2178.	0.1047
817.	0.3185	2179.	0.1049
818.	0.3186	2180.	0.1047
819.	0.318	2181.	0.1048
820.	0.3181	2182.	0.105
821.	0.3173	2183.	0.1049
822.	0.317	2184.	0.1041
823.	0.3166	2185.	0.1049
824.	0.3163	2186.	0.1039
825.	0.3159	2187.	0.1043
826.	0.3161	2188.	0.1033
827.	0.316	2189.	0.1045
828.	0.3155	2190.	0.1037
829.	0.3151	2191.	0.1045
830.	0.3146	2192.	0.1046
831.	0.315	2193.	0.1048
832.	0.3144	2194.	0.1038
833.	0.3148	2195.	0.1045
834.	0.3135	2196.	0.1037
835.	0.3134	2197.	0.1037
836.	0.3134	2198.	0.1028
837.	0.313	2199.	0.1035
838.	0.3139	2200.	0.1035
839.	0.3124	2201.	0.1037
840.	0.3119	2202.	0.1038
841.	0.311	2203.	0.1028
842.	0.3116	2204.	0.1031

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
843.	0.3117	2205.	0.1035
844.	0.3115	2206.	0.1033
845.	0.3107	2207.	0.1035
846.	0.3105	2208.	0.1023
847.	0.3102	2209.	0.1028
848.	0.3103	2210.	0.1028
849.	0.3098	2211.	0.103
850.	0.3094	2212.	0.1024
851.	0.3094	2213.	0.102
852.	0.3097	2214.	0.1025
853.	0.309	2215.	0.1023
854.	0.3079	2216.	0.1026
855.	0.3083	2217.	0.1022
856.	0.308	2218.	0.1021
857.	0.3076	2219.	0.1027
858.	0.3075	2220.	0.1016
859.	0.3068	2221.	0.1022
860.	0.307	2222.	0.1015
861.	0.3066	2223.	0.1013
862.	0.3067	2224.	0.1012
863.	0.3066	2225.	0.101
864.	0.3057	2226.	0.1018
865.	0.3056	2227.	0.1013
866.	0.3057	2228.	0.1016
867.	0.3063	2229.	0.101
868.	0.3051	2230.	0.101
869.	0.3042	2231.	0.1012
870.	0.3048	2232.	0.1006
871.	0.3037	2233.	0.1015
872.	0.3039	2234.	0.101
873.	0.3036	2235.	0.0998
874.	0.3035	2236.	0.1004
875.	0.3026	2237.	0.1013
876.	0.303	2238.	0.1
877.	0.3021	2239.	0.1006
878.	0.302	2240.	0.1012
879.	0.3023	2241.	0.1005
880.	0.3018	2242.	0.0999
881.	0.3008	2243.	0.1002
882.	0.3013	2244.	0.1003
883.	0.3005	2245.	0.101
884.	0.3008	2246.	0.0994
885.	0.2993	2247.	0.1006
886.	0.3001	2248.	0.0996

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
887.	0.3004	2249.	0.0993
888.	0.2992	2250.	0.0991
889.	0.2993	2251.	0.0996
890.	0.2994	2252.	0.1004
891.	0.2981	2253.	0.1001
892.	0.2988	2254.	0.0998
893.	0.2981	2255.	0.0995
894.	0.297	2256.	0.0989
895.	0.2981	2257.	0.0994
896.	0.297	2258.	0.099
897.	0.2977	2259.	0.0993
898.	0.2966	2260.	0.099
899.	0.297	2261.	0.0995
900.	0.2968	2262.	0.0989
901.	0.2959	2263.	0.099
902.	0.2963	2264.	0.0987
903.	0.2963	2265.	0.0992
904.	0.2956	2266.	0.0988
905.	0.295	2267.	0.0994
906.	0.2953	2268.	0.0982
907.	0.2944	2269.	0.0992
908.	0.2951	2270.	0.0982
909.	0.294	2271.	0.0977
910.	0.2944	2272.	0.0985
911.	0.2934	2273.	0.0986
912.	0.293	2274.	0.099
913.	0.2926	2275.	0.0981
914.	0.2927	2276.	0.0972
915.	0.2936	2277.	0.099
916.	0.2932	2278.	0.098
917.	0.2923	2279.	0.098
918.	0.2925	2280.	0.0981
919.	0.2918	2281.	0.0978
920.	0.292	2282.	0.0978
921.	0.2913	2283.	0.0978
922.	0.2908	2284.	0.0972
923.	0.2903	2285.	0.0978
924.	0.2901	2286.	0.0969
925.	0.2901	2287.	0.0978
926.	0.2901	2288.	0.0966
927.	0.2894	2289.	0.0974
928.	0.2899	2290.	0.0975
929.	0.2891	2291.	0.0972
930.	0.2891	2292.	0.0971

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
931.	0.288	2293.	0.0974
932.	0.2886	2294.	0.0966
933.	0.2876	2295.	0.096
934.	0.2884	2296.	0.0971
935.	0.2876	2297.	0.097
936.	0.2872	2298.	0.0965
937.	0.2875	2299.	0.0969
938.	0.2871	2300.	0.096
939.	0.2865	2301.	0.0971
940.	0.2877	2302.	0.0967
941.	0.286	2303.	0.0968
942.	0.2861	2304.	0.0963
943.	0.2861	2305.	0.0966
944.	0.2863	2306.	0.0955
945.	0.2852	2307.	0.0956
946.	0.2851	2308.	0.0963
947.	0.2849	2309.	0.0968
948.	0.2855	2310.	0.0961
949.	0.284	2311.	0.0962
950.	0.285	2312.	0.0953
951.	0.2838	2313.	0.0962
952.	0.2841	2314.	0.0957
953.	0.2833	2315.	0.0965
954.	0.2843	2316.	0.0959
955.	0.2829	2317.	0.0958
956.	0.2832	2318.	0.0956
957.	0.2828	2319.	0.096
958.	0.2823	2320.	0.0953
959.	0.2828	2321.	0.0954
960.	0.2819	2322.	0.0954
961.	0.2817	2323.	0.0958
962.	0.2815	2324.	0.0952
963.	0.2816	2325.	0.0948
964.	0.2816	2326.	0.0943
965.	0.2808	2327.	0.095
966.	0.2805	2328.	0.0947
967.	0.2798	2329.	0.0952
968.	0.2805	2330.	0.0948
969.	0.2798	2331.	0.0956
970.	0.2799	2332.	0.0949
971.	0.2784	2333.	0.0943
972.	0.2793	2334.	0.0947
973.	0.2788	2335.	0.0948
974.	0.2786	2336.	0.0951

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
975.	0.2778	2337.	0.0949
976.	0.2779	2338.	0.0938
977.	0.278	2339.	0.0952
978.	0.2772	2340.	0.0939
979.	0.278	2341.	0.095
980.	0.2776	2342.	0.0935
981.	0.2766	2343.	0.0942
982.	0.2761	2344.	0.0946
983.	0.2764	2345.	0.0946
984.	0.2768	2346.	0.0938
985.	0.2764	2347.	0.0936
986.	0.2757	2348.	0.0932
987.	0.2757	2349.	0.0939
988.	0.2751	2350.	0.0935
989.	0.2754	2351.	0.0938
990.	0.276	2352.	0.0926
991.	0.2744	2353.	0.094
992.	0.2747	2354.	0.0927
993.	0.2751	2355.	0.0939
994.	0.2744	2356.	0.094
995.	0.2732	2357.	0.0933
996.	0.2739	2358.	0.0936
997.	0.2728	2359.	0.0934
998.	0.2728	2360.	0.0926
999.	0.2725	2361.	0.0935
1000.	0.273	2362.	0.0923
1001.	0.2723	2363.	0.0931
1002.	0.2721	2364.	0.0924
1003.	0.2716	2365.	0.0933
1004.	0.2718	2366.	0.0926
1005.	0.2712	2367.	0.0922
1006.	0.2717	2368.	0.0923
1007.	0.2717	2369.	0.0919
1008.	0.271	2370.	0.0919
1009.	0.2703	2371.	0.0925
1010.	0.2709	2372.	0.0917
1011.	0.2699	2373.	0.092
1012.	0.2699	2374.	0.0927
1013.	0.2701	2375.	0.0919
1014.	0.27	2376.	0.0921
1015.	0.2697	2377.	0.0922
1016.	0.2687	2378.	0.0918
1017.	0.2683	2379.	0.0919
1018.	0.2684	2380.	0.0916

<u>Time (sec)</u>	<u>Displacement (ft)</u>	<u>Time (sec)</u>	<u>Displacement (ft)</u>
1019.	0.2679	2381.	0.0914
1020.	0.2685	2382.	0.0914
1021.	0.2676	2383.	0.0918
1022.	0.2685	2384.	0.0916
1023.	0.2676	2385.	0.0918
1024.	0.2683	2386.	0.0916
1025.	0.2675	2387.	0.0919
1026.	0.2665	2388.	0.0915
1027.	0.2666	2389.	0.0906
1028.	0.2663	2390.	0.0912
1029.	0.2666	2391.	0.0914
1030.	0.2662	2392.	0.0913
1031.	0.2653	2393.	0.0917
1032.	0.2657	2394.	0.091
1033.	0.2649	2395.	0.0911
1034.	0.2656	2396.	0.091
1035.	0.2651	2397.	0.0916
1036.	0.2649	2398.	0.0913
1037.	0.2643	2399.	0.0909
1038.	0.2644	2400.	0.0908
1039.	0.2634	2401.	0.091
1040.	0.2637	2402.	0.0905
1041.	0.2637	2403.	0.0905
1042.	0.263	2404.	0.0903
1043.	0.2626	2405.	0.0899
1044.	0.2629	2406.	0.0902
1045.	0.2626	2407.	0.0913
1046.	0.2629	2408.	0.0899
1047.	0.2613	2409.	0.0901
1048.	0.2618	2410.	0.0903
1049.	0.2611	2411.	0.0909
1050.	0.2618	2412.	0.0902
1051.	0.2611	2413.	0.0901
1052.	0.2612	2414.	0.0896
1053.	0.2605	2415.	0.0915
1054.	0.261	2416.	0.0911
1055.	0.2607	2417.	0.0901
1056.	0.2603	2418.	0.0896
1057.	0.2598	2419.	0.0899
1058.	0.2601	2420.	0.0901
1059.	0.2589	2421.	0.0902
1060.	0.2592	2422.	0.0889
1061.	0.259	2423.	0.0898
1062.	0.2578	2424.	0.0901

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1063.	0.2583	2425.	0.0899
1064.	0.258	2426.	0.0892
1065.	0.2584	2427.	0.0897
1066.	0.2578	2428.	0.0888
1067.	0.2573	2429.	0.0895
1068.	0.2579	2430.	0.0895
1069.	0.2571	2431.	0.0895
1070.	0.257	2432.	0.0888
1071.	0.256	2433.	0.0887
1072.	0.2568	2434.	0.0894
1073.	0.2553	2435.	0.0892
1074.	0.2559	2436.	0.089
1075.	0.2558	2437.	0.0887
1076.	0.2561	2438.	0.0888
1077.	0.2561	2439.	0.0885
1078.	0.2552	2440.	0.0891
1079.	0.255	2441.	0.0894
1080.	0.2546	2442.	0.089
1081.	0.2547	2443.	0.0882
1082.	0.2552	2444.	0.0876
1083.	0.2543	2445.	0.0876
1084.	0.2544	2446.	0.0889
1085.	0.2537	2447.	0.0884
1086.	0.2536	2448.	0.0885
1087.	0.2529	2449.	0.0884
1088.	0.2536	2450.	0.0871
1089.	0.2527	2451.	0.0878
1090.	0.2529	2452.	0.0876
1091.	0.2526	2453.	0.0876
1092.	0.2516	2454.	0.0882
1093.	0.2518	2455.	0.088
1094.	0.2516	2456.	0.0885
1095.	0.2512	2457.	0.0877
1096.	0.2517	2458.	0.0877
1097.	0.2509	2459.	0.0873
1098.	0.2515	2460.	0.0871
1099.	0.2508	2461.	0.0881
1100.	0.2509	2462.	0.0881
1101.	0.2496	2463.	0.0872
1102.	0.2498	2464.	0.0872
1103.	0.2494	2465.	0.0871
1104.	0.2494	2466.	0.087
1105.	0.2493	2467.	0.087
1106.	0.2493	2468.	0.0864

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1107.	0.2491	2469.	0.0871
1108.	0.2486	2470.	0.0862
1109.	0.2486	2471.	0.0872
1110.	0.248	2472.	0.0864
1111.	0.2479	2473.	0.0864
1112.	0.2481	2474.	0.0878
1113.	0.2469	2475.	0.0871
1114.	0.2472	2476.	0.0857
1115.	0.247	2477.	0.087
1116.	0.2469	2478.	0.0864
1117.	0.2468	2479.	0.0867
1118.	0.2468	2480.	0.086
1119.	0.246	2481.	0.0864
1120.	0.2461	2482.	0.0856
1121.	0.2451	2483.	0.0863
1122.	0.2455	2484.	0.0856
1123.	0.2449	2485.	0.0865
1124.	0.2453	2486.	0.0866
1125.	0.2447	2487.	0.0855
1126.	0.2454	2488.	0.0853
1127.	0.2444	2489.	0.0854
1128.	0.2452	2490.	0.0859
1129.	0.2447	2491.	0.0848
1130.	0.2454	2492.	0.0856
1131.	0.2437	2493.	0.0862
1132.	0.2437	2494.	0.0855
1133.	0.2427	2495.	0.0854
1134.	0.2429	2496.	0.085
1135.	0.2421	2497.	0.0851
1136.	0.2425	2498.	0.0845
1137.	0.2418	2499.	0.0849
1138.	0.2421	2500.	0.0847
1139.	0.2424	2501.	0.0848
1140.	0.2411	2502.	0.0849
1141.	0.2414	2503.	0.0849
1142.	0.2422	2504.	0.0851
1143.	0.2413	2505.	0.0845
1144.	0.2409	2506.	0.0848
1145.	0.2408	2507.	0.0842
1146.	0.2405	2508.	0.0846
1147.	0.2405	2509.	0.0851
1148.	0.2401	2510.	0.0842
1149.	0.2395	2511.	0.0842
1150.	0.2395	2512.	0.084

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1151.	0.2391	2513.	0.084
1152.	0.2389	2514.	0.0843
1153.	0.2395	2515.	0.0838
1154.	0.2383	2516.	0.0833
1155.	0.2389	2517.	0.0832
1156.	0.2381	2518.	0.0833
1157.	0.2382	2519.	0.0837
1158.	0.2385	2520.	0.0836
1159.	0.2381	2521.	0.0841
1160.	0.2381	2522.	0.0843
1161.	0.2374	2523.	0.0829
1162.	0.2374	2524.	0.0835
1163.	0.2373	2525.	0.0837
1164.	0.2371	2526.	0.0833
1165.	0.2369	2527.	0.0827
1166.	0.2368	2528.	0.0831
1167.	0.2364	2529.	0.0831
1168.	0.2361	2530.	0.0831
1169.	0.2358	2531.	0.083
1170.	0.2367	2532.	0.0824
1171.	0.2352	2533.	0.0807
1172.	0.2354	2534.	0.0822
1173.	0.2348	2535.	0.0829
1174.	0.2353	2536.	0.0823
1175.	0.2343	2537.	0.0821
1176.	0.2352	2538.	0.0823
1177.	0.234	2539.	0.0832
1178.	0.2338	2540.	0.083
1179.	0.2339	2541.	0.0828
1180.	0.2342	2542.	0.082
1181.	0.2331	2543.	0.0829
1182.	0.2333	2544.	0.0821
1183.	0.2329	2545.	0.0823
1184.	0.2329	2546.	0.0819
1185.	0.2326	2547.	0.0821
1186.	0.2327	2548.	0.0816
1187.	0.2321	2549.	0.0814
1188.	0.2316	2550.	0.0814
1189.	0.2324	2551.	0.0817
1190.	0.2324	2552.	0.0826
1191.	0.2313	2553.	0.0817
1192.	0.2306	2554.	0.0818
1193.	0.2314	2555.	0.0817
1194.	0.2304	2556.	0.082

<u>Time (sec)</u>	<u>Displacement (ft)</u>	<u>Time (sec)</u>	<u>Displacement (ft)</u>
1195.	0.2294	2557.	0.0814
1196.	0.2299	2558.	0.0816
1197.	0.2294	2559.	0.0812
1198.	0.2304	2560.	0.0811
1199.	0.2296	2561.	0.0814
1200.	0.2297	2562.	0.081
1201.	0.2294	2563.	0.0813
1202.	0.2296	2564.	0.0812
1203.	0.2287	2565.	0.0813
1204.	0.2294	2566.	0.081
1205.	0.2281	2567.	0.0812
1206.	0.2287	2568.	0.0814
1207.	0.2285	2569.	0.0806
1208.	0.2287	2570.	0.0808
1209.	0.2277	2571.	0.0804
1210.	0.2276	2572.	0.0807
1211.	0.2272	2573.	0.0807
1212.	0.2277	2574.	0.0804
1213.	0.2268	2575.	0.0808
1214.	0.2265	2576.	0.0797
1215.	0.2263	2577.	0.0806
1216.	0.2266	2578.	0.0798
1217.	0.2259	2579.	0.0801
1218.	0.2258	2580.	0.0794
1219.	0.2255	2581.	0.0802
1220.	0.2258	2582.	0.0807
1221.	0.2256	2583.	0.0804
1222.	0.2261	2584.	0.0797
1223.	0.2249	2585.	0.0791
1224.	0.2251	2586.	0.0807
1225.	0.2242	2587.	0.0801
1226.	0.2248	2588.	0.0801
1227.	0.2243	2589.	0.0799
1228.	0.2247	2590.	0.0798
1229.	0.2235	2591.	0.0796
1230.	0.2228	2592.	0.079
1231.	0.2232	2593.	0.0797
1232.	0.2231	2594.	0.0787
1233.	0.2232	2595.	0.0803
1234.	0.2231	2596.	0.0792
1235.	0.2238	2597.	0.076
1236.	0.2228	2598.	0.0792
1237.	0.2219	2599.	0.079
1238.	0.2217	2600.	0.079

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1239.	0.2226	2601.	0.0789
1240.	0.2223	2602.	0.0784
1241.	0.2214	2603.	0.079
1242.	0.2215	2604.	0.078
1243.	0.2215	2605.	0.079
1244.	0.22	2606.	0.0784
1245.	0.221	2607.	0.0775
1246.	0.2208	2608.	0.0786
1247.	0.2207	2609.	0.079
1248.	0.221	2610.	0.0778
1249.	0.2201	2611.	0.0785
1250.	0.22	2612.	0.0785
1251.	0.2196	2613.	0.0777
1252.	0.2195	2614.	0.0782
1253.	0.2196	2615.	0.0779
1254.	0.2194	2616.	0.0786
1255.	0.2191	2617.	0.0787
1256.	0.2194	2618.	0.0778
1257.	0.2195	2619.	0.0784
1258.	0.2184	2620.	0.0787
1259.	0.2187	2621.	0.0781
1260.	0.218	2622.	0.0768
1261.	0.2175	2623.	0.0772
1262.	0.218	2624.	0.0783
1263.	0.2178	2625.	0.0775
1264.	0.2174	2626.	0.0788
1265.	0.2166	2627.	0.0774
1266.	0.2172	2628.	0.0776
1267.	0.2172	2629.	0.0767
1268.	0.2159	2630.	0.0767
1269.	0.2165	2631.	0.078
1270.	0.2164	2632.	0.077
1271.	0.2156	2633.	0.0771
1272.	0.216	2634.	0.0768
1273.	0.2161	2635.	0.0774
1274.	0.2154	2636.	0.077
1275.	0.2156	2637.	0.0775
1276.	0.2149	2638.	0.0769
1277.	0.2152	2639.	0.0782
1278.	0.2151	2640.	0.0768
1279.	0.2148	2641.	0.0777
1280.	0.2143	2642.	0.077
1281.	0.2136	2643.	0.0774
1282.	0.214	2644.	0.0753

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1283.	0.2144	2645.	0.0774
1284.	0.2136	2646.	0.0767
1285.	0.2134	2647.	0.076
1286.	0.2137	2648.	0.0763
1287.	0.2139	2649.	0.0767
1288.	0.2131	2650.	0.0769
1289.	0.2122	2651.	0.076
1290.	0.2133	2652.	0.0755
1291.	0.2119	2653.	0.0765
1292.	0.2123	2654.	0.0758
1293.	0.2122	2655.	0.0758
1294.	0.2124	2656.	0.0758
1295.	0.2121	2657.	0.0756
1296.	0.2127	2658.	0.0749
1297.	0.2118	2659.	0.0753
1298.	0.2115	2660.	0.0753
1299.	0.2115	2661.	0.0761
1300.	0.2119	2662.	0.0751
1301.	0.2105	2663.	0.0758
1302.	0.2103	2664.	0.0753
1303.	0.2102	2665.	0.0759
1304.	0.2111	2666.	0.0754
1305.	0.2104	2667.	0.0749
1306.	0.2101	2668.	0.075
1307.	0.2103	2669.	0.0749
1308.	0.2097	2670.	0.0757
1309.	0.2098	2671.	0.0757
1310.	0.209	2672.	0.0748
1311.	0.2101	2673.	0.0752
1312.	0.2091	2674.	0.0746
1313.	0.2088	2675.	0.0751
1314.	0.2096	2676.	0.0745
1315.	0.2084	2677.	0.0752
1316.	0.2084	2678.	0.0754
1317.	0.2084	2679.	0.0748
1318.	0.2079	2680.	0.0747
1319.	0.2077	2681.	0.075
1320.	0.2082	2682.	0.0748
1321.	0.2074	2683.	0.0742
1322.	0.2074	2684.	0.0749
1323.	0.2072	2685.	0.0745
1324.	0.2073	2686.	0.0746
1325.	0.2071	2687.	0.0744
1326.	0.2073	2688.	0.0739

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1327.	0.2064	2689.	0.0742
1328.	0.2071	2690.	0.0743
1329.	0.2062	2691.	0.0743
1330.	0.206	2692.	0.0742
1331.	0.2063	2693.	0.0741
1332.	0.2057	2694.	0.0733
1333.	0.2055	2695.	0.0738
1334.	0.2054	2696.	0.0733
1335.	0.2052	2697.	0.0743
1336.	0.2053	2698.	0.0738
1337.	0.2049	2699.	0.0739
1338.	0.2055	2700.	0.0739
1339.	0.2046	2701.	0.0737
1340.	0.2044	2702.	0.0732
1341.	0.2047	2703.	0.0737
1342.	0.2047	2704.	0.0742
1343.	0.2044	2705.	0.0735
1344.	0.2037	2706.	0.0733
1345.	0.2039	2707.	0.0729
1346.	0.2039	2708.	0.0723
1347.	0.2034	2709.	0.0731
1348.	0.2029	2710.	0.0735
1349.	0.2027	2711.	0.0734
1350.	0.2035	2712.	0.0736
1351.	0.2033	2713.	0.0732
1352.	0.2028	2714.	0.0721
1353.	0.2025	2715.	0.0727
1354.	0.2027	2716.	0.0723
1355.	0.2021	2717.	0.0727
1356.	0.2028	2718.	0.0724
1357.	0.2018	2719.	0.0723
1358.	0.2015	2720.	0.0728
1359.	0.201	2721.	0.0732
1360.	0.2014	2722.	0.0726
1361.	0.2013	2723.	0.0998

SOLUTION

Slug Test

Aquifer Model: Unconfined

Solution Method: Dagan

Dimensionless Flow Parameter, P: 0.3763

VISUAL ESTIMATION RESULTS

Estimated Parameters

Parameter	Estimate	
K	0.08336	ft/day
y0	0.6721	ft

K = 2.941E-5 cm/sec

T = K\*b = 2.417 ft<sup>2</sup>/day (0.02599 sq. cm/sec)

Data Set: C:\Users\jpotts\Documents\My PC Work\Grand Junction\Slug Testing\MW-1 Slug Out.aqt

Title: 24 and G Road Improvements Slug Test #2

Date: 01/13/21

Time: 12:55:16

---

### PROJECT INFORMATION

Company: DOWL

Client: City of Grand Junction

Project: 7131.75159.01

Location: Grand Junction Colorado

Test Date: 12-16-2020

Test Well: MW-1

---

### AQUIFER DATA

Saturated Thickness: 29. ft

Anisotropy Ratio (Kz/Kr): 1.

---

### SLUG TEST WELL DATA

Test Well: MW-1

X Location: 0. ft

Y Location: 0. ft

Initial Displacement: 2.71 ft

Static Water Column Height: 11.02 ft

Casing Radius: 0.09 ft

Well Radius: 0.3125 ft

Well Skin Radius: 0.3125 ft

Screen Length: 10. ft

Total Well Penetration Depth: 10. ft

No. of Observations: 2711

Observation Data			
Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
0.	2.71	1356.	0.3044
1.	1.434	1357.	0.3048
2.	1.185	1358.	0.3034
3.	1.14	1359.	0.3038
4.	1.142	1360.	0.3038
5.	1.133	1361.	0.3042
6.	1.128	1362.	0.3036

<u>Time (sec)</u>	<u>Displacement (ft)</u>	<u>Time (sec)</u>	<u>Displacement (ft)</u>
7.	1.124	1363.	0.3029
8.	1.118	1364.	0.3028
9.	1.114	1365.	0.3038
10.	1.089	1366.	0.3019
11.	1.077	1367.	0.3029
12.	1.07	1368.	0.3025
13.	1.064	1369.	0.3027
14.	1.059	1370.	0.3021
15.	1.052	1371.	0.3018
16.	1.045	1372.	0.3016
17.	1.04	1373.	0.3016
18.	1.036	1374.	0.3012
19.	1.03	1375.	0.302
20.	1.025	1376.	0.3009
21.	1.023	1377.	0.3013
22.	1.017	1378.	0.3008
23.	1.012	1379.	0.3005
24.	1.007	1380.	0.2998
25.	1.004	1381.	0.3001
26.	1.	1382.	0.3002
27.	0.9959	1383.	0.2996
28.	0.9931	1384.	0.299
29.	0.9879	1385.	0.2999
30.	0.9852	1386.	0.2994
31.	0.9807	1387.	0.2991
32.	0.9781	1388.	0.2994
33.	0.9745	1389.	0.2981
34.	0.9705	1390.	0.2988
35.	0.9665	1391.	0.2986
36.	0.963	1392.	0.2989
37.	0.9606	1393.	0.2985
38.	0.9569	1394.	0.2984
39.	0.9524	1395.	0.2982
40.	0.9507	1396.	0.2974
41.	0.9475	1397.	0.2979
42.	0.9441	1398.	0.2975
43.	0.9419	1399.	0.297
44.	0.939	1400.	0.2971
45.	0.937	1401.	0.2967
46.	0.9334	1402.	0.2969
47.	0.931	1403.	0.2969
48.	0.9289	1404.	0.2966
49.	0.9261	1405.	0.2974
50.	0.9221	1406.	0.2959

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
51.	0.9212	1407.	0.2955
52.	0.9175	1408.	0.2966
53.	0.9156	1409.	0.2959
54.	0.9126	1410.	0.2957
55.	0.9107	1411.	0.2952
56.	0.9082	1412.	0.2949
57.	0.9059	1413.	0.2956
58.	0.9045	1414.	0.2948
59.	0.9026	1415.	0.2948
60.	0.8993	1416.	0.2944
61.	0.897	1417.	0.2946
62.	0.8949	1418.	0.2941
63.	0.894	1419.	0.2947
64.	0.8908	1420.	0.2939
65.	0.8898	1421.	0.2942
66.	0.8877	1422.	0.2939
67.	0.8852	1423.	0.2939
68.	0.8822	1424.	0.2932
69.	0.8818	1425.	0.294
70.	0.8788	1426.	0.2929
71.	0.8772	1427.	0.2936
72.	0.8755	1428.	0.2928
73.	0.8725	1429.	0.2927
74.	0.8719	1430.	0.292
75.	0.8697	1431.	0.2926
76.	0.8677	1432.	0.2916
77.	0.8659	1433.	0.2918
78.	0.8635	1434.	0.2919
79.	0.8631	1435.	0.2926
80.	0.8607	1436.	0.2919
81.	0.8588	1437.	0.2919
82.	0.8576	1438.	0.2915
83.	0.8562	1439.	0.2904
84.	0.8541	1440.	0.2907
85.	0.8537	1441.	0.2908
86.	0.8512	1442.	0.2909
87.	0.8504	1443.	0.2906
88.	0.8489	1444.	0.291
89.	0.8478	1445.	0.2903
90.	0.8454	1446.	0.2899
91.	0.8448	1447.	0.2901
92.	0.8423	1448.	0.2896
93.	0.8419	1449.	0.2899
94.	0.8404	1450.	0.2896

<u>Time (sec)</u>	<u>Displacement (ft)</u>	<u>Time (sec)</u>	<u>Displacement (ft)</u>
95.	0.8387	1451.	0.2892
96.	0.8369	1452.	0.2893
97.	0.8362	1453.	0.2896
98.	0.8335	1454.	0.2891
99.	0.8339	1455.	0.2889
100.	0.8319	1456.	0.2884
101.	0.8309	1457.	0.2888
102.	0.8288	1458.	0.2881
103.	0.8282	1459.	0.2881
104.	0.8263	1460.	0.2883
105.	0.8249	1461.	0.2875
106.	0.8234	1462.	0.2875
107.	0.8222	1463.	0.2879
108.	0.8207	1464.	0.2878
109.	0.8194	1465.	0.288
110.	0.8178	1466.	0.2869
111.	0.8173	1467.	0.2876
112.	0.8157	1468.	0.2879
113.	0.8137	1469.	0.2875
114.	0.8132	1470.	0.2863
115.	0.8124	1471.	0.2868
116.	0.8106	1472.	0.2865
117.	0.8087	1473.	0.2861
118.	0.8078	1474.	0.2861
119.	0.8074	1475.	0.2859
120.	0.8063	1476.	0.2863
121.	0.8044	1477.	0.2864
122.	0.8031	1478.	0.2852
123.	0.8017	1479.	0.2861
124.	0.7997	1480.	0.2856
125.	0.7989	1481.	0.2851
126.	0.7975	1482.	0.2849
127.	0.7978	1483.	0.2863
128.	0.796	1484.	0.284
129.	0.795	1485.	0.2849
130.	0.7948	1486.	0.2844
131.	0.7926	1487.	0.2848
132.	0.7906	1488.	0.2845
133.	0.7911	1489.	0.2851
134.	0.7891	1490.	0.2843
135.	0.7878	1491.	0.2843
136.	0.7864	1492.	0.2835
137.	0.7854	1493.	0.2846
138.	0.7843	1494.	0.2837

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
139.	0.7832	1495.	0.2839
140.	0.7822	1496.	0.2833
141.	0.7805	1497.	0.283
142.	0.7791	1498.	0.2816
143.	0.7784	1499.	0.2815
144.	0.7775	1500.	0.283
145.	0.7766	1501.	0.2824
146.	0.7757	1502.	0.2828
147.	0.775	1503.	0.282
148.	0.7732	1504.	0.2816
149.	0.7724	1505.	0.282
150.	0.7717	1506.	0.2814
151.	0.771	1507.	0.2814
152.	0.7693	1508.	0.2814
153.	0.7686	1509.	0.2816
154.	0.7669	1510.	0.2813
155.	0.7658	1511.	0.2819
156.	0.7656	1512.	0.2816
157.	0.7643	1513.	0.2813
158.	0.7634	1514.	0.2803
159.	0.7622	1515.	0.2799
160.	0.7603	1516.	0.2798
161.	0.7605	1517.	0.2811
162.	0.7589	1518.	0.2801
163.	0.7591	1519.	0.2805
164.	0.7569	1520.	0.28
165.	0.7561	1521.	0.2795
166.	0.7555	1522.	0.2793
167.	0.7548	1523.	0.2794
168.	0.7526	1524.	0.2798
169.	0.7522	1525.	0.2795
170.	0.7509	1526.	0.2791
171.	0.7502	1527.	0.2792
172.	0.7489	1528.	0.2791
173.	0.7485	1529.	0.2792
174.	0.7477	1530.	0.2787
175.	0.7468	1531.	0.2783
176.	0.7453	1532.	0.2782
177.	0.7446	1533.	0.2783
178.	0.7427	1534.	0.2781
179.	0.7427	1535.	0.2772
180.	0.7413	1536.	0.2785
181.	0.7406	1537.	0.278
182.	0.7397	1538.	0.2777

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
183.	0.7391	1539.	0.2777
184.	0.7373	1540.	0.2769
185.	0.7368	1541.	0.2781
186.	0.7356	1542.	0.2779
187.	0.7357	1543.	0.2771
188.	0.7344	1544.	0.2769
189.	0.7341	1545.	0.2775
190.	0.7324	1546.	0.2764
191.	0.7322	1547.	0.2769
192.	0.7301	1548.	0.2768
193.	0.7303	1549.	0.2772
194.	0.7293	1550.	0.2759
195.	0.7274	1551.	0.2766
196.	0.7264	1552.	0.2762
197.	0.7267	1553.	0.2767
198.	0.7245	1554.	0.2756
199.	0.7239	1555.	0.2759
200.	0.7237	1556.	0.2751
201.	0.7223	1557.	0.2759
202.	0.7214	1558.	0.2752
203.	0.7198	1559.	0.2744
204.	0.7198	1560.	0.2746
205.	0.7195	1561.	0.2749
206.	0.7171	1562.	0.2744
207.	0.7174	1563.	0.2744
208.	0.7163	1564.	0.2747
209.	0.7158	1565.	0.2749
210.	0.7147	1566.	0.2744
211.	0.7135	1567.	0.2743
212.	0.7124	1568.	0.2738
213.	0.7116	1569.	0.2748
214.	0.7106	1570.	0.2737
215.	0.7108	1571.	0.2742
216.	0.7094	1572.	0.2732
217.	0.7084	1573.	0.274
218.	0.7078	1574.	0.2736
219.	0.7069	1575.	0.2732
220.	0.7063	1576.	0.2734
221.	0.705	1577.	0.2735
222.	0.7036	1578.	0.2733
223.	0.7026	1579.	0.2732
224.	0.7029	1580.	0.2727
225.	0.7022	1581.	0.2729
226.	0.7007	1582.	0.2722

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
227.	0.7006	1583.	0.2723
228.	0.6993	1584.	0.2718
229.	0.6979	1585.	0.2715
230.	0.6979	1586.	0.2719
231.	0.6977	1587.	0.2715
232.	0.6954	1588.	0.2706
233.	0.6953	1589.	0.272
234.	0.6939	1590.	0.2714
235.	0.6942	1591.	0.2708
236.	0.693	1592.	0.2706
237.	0.6927	1593.	0.2708
238.	0.691	1594.	0.271
239.	0.6906	1595.	0.2704
240.	0.6894	1596.	0.271
241.	0.6893	1597.	0.2704
242.	0.6885	1598.	0.2703
243.	0.6874	1599.	0.2702
244.	0.6861	1600.	0.2693
245.	0.6857	1601.	0.2699
246.	0.6853	1602.	0.2696
247.	0.6839	1603.	0.27
248.	0.6842	1604.	0.2687
249.	0.6828	1605.	0.2694
250.	0.6819	1606.	0.2686
251.	0.6809	1607.	0.269
252.	0.6809	1608.	0.2683
253.	0.6804	1609.	0.2697
254.	0.6794	1610.	0.269
255.	0.6785	1611.	0.2685
256.	0.6769	1612.	0.2682
257.	0.6772	1613.	0.269
258.	0.6754	1614.	0.268
259.	0.676	1615.	0.2684
260.	0.6748	1616.	0.2684
261.	0.6738	1617.	0.2689
262.	0.6735	1618.	0.2682
263.	0.6727	1619.	0.2682
264.	0.6716	1620.	0.268
265.	0.6707	1621.	0.2676
266.	0.6698	1622.	0.2665
267.	0.6698	1623.	0.2667
268.	0.6692	1624.	0.2674
269.	0.668	1625.	0.2678
270.	0.667	1626.	0.2666

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
271.	0.6669	1627.	0.2668
272.	0.6659	1628.	0.267
273.	0.6656	1629.	0.2661
274.	0.6643	1630.	0.2672
275.	0.6643	1631.	0.2657
276.	0.6634	1632.	0.2655
277.	0.662	1633.	0.2662
278.	0.6621	1634.	0.265
279.	0.6608	1635.	0.2655
280.	0.66	1636.	0.2657
281.	0.6598	1637.	0.2652
282.	0.6587	1638.	0.2651
283.	0.6583	1639.	0.2659
284.	0.6564	1640.	0.265
285.	0.6572	1641.	0.2655
286.	0.6557	1642.	0.264
287.	0.6556	1643.	0.2648
288.	0.6542	1644.	0.2643
289.	0.6544	1645.	0.2645
290.	0.6518	1646.	0.2641
291.	0.6527	1647.	0.2646
292.	0.6512	1648.	0.2643
293.	0.6512	1649.	0.2643
294.	0.6504	1650.	0.2639
295.	0.6494	1651.	0.2641
296.	0.6495	1652.	0.2627
297.	0.6476	1653.	0.2632
298.	0.6482	1654.	0.264
299.	0.6473	1655.	0.2632
300.	0.6463	1656.	0.2633
301.	0.6464	1657.	0.2625
302.	0.6448	1658.	0.2627
303.	0.6441	1659.	0.2628
304.	0.6441	1660.	0.2626
305.	0.6424	1661.	0.2625
306.	0.6418	1662.	0.2628
307.	0.6425	1663.	0.2624
308.	0.641	1664.	0.2628
309.	0.6402	1665.	0.2622
310.	0.6397	1666.	0.2628
311.	0.6396	1667.	0.2619
312.	0.6382	1668.	0.2621
313.	0.6378	1669.	0.2622
314.	0.6368	1670.	0.2609

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
315.	0.6365	1671.	0.2618
316.	0.6354	1672.	0.2608
317.	0.6352	1673.	0.2615
318.	0.6344	1674.	0.2611
319.	0.6336	1675.	0.2608
320.	0.6331	1676.	0.2607
321.	0.632	1677.	0.2612
322.	0.6317	1678.	0.2605
323.	0.6317	1679.	0.2611
324.	0.6305	1680.	0.2606
325.	0.6296	1681.	0.2607
326.	0.6286	1682.	0.2606
327.	0.6281	1683.	0.26
328.	0.6278	1684.	0.2596
329.	0.6274	1685.	0.2599
330.	0.6267	1686.	0.26
331.	0.6261	1687.	0.2592
332.	0.625	1688.	0.2589
333.	0.6253	1689.	0.2594
334.	0.6243	1690.	0.2599
335.	0.6239	1691.	0.2598
336.	0.6229	1692.	0.26
337.	0.6224	1693.	0.2596
338.	0.6208	1694.	0.259
339.	0.6216	1695.	0.2586
340.	0.6207	1696.	0.2594
341.	0.6199	1697.	0.2582
342.	0.6194	1698.	0.2593
343.	0.6181	1699.	0.259
344.	0.618	1700.	0.2589
345.	0.6174	1701.	0.2582
346.	0.6164	1702.	0.2586
347.	0.6164	1703.	0.2581
348.	0.6145	1704.	0.2582
349.	0.6148	1705.	0.2579
350.	0.6142	1706.	0.2577
351.	0.6137	1707.	0.2578
352.	0.6132	1708.	0.2579
353.	0.6125	1709.	0.2576
354.	0.6119	1710.	0.2569
355.	0.611	1711.	0.2579
356.	0.6106	1712.	0.2571
357.	0.61	1713.	0.2572
358.	0.6101	1714.	0.2564

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
359.	0.6084	1715.	0.2559
360.	0.6077	1716.	0.257
361.	0.6074	1717.	0.2559
362.	0.6068	1718.	0.256
363.	0.6066	1719.	0.257
364.	0.6061	1720.	0.2563
365.	0.6053	1721.	0.2558
366.	0.605	1722.	0.2556
367.	0.6051	1723.	0.2558
368.	0.6039	1724.	0.2558
369.	0.6037	1725.	0.2562
370.	0.6017	1726.	0.2552
371.	0.6022	1727.	0.2557
372.	0.6016	1728.	0.2553
373.	0.6015	1729.	0.2556
374.	0.6001	1730.	0.2554
375.	0.6001	1731.	0.2551
376.	0.5989	1732.	0.2546
377.	0.5981	1733.	0.2548
378.	0.5974	1734.	0.255
379.	0.5977	1735.	0.2546
380.	0.5962	1736.	0.2546
381.	0.5966	1737.	0.2552
382.	0.5954	1738.	0.2543
383.	0.5948	1739.	0.2546
384.	0.5937	1740.	0.2536
385.	0.5935	1741.	0.2543
386.	0.5937	1742.	0.254
387.	0.5926	1743.	0.253
388.	0.592	1744.	0.253
389.	0.592	1745.	0.2533
390.	0.5909	1746.	0.2538
391.	0.5906	1747.	0.2534
392.	0.5901	1748.	0.2535
393.	0.589	1749.	0.2531
394.	0.5883	1750.	0.2532
395.	0.588	1751.	0.2533
396.	0.588	1752.	0.2527
397.	0.5885	1753.	0.253
398.	0.5869	1754.	0.2515
399.	0.5864	1755.	0.2526
400.	0.5855	1756.	0.2522
401.	0.585	1757.	0.2526
402.	0.5843	1758.	0.2524

<u>Time (sec)</u>	<u>Displacement (ft)</u>	<u>Time (sec)</u>	<u>Displacement (ft)</u>
403.	0.5843	1759.	0.2531
404.	0.5838	1760.	0.2519
405.	0.5828	1761.	0.2513
406.	0.582	1762.	0.2512
407.	0.5813	1763.	0.2513
408.	0.5818	1764.	0.2519
409.	0.5802	1765.	0.2514
410.	0.5799	1766.	0.251
411.	0.5799	1767.	0.251
412.	0.5791	1768.	0.2506
413.	0.5788	1769.	0.2505
414.	0.5784	1770.	0.2498
415.	0.5776	1771.	0.2506
416.	0.5772	1772.	0.2496
417.	0.5771	1773.	0.2506
418.	0.5764	1774.	0.2502
419.	0.5756	1775.	0.2497
420.	0.5751	1776.	0.2501
421.	0.5745	1777.	0.2494
422.	0.573	1778.	0.2493
423.	0.5736	1779.	0.2501
424.	0.5731	1780.	0.2484
425.	0.5725	1781.	0.25
426.	0.5721	1782.	0.2493
427.	0.5712	1783.	0.2498
428.	0.5703	1784.	0.2486
429.	0.5703	1785.	0.2495
430.	0.5699	1786.	0.2488
431.	0.5694	1787.	0.2495
432.	0.5683	1788.	0.2486
433.	0.5684	1789.	0.2495
434.	0.5669	1790.	0.2483
435.	0.5676	1791.	0.2488
436.	0.5668	1792.	0.2479
437.	0.5659	1793.	0.2484
438.	0.5659	1794.	0.2484
439.	0.5659	1795.	0.249
440.	0.5642	1796.	0.2477
441.	0.5644	1797.	0.2483
442.	0.5631	1798.	0.2478
443.	0.5634	1799.	0.248
444.	0.5629	1800.	0.2478
445.	0.5625	1801.	0.2483
446.	0.5621	1802.	0.2475

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
447.	0.5607	1803.	0.248
448.	0.5612	1804.	0.2475
449.	0.5605	1805.	0.2468
450.	0.5594	1806.	0.2467
451.	0.5599	1807.	0.2475
452.	0.559	1808.	0.2474
453.	0.5577	1809.	0.2466
454.	0.5573	1810.	0.2467
455.	0.5573	1811.	0.2471
456.	0.5563	1812.	0.2464
457.	0.5559	1813.	0.2472
458.	0.5561	1814.	0.2463
459.	0.5558	1815.	0.2471
460.	0.5541	1816.	0.2462
461.	0.5543	1817.	0.2463
462.	0.5535	1818.	0.2461
463.	0.5543	1819.	0.2457
464.	0.5524	1820.	0.2458
465.	0.552	1821.	0.2461
466.	0.5516	1822.	0.2453
467.	0.5514	1823.	0.2458
468.	0.5504	1824.	0.2456
469.	0.5508	1825.	0.246
470.	0.5501	1826.	0.2457
471.	0.5502	1827.	0.2454
472.	0.5495	1828.	0.2455
473.	0.5483	1829.	0.2451
474.	0.5479	1830.	0.2444
475.	0.5474	1831.	0.2456
476.	0.5476	1832.	0.2448
477.	0.5467	1833.	0.2455
478.	0.5459	1834.	0.2439
479.	0.5458	1835.	0.2448
480.	0.5448	1836.	0.2444
481.	0.545	1837.	0.2442
482.	0.5443	1838.	0.2437
483.	0.5433	1839.	0.2444
484.	0.543	1840.	0.2445
485.	0.5435	1841.	0.2442
486.	0.5426	1842.	0.2437
487.	0.5423	1843.	0.2441
488.	0.5417	1844.	0.2436
489.	0.5413	1845.	0.2443
490.	0.541	1846.	0.2434

<u>Time (sec)</u>	<u>Displacement (ft)</u>	<u>Time (sec)</u>	<u>Displacement (ft)</u>
491.	0.5406	1847.	0.2445
492.	0.541	1848.	0.2434
493.	0.54	1849.	0.2436
494.	0.5387	1850.	0.2431
495.	0.5391	1851.	0.2434
496.	0.5373	1852.	0.243
497.	0.5376	1853.	0.2432
498.	0.5372	1854.	0.2419
499.	0.5361	1855.	0.2421
500.	0.5364	1856.	0.2421
501.	0.535	1857.	0.242
502.	0.5344	1858.	0.2417
503.	0.5341	1859.	0.2414
504.	0.5336	1860.	0.2423
505.	0.5335	1861.	0.2417
506.	0.5335	1862.	0.2423
507.	0.5327	1863.	0.2409
508.	0.5319	1864.	0.2412
509.	0.532	1865.	0.2413
510.	0.5314	1866.	0.2412
511.	0.5312	1867.	0.2413
512.	0.5317	1868.	0.2418
513.	0.5298	1869.	0.2417
514.	0.5295	1870.	0.2407
515.	0.5297	1871.	0.2409
516.	0.5289	1872.	0.2414
517.	0.5297	1873.	0.241
518.	0.5283	1874.	0.2402
519.	0.5278	1875.	0.2407
520.	0.5268	1876.	0.2408
521.	0.5263	1877.	0.2402
522.	0.5263	1878.	0.2406
523.	0.5248	1879.	0.2403
524.	0.5249	1880.	0.2409
525.	0.5251	1881.	0.2408
526.	0.5236	1882.	0.2408
527.	0.524	1883.	0.2407
528.	0.5233	1884.	0.2401
529.	0.5234	1885.	0.241
530.	0.5223	1886.	0.2398
531.	0.5218	1887.	0.2393
532.	0.521	1888.	0.2388
533.	0.5215	1889.	0.2399
534.	0.5213	1890.	0.2393

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
535.	0.5213	1891.	0.2393
536.	0.5209	1892.	0.2384
537.	0.5202	1893.	0.2392
538.	0.5195	1894.	0.2385
539.	0.5196	1895.	0.2391
540.	0.5194	1896.	0.2382
541.	0.5181	1897.	0.2395
542.	0.5176	1898.	0.2388
543.	0.5174	1899.	0.2394
544.	0.5165	1900.	0.2385
545.	0.5167	1901.	0.2392
546.	0.5164	1902.	0.2383
547.	0.516	1903.	0.2381
548.	0.5154	1904.	0.2378
549.	0.5153	1905.	0.2376
550.	0.5144	1906.	0.2375
551.	0.5138	1907.	0.238
552.	0.5127	1908.	0.2382
553.	0.5129	1909.	0.2372
554.	0.5121	1910.	0.2372
555.	0.5124	1911.	0.2383
556.	0.5123	1912.	0.2374
557.	0.5111	1913.	0.2371
558.	0.5111	1914.	0.238
559.	0.5105	1915.	0.2373
560.	0.5098	1916.	0.2377
561.	0.5102	1917.	0.2372
562.	0.5088	1918.	0.2363
563.	0.5085	1919.	0.2375
564.	0.5086	1920.	0.2366
565.	0.5073	1921.	0.2373
566.	0.5077	1922.	0.2365
567.	0.5076	1923.	0.237
568.	0.5075	1924.	0.2364
569.	0.5071	1925.	0.2372
570.	0.5063	1926.	0.2371
571.	0.5063	1927.	0.2367
572.	0.5055	1928.	0.236
573.	0.5049	1929.	0.2365
574.	0.5044	1930.	0.2355
575.	0.5045	1931.	0.2367
576.	0.5032	1932.	0.2358
577.	0.5037	1933.	0.2361
578.	0.5026	1934.	0.2362

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
579.	0.5029	1935.	0.236
580.	0.5024	1936.	0.2355
581.	0.5021	1937.	0.2351
582.	0.5017	1938.	0.236
583.	0.501	1939.	0.2355
584.	0.5011	1940.	0.2354
585.	0.5002	1941.	0.2353
586.	0.4995	1942.	0.2359
587.	0.4997	1943.	0.235
588.	0.4988	1944.	0.2357
589.	0.4988	1945.	0.2354
590.	0.4981	1946.	0.2362
591.	0.4988	1947.	0.2355
592.	0.4971	1948.	0.2352
593.	0.4976	1949.	0.2347
594.	0.4963	1950.	0.2342
595.	0.497	1951.	0.2339
596.	0.4962	1952.	0.2342
597.	0.4956	1953.	0.2341
598.	0.4944	1954.	0.2343
599.	0.4948	1955.	0.2348
600.	0.4938	1956.	0.2346
601.	0.4932	1957.	0.2343
602.	0.4929	1958.	0.2343
603.	0.493	1959.	0.2349
604.	0.4925	1960.	0.2335
605.	0.4923	1961.	0.2342
606.	0.4921	1962.	0.2341
607.	0.4919	1963.	0.2334
608.	0.4909	1964.	0.2341
609.	0.4907	1965.	0.2336
610.	0.4897	1966.	0.2341
611.	0.4898	1967.	0.2332
612.	0.4896	1968.	0.2333
613.	0.4895	1969.	0.2338
614.	0.488	1970.	0.2331
615.	0.4883	1971.	0.2334
616.	0.4872	1972.	0.233
617.	0.4883	1973.	0.2341
618.	0.4872	1974.	0.2331
619.	0.487	1975.	0.2333
620.	0.4863	1976.	0.2325
621.	0.4858	1977.	0.233
622.	0.4862	1978.	0.232

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
623.	0.4857	1979.	0.2326
624.	0.485	1980.	0.233
625.	0.4847	1981.	0.2326
626.	0.4834	1982.	0.2323
627.	0.484	1983.	0.2325
628.	0.4832	1984.	0.2322
629.	0.4826	1985.	0.2347
630.	0.482	1986.	0.2319
631.	0.482	1987.	0.2316
632.	0.4823	1988.	0.2315
633.	0.4813	1989.	0.2321
634.	0.4814	1990.	0.2313
635.	0.4805	1991.	0.2319
636.	0.4807	1992.	0.2318
637.	0.4799	1993.	0.2312
638.	0.4798	1994.	0.23
639.	0.4796	1995.	0.2316
640.	0.4791	1996.	0.2315
641.	0.4789	1997.	0.2302
642.	0.4773	1998.	0.2318
643.	0.478	1999.	0.2319
644.	0.4771	2000.	0.2321
645.	0.4775	2001.	0.2311
646.	0.4761	2002.	0.2309
647.	0.4763	2003.	0.2319
648.	0.4764	2004.	0.2306
649.	0.4755	2005.	0.2312
650.	0.4744	2006.	0.231
651.	0.475	2007.	0.2312
652.	0.4739	2008.	0.23
653.	0.4734	2009.	0.2304
654.	0.4731	2010.	0.2304
655.	0.4731	2011.	0.2298
656.	0.4732	2012.	0.2302
657.	0.4729	2013.	0.2302
658.	0.4719	2014.	0.2303
659.	0.4713	2015.	0.2298
660.	0.4707	2016.	0.2297
661.	0.4707	2017.	0.2301
662.	0.4702	2018.	0.2303
663.	0.4704	2019.	0.2293
664.	0.4696	2020.	0.2299
665.	0.4695	2021.	0.229
666.	0.4695	2022.	0.2295

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
667.	0.4698	2023.	0.2301
668.	0.4681	2024.	0.2292
669.	0.469	2025.	0.2299
670.	0.4685	2026.	0.2295
671.	0.4675	2027.	0.2286
672.	0.4671	2028.	0.2291
673.	0.4667	2029.	0.2303
674.	0.4665	2030.	0.2298
675.	0.466	2031.	0.2293
676.	0.4655	2032.	0.2291
677.	0.4652	2033.	0.2293
678.	0.4654	2034.	0.2294
679.	0.4651	2035.	0.2295
680.	0.4642	2036.	0.2281
681.	0.4643	2037.	0.2282
682.	0.4633	2038.	0.2283
683.	0.4635	2039.	0.2282
684.	0.4637	2040.	0.229
685.	0.4624	2041.	0.2282
686.	0.462	2042.	0.2283
687.	0.4624	2043.	0.2284
688.	0.4614	2044.	0.228
689.	0.461	2045.	0.2287
690.	0.4605	2046.	0.2278
691.	0.4604	2047.	0.2286
692.	0.46	2048.	0.2283
693.	0.4595	2049.	0.2305
694.	0.4591	2050.	0.2274
695.	0.4592	2051.	0.228
696.	0.459	2052.	0.2274
697.	0.4585	2053.	0.2287
698.	0.4581	2054.	0.2275
699.	0.4582	2055.	0.2281
700.	0.457	2056.	0.2271
701.	0.4566	2057.	0.2264
702.	0.4568	2058.	0.2283
703.	0.4562	2059.	0.2277
704.	0.4554	2060.	0.2267
705.	0.4563	2061.	0.2279
706.	0.4559	2062.	0.2266
707.	0.455	2063.	0.227
708.	0.4551	2064.	0.2273
709.	0.454	2065.	0.2267
710.	0.4537	2066.	0.2266

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
711.	0.454	2067.	0.2268
712.	0.4532	2068.	0.2266
713.	0.4526	2069.	0.2271
714.	0.4532	2070.	0.2269
715.	0.4519	2071.	0.227
716.	0.4523	2072.	0.2267
717.	0.452	2073.	0.2265
718.	0.4511	2074.	0.2272
719.	0.4508	2075.	0.2264
720.	0.4509	2076.	0.226
721.	0.4506	2077.	0.2263
722.	0.4504	2078.	0.2264
723.	0.4499	2079.	0.2256
724.	0.4492	2080.	0.2266
725.	0.4488	2081.	0.2263
726.	0.4486	2082.	0.2264
727.	0.4487	2083.	0.2261
728.	0.448	2084.	0.2262
729.	0.4479	2085.	0.226
730.	0.4475	2086.	0.2256
731.	0.4472	2087.	0.2257
732.	0.4461	2088.	0.2256
733.	0.447	2089.	0.2256
734.	0.4465	2090.	0.2256
735.	0.4464	2091.	0.2256
736.	0.4458	2092.	0.2252
737.	0.445	2093.	0.2251
738.	0.4446	2094.	0.2255
739.	0.4446	2095.	0.2243
740.	0.4443	2096.	0.2248
741.	0.4438	2097.	0.225
742.	0.4436	2098.	0.2241
743.	0.4437	2099.	0.2253
744.	0.4424	2100.	0.2239
745.	0.4432	2101.	0.2246
746.	0.4423	2102.	0.2246
747.	0.4431	2103.	0.2247
748.	0.4416	2104.	0.224
749.	0.4419	2105.	0.2248
750.	0.4413	2106.	0.2241
751.	0.4408	2107.	0.2245
752.	0.44	2108.	0.2237
753.	0.4396	2109.	0.224
754.	0.4395	2110.	0.2244

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
755.	0.4397	2111.	0.2247
756.	0.4394	2112.	0.2234
757.	0.4388	2113.	0.2263
758.	0.4388	2114.	0.2234
759.	0.4385	2115.	0.2244
760.	0.4377	2116.	0.2242
761.	0.4369	2117.	0.2242
762.	0.437	2118.	0.2228
763.	0.4367	2119.	0.223
764.	0.4363	2120.	0.2234
765.	0.4359	2121.	0.2236
766.	0.4359	2122.	0.223
767.	0.4366	2123.	0.2223
768.	0.4354	2124.	0.2233
769.	0.4357	2125.	0.2232
770.	0.4347	2126.	0.2228
771.	0.4348	2127.	0.2232
772.	0.4347	2128.	0.2227
773.	0.4336	2129.	0.2222
774.	0.4334	2130.	0.2228
775.	0.4337	2131.	0.2232
776.	0.4329	2132.	0.2219
777.	0.4329	2133.	0.2222
778.	0.4319	2134.	0.222
779.	0.4325	2135.	0.2228
780.	0.4315	2136.	0.2219
781.	0.4314	2137.	0.2216
782.	0.4302	2138.	0.2208
783.	0.4308	2139.	0.2219
784.	0.4301	2140.	0.2222
785.	0.4302	2141.	0.222
786.	0.4298	2142.	0.2215
787.	0.4289	2143.	0.222
788.	0.4285	2144.	0.2224
789.	0.4288	2145.	0.2219
790.	0.4285	2146.	0.2214
791.	0.4284	2147.	0.2217
792.	0.4275	2148.	0.2209
793.	0.4275	2149.	0.2219
794.	0.4274	2150.	0.2213
795.	0.4274	2151.	0.2212
796.	0.4268	2152.	0.2208
797.	0.4271	2153.	0.2203
798.	0.4256	2154.	0.221

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
799.	0.4264	2155.	0.221
800.	0.4253	2156.	0.2206
801.	0.426	2157.	0.221
802.	0.4251	2158.	0.2207
803.	0.4243	2159.	0.2212
804.	0.4237	2160.	0.2188
805.	0.4248	2161.	0.2208
806.	0.4227	2162.	0.2202
807.	0.4238	2163.	0.2204
808.	0.4231	2164.	0.2195
809.	0.4234	2165.	0.22
810.	0.4225	2166.	0.2201
811.	0.4221	2167.	0.2201
812.	0.4219	2168.	0.22
813.	0.4225	2169.	0.2193
814.	0.4217	2170.	0.2199
815.	0.4215	2171.	0.2195
816.	0.4208	2172.	0.218
817.	0.4214	2173.	0.2187
818.	0.4206	2174.	0.2189
819.	0.4203	2175.	0.2195
820.	0.4198	2176.	0.2199
821.	0.4191	2177.	0.2189
822.	0.4198	2178.	0.2191
823.	0.4195	2179.	0.2192
824.	0.4187	2180.	0.2187
825.	0.4184	2181.	0.2179
826.	0.4185	2182.	0.2186
827.	0.418	2183.	0.2183
828.	0.4174	2184.	0.2186
829.	0.4163	2185.	0.2191
830.	0.4167	2186.	0.2191
831.	0.4167	2187.	0.2178
832.	0.416	2188.	0.2185
833.	0.4155	2189.	0.2181
834.	0.4157	2190.	0.218
835.	0.4152	2191.	0.2176
836.	0.4147	2192.	0.218
837.	0.415	2193.	0.2173
838.	0.4141	2194.	0.217
839.	0.4146	2195.	0.2183
840.	0.4135	2196.	0.2167
841.	0.4137	2197.	0.2171
842.	0.4128	2198.	0.2167

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
843.	0.413	2199.	0.2166
844.	0.4123	2200.	0.2167
845.	0.4124	2201.	0.2165
846.	0.412	2202.	0.216
847.	0.4122	2203.	0.2175
848.	0.4118	2204.	0.2171
849.	0.4111	2205.	0.2169
850.	0.4108	2206.	0.2163
851.	0.4101	2207.	0.2167
852.	0.4109	2208.	0.2164
853.	0.41	2209.	0.2161
854.	0.4096	2210.	0.2159
855.	0.4093	2211.	0.2163
856.	0.4092	2212.	0.2164
857.	0.4098	2213.	0.2165
858.	0.4093	2214.	0.2164
859.	0.4088	2215.	0.2168
860.	0.4078	2216.	0.2164
861.	0.4079	2217.	0.2167
862.	0.4078	2218.	0.2155
863.	0.4076	2219.	0.2161
864.	0.4073	2220.	0.2153
865.	0.4064	2221.	0.2165
866.	0.4059	2222.	0.2163
867.	0.4065	2223.	0.215
868.	0.4052	2224.	0.215
869.	0.4051	2225.	0.2158
870.	0.4048	2226.	0.2148
871.	0.4058	2227.	0.2152
872.	0.4038	2228.	0.2155
873.	0.4044	2229.	0.2154
874.	0.4032	2230.	0.2154
875.	0.4032	2231.	0.2146
876.	0.404	2232.	0.2147
877.	0.4026	2233.	0.2139
878.	0.4024	2234.	0.215
879.	0.4026	2235.	0.2149
880.	0.4026	2236.	0.2146
881.	0.4018	2237.	0.2144
882.	0.4024	2238.	0.2136
883.	0.4016	2239.	0.2145
884.	0.4005	2240.	0.2141
885.	0.4013	2241.	0.2146
886.	0.4014	2242.	0.2144

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
887.	0.4011	2243.	0.2139
888.	0.4007	2244.	0.2139
889.	0.4001	2245.	0.2134
890.	0.3997	2246.	0.2143
891.	0.3995	2247.	0.2146
892.	0.3988	2248.	0.2132
893.	0.3992	2249.	0.2132
894.	0.3987	2250.	0.2135
895.	0.3982	2251.	0.2138
896.	0.3985	2252.	0.2135
897.	0.3978	2253.	0.213
898.	0.3978	2254.	0.2132
899.	0.3973	2255.	0.2132
900.	0.3976	2256.	0.2132
901.	0.3967	2257.	0.2137
902.	0.3964	2258.	0.2123
903.	0.3962	2259.	0.2132
904.	0.3955	2260.	0.2124
905.	0.396	2261.	0.2129
906.	0.3961	2262.	0.2128
907.	0.3954	2263.	0.2123
908.	0.3954	2264.	0.2118
909.	0.3947	2265.	0.2125
910.	0.3942	2266.	0.2119
911.	0.395	2267.	0.2122
912.	0.3947	2268.	0.2119
913.	0.3941	2269.	0.2118
914.	0.3938	2270.	0.2119
915.	0.3933	2271.	0.2122
916.	0.393	2272.	0.2121
917.	0.3922	2273.	0.2119
918.	0.3922	2274.	0.2116
919.	0.3926	2275.	0.2113
920.	0.3912	2276.	0.2111
921.	0.3922	2277.	0.2116
922.	0.3912	2278.	0.2113
923.	0.391	2279.	0.211
924.	0.3906	2280.	0.211
925.	0.3907	2281.	0.2105
926.	0.3904	2282.	0.2116
927.	0.3903	2283.	0.2101
928.	0.3895	2284.	0.2109
929.	0.3892	2285.	0.2119
930.	0.3892	2286.	0.2113

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
931.	0.3896	2287.	0.2113
932.	0.3885	2288.	0.2105
933.	0.3888	2289.	0.2103
934.	0.3879	2290.	0.2102
935.	0.3888	2291.	0.2107
936.	0.3879	2292.	0.2111
937.	0.3874	2293.	0.21
938.	0.3875	2294.	0.21
939.	0.3868	2295.	0.2101
940.	0.3873	2296.	0.2105
941.	0.3868	2297.	0.2107
942.	0.3868	2298.	0.2092
943.	0.3863	2299.	0.2104
944.	0.3857	2300.	0.2095
945.	0.3864	2301.	0.21
946.	0.3849	2302.	0.2099
947.	0.3853	2303.	0.2101
948.	0.3845	2304.	0.2105
949.	0.3848	2305.	0.2096
950.	0.3839	2306.	0.2091
951.	0.3837	2307.	0.2099
952.	0.3838	2308.	0.209
953.	0.3833	2309.	0.2083
954.	0.3827	2310.	0.209
955.	0.3833	2311.	0.2094
956.	0.3823	2312.	0.2097
957.	0.383	2313.	0.2094
958.	0.3816	2314.	0.2099
959.	0.382	2315.	0.2085
960.	0.3817	2316.	0.2089
961.	0.3811	2317.	0.2089
962.	0.3812	2318.	0.209
963.	0.3809	2319.	0.2088
964.	0.3806	2320.	0.2089
965.	0.3811	2321.	0.21
966.	0.3801	2322.	0.2096
967.	0.3799	2323.	0.2082
968.	0.3799	2324.	0.2076
969.	0.3795	2325.	0.2079
970.	0.3793	2326.	0.2087
971.	0.3798	2327.	0.2079
972.	0.3784	2328.	0.2079
973.	0.3783	2329.	0.2089
974.	0.3782	2330.	0.2081

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
975.	0.3777	2331.	0.2081
976.	0.3778	2332.	0.2076
977.	0.3778	2333.	0.2083
978.	0.3776	2334.	0.2081
979.	0.3779	2335.	0.2075
980.	0.3772	2336.	0.2072
981.	0.3769	2337.	0.2083
982.	0.3768	2338.	0.2076
983.	0.3763	2339.	0.2072
984.	0.3757	2340.	0.2076
985.	0.3758	2341.	0.2077
986.	0.3758	2342.	0.2065
987.	0.3754	2343.	0.2072
988.	0.3751	2344.	0.2073
989.	0.3752	2345.	0.2077
990.	0.3745	2346.	0.2069
991.	0.3743	2347.	0.2071
992.	0.3736	2348.	0.2063
993.	0.3735	2349.	0.206
994.	0.3735	2350.	0.2065
995.	0.3736	2351.	0.2074
996.	0.3734	2352.	0.2069
997.	0.3725	2353.	0.2059
998.	0.3718	2354.	0.2071
999.	0.3721	2355.	0.2066
1000.	0.3722	2356.	0.2058
1001.	0.3722	2357.	0.2068
1002.	0.3711	2358.	0.2059
1003.	0.3717	2359.	0.2064
1004.	0.3706	2360.	0.2068
1005.	0.3705	2361.	0.2064
1006.	0.3714	2362.	0.2053
1007.	0.3714	2363.	0.2069
1008.	0.3697	2364.	0.2056
1009.	0.3706	2365.	0.2063
1010.	0.3692	2366.	0.2065
1011.	0.3698	2367.	0.2058
1012.	0.3694	2368.	0.2051
1013.	0.3688	2369.	0.205
1014.	0.3682	2370.	0.206
1015.	0.3688	2371.	0.2057
1016.	0.3683	2372.	0.2047
1017.	0.3683	2373.	0.2056
1018.	0.3679	2374.	0.2048

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1019.	0.3677	2375.	0.206
1020.	0.3668	2376.	0.2054
1021.	0.3671	2377.	0.2051
1022.	0.3664	2378.	0.2056
1023.	0.367	2379.	0.2055
1024.	0.366	2380.	0.2048
1025.	0.3662	2381.	0.2057
1026.	0.3664	2382.	0.2055
1027.	0.3663	2383.	0.2045
1028.	0.366	2384.	0.2045
1029.	0.3658	2385.	0.2046
1030.	0.3658	2386.	0.2046
1031.	0.3659	2387.	0.2046
1032.	0.3649	2388.	0.205
1033.	0.3646	2389.	0.205
1034.	0.3641	2390.	0.2038
1035.	0.3644	2391.	0.2052
1036.	0.3634	2392.	0.2053
1037.	0.3632	2393.	0.2042
1038.	0.3633	2394.	0.2044
1039.	0.3636	2395.	0.2046
1040.	0.3627	2396.	0.2051
1041.	0.362	2397.	0.2042
1042.	0.3618	2398.	0.2046
1043.	0.3623	2399.	0.2053
1044.	0.3618	2400.	0.2036
1045.	0.3623	2401.	0.2054
1046.	0.3615	2402.	0.2042
1047.	0.3611	2403.	0.2041
1048.	0.3611	2404.	0.2041
1049.	0.3611	2405.	0.2036
1050.	0.3607	2406.	0.2039
1051.	0.3602	2407.	0.2042
1052.	0.3599	2408.	0.2035
1053.	0.3601	2409.	0.2029
1054.	0.3603	2410.	0.2037
1055.	0.3593	2411.	0.2048
1056.	0.3595	2412.	0.2035
1057.	0.3588	2413.	0.204
1058.	0.3593	2414.	0.2028
1059.	0.3589	2415.	0.2029
1060.	0.3579	2416.	0.2034
1061.	0.3589	2417.	0.2037
1062.	0.358	2418.	0.2033

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1063.	0.3576	2419.	0.203
1064.	0.3578	2420.	0.2028
1065.	0.3579	2421.	0.2027
1066.	0.357	2422.	0.2028
1067.	0.3567	2423.	0.2036
1068.	0.3575	2424.	0.2028
1069.	0.3567	2425.	0.203
1070.	0.3563	2426.	0.2019
1071.	0.3559	2427.	0.2024
1072.	0.3552	2428.	0.2025
1073.	0.3558	2429.	0.202
1074.	0.3552	2430.	0.2017
1075.	0.3554	2431.	0.2024
1076.	0.3554	2432.	0.2026
1077.	0.3553	2433.	0.2027
1078.	0.3543	2434.	0.2018
1079.	0.3549	2435.	0.2029
1080.	0.3547	2436.	0.2019
1081.	0.3541	2437.	0.2033
1082.	0.3539	2438.	0.2017
1083.	0.3539	2439.	0.2021
1084.	0.3536	2440.	0.2016
1085.	0.3528	2441.	0.2015
1086.	0.3528	2442.	0.2021
1087.	0.3531	2443.	0.202
1088.	0.3532	2444.	0.2021
1089.	0.3534	2445.	0.2025
1090.	0.3531	2446.	0.2015
1091.	0.3523	2447.	0.2021
1092.	0.3521	2448.	0.2019
1093.	0.3525	2449.	0.2013
1094.	0.3511	2450.	0.2017
1095.	0.3508	2451.	0.2016
1096.	0.3506	2452.	0.2018
1097.	0.3508	2453.	0.2016
1098.	0.3512	2454.	0.2016
1099.	0.3506	2455.	0.2011
1100.	0.3503	2456.	0.2013
1101.	0.3496	2457.	0.2022
1102.	0.3499	2458.	0.2014
1103.	0.3498	2459.	0.2014
1104.	0.3497	2460.	0.2016
1105.	0.3492	2461.	0.2015
1106.	0.3493	2462.	0.2012

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1107.	0.3488	2463.	0.2015
1108.	0.3494	2464.	0.2011
1109.	0.3493	2465.	0.2021
1110.	0.3482	2466.	0.2003
1111.	0.3485	2467.	0.2011
1112.	0.3473	2468.	0.201
1113.	0.3473	2469.	0.2006
1114.	0.3472	2470.	0.1998
1115.	0.3474	2471.	0.2005
1116.	0.3475	2472.	0.2011
1117.	0.3473	2473.	0.2003
1118.	0.3461	2474.	0.2003
1119.	0.3466	2475.	0.2015
1120.	0.3469	2476.	0.2006
1121.	0.3467	2477.	0.2004
1122.	0.3462	2478.	0.1999
1123.	0.3454	2479.	0.2008
1124.	0.3455	2480.	0.1999
1125.	0.3453	2481.	0.1991
1126.	0.3452	2482.	0.2001
1127.	0.3453	2483.	0.1998
1128.	0.3445	2484.	0.2002
1129.	0.3446	2485.	0.2007
1130.	0.3435	2486.	0.2002
1131.	0.3449	2487.	0.2002
1132.	0.3442	2488.	0.1995
1133.	0.344	2489.	0.1999
1134.	0.3438	2490.	0.2004
1135.	0.3437	2491.	0.2006
1136.	0.3433	2492.	0.2006
1137.	0.3433	2493.	0.1995
1138.	0.3431	2494.	0.1998
1139.	0.3427	2495.	0.1997
1140.	0.3428	2496.	0.1997
1141.	0.3429	2497.	0.1993
1142.	0.3422	2498.	0.1995
1143.	0.3423	2499.	0.1994
1144.	0.3425	2500.	0.1995
1145.	0.3414	2501.	0.1995
1146.	0.3416	2502.	0.1995
1147.	0.3422	2503.	0.1996
1148.	0.3413	2504.	0.1988
1149.	0.3413	2505.	0.1994
1150.	0.3405	2506.	0.1992

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1151.	0.3417	2507.	0.1994
1152.	0.341	2508.	0.1989
1153.	0.3402	2509.	0.1996
1154.	0.3402	2510.	0.1992
1155.	0.3396	2511.	0.1988
1156.	0.34	2512.	0.1985
1157.	0.3398	2513.	0.1983
1158.	0.34	2514.	0.1992
1159.	0.3391	2515.	0.1988
1160.	0.3392	2516.	0.1979
1161.	0.3392	2517.	0.1981
1162.	0.3383	2518.	0.1982
1163.	0.3391	2519.	0.1986
1164.	0.3389	2520.	0.1989
1165.	0.3381	2521.	0.1991
1166.	0.3377	2522.	0.1989
1167.	0.3383	2523.	0.1987
1168.	0.3371	2524.	0.1979
1169.	0.3377	2525.	0.1983
1170.	0.338	2526.	0.1981
1171.	0.3373	2527.	0.1981
1172.	0.3373	2528.	0.1977
1173.	0.3369	2529.	0.1983
1174.	0.3371	2530.	0.1985
1175.	0.3373	2531.	0.1975
1176.	0.3363	2532.	0.1969
1177.	0.3364	2533.	0.1975
1178.	0.336	2534.	0.1977
1179.	0.3361	2535.	0.1978
1180.	0.3361	2536.	0.1973
1181.	0.3356	2537.	0.1974
1182.	0.3355	2538.	0.1965
1183.	0.335	2539.	0.1973
1184.	0.3346	2540.	0.1971
1185.	0.3345	2541.	0.1964
1186.	0.3346	2542.	0.1966
1187.	0.3342	2543.	0.197
1188.	0.3342	2544.	0.1968
1189.	0.3344	2545.	0.1968
1190.	0.334	2546.	0.1971
1191.	0.3337	2547.	0.1962
1192.	0.3331	2548.	0.1965
1193.	0.3337	2549.	0.1964
1194.	0.3323	2550.	0.1964

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1195.	0.3332	2551.	0.1978
1196.	0.332	2552.	0.1968
1197.	0.3329	2553.	0.1968
1198.	0.3324	2554.	0.1958
1199.	0.3321	2555.	0.1966
1200.	0.3326	2556.	0.1961
1201.	0.3323	2557.	0.1966
1202.	0.3312	2558.	0.196
1203.	0.3309	2559.	0.196
1204.	0.332	2560.	0.1957
1205.	0.3313	2561.	0.1967
1206.	0.3308	2562.	0.1957
1207.	0.3311	2563.	0.1956
1208.	0.3304	2564.	0.1956
1209.	0.3308	2565.	0.1956
1210.	0.3299	2566.	0.1952
1211.	0.3309	2567.	0.1948
1212.	0.3298	2568.	0.1957
1213.	0.3299	2569.	0.1952
1214.	0.3293	2570.	0.1949
1215.	0.3302	2571.	0.1956
1216.	0.3285	2572.	0.1952
1217.	0.33	2573.	0.195
1218.	0.3289	2574.	0.1952
1219.	0.329	2575.	0.1956
1220.	0.3288	2576.	0.1954
1221.	0.3287	2577.	0.1957
1222.	0.3287	2578.	0.1944
1223.	0.3284	2579.	0.1952
1224.	0.3273	2580.	0.1947
1225.	0.3278	2581.	0.1945
1226.	0.3276	2582.	0.1946
1227.	0.3284	2583.	0.1948
1228.	0.3271	2584.	0.1944
1229.	0.3275	2585.	0.1941
1230.	0.3262	2586.	0.1947
1231.	0.3274	2587.	0.1949
1232.	0.3262	2588.	0.1942
1233.	0.3265	2589.	0.1949
1234.	0.3257	2590.	0.1941
1235.	0.326	2591.	0.1939
1236.	0.3261	2592.	0.1937
1237.	0.3246	2593.	0.1948
1238.	0.3248	2594.	0.194

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1239.	0.3254	2595.	0.1944
1240.	0.3253	2596.	0.1949
1241.	0.3247	2597.	0.1932
1242.	0.3242	2598.	0.1936
1243.	0.3246	2599.	0.1937
1244.	0.3242	2600.	0.1935
1245.	0.3244	2601.	0.1944
1246.	0.3226	2602.	0.1941
1247.	0.3237	2603.	0.1947
1248.	0.3235	2604.	0.1935
1249.	0.3238	2605.	0.1939
1250.	0.3232	2606.	0.194
1251.	0.3231	2607.	0.1936
1252.	0.3226	2608.	0.1939
1253.	0.3226	2609.	0.1944
1254.	0.3224	2610.	0.1936
1255.	0.3215	2611.	0.1941
1256.	0.3222	2612.	0.1934
1257.	0.3212	2613.	0.1938
1258.	0.322	2614.	0.1944
1259.	0.3215	2615.	0.1939
1260.	0.3212	2616.	0.1929
1261.	0.322	2617.	0.1933
1262.	0.3207	2618.	0.1929
1263.	0.3217	2619.	0.1935
1264.	0.3203	2620.	0.1932
1265.	0.3207	2621.	0.1933
1266.	0.3198	2622.	0.1921
1267.	0.3205	2623.	0.1934
1268.	0.3201	2624.	0.1925
1269.	0.3199	2625.	0.1928
1270.	0.3193	2626.	0.1927
1271.	0.32	2627.	0.1926
1272.	0.3194	2628.	0.1929
1273.	0.3196	2629.	0.193
1274.	0.3189	2630.	0.1922
1275.	0.3191	2631.	0.1922
1276.	0.3178	2632.	0.1919
1277.	0.3174	2633.	0.1924
1278.	0.3184	2634.	0.1919
1279.	0.3185	2635.	0.1921
1280.	0.3174	2636.	0.1922
1281.	0.3178	2637.	0.1934
1282.	0.3173	2638.	0.1917

<u>Time (sec)</u>	<u>Displacement (ft)</u>	<u>Time (sec)</u>	<u>Displacement (ft)</u>
1283.	0.3172	2639.	0.1917
1284.	0.3173	2640.	0.1921
1285.	0.317	2641.	0.1916
1286.	0.317	2642.	0.1917
1287.	0.3165	2643.	0.1915
1288.	0.3168	2644.	0.192
1289.	0.3163	2645.	0.1916
1290.	0.3156	2646.	0.1915
1291.	0.3162	2647.	0.1917
1292.	0.3163	2648.	0.1915
1293.	0.3154	2649.	0.1912
1294.	0.315	2650.	0.1916
1295.	0.3152	2651.	0.1917
1296.	0.3151	2652.	0.1917
1297.	0.3146	2653.	0.1909
1298.	0.3144	2654.	0.191
1299.	0.3144	2655.	0.1909
1300.	0.3143	2656.	0.1905
1301.	0.314	2657.	0.1912
1302.	0.3147	2658.	0.191
1303.	0.3134	2659.	0.1914
1304.	0.314	2660.	0.1916
1305.	0.3135	2661.	0.191
1306.	0.3134	2662.	0.1902
1307.	0.3124	2663.	0.1903
1308.	0.313	2664.	0.19
1309.	0.3135	2665.	0.1908
1310.	0.3127	2666.	0.1906
1311.	0.3122	2667.	0.1911
1312.	0.3129	2668.	0.1904
1313.	0.3127	2669.	0.1908
1314.	0.3115	2670.	0.1896
1315.	0.3113	2671.	0.1901
1316.	0.3117	2672.	0.1902
1317.	0.3113	2673.	0.1898
1318.	0.3108	2674.	0.1902
1319.	0.3108	2675.	0.191
1320.	0.3108	2676.	0.1899
1321.	0.3107	2677.	0.1901
1322.	0.3103	2678.	0.19
1323.	0.3109	2679.	0.1901
1324.	0.3111	2680.	0.1894
1325.	0.3094	2681.	0.1901
1326.	0.31	2682.	0.1901

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
1327.	0.3099	2683.	0.1912
1328.	0.3094	2684.	0.1904
1329.	0.3094	2685.	0.1897
1330.	0.3084	2686.	0.1896
1331.	0.3095	2687.	0.1898
1332.	0.3083	2688.	0.1901
1333.	0.3088	2689.	0.1902
1334.	0.3084	2690.	0.1894
1335.	0.3082	2691.	0.1895
1336.	0.3082	2692.	0.1884
1337.	0.3078	2693.	0.1896
1338.	0.3079	2694.	0.1895
1339.	0.3081	2695.	0.1895
1340.	0.3074	2696.	0.1883
1341.	0.3077	2697.	0.1895
1342.	0.3068	2698.	0.1887
1343.	0.3069	2699.	0.1889
1344.	0.3064	2700.	0.1892
1345.	0.3065	2701.	0.1896
1346.	0.3061	2702.	0.1884
1347.	0.3064	2703.	0.1891
1348.	0.3055	2704.	0.1885
1349.	0.3062	2705.	0.1892
1350.	0.3057	2706.	0.1884
1351.	0.3056	2707.	0.1889
1352.	0.3047	2708.	0.1887
1353.	0.3048	2709.	0.189
1354.	0.3039	2710.	0.1884
1355.	0.3047		

**SOLUTION**

Slug Test

Aquifer Model: Unconfined

Solution Method: Dagan

Dimensionless Flow Parameter, P: 0.3763

**VISUAL ESTIMATION RESULTS****Estimated Parameters**

Parameter	Estimate	
K	0.08981	ft/day
y0	0.8853	ft

K = 3.168E-5 cm/sec

T = K\*b = 2.605 ft<sup>2</sup>/day (0.02801 sq. cm/sec)