STATE OF COLORADO

Cazier - DNR, Tim <tim.cazier@state.co.us>

Pikeview monitoring report

1 message

Kos, Paul <paul.kos@stantec.com> Mon, Sep 26, 2022 at 4:20 PM
To: "Tim Cazier, P.E. (Tim.Cazier@state.co.us)" <tim.cazier@state.co.us>
Cc: Jerald Schnabel <jerald_schnabel@castleaggregate.com>

Tim,

Please find attached the Pikeview monitoring report for August. It includes a summary of the shop demolition. Let me know if you have any questions.

Paul Kos P.E., P.Eng.

Senior Geological Engineer

Mining, Minerals and Metals

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Pikeview Monitoring Memo August 2022-final.pdf
4397K

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To:	Jerald Schnabel	From:	Paul Kos
	Continental Materials Corp.		Denver, CO 80222
File:	August 2022 Monitoring Summary	Date:	September 30, 2022

Reference: August 2022 Geotechnical Monitoring Summary Pikeview Quarry

1.0 INTRODUCTION

Stantec Consulting Services Inc. (Stantec) has prepared this August 2022 Geotechnical Monitoring Summary for the Pikeview Quarry. The Pikeview Quarry is situated along the foothills of the Rocky Mountains, northwest of Colorado Springs, Colorado. Continental Materials Corp. (CMC) operates the quarry, which is currently closed and undergoing reclamation. A geotechnical monitoring program was established to monitor reclamation activities which will affect the geotechnical performance of the existing and reclaimed slopes during and following reclamation grading. This report presents the geotechnical monitoring results for the slope reclamation activities at the site through the month of August 2022. Continuous monitoring by the robotic survey system began in 2010 and has continued through the month August 2022. Visual inspections of the slopes were performed by CMC employees and Stantec engineers.

1.1 PURPOSE

The purpose of this report is to summarize the August 2022 geotechnical monitoring results and verify the geotechnical performance of the existing and reclaimed slopes with respect to the historical performance record. The goals of the geotechnical instrumentation monitoring program can be described as:

- Meet corporate risk management requirements,
- Provide ongoing slope monitoring and advance warning of any changed conditions that could pose a hazard to workers or to the public,
- Document the geotechnical performance of the slope, and
- Document monthly site grading activities and construction quality assurance.

1.2 MONITORING SUMMARY

Major components of the instrumentation monitoring program are listed in Table 1 and shown on Figure 1.

Table 1 Monitoring Frequency

Monitoring Type	Frequency
Visual inspection	Daily (CMC) and Monthly (Stantec)
Robotic theodolite/prism	Continuous
Drone inspection	Monthly
Compaction testing	Every 5,000 yd^3 (min.)

2.0 VISUAL INSPECTIONS

Inspections are completed daily by site personnel and monthly by Stantec personnel to document visual observations of slope conditions, including conditions of instability (i.e., cracking, slumping, over-steepened slopes, seeps, perched boulders, rock falls, erosion, and areas undercut by construction or maintenance activities). Certain areas of the landslide have been designated as safety exclusion zones, and these areas are inspected from adjacent locations.

On working days, site operators inspect their work areas for signs of instability daily before starting work per site safety rules and regulations. The daily inspection starts by reviewing any prism alerts/alarms and inspecting those areas before work begins in that area. The daily inspection also includes visual observations of the quarry walls and floor for any changes. No changes to the quarry conditions were identified during daily inspections in August 2022. The notes from the daily inspections are included in Table A-1 in Appendix A.

Stantec conducted visual inspections of the Pikeview Quarry slopes on August 30, 2022. The engineering inspections were conducted by traversing each area of the mine and observing the uphill slope and the downhill slope for signs of instability, and areas in need of maintenance. Slopes that have been graded and are 2 horizontal (H):1 vertical (V) or shallower are also traversed on foot. The findings are listed below, and photographs of notable observations are included on Figure 2 in Appendix A.

- Reclamation grading began in February 2022 and continued throughout August.
- Operators are moving material from the North Borrow Area to the pit floor for compaction in one-foot lifts. Note that the North Borrow Area is a separate project associated with the City's plans for the property; this grading was permitted by El Paso County. (Photo 2)
- No cracking was observed on the native granite slopes above the extents of the disturbed area. (Photo 3)
- Offsite fill was placed near the reclamation benches. The material was spread by dozers and compacted in one-foot lifts in accordance with the project specifications. (Photo 8)
- A safety buffer zone is being kept between the active work areas and the toe of the slide to stop any rocks that might come loose during grading operations. Compacted fill is placed in the buffer zone as the buttress fill is placed.
- Known cracks were monitored for changes. Currently the cracks are not growing in any of the areas on the slopes of the site. The hummocky field in the area immediately above the southern extent of the slide shows evidence of cracking but they are not fresh or active. No new or open cracks were found immediately inside or next to the slide area.
- The culvert remains cleared but mostly blocked inside. CMC has partially cleared the debris, but access limitations and supports within the culvert inhibit clearing all the debris. CMC has procured a pump and will begin pumping operations if any water collects behind the culvert. CMC inspects the culvert for ponded water following rain events, and should any water be observed, it will be removed using pumps. To date, no ponding has been observed.
- Visual inspections of the Pikeview Quarry did not reveal any evidence of large-scale instability outside of the landslide areas previously identified. No bulging, rippling, over-steepening, depressions, slumps, or dry slip-offs were observed in areas that have been graded and/or reclaimed.

3.0 PRISM SURVEY

A Leica Robotic station is used to continuously survey the prisms onsite to document slope movements. The station records the location of each prism every hour. There currently 16 active prisms; 2 prisms were control points located outside the slope movement area and 14 prisms were located on the slopes surrounding the landslide area. As the slope is backfilled and graded, the existing prisms will be removed, and additional prisms will be installed. Prisms TOE5 and P63 were located at the toe of the slide area, and construction of the reclamation slope blocked these prisms, and they were removed in August. A log of prism removals and installations is included in Appendix B. The prism locations are shown on the current topography in Figure 3, and the proposed prism locations are shown on the reclamation topography in Figure 4. Both figures are included in Appendix B.

The monitoring software, GeoMos, has been programed to provide automatic alarms if there is a movement recorded that is greater than 0.35 feet or if a prism cannot be located. Following each alarm, CMC clears the area of concern until the data can be reviewed and the slope can be inspected. CMC made sure that there were no workers in the area before inspecting the slope. During August 2022, multiple alarms were received from multiple prisms; in each case, there was poor weather. The subsequent readings returned to normal, and the alarms are assumed to be data errors related to weather conditions. All other alarms were determined to be caused by equipment operations or animals blocking the prism. Prism P33 recorded a data shift on August 2; when the location was inspected, there were no signs of prism movement or signs of movement in the surrounding area. The data shift is believed to have been cause by animal activity. The alarm notes and actions taken are logged, and the alarms are summarized in Table 2. Considering the large number of false alarms, Stantec will only provide a summary of the alarms received in future reports.

Table 2 Alarm Summary

Date(s)	Alarm	Cause/Actions taken	Issue Resolved
08/01/2022	P63 not found.	Blocked by equipment operations.	08/01/2022
08/02/2022	P63 not found.	Blocked by equipment operations.	08/02/2022
08/02/2022	P33 exceedance alerts	No work at time of alerts. Location checked and no signs of movement. Readings of +0.594, +1.011, +1.240, +1.121, +1.219, +1.247, +0.882, +0.573	08/03/2022
08/02/2022	P32 exceedance alert	No work at time of alerts. Location checked and no signs of movement. Assumed to be data error. Reading of -0.360	08/03/2022
08/03/2022	Points not found	Poor weather, no work being performed	08/03/2022
08/03/2022	P70 exceedance alert	Measured during bad weather. No crews onsite. Assumed to be data error. Reading of +0.358	08/03/2022
08/03/2022	P25 exceedance alerts	Measured during bad weather. No crews onsite. Assumed to be data error. Readings of +5.242, +2.663, +0.811, -0.700, -2.551, -3.757	08/04/2022
08/03/2022	P69A exceedance alerts	Measured during bad weather. No crews onsite. Assumed to be data error. Readings of +0.387, -0.480	08/04/2022
08/03/2022	P5 exceedance alert	Measured during bad weather. No crews onsite. Assumed to be data error. Reading of -0.488	08/04/2022
08/04/2022	TOE5 not found	Blocked by equipment operations.	08/04/2022

08/04/2022	Points not found	Poor weather, no work being performed	08/04/2022
08/05/2022	P63 not found	Blocked by equipment operations.	08/05/2022
08/06/2022	Points not found	Poor weather, no work being performed	08/06/2022
08/07/2022	Points not found	Poor weather, no work being performed	08/07/2022
08/06/2022 to 08/08/2022	P33 exceedance alerts	No crews onsite. Location checked and no signs of movement. Readings of +0.526, +1.555, -1.385, -1.241, -2.953, +0.512, -0.467, +1.131, -1.079.	08/08/2022
08/07/2022 to 08/08/2022	P63 exceedance alerts	Measured during bad weather. No crews onsite. Assumed to be data error. Readings of +1.639, +0.716, -0.693, -1.606	08/08/2022
08/09/2022	Points not found	Poor weather, no work being performed	08/09/2022
08/10/2022	P69A not found	Blocked by equipment operations.	08/10/2022
08/12/2022	P69A not found	Blocked by equipment operations.	08/12/2022
08/12/2022	P63 not found	Blocked by buttress fill.	08/15/2022
08/14/2022	Points not found	Poor weather, no work being performed	08/15/2022
08/15/2022	Points not found	Poor weather, no work being performed	08/16/2022
08/16/2022	Points not found	Poor weather, no work being performed	08/16/2022
08/14/2022	NP2 exceedance alerts	Measured during bad weather. No crews onsite. Assumed to be data error. Readings of -0.597, -0.546, +1.817 -0.914	08/15/2022
08/14/2022	P25 exceedance alerts	Measured during bad weather. No crews onsite. Assumed to be data error. Readings of +1.571, +0.723, -0.771, -0.681, -1.579	08/15/2022
08/14/2022	P5 exceedance alerts	Measured during bad weather. No crews onsite. Assumed to be data error. Readings of -0.940, +0.933, -0.378, -0.459, +0.443	08/15/2022
08/15/2022	NP2 exceedance alerts	Measured during bad weather. No crews onsite. Assumed to be data error. Readings of -1.057, +0.463	08/16/2022
08/15/2022	P25 exceedance alerts	Measured during bad weather. No crews onsite. Assumed to be data error. Readings of -0.759, -1.131, +0.538	08/16/2022
08/15/2022	NP66 exceedance alert	Measured during bad weather. No crews onsite. Assumed to be data error. Reading of +0.431	08/16/2022
08/15/2022	P2 exceedance alert	Measured during bad weather. No crews onsite. Assumed to be data error. Reading of +0.389	08/16/2022
08/15/2022	P32 exceedance alert	Measured during bad weather. No crews onsite. Assumed to be data error. Readings of -0.422, +0.392	08/16/2022
08/16/2022 to 08/17/2022	NP2 exceedance alerts	Measured during bad weather. No crews onsite. Assumed to be data error. Readings of +0.375, -0.509, +0.670	08/17/2022
08/17/2022	P2 exceedance alert	Measured during bad weather. No crews onsite. Assumed to be data error. Reading of -0.492	08/17/2022
08/16/2022 to 08/17/2022	P25 exceedance alerts	Measured during bad weather. No crews onsite. Assumed to be data error. Readings of -0.420, +0.622	08/17/2022

08/16/2022 to 08/17/2022	P32 exceedance alerts	Measured during bad weather. No crews onsite. Assumed to be data error. Readings of -1.275, -0.746, -0.856, +0.905, +1.772	08/17/2022
08/16/2022 to 08/17/2022	P33 exceedance alerts	No crews onsite. Location checked and no signs of movement. Readings of +1.421, +0.714, -0.696, -0.619, -1.417	08/17/2022
08/16/2022 to 08/17/2022	P69A exceedance alert	Measured during bad weather. No crews onsite. Assumed to be data error. Readings of -0.597, -0.536, +0.390, +0.871, +0.645, -1.255	08/17/2022
08/17/2022	P70 exceedance alert	Measured during bad weather. No crews onsite. Assumed to be data error. Readings of -0.447	08/17/2022
08/17/2022	NP66 exceedance alert	Measured during bad weather. No crews onsite. Assumed to be data error. Reading of -0.385	08/17/2022
08/19/2022	P2 not found	Blocked by equipment operations.	08/19/2022
08/19/2022	P5 not found	Blocked by equipment operations.	08/19/2022
08/19/2022	NP2 exceedance alerts	NP2 readings of -0.581, +1.157, +1.722, -0.725, -1.221	08/22/2022
08/19/2022	NP66 exceedance alert	NP66 readings of -0.364, -0.364, +1.066, +0.617, -1.016	08/22/2022
08/19/2022	P1 exceedance alerts	Measured during bad weather. No crews onsite. Assumed to be data error. Readings of +0.576, -0.374, +1.017, +1.577, -0.956	08/22/2022
08/19/2022	P25 exceedance alerts	Measured during bad weather. No crews onsite. Assumed to be data error. Readings of +0.577, -0.492, -0.502, -1.084	08/22/2022
08/19/2022	P32 exceedance alerts	Measured during bad weather. No crews onsite. Assumed to be data error. Readings of -0.585, +0.630, +0.630, -0.687, -0.946	08/22/2022
08/19/2022	P33 exceedance alerts	No crews onsite. Location checked and no signs of movement. Readings of -0.580, +1.280, +0.682, +0.682, -1.015	08/22/2022
08/19/2022	P70 exceedance alerts	Measured during bad weather. No crews onsite. Assumed to be data error. Readings of +1.995, -0.612, -0.607, -0.866	08/22/2022
08/26/2022	P2 not found	Blocked by equipment operations.	08/26/2022
08/26/2022	P5 not found	Blocked by equipment operations.	08/26/2022
08/26/2022	Points not found	Poor weather, no work being performed	08/26/2022
08/26/2022	NP66 exceedance alert	Measured during bad weather. No crews onsite. Assumed to be data error. Readings of +0.447	08/26/2022
08/26/2022	P1 exceedance alerts	Measured during bad weather. No crews onsite. Assumed to be data error. Readings of +0.459, -0.421, -0.646	08/26/2022
08/26/2022	P32 exceedance alerts	Measured during bad weather. No crews onsite. Assumed to be data error. Readings of +0.525, +0.706	08/26/2022
08/26/2022	P70 exceedance alerts	Measured during bad weather. No crews onsite. Assumed to be data error. Readings of +0.564, -0.425	08/26/2022

The prism monitoring results for transverse and height displacements, monthly change, and cumulative change are summarized in Tables 3a and 3b below. The transverse displacement measures the change in the horizontal distance from the robotic station to the prism; positive displacements indicate less distance

between the station and prism (movement towards the total station). The height displacement measures the change in the vertical distance from the robotic station to the prism; positive displacements indicate upward movement. The values for the last reading in the month are included in Table 3. The monthly delta is the most recent reading cumulative delta displacement (horizontal, lateral, and vertical) subtracted from the last reading from the previous month. The cumulative delta values are a total displacement and are not associated with a direction. The transverse, height, and cumulative delta displacements are the total displacement over the life of the monitoring, which was reset when the Leica station was moved in July 2022. According to Leica documentation, the survey accuracy is +/-4 mm+1.5 ppm for prisms located greater than 500m from the station; these equates to an accuracy of +/-0.016 ft.

The data show stable conditions with no movement for 12 of 16 prisms with recorded displacements limited to data scatter and not actual movements. Prisms BR1, BR2, NP66, and P69 are located above the landslide, and these prisms also recorded slope creep movements at slow velocity. This settlement is likely related to the landslide material consolidating under its own weight. New prisms are placed in areas where slope creep movements are likely to be recorded; therefore, slope creep movements being recorded at more locations is expected to occur. Plots of the transverse and height displacements for each prism are included in Appendix B.

Table 3 Prism Summary

Prism ID	Cumulative Transverse Displacement (ft)	Cumulative Height Displacement (ft)	Monthly Delta (ft)	Cumulative Delta (ft)	Notes / Recommendations
BR1	-0.026	-0.040	0.0404	0.0616	Prism records slope creep movements
BR2	-0.017	-0.043	0.0401	0.0551	Prism records slope creep movements
CP6	-0.001	-0.030	0.0229	0.0323	
CP7	0.055	-0.048	-0.0051	0.0741	
NP1	0.016	0.011	0.0073	0.0223	
NP2	-0.011	0.005	0.0043	0.0225	
NP3	-0.037	-0.005	0.0235	0.0374	
NP66	0.002	-0.039	0.0287	0.0409	Prism records slope creep movements
P1	-0.001	-0.028	0.0111	0.0291	
P2	0.004	-0.025	0.0103	0.0280	
P5	-0.004	-0.020	0.0125	0.0210	
P25	-0.014	0.000	0.0051	0.0220	
P32	-0.017	-0.007	0.0134	0.0214	
P33	0.028	-0.042	0.1747	0.2024	Prism recorded a shift on August 2. No signs of movement at location. Possibly caused by animals.
P63	0.008	-0.039	0.0300	0.0403	Prism removed August 15
P69A	-0.018	-0.024	0.0927	0.1188	Previously recorded slope creep movements
P70	-0.008	-0.014	0.0037	0.0164	
TOE5	-0.010	-0.044	0.0189	0.0452	Prism removed August 4

4.0 DRONE SURVEY

The site was flown for aerial imagery using an unmanned aircraft system (UAS or ‘drone’) on, September 1, 2022. Scheduling and poor weather prevented the survey from occurring in August. The imagery was inspected for signs of instability and used to supplement the onsite visual inspections. Features noted in the aerial imagery review were inspected during Stantec’s engineering inspection and are summarized in Section 2 above. The imagery was also used to create site topography.

The August topography was also compared to the July topography to identify changes in the site topography. Comparison of the two surveys showed the placement of the fill material at the toe of the landslide. Fill material is excavated from the Lower and South Borrow Areas or imported from offsite projects, including the North Borrow Area. No slope movements or other changes in topography were identified. The current imagery and topography are included in Figures 1 and 3, and the comparison surface is included as Figure 5 in Appendix C.

As previously reported in the September 2020 monitoring report, there are limitations with the method of comparing drone surveys from different months. The drone data indicate changes in the slopes along each of the reclamation benches, buildings, and areas with trees or shrubs. These areas are stable, and the changes are the result of survey limitations on or near vertical slopes.

5.0 COMPACTION TESTING

Fill placement started on February 25, 2022 and continued throughout August. Fill was excavated from the North Borrow Area and placed in the buttress and buffer zones. Importing fill also continued. Fill was placed in one-foot lifts, moisture conditioned as necessary, and compacted. Compaction testing began March 2022 and occurs at the rate of at least one test per 5,000 yd^3 placed. During August, approximately 161,000 yd^3 was placed and compacted. This includes approximately 14,000 yd^3 of imported fill. This volume placed in the buttress zone required at least 33 compaction tests. There were 107 compaction tests taken in August. As of September 1, 2022, a total 1,200,000 yd^3 had been placed and compacted. This requires 240 compaction tests (not considering the buffer zone volume), and 374 tests have been taken. All tests in August met or exceeded the minimum compaction requirement of 90% of the optimal density as measured by a Standard Proctor Test. The compaction testing results are summarized in Appendix D, and the testing locations are shown on Figure 6.

6.0 RECLAMATION PROGRESS

CMC has initiated reclamation grading at the Pikeview Quarry and has contracted with Stantec to provide EPCM services through completion. As an updated feature of our monthly report, we will provide progress of activities, anticipated milestone schedule and a one month look ahead to better communicate project objectives. A phased or ‘gated” approach will be used to complete the reclamation process going forward (See milestone schedule below)

Phase 1 - Value Engineering and issue RFP to qualified Contractors

Phase 2 - Commercial negotiations with successful contractor

Phase 3 - Execution planning and Contractor readiness review

Phase 4 - Site Construction execution

Phase 5 - Final revegetation (season 2)

Task/Milestone	Estimated Dates
Phase 1 – Issue RFP to Bidders	Completed June 2021
Phase 1 – RFP Evaluation & Recommendation	Completed July 2021
Phase 2 – Constructor Contract Award	Completed January 2022
Phase 3 – Project Kick-off with successful Contractor	Completed February 4, 2022
Phase 4 – Contractor Mobilization to Site	Completed February 2022
Phase 4 – Reclamation Grading	February 2022 to present
Phase 4 – Contractor Demobilize from Site	Fall 2023
Phase 5 – Final Revegetation season 2 Begins	2023 until acceptance

Progress of activities this month:

- Contractor continued earth moving activities
- Quality assurance testing continued
- Importing fill material continued
- Geotechnical monitoring continued

Work planned for next month includes:

- Continue reclamation grading
- Continue importing fill material
- Continue geotechnical monitoring
- Continue removing and replacing prisms on an as-needed basis

7.0 CONCLUSIONS

The data collected in August 2022 demonstrate compliance with the reclamation grading plan. The buttress fill is being placed as intended and specified; this includes one-foot-thick compacted lifts.

None of the data collected in August 2022 indicate evidence of any large-scale movements that increase risk to workers or to the public. The landslide area continues to show slope creep movements with slow velocities. Shallow surface erosion continues to occur requiring ongoing maintenance and cleanup.

- Restricted access to the ungraded landslide slopes should continue.
- All monitoring should continue at current frequencies.
- All alarms shall continue to be taken seriously even if data errors are suspected.

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LEGEND

- Permit/Affected Lands Boundary
- City Grading Permit Boundary
- Proposed Disturbance Limit
- Landslide Extent
- Buttress Fill Extent
- Existing Prism
- Removed Prism

N

0 300' 600'

Client/Project
CONTINENTAL MATERIALS CORP.
PIKEVIEW QUARRY SLOPE MONITORING

Project No.
2057288200

Title
SITE MAP

Revision
#

Date
2022.09.30

Drawn By
PK

Figure No.
1

Appendix A

Visual Inspections

Stantec

Table A-1 Summary of Daily Inspecitons

Date	Notes	Inspection By
1-Aug-22	No movement observed. Good to proceed.	Jerald Schnabel
2-Aug-22	No movement observed. Good to proceed.	Jerald Schnabel
3-Aug-22	Checked P32 and P33 after receiving alerts. No movement observed. Good to proceed.	Jerald Schnabel
4-Aug-22	Checked upper prisms. No movement observed. Good to proceed.	Jerald Schnabel
5-Aug-22	No movement observed. Good to proceed.	Jerald Schnabel
6-Aug-22	No work.	Not applicable
7-Aug-22	No work.	Not applicable
8-Aug-22	No movement observed. Good to proceed.	Jerald Schnabel
9-Aug-22	No movement observed. Good to proceed.	Jerald Schnabel
10-Aug-22	No movement observed. Good to proceed.	Jerald Schnabel
11-Aug-22	No movement observed. Good to proceed.	Jerald Schnabel
12-Aug-22	No movement observed. Good to proceed.	Jerald Schnabel
13-Aug-22	No work.	Not applicable
14-Aug-22	No work.	Not applicable
15-Aug-22	No movement observed. Good to proceed.	Jerald Schnabel
16-Aug-22	No movement observed. Good to proceed.	Jerald Schnabel
17-Aug-22	No movement observed. Good to proceed.	Jerald Schnabel
18-Aug-22	No movement observed. Good to proceed.	Jerald Schnabel
19-Aug-22	No movement observed. Good to proceed.	Jerald Schnabel
20-Aug-22	No work.	Not applicable
21-Aug-22	No work.	Not applicable
22-Aug-22	No movement observed. Good to proceed.	Jerald Schnabel
23-Aug-22	No movement observed. Good to proceed.	Jerald Schnabel
24-Aug-22	No movement observed. Good to proceed.	Jerald Schnabel
25-Aug-22	No movement observed. Good to proceed.	Jerald Schnabel
26-Aug-22	No movement observed. Good to proceed.	Jerald Schnabel
27-Aug-22	No work.	Not applicable
28-Aug-22	No work.	Not applicable
29-Aug-22	No movement observed. Good to proceed.	Jerald Schnabel
30-Aug-22	No movement observed. Good to proceed.	Jerald Schnabel
31-Aug-22	No movement observed. Good to proceed.	Jerald Schnabel

6. View to the south of the pit floor.

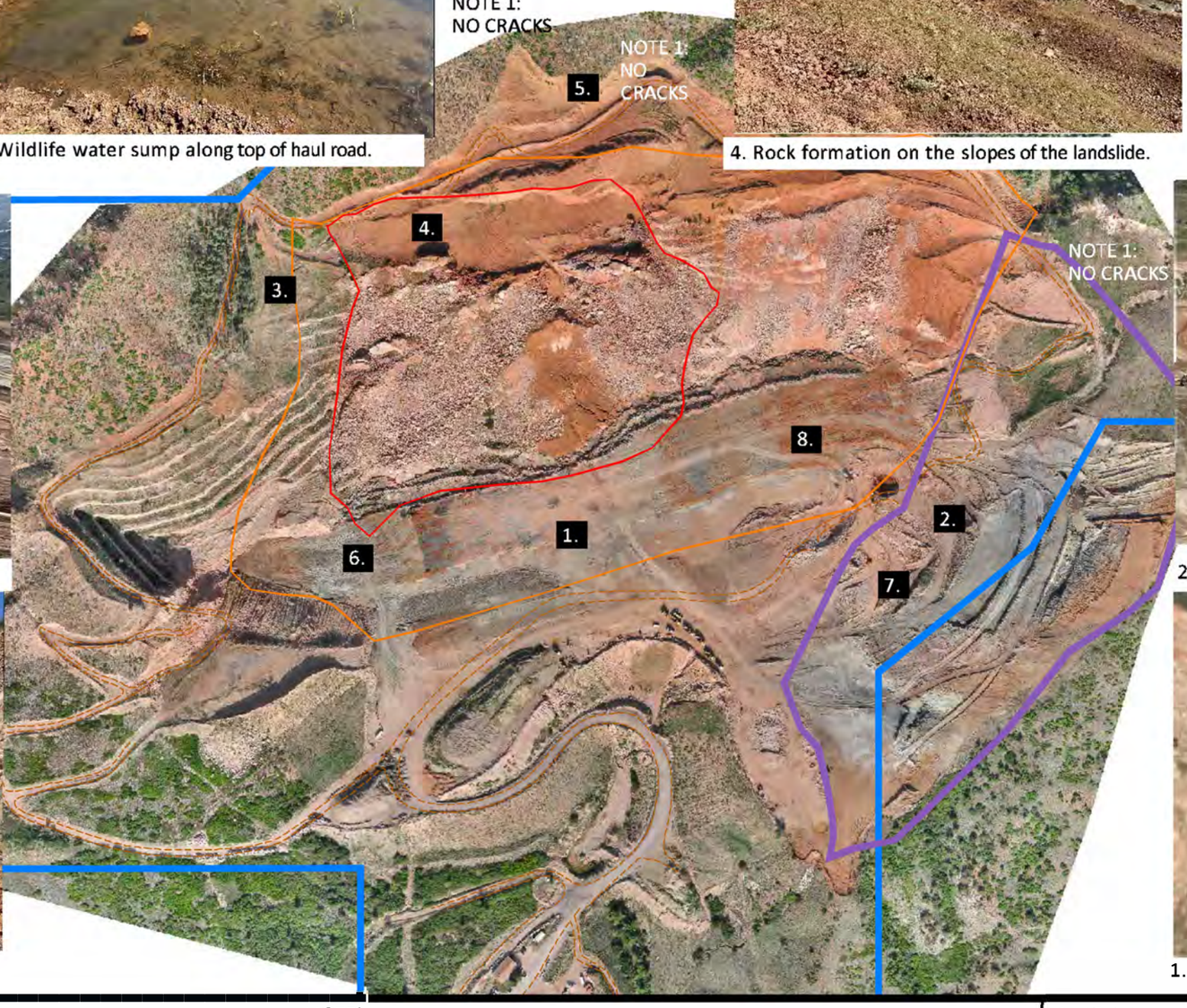
5. Wildlife water sump along top of haul road.

4. Rock formation on the slopes of the landslide.

3. Hummocky area on the south side of the site remains stable without new cracks.

7. Excavator loads haul trucks at north barrow area.

8. Recently compacted lift on the pit floor.



2. North borrow area on the north end of the site.

1. View north of compaction area and borrow area.

Stantec

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LEGEND

- Permit/Affected Lands Boundary
- City Grading Permit Boundary
- Proposed Disturbance Limit
- Landslide Extent
- Buttress Fill Extent
- Observed Crack

NOTES

1. NO CRACKS OBSERVED IN THIS AREA.
2. ALL PHOTOS TAKEN AUGUST 30, 2022.

N

0 400' 800'

Client/Project
CONTINENTAL MATERIALS CORP.
PIKEVIEW QUARRY SLOPE MONITORING

Project No.
2057288200

Title
OBSERVATIONS FROM AUGUST INSPECTION

Revision	Date
#	2022.09.30
Drawn By	Figure No.
PK	2

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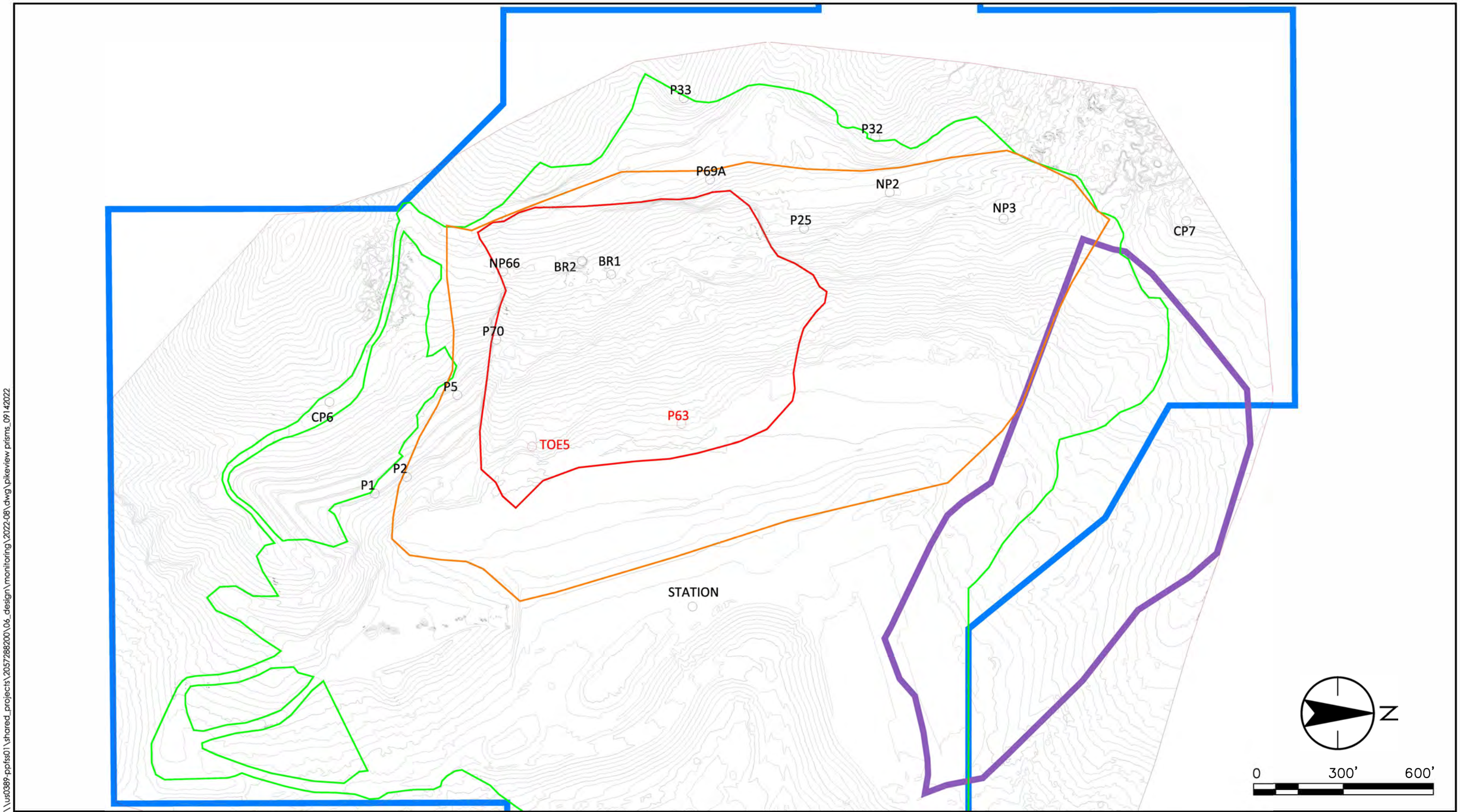
Appendix B

Prism Survey



\\us0389-ppfss01\shared_projects\2057288200\06_design\monitoring\2022-08\dwg\pikeview prisms_09142022

2022.09.16 7:45:24 AM

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Stantec Consulting Services Inc.
2000 South Colorado Boulevard Suite 2-300
Denver CO 80222-7933
Tel: (303) 758-4058
www.stantec.com

LEGEND

- Permit/Affected Lands Boundary
- City Grading Permit Boundary
- Proposed Disturbance Limit
- Landslide Extent
- Buttress Fill Extent
- Existing Prism
- Removed Prism

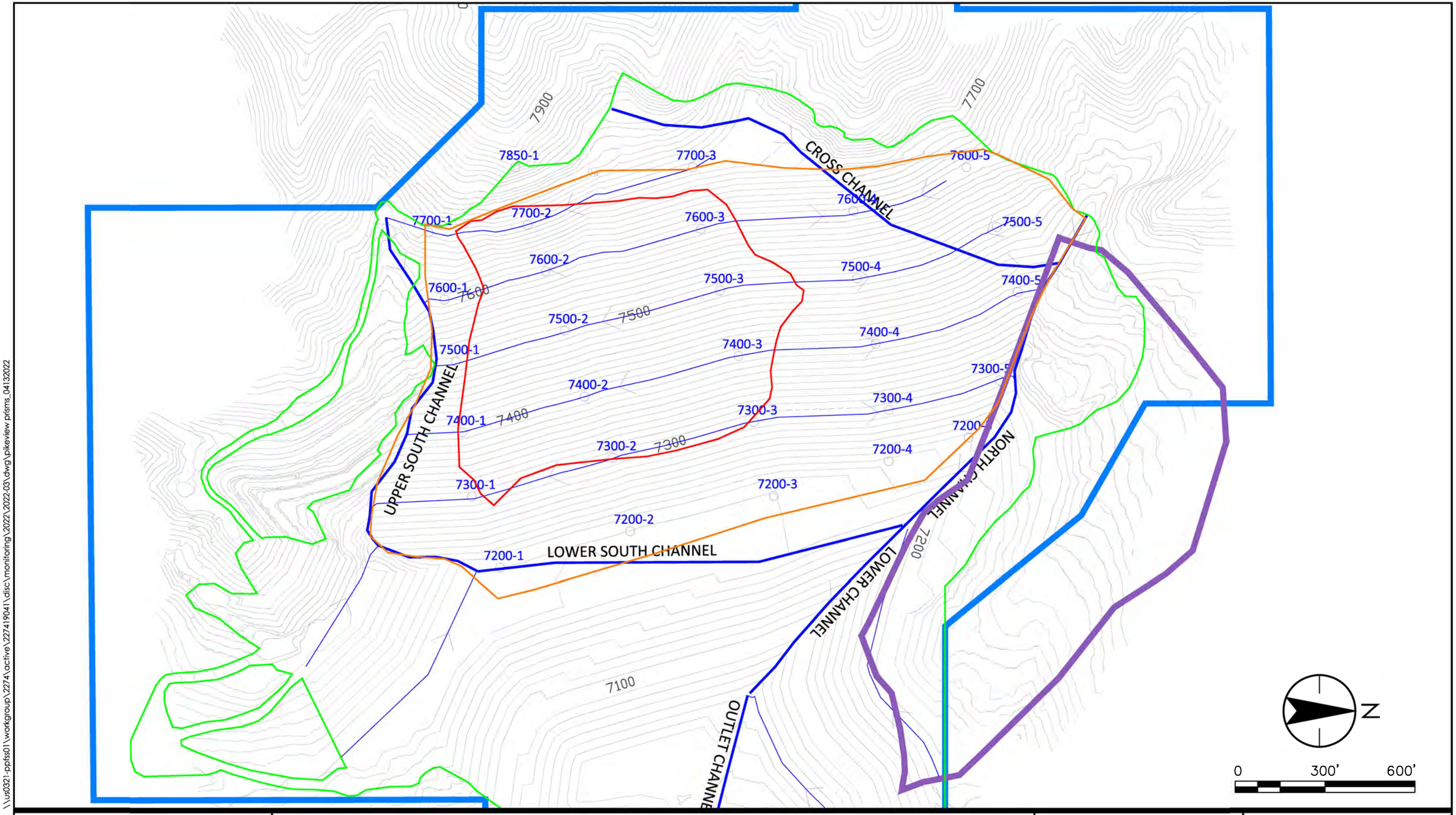
1. GRADING AND MOVEMENT OF STATION WILL BE EXTENDED AS LONG AS POSSIBLE.
2. PRISMS WILL BE INSTALLED AS EACH BENCH IS FINISHED.
3. ALL PRISMS WILL BE RETAINED AS LONG AS POSSIBLE.
4. TOPOGRAPHY FROM SEPTEMBER 1, 2022 DRONE SURVEY.
5. CONTOUR INTERVAL IS 10 FEET

Client/Project
CONTINENTAL MATERIALS CORP.
PIKEVIEW QUARRY SLOPE MONITORING

Project No.
2057288200

Title
EXISTING PRISMS WITH CURRENT SURFACE

Revision	Date
#	2022.09.30
Drawn By	Figure No.
PK	3



\\us0321-ppfss01\workgroup\2274\active\227419041\disc\monitoring\2022\2022-03\dwg\pikeview prisms_04132022

2022.04.13 8:37:50 PM

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LEGEND

- Permit/Affected Lands Boundary
- City Grading Permit Boundary
- Proposed Disturbance Limit
- Landslide Extent
- Buttress Fill Extent
- Proposed Prism

NOTES

1. PRISMS WILL BE INSTALLED AS EACH BENCH IS FINISHED.
2. ALL PRISMS WILL BE RETAINED AS LONG AS POSSIBLE.

Client/Project
CONTINENTAL MATERIALS CORP.
PIKEVIEW QUARRY SLOPE MONITORING

Project No.
2057288200

Title
PROPOSED PRISMS WITH RECLAMATION SURFACE

Revision	Date
#	2022.09.30
Drawn By	Figure No.
PK	4

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Prism Log

Prism	Date	Action	Comment
CP2	11-Mar-22	Prism Removed	Reclamation grading to affect prism in near future
CP3	11-Mar-22	Prism Removed	Reclamation grading to affect prism in near future
NP1	11-Mar-22	Prism Removed	Reclamation grading to affect prism in near future
TOE2	11-Mar-22	Prism Removed	Reclamation grading to affect prism in near future
CP4	11-Mar-22	Prism Added	Control Point Replacement
CP5	11-Mar-22	Prism Added	Control Point Replacement
TS1	12-Mar-22	Prism Added	New Prism Added
TOE3	30-Mar-22	Prism Removed	Reclamation grading to affect buffer filling activities
TOE4	8-Apr-22	Prism Added	New Prism Added
TOE5	8-Apr-22	Prism Added	New Prism Added
BR1	8-Apr-22	Prism Added	New Prism Added
BR2	8-Apr-22	Prism Added	New Prism Added
NP1	22-Apr-22	Prism Removed	Originally NP1. Prism re-set in same spot and is now NP3
NP3	22-Apr-22	Prism Added	
TOE3	22-Apr-22	Prism Removed	Originally TOE3. Prism moved to a higher elevation and is now TOE6
TOE6	22-Apr-22	Prism Added	
TOE1	22-Apr-22	Prism Removed	Reclamation grading to affect buffer filling activities
P4	17-Jun-22	Prism Removed	Prism removed due to rock deterioration
P69	20-Jul-22	Prism Removed	Prism was originally P69. It has been re-set to Higher Elevation and is now P69A. Related to base station relocation.
P69A	20-Jul-22	Prism Added	
P35	20-Jul-22	Prism Renamed	Prism was originally P35. It has been re-set to Higher Elevation and is now CP6. Related to base station relocation.
CP6	20-Jul-22	Prism Added	
CP5	20-Jul-22	Prism Renamed	Prism was originally CP5. It has been re-set to Higher Elevation and is now CP7. Related to base station relocation.
CP7	20-Jul-22	Prism Added	
CP1	20-Jul-22	Prism Removed	Not in line of sight of new base station.
CP4	20-Jul-22	Prism Removed	Not in line of sight of new base station.
TOE4	20-Jul-22	Prism Removed	Not in line of sight of new base station.
TOE6	20-Jul-22	Prism Removed	Not in line of sight of new base station.
TOE5	4-Aug-2022	Prism Removed	Out of line of sight of base station.
P63	15-Aug-2022	Prism Removed	Out of line of sight of base station.

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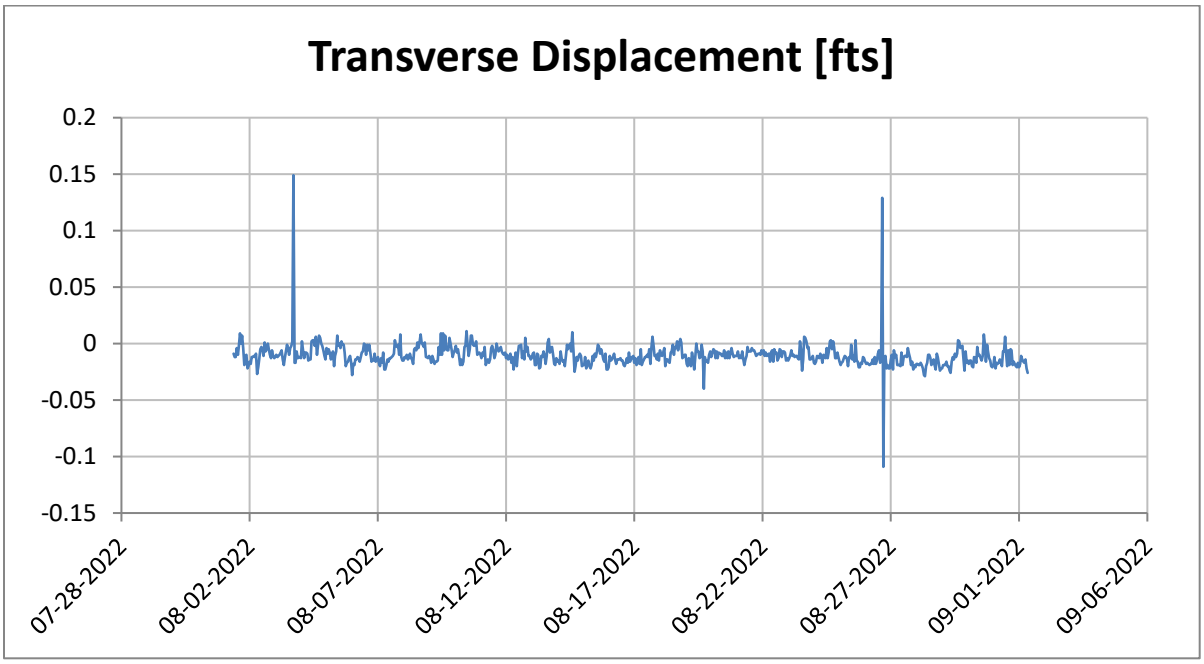
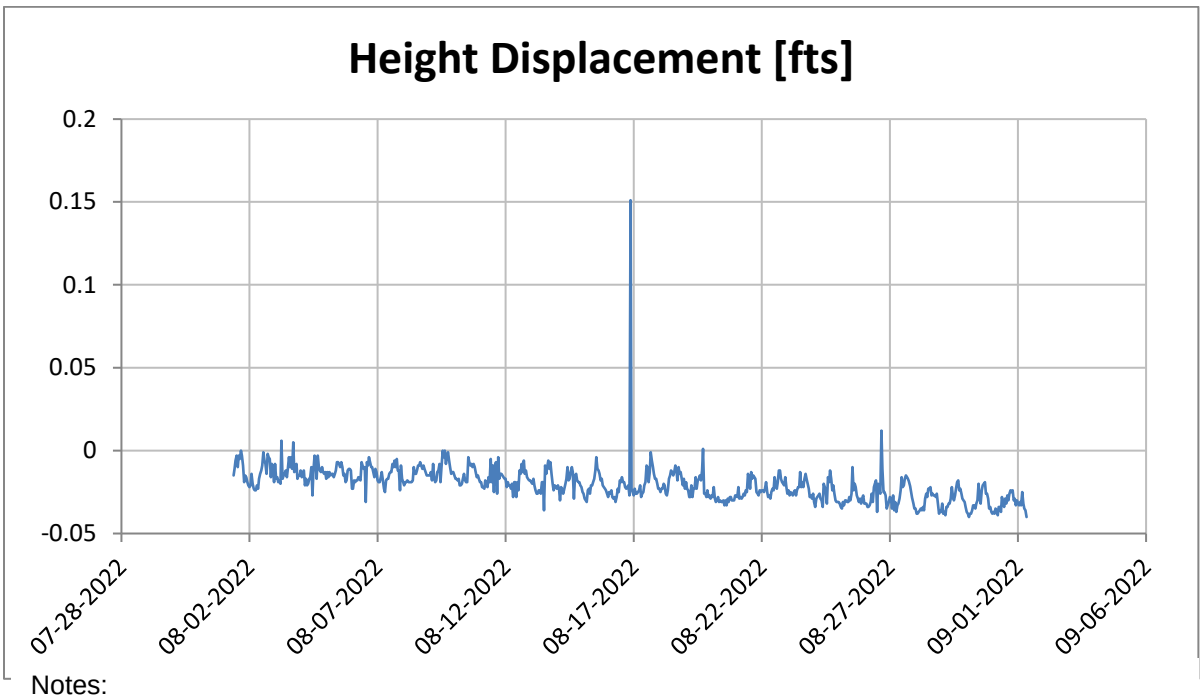
Prism BR1





Notes:

1. Survey accuracy is +/-0.016 feet.
2. Alarm threshold is +/-0.35 feet.
3. Transverse displacement is in the horizontal direction. Positive direction means closer to the robotic station.
4. Height displacement is in the vertical direction. Positive direction means higher in elevation.
5. Prism records slope creep movements with slow velocity.

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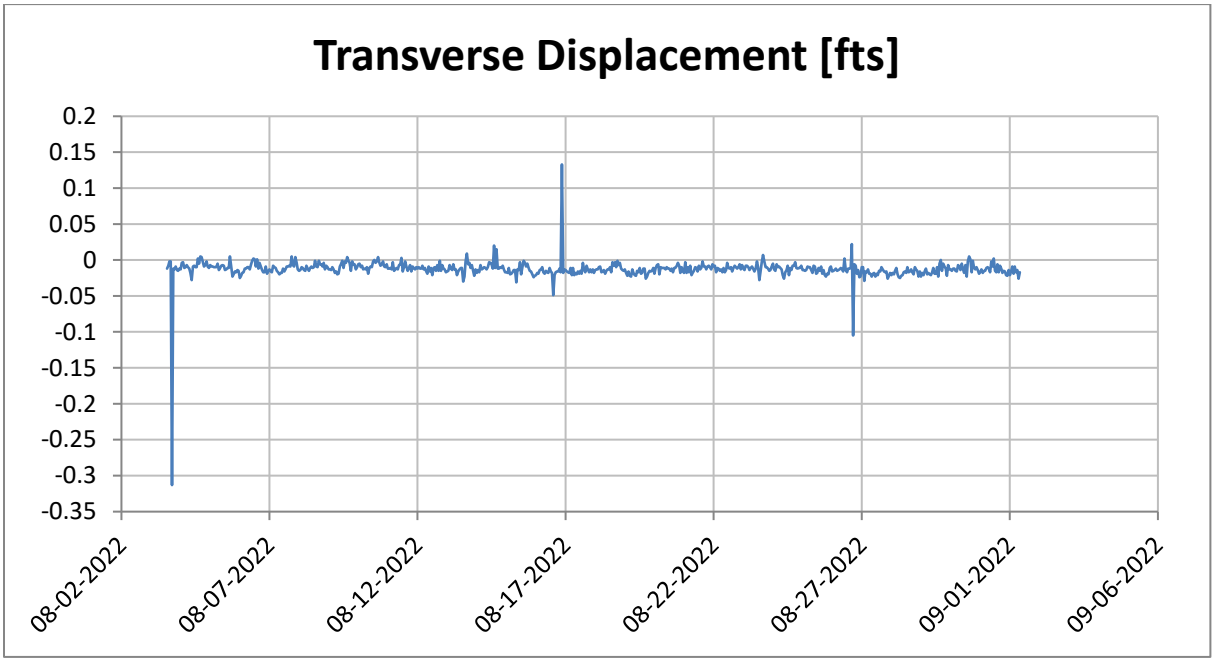
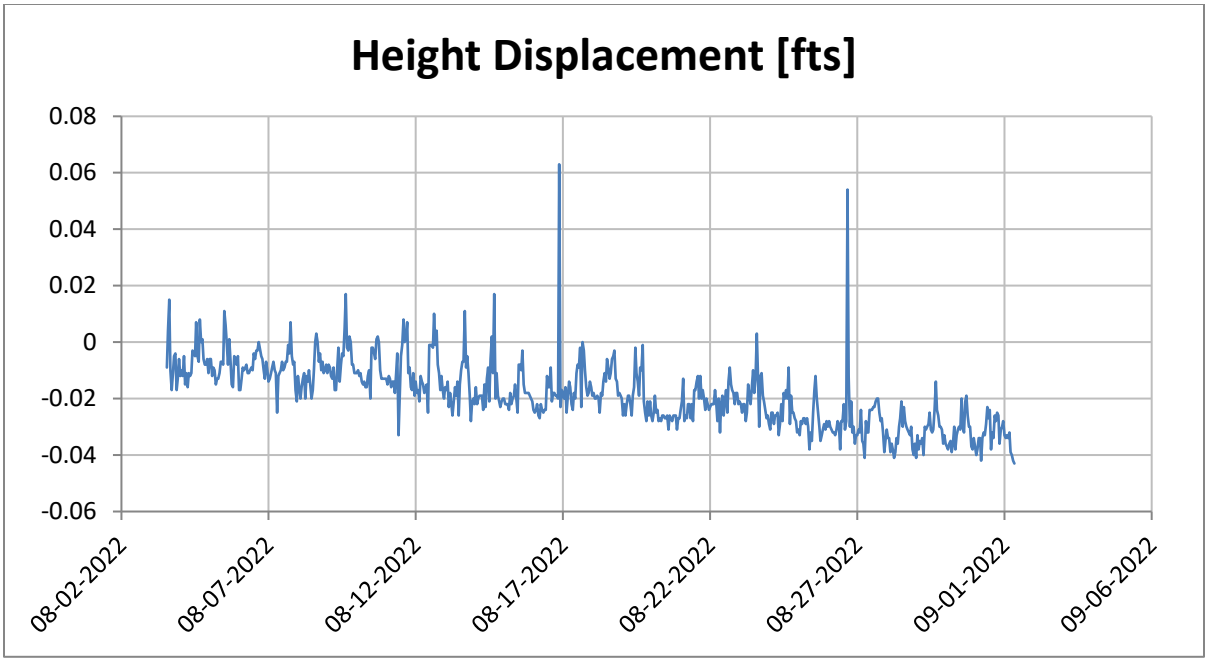
Prism BR2



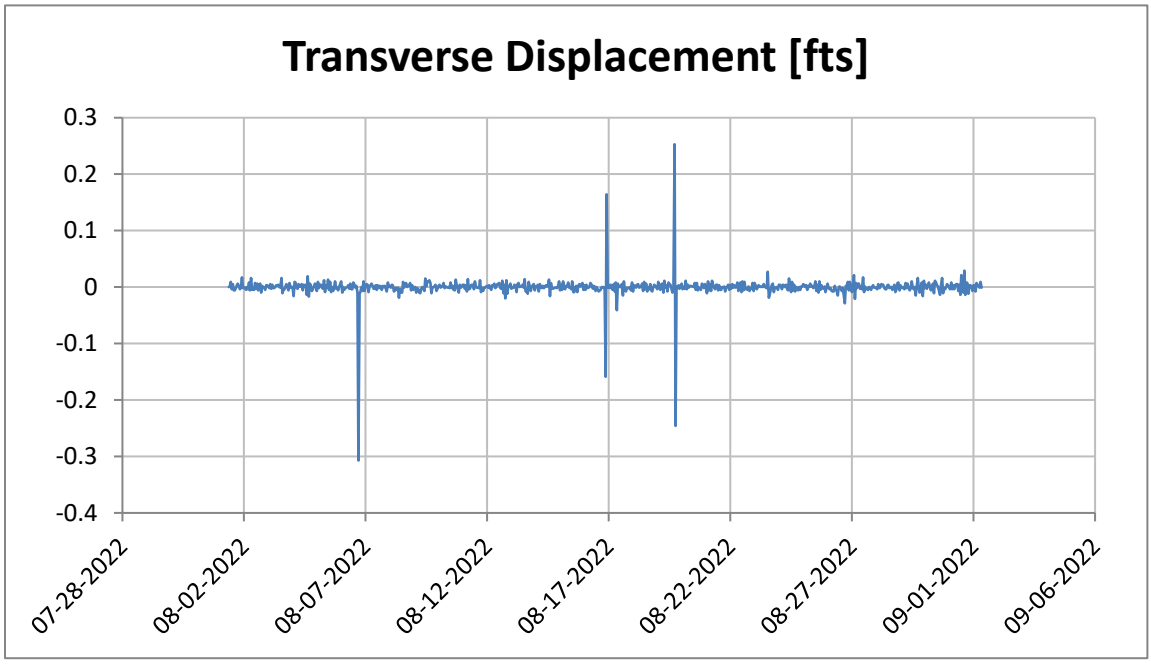


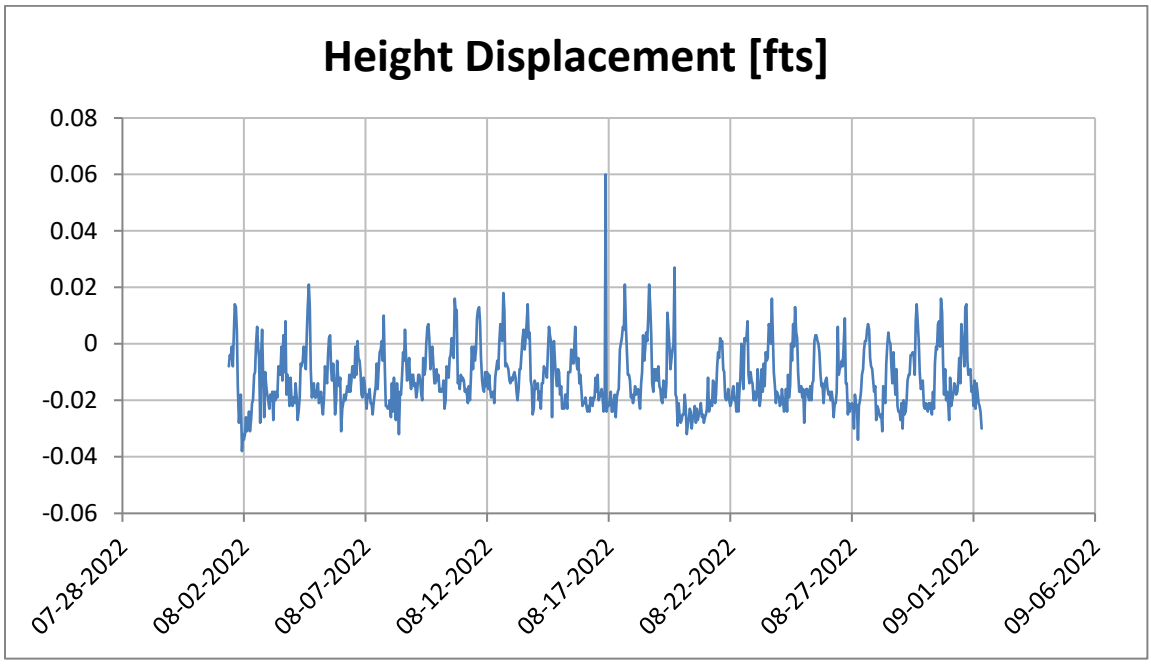
Notes:

1. Survey accuracy is +/-0.016 feet.
2. Alarm threshold is +/-0.35 feet.
3. Transverse displacement is in the horizontal direction. Positive direction means closer to the robotic station.
4. Height displacement is in the vertical direction. Positive direction means higher in elevation.
5. Prism records slope creep movements with slow velocity.

Stantec

Prism CP6





Notes:

1. Survey accuracy is +/-0.016 feet.
2. Alarm threshold is +/-0.35 feet.
3. Transverse displacement is in the horizontal direction. Positive direction means closer to the robotic station.
4. Height displacement is in the vertical direction. Positive direction means higher in elevation.

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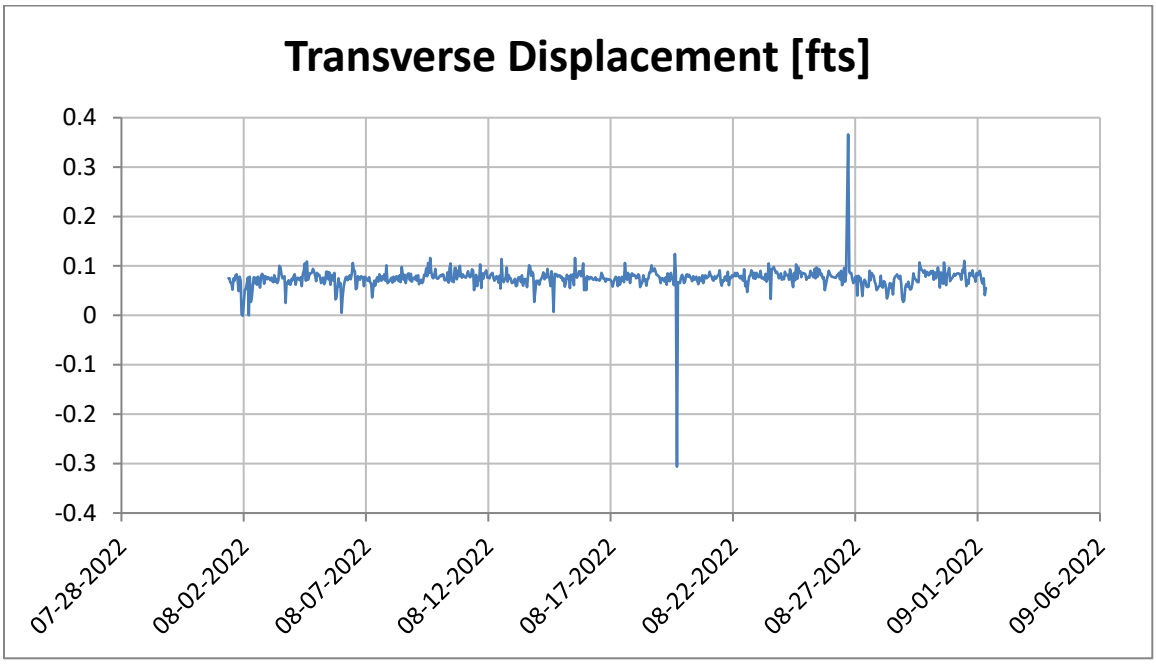
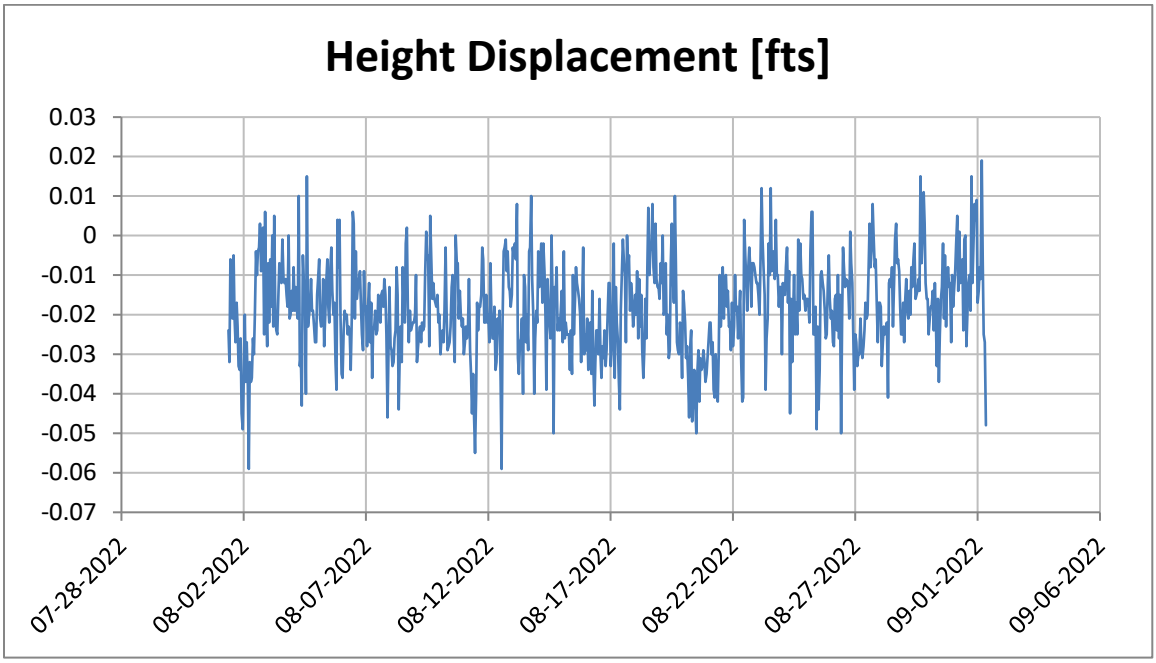
Prism CP7





Notes:

1. Survey accuracy is +/-0.016 feet.
2. Alarm threshold is +/-0.35 feet.
3. Transverse displacement is in the horizontal direction. Positive direction means closer to the robotic station.
4. Height displacement is in the vertical direction. Positive direction means higher in elevation.

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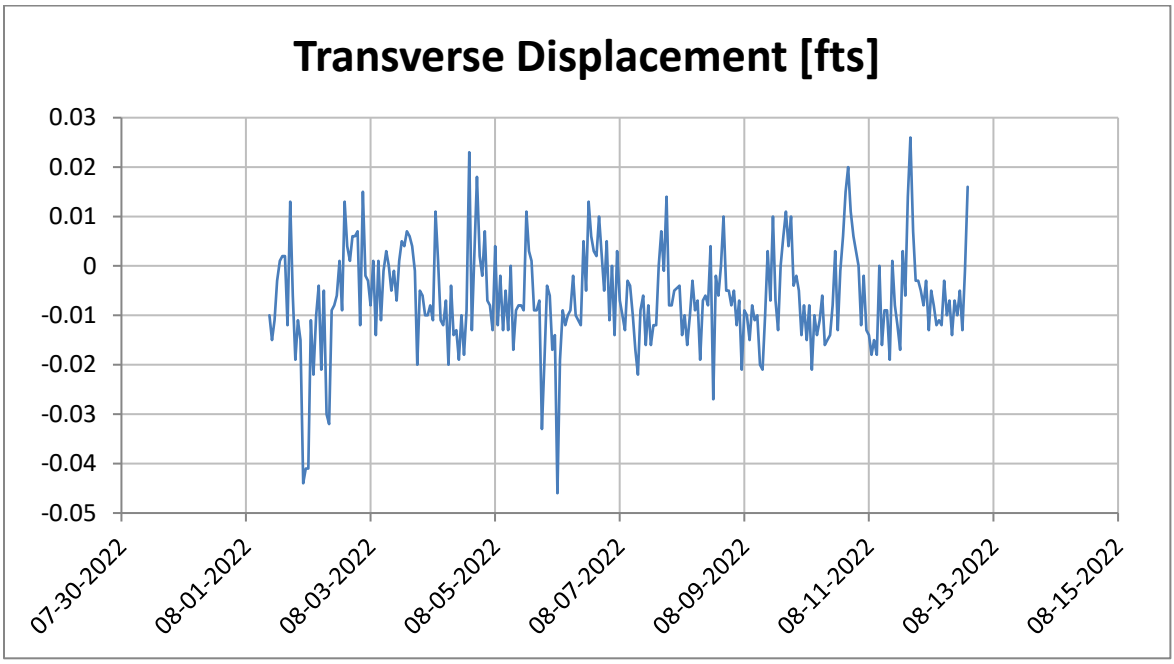
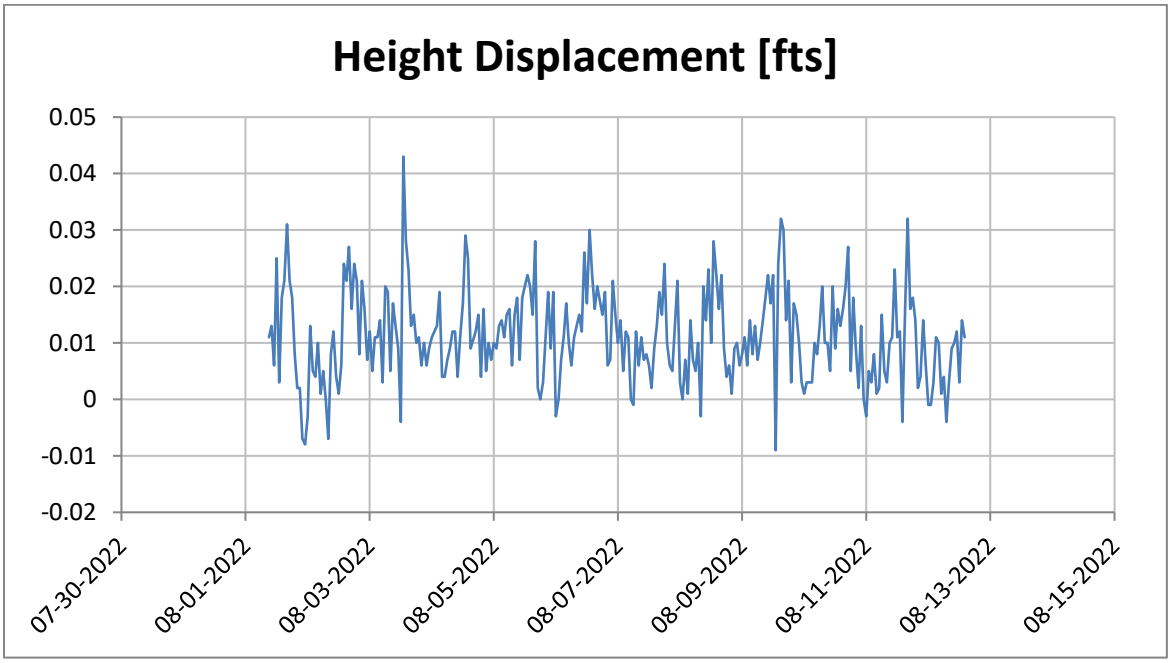
Prism NP1





Notes:

1. Survey accuracy is +/-0.016 feet.
2. Alarm threshold is +/-0.35 feet.
3. Transverse displacement is in the horizontal direction. Positive direction means closer to the robotic station.
4. Height displacement is in the vertical direction. Positive direction means higher in elevation.

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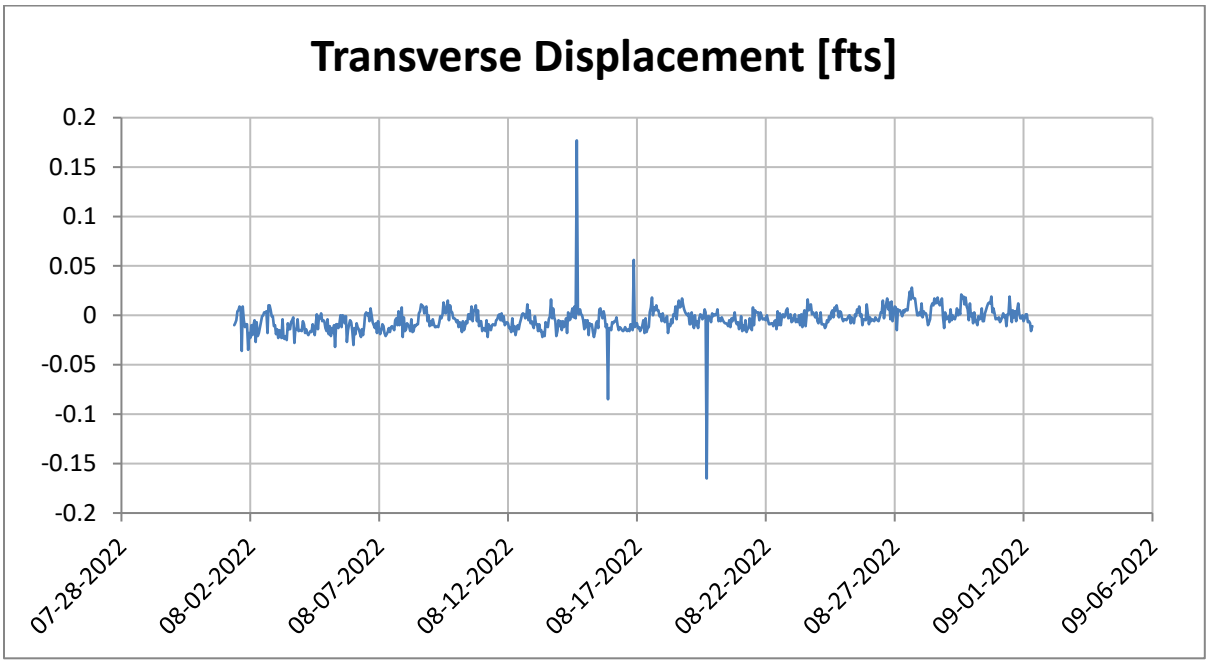
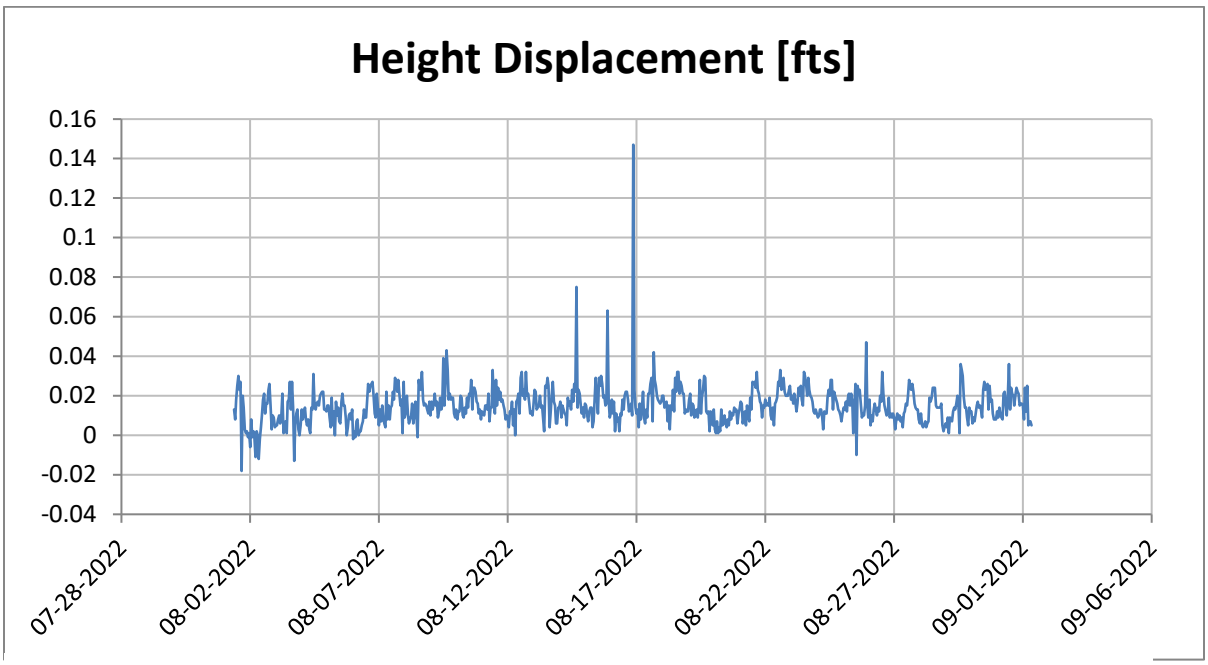
Prism NP2





Notes:

1. Survey accuracy is +/-0.016 feet.
2. Alarm threshold is +/-0.35 feet.
3. Transverse displacement is in the horizontal direction. Positive direction means closer to the robotic station.
4. Height displacement is in the vertical direction. Positive direction means higher in elevation.
5. Exceedance alerts were received on 8/14, 8/15, 8/16, 8/17, and 8/19.

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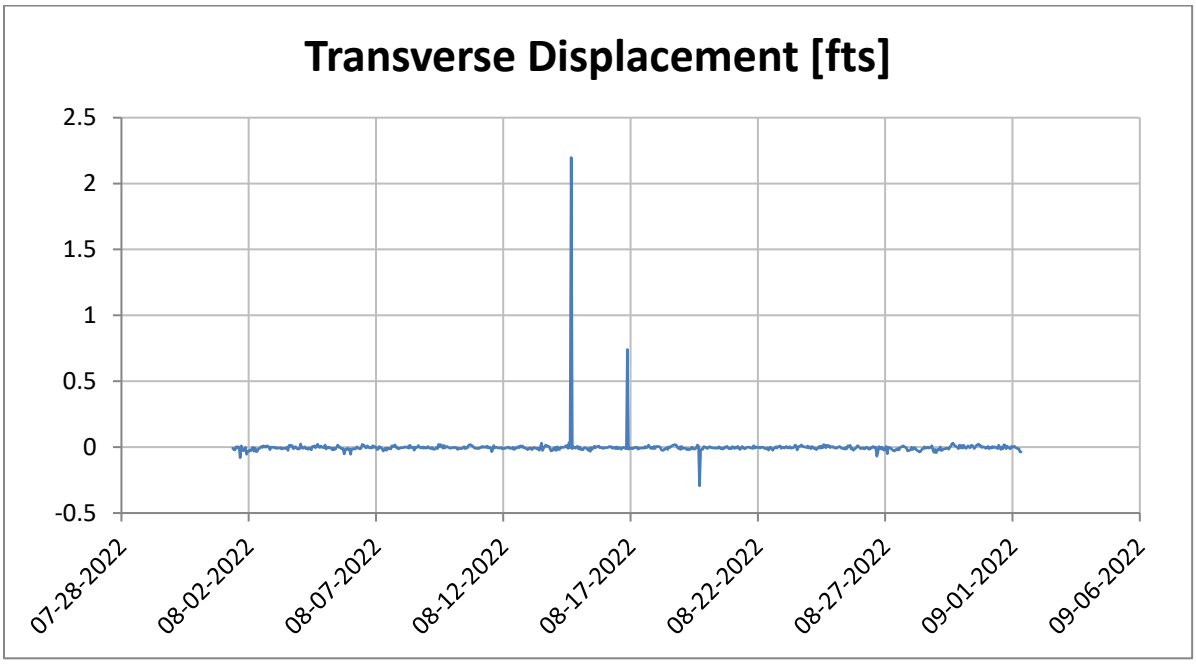
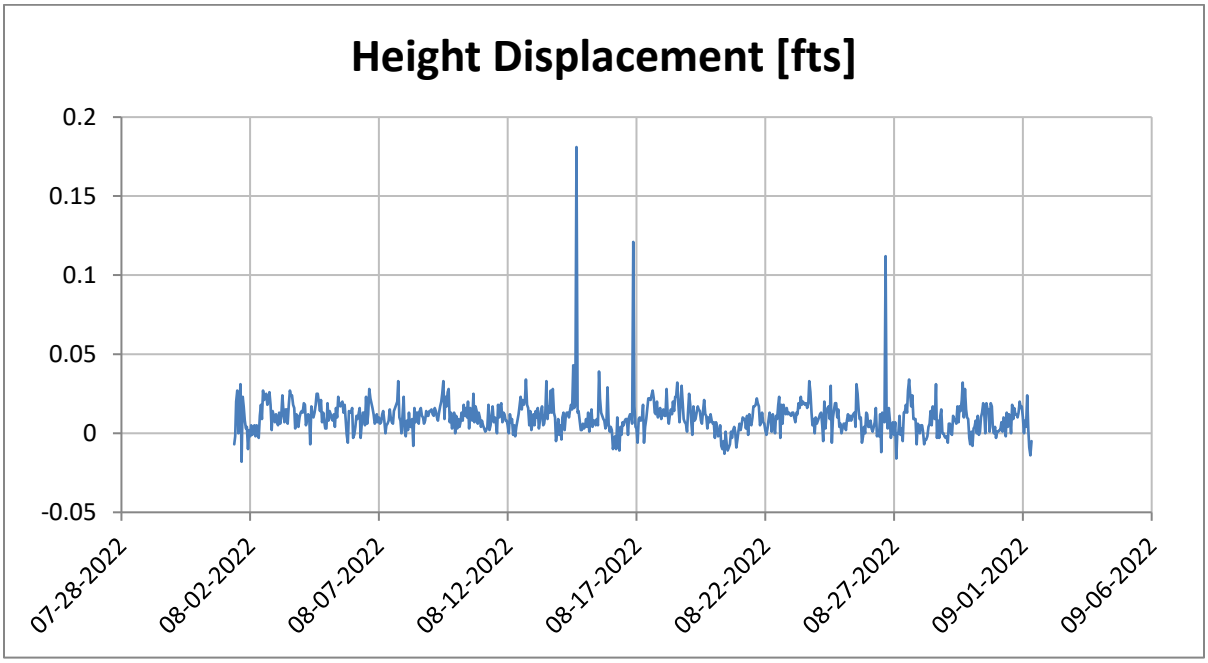
Prism NP3





Notes:

1. Survey accuracy is +/-0.016 feet.
2. Alarm threshold is +/-0.35 feet.
3. Transverse displacement is in the horizontal direction. Positive direction means closer to the robotic station.
4. Height displacement is in the vertical direction. Positive direction means higher in elevation.

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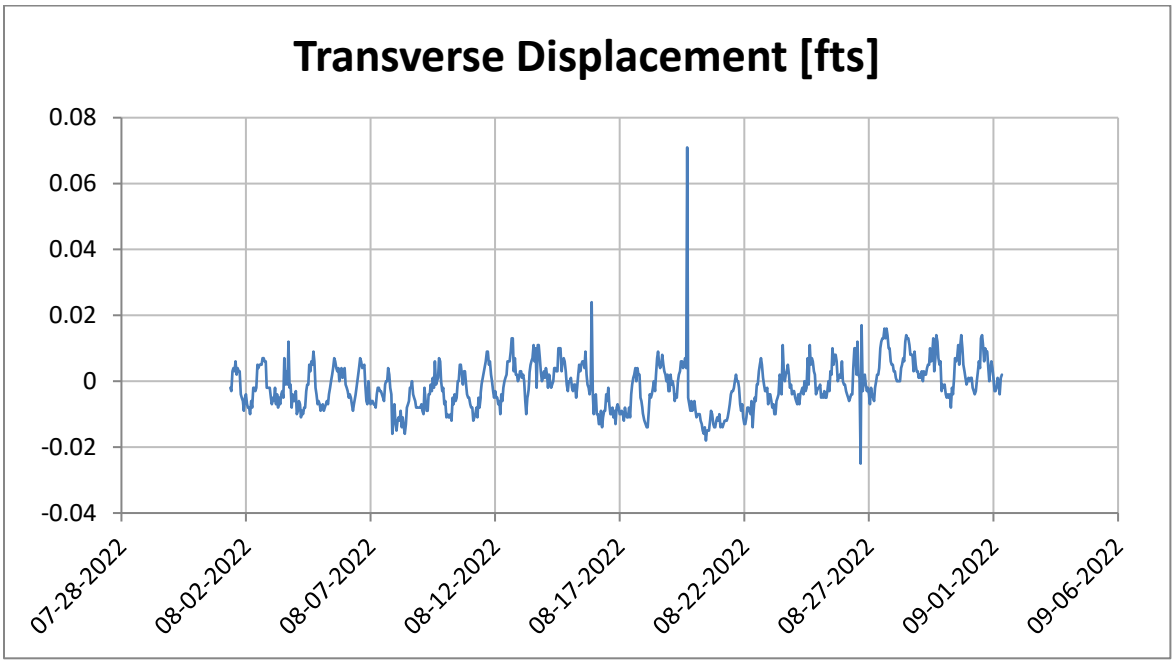
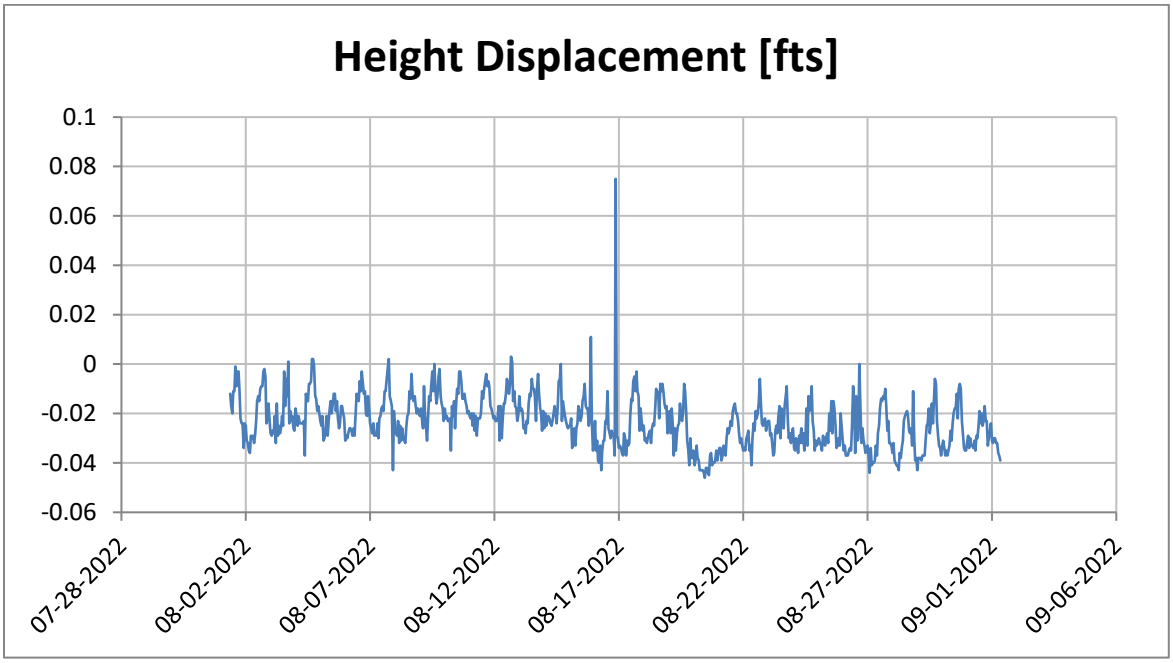
Prism NP66





Notes:

1. Survey accuracy is +/-0.016 feet.
2. Alarm threshold is +/-0.35 feet.
3. Transverse displacement is in the horizontal direction. Positive direction means closer to the robotic station.
4. Height displacement is in the vertical direction. Positive direction means higher in elevation.
5. Prism records slope creep movements with slow velocity.
6. Exceedance alerts were received on 8/15, 8/17, 8/19, and 8/26.

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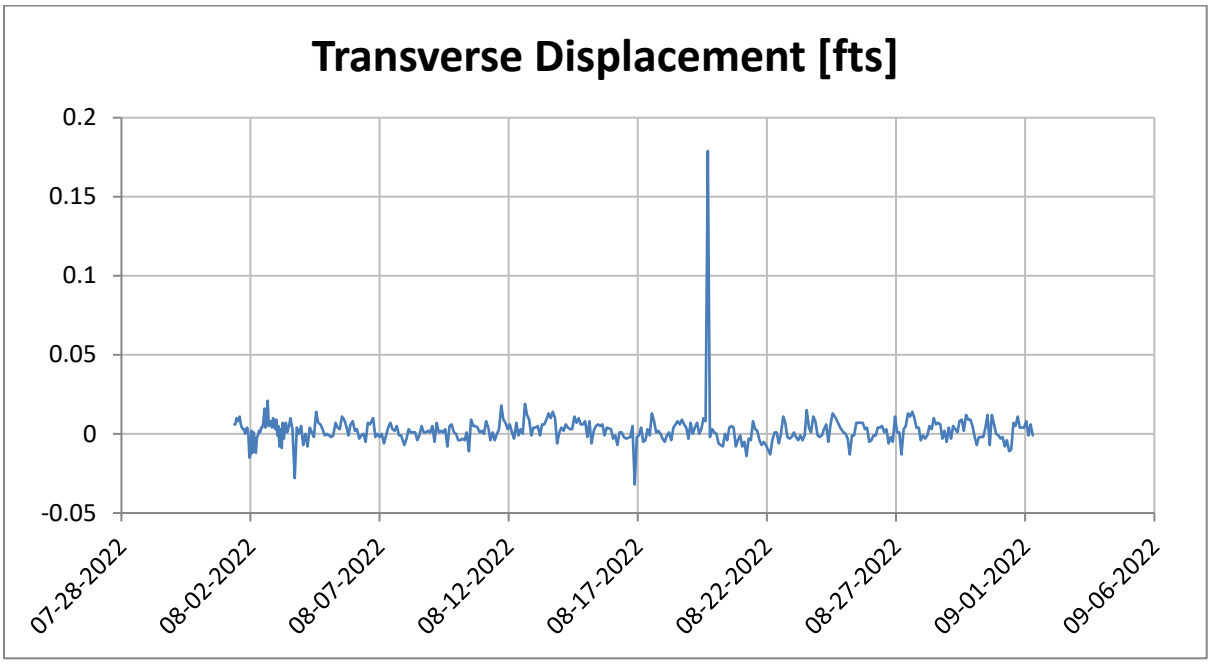
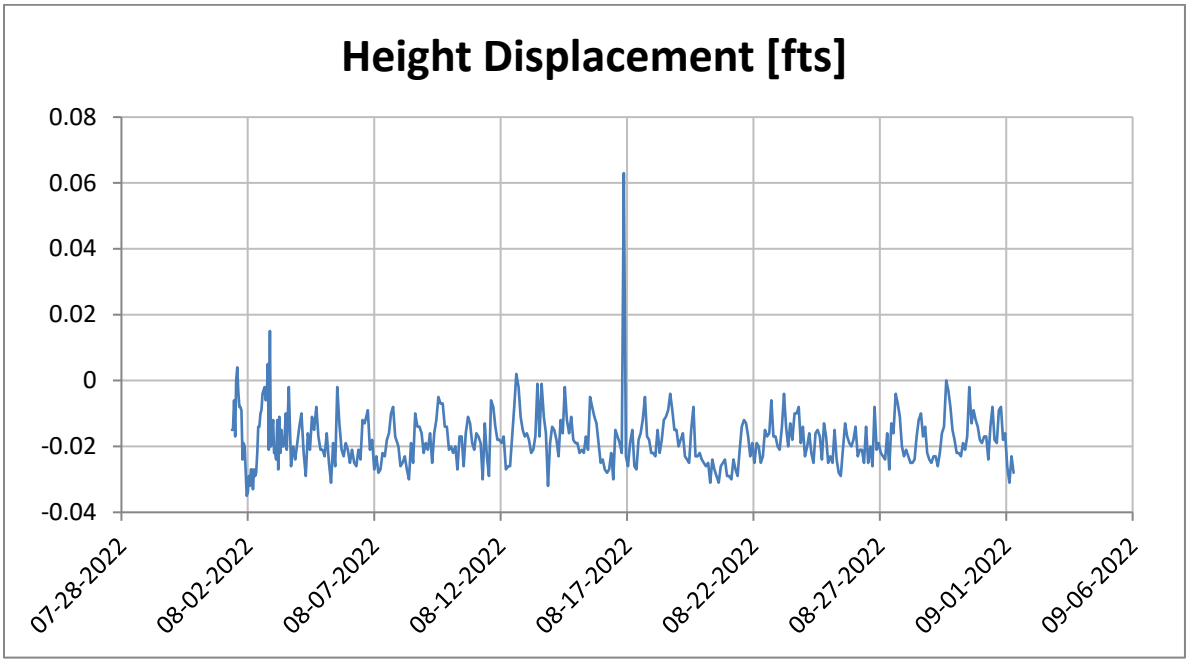
Prism P1





Notes:

1. Survey accuracy is +/-0.016 feet.
2. Alarm threshold is +/-0.35 feet.
3. Transverse displacement is in the horizontal direction. Positive direction means closer to the robotic station.
4. Height displacement is in the vertical direction. Positive direction means higher in elevation.
5. Exceedance alerts were received on 8/19 and 8/26.

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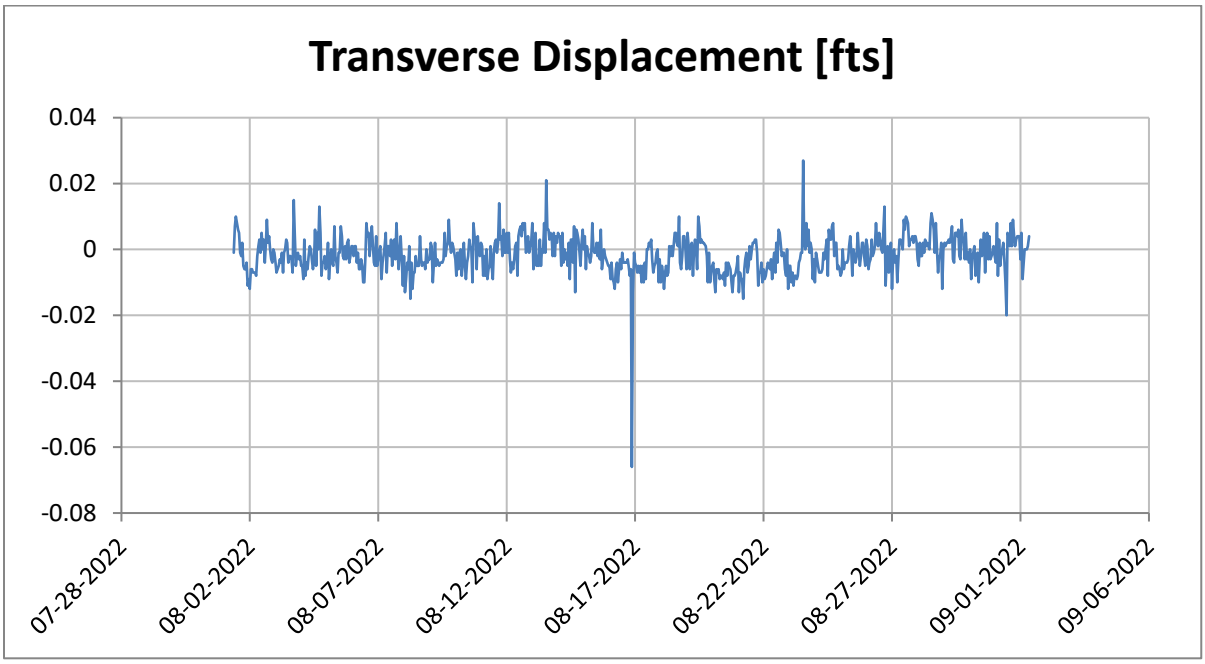
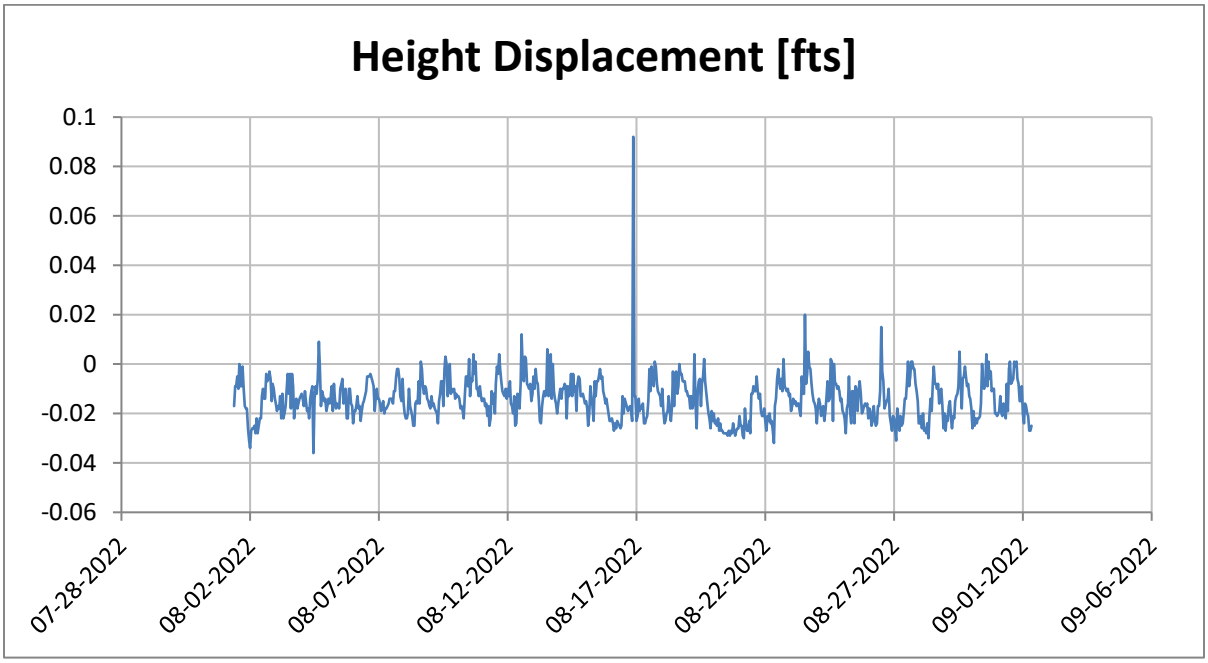
Prism P2





Notes:

1. Survey accuracy is +/-0.016 feet.
2. Alarm threshold is +/-0.35 feet.
3. Transverse displacement is in the horizontal direction. Positive direction means closer to the robotic station.
4. Height displacement is in the vertical direction. Positive direction means higher in elevation.
5. Exceedance alerts were received on 8/15 and 8/17.

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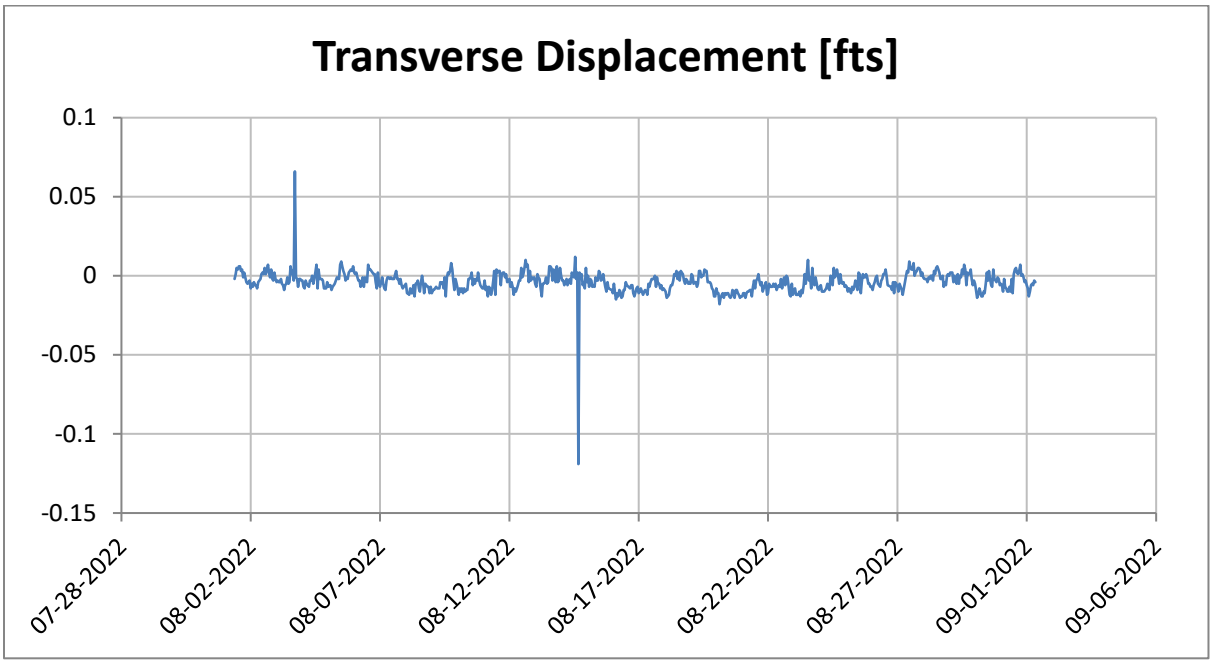
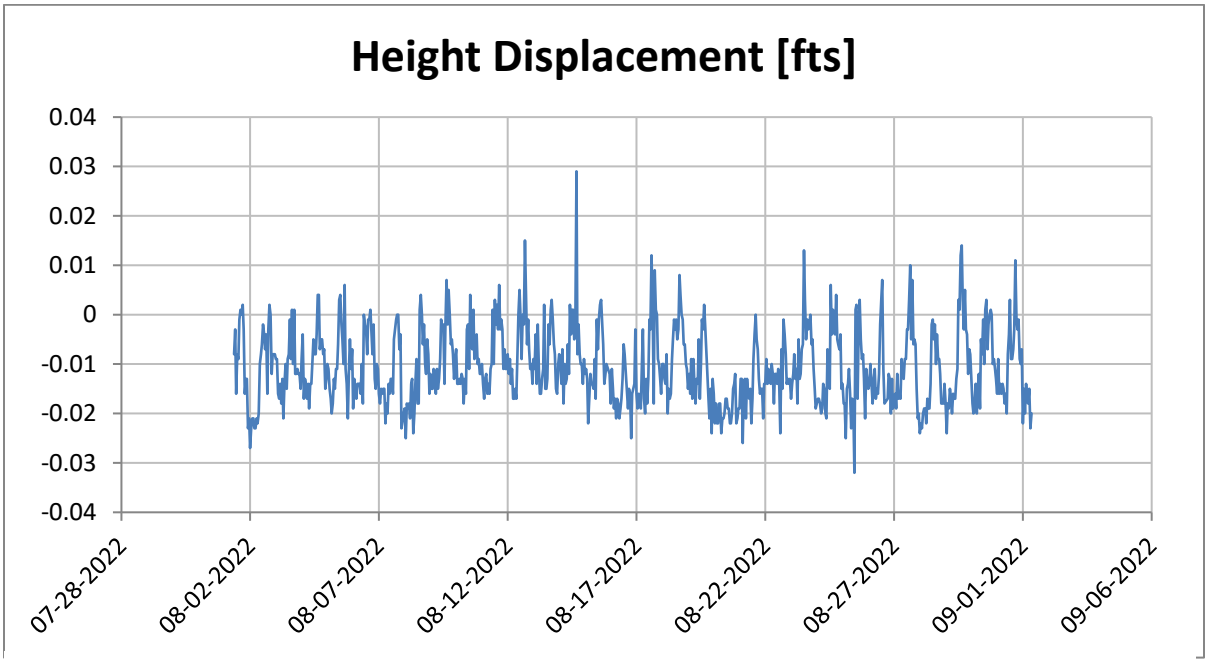
Prism P5





Notes:

1. Survey accuracy is +/-0.016 feet.
2. Alarm threshold is +/-0.35 feet.
3. Transverse displacement is in the horizontal direction. Positive direction means closer to the robotic station.
4. Height displacement is in the vertical direction. Positive direction means higher in elevation.
5. Exceedance alerts were received on 8/3 and 8/14.

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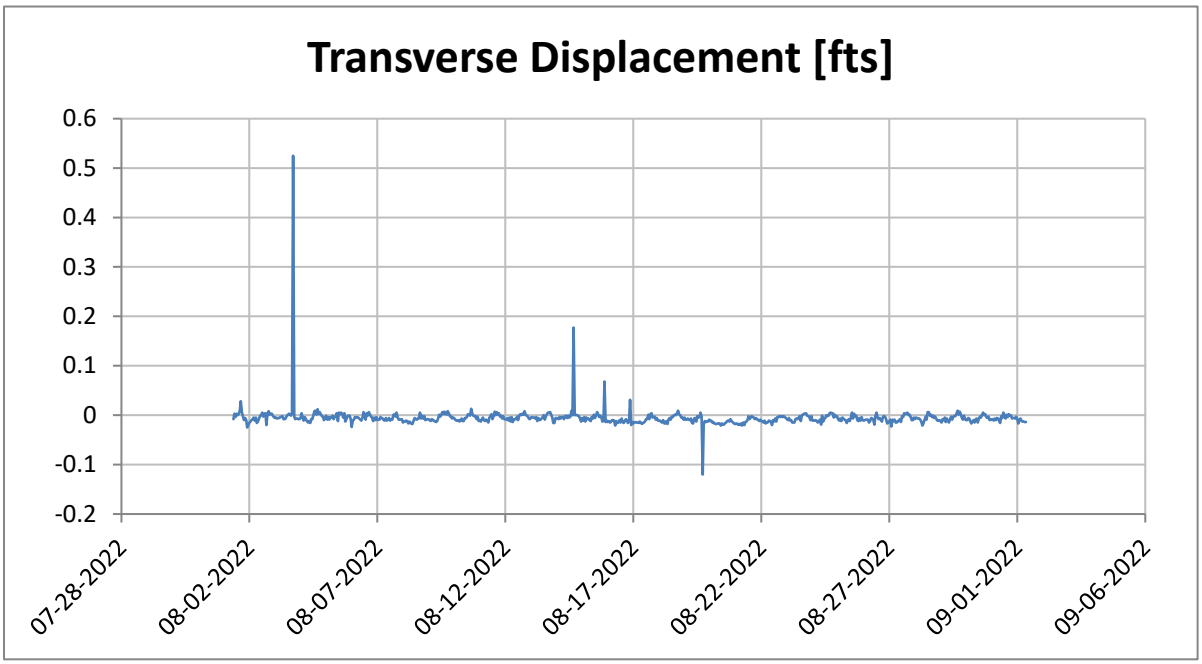
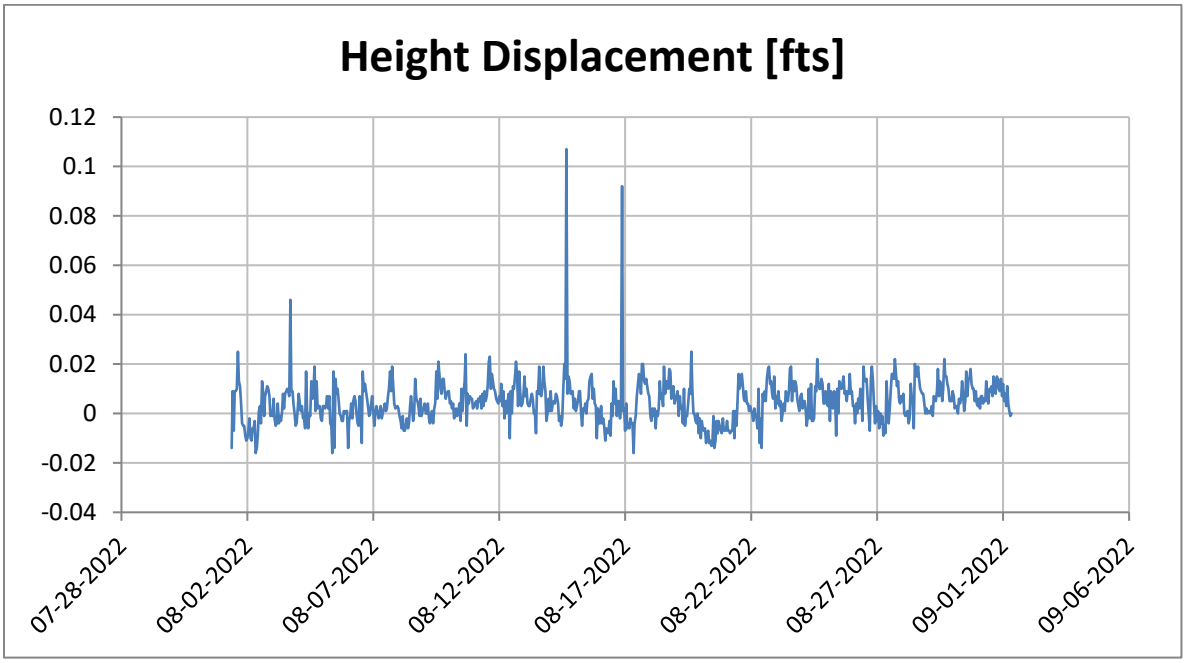
Prism P25





Notes:

1. Survey accuracy is +/-0.016 feet.
2. Alarm threshold is +/-0.35 feet.
3. Transverse displacement is in the horizontal direction. Positive direction means closer to the robotic station.
4. Height displacement is in the vertical direction. Positive direction means higher in elevation.
5. Exceedance alerts were received on 8/3, 8/14, 8/15, 8/16, 8/17, and 8/19.

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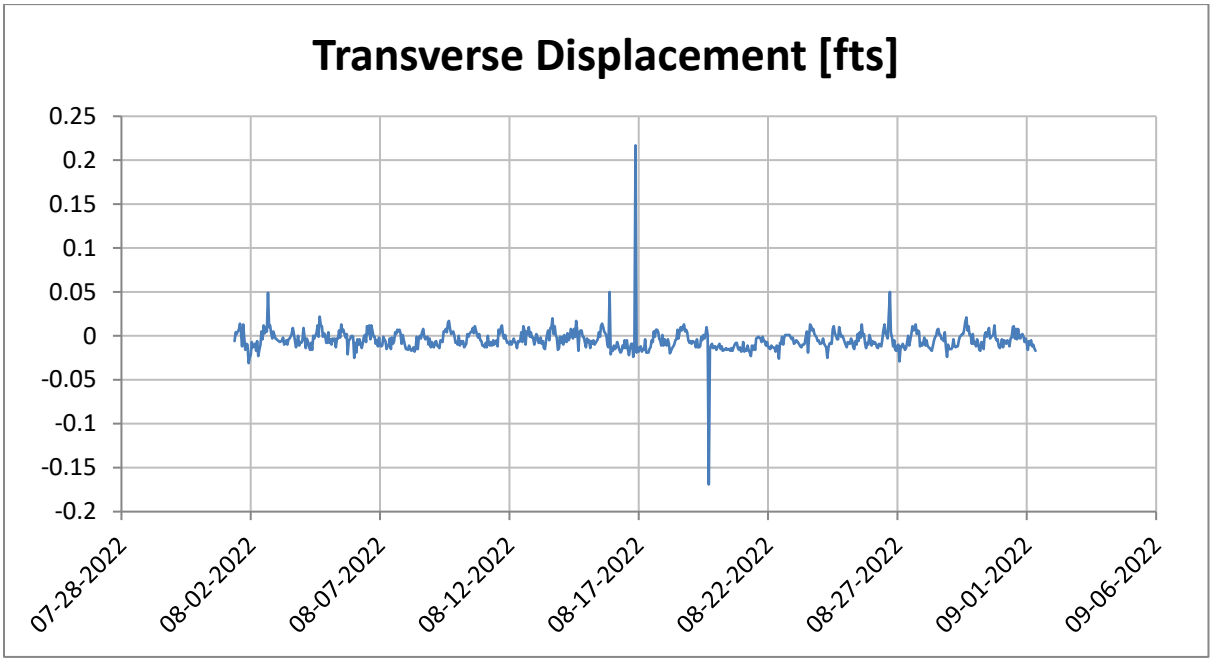
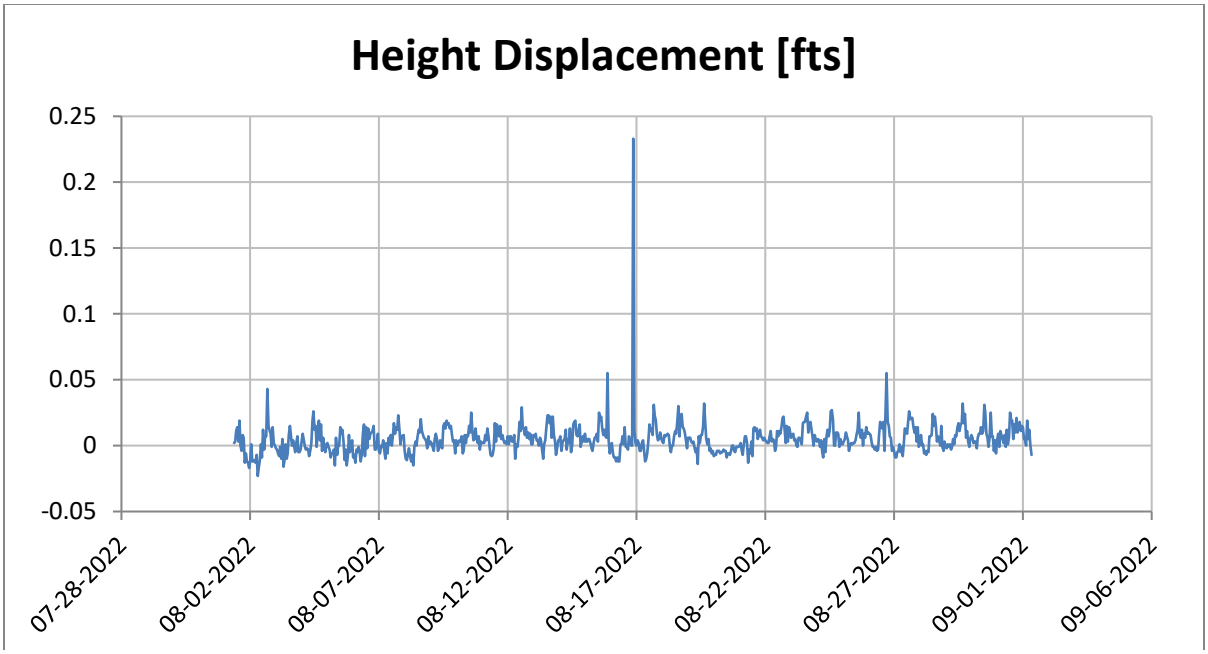
Prism P32





Notes:

1. Survey accuracy is +/-0.016 feet.
2. Alarm threshold is +/-0.35 feet.
3. Transverse displacement is in the horizontal direction. Positive direction means closer to the robotic station.
4. Height displacement is in the vertical direction. Positive direction means higher in elevation.
5. Exceedance alerts were received on 8/2, 8/15, 8/16, 8/17, 8/19, and 8/26.

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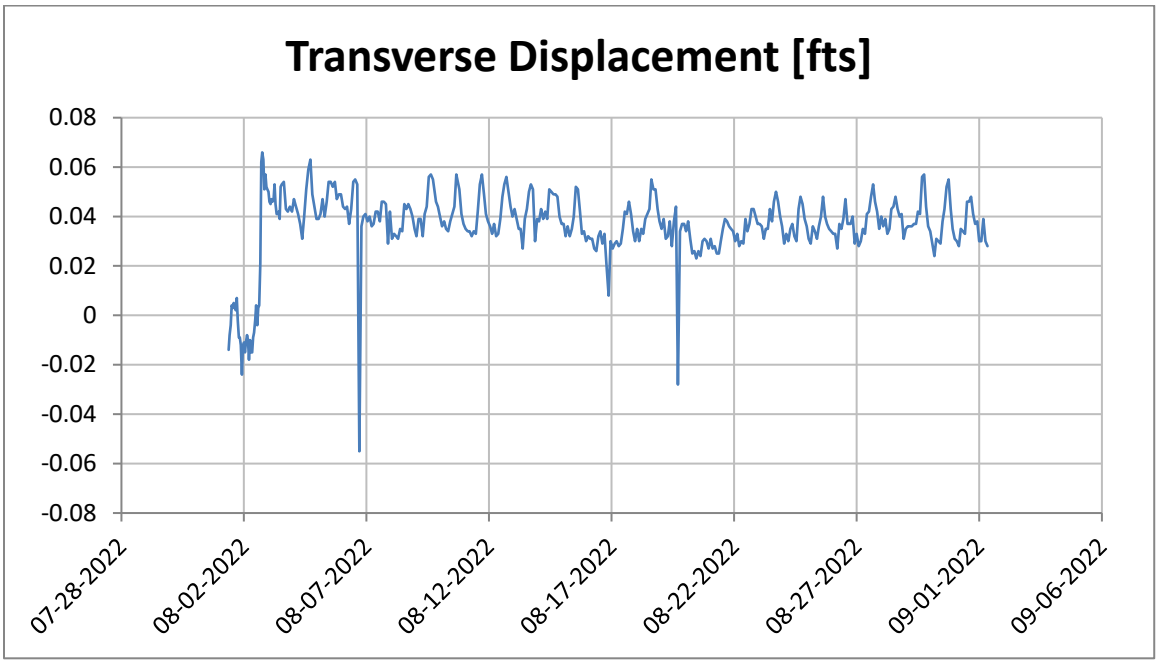
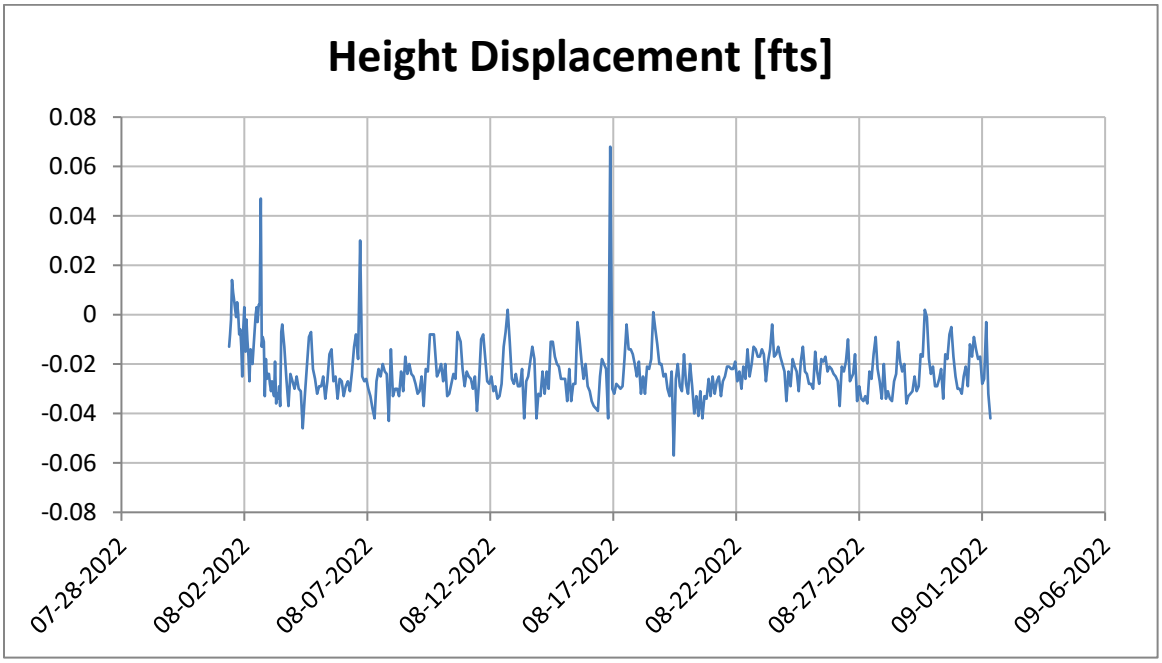
Prism P33





Notes:

1. Survey accuracy is +/-0.016 feet.
2. Alarm threshold is +/-0.35 feet.
3. Transverse displacement is in the horizontal direction. Positive direction means closer to the robotic station.
4. Height displacement is in the vertical direction. Positive direction means higher in elevation.
5. Prism recorded a data shift on August 2. No signs of movement were identified at location. Believed to be caused by animals.
6. Exceedance alerts were received on 8/2, 8/6, 8/7, 8/8, 8/16, 8/17, and 8/19.

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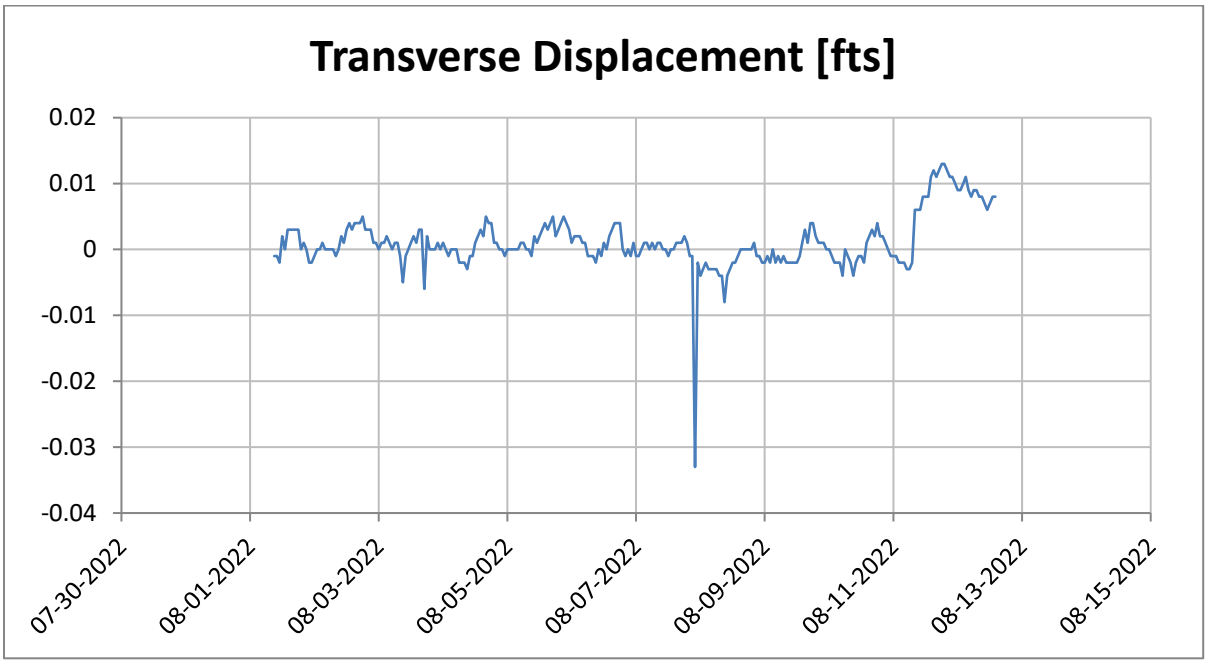
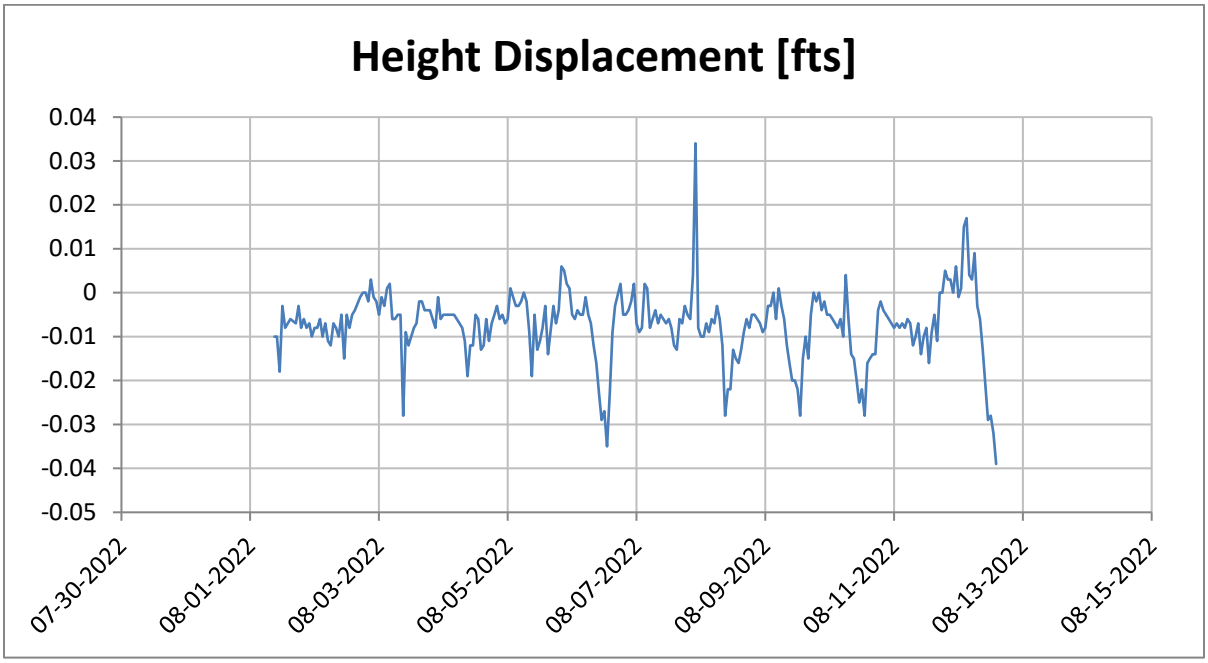
Prism P63





Notes:

1. Survey accuracy is +/-0.016 feet.
2. Alarm threshold is +/-0.35 feet.
3. Transverse displacement is in the horizontal direction. Positive direction means closer to the robotic station.
4. Height displacement is in the vertical direction. Positive direction means higher in elevation.
5. Prism removed on August 15.
6. Exceedance alerts were received on 8/7 and 8/8.

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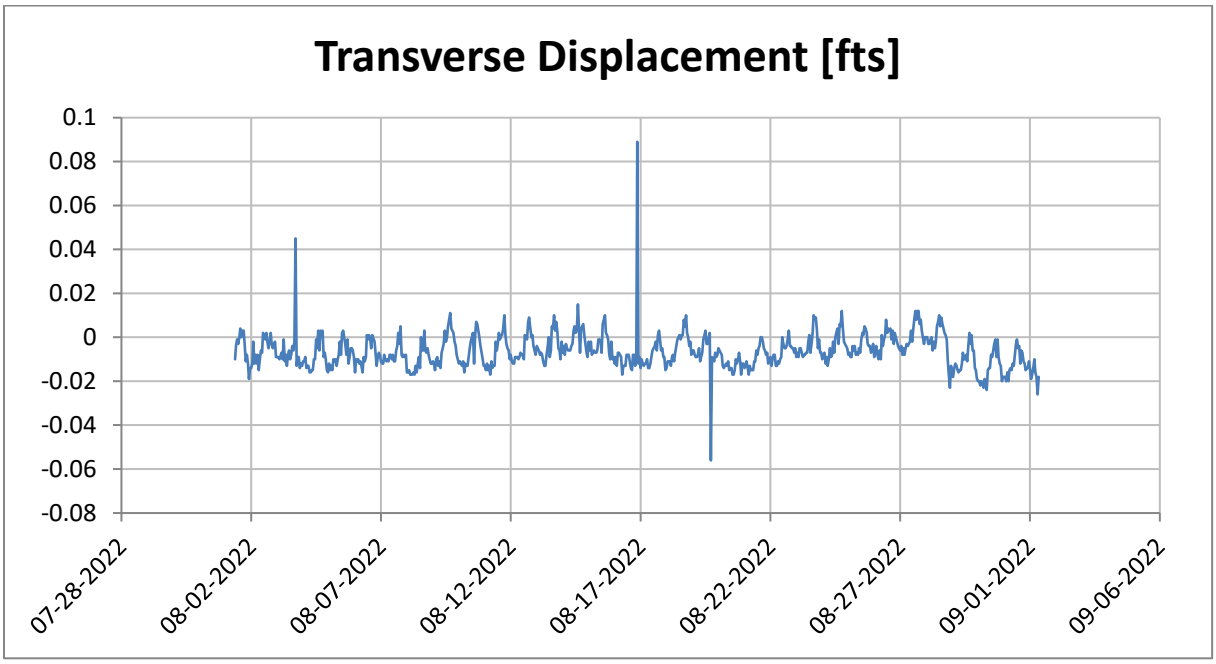
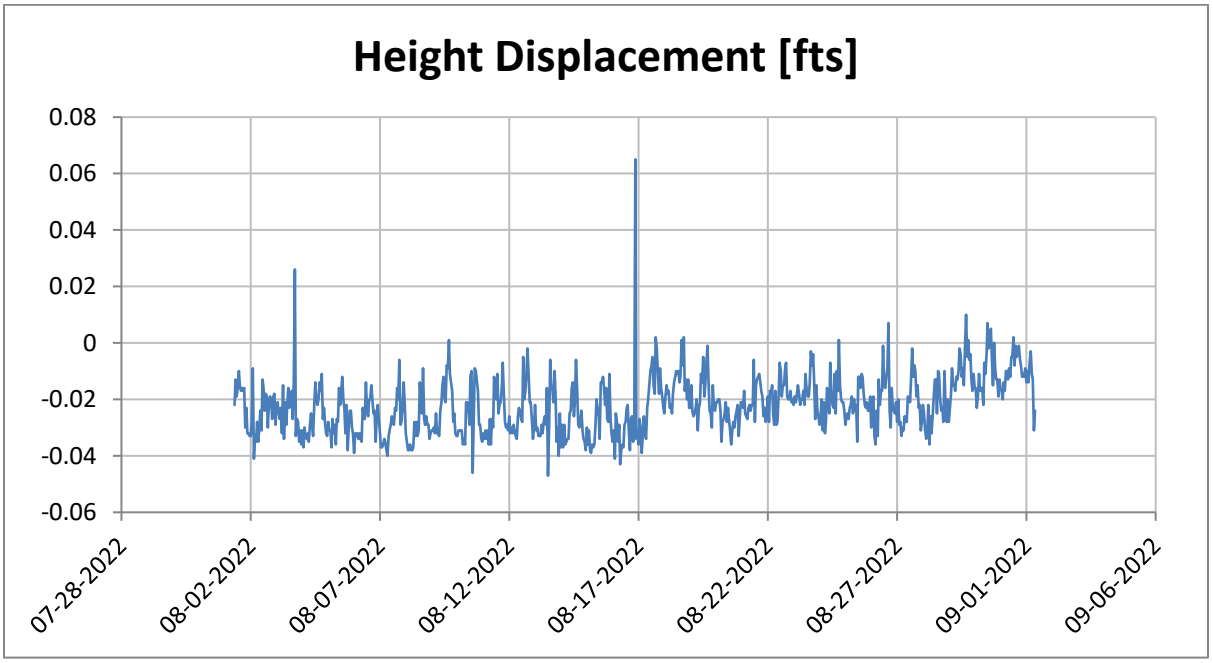
Prism P69A





Notes:

1. Survey accuracy is +/-0.016 feet.
2. Alarm threshold is +/-0.35 feet.
3. Transverse displacement is in the horizontal direction. Positive direction means closer to the robotic station.
4. Height displacement is in the vertical direction. Positive direction means higher in elevation.
5. Prism previously recorded slope creep movements.
6. Exceedance alerts were received on 8/3, 8/16, and 8/17.

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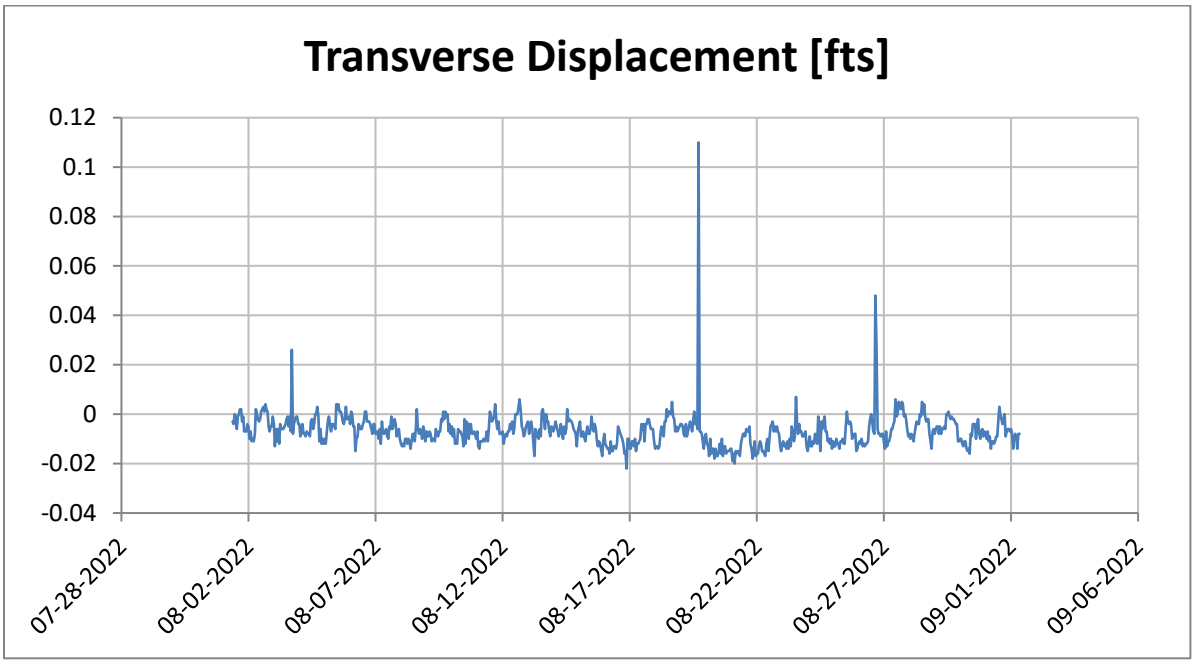
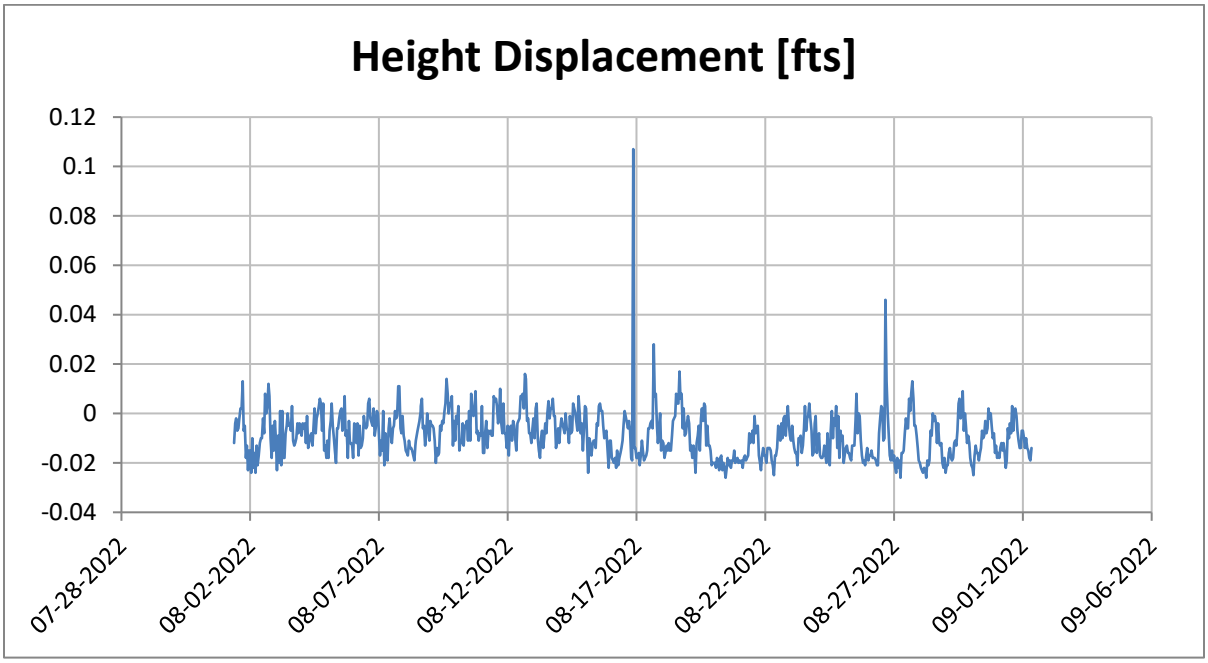
Prism P70





Notes:

1. Survey accuracy is +/-0.016 feet.
2. Alarm threshold is +/-0.35 feet.
3. Transverse displacement is in the horizontal direction. Positive direction means closer to the robotic station.
4. Height displacement is in the vertical direction. Positive direction means higher in elevation.
5. Exceedance alerts were received on 8/3, 8/17, 8/19, and 8/26.

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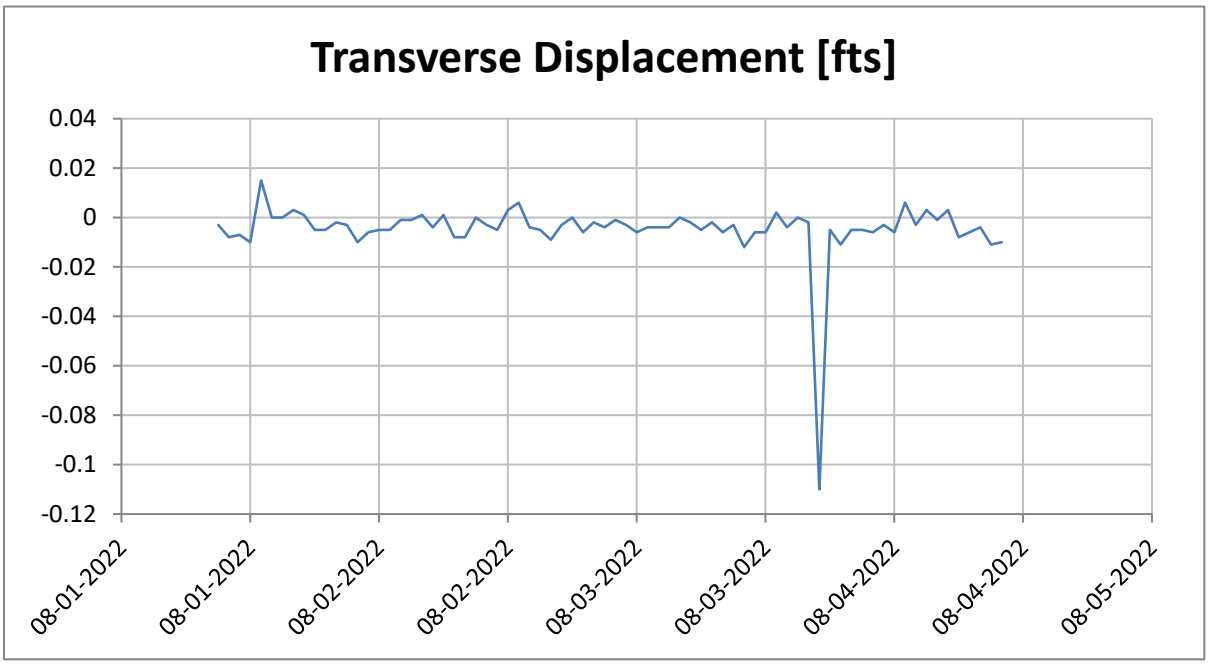
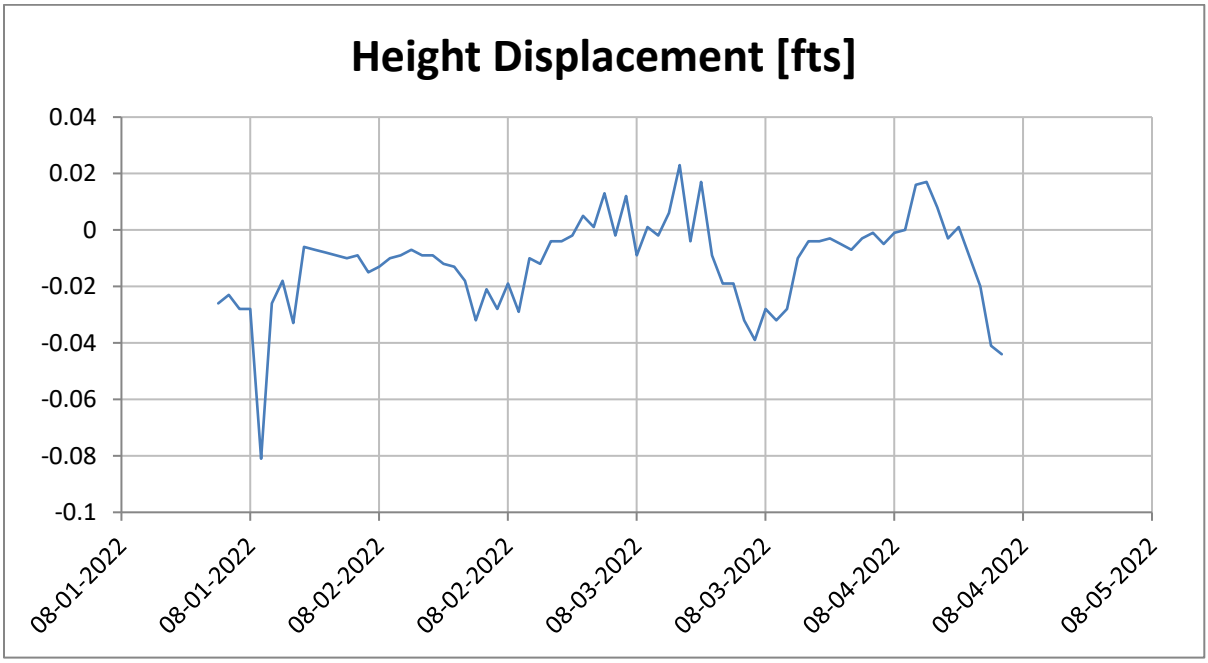
Prism TOE5



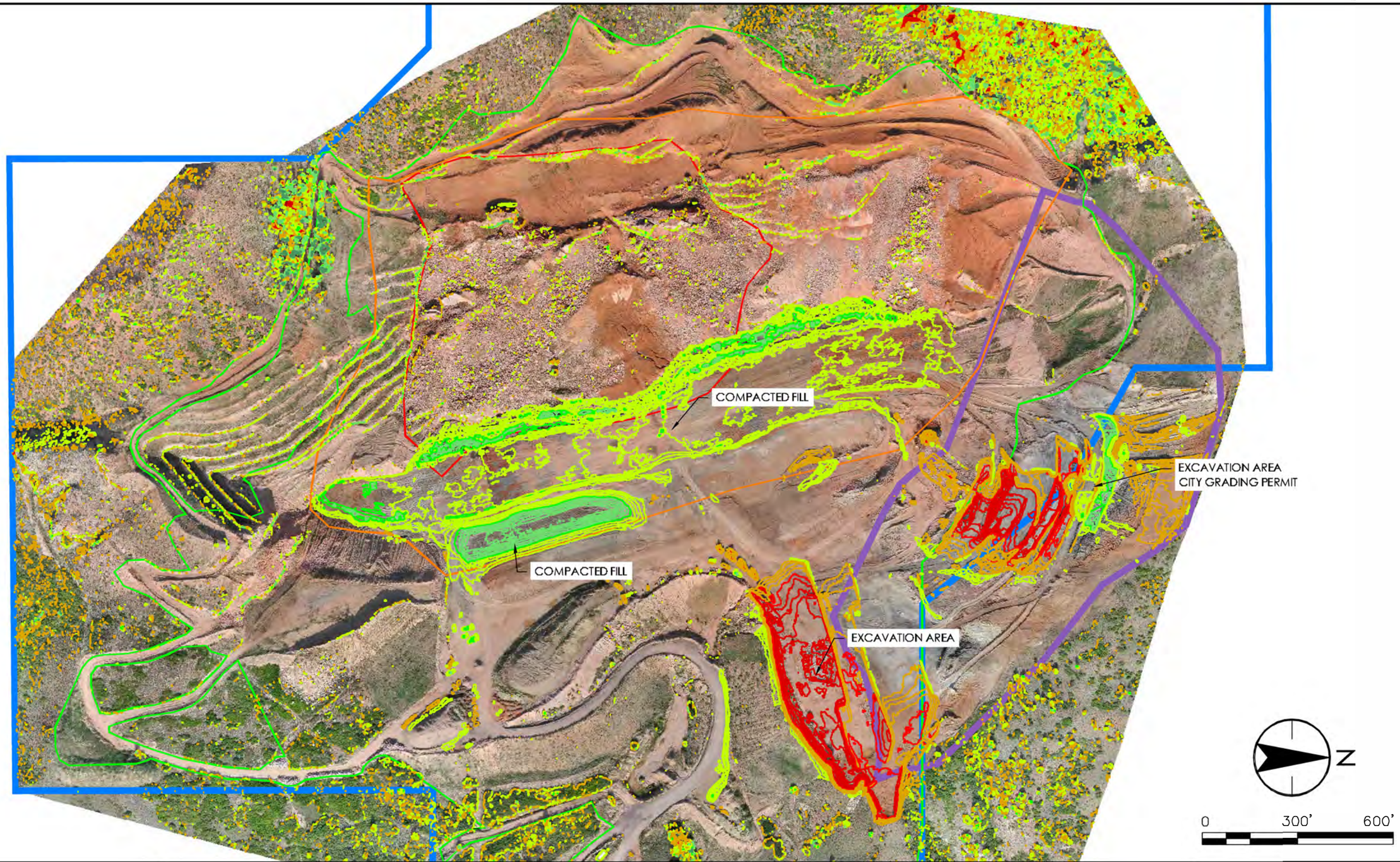


Notes:

1. Survey accuracy is +/-0.016 feet.
2. Alarm threshold is +/-0.35 feet.
3. Transverse displacement is in the horizontal direction. Positive direction means closer to the robotic station.
4. Height displacement is in the vertical direction. Positive direction means higher in elevation.
5. Prism removed on August 4.

Appendix C

Drone Survey



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LEGEND

- Permit/Affected Lands Boundary
- City Grading Permit Boundary
- Proposed Disturbance Limit
- Landslide Extent
- Buttress Fill Extent
- Comparison Contour. Increase in elevation. (CI=2')
- Comparison Contour. Decrease in elevation. (CI=2')

1. COMPARISON OF DRONE FLIGHTS FROM 08/01/2022 to 09/01/2022.

Client/Project
CONTINENTAL MATERIALS CORP.
PIKEVIEW QUARRY SLOPE MONITORING

Project No.
2057288200

Title
EXISTING PRISMS WITH CURRENT SURFACE

Revision
#

Date
2022.09.30

Drawn By
PK

Figure No.
5

Appendix D

Compaction Testing Results

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Compaction Testing Log

BCC Test	Test No.	Date	Elevation (ft)	Northing (ft)	Easting (ft)	Wet Density (pcf)	Moisture Content (%)	Dry Density (pcf)	Compaction (%)
Test Z11	**#270**	1-Aug	7244	1401874	3173251	134.8	5.5	127.8	100
Test Z12	**#271**	1-Aug	7242	1401753	3173282	132.5	4.1	127.4	100
Test Z13	**#272**	1-Aug	7233	1401688	3173462	135	4	129.8	100
Test Z14	**#273**	1-Aug	7233	1401632	3173458	137.3	4.1	131.9	100
Test Z15	**#274**	1-Aug	7234	1401625	3173419	133	4.5	127.2	100
Test Z16	**#275**	1-Aug	7234	1401407	3173440	138.2	5.8	130.6	100
Test Z17	**#276**	1-Aug	7238	1401310	3173389	130.9	5.7	123.8	100
Test Z18	**#277**	1-Aug	7238	1401230	3173405	139.8	6.3	131.6	100
Test Z19	**#278**	2-Aug	7240	1400807	3173506	123.4	11.6	110.6	90
Test Z20	**#279**	2-Aug	7234	1400958	3173589	125.7	9.2	115.2	93
Test Z21	**#280**	2-Aug	7241	1400934	3173489	122.3	10	111.2	90
Test Z22	**#281**	2-Aug	7235	1401049	3173551	131.2	7.3	125.1	100
Test K12	**#282**	2-Aug	7201	1401367	3173706	126.2	2.2	123.5	100
Test K13	**#283**	2-Aug	7201	1401515	3173665	120.9	1.1	119.6	97
Test L12	**#284**	3-Aug	7202	1401350	3173710	129.4	4.7	123.5	100
Test L13	**#285**	3-Aug	7202	1401471	3173691	124.7	4.1	119.8	97
Test L14	**#286**	3-Aug	7205	1401467	3173592	121.6	2.3	118.8	96
Test AA1	**#287**	4-Aug	7240	1400768	3173551	115.2	2.2	112.7	91
Test AA2	**#288**	4-Aug	7237	1400889	3173593	121.3	2.9	117.8	95
Test AA3	**#289**	4-Aug	7236	1401028	3173558	116.8	2.6	113.8	92
Test AA4	**#290**	4-Aug	7237	1401173	3173506	133.8	5.5	126.8	100
Test AA5	**#291**	4-Aug	7239	1401267	3173408	127.9	6.3	120.4	98
Test AA6	**#292**	4-Aug	7235	1401365	3173455	126.6	5	120.6	98
Test M8	**#293**	4-Aug	7203	1401303	3173733	136.7	5.9	129.1	100
Test M9	**#294**	4-Aug	7206	1401364	3173628	132.8	4.9	126.6	100
Test M10	**#295**	4-Aug	7205	1401492	3173620	133.3	3.9	128.3	100
Test AA7	**#296**	5-Aug	7236	1401522	3173419	124.7	11.7	111.6	90
Test AA8	**#297**	5-Aug	7237	1401573	3173409	131.1	6.7	122.8	100
Test AA9	**#298**	5-Aug	7241	1401598	3173341	120.8	5.2	114.9	93
Test M11	**#299**	5-Aug	7206	1401296	3173701	127.8	2.2	125	100
Test M12	**#300**	5-Aug	7208	1401312	3173659	130.8	3.1	126.8	100
Test M13	**#301**	5-Aug	7207	1401564	3173616	133.7	5.7	126.5	100
Test N9	**#302**	8-Aug	7210	1401533	3173591	125.3	4.5	120	97
Test N10	**#303**	8-Aug	7211	1401594	3173544	119.2	4.3	114.3	93
Test N11	**#304**	8-Aug	7209	1401571	3173623	128.9	4.5	123.3	100
Test O7	**#305**	10-Aug	7213	1401429	3173585	132.8	2.3	129.7	100
Test O8	**#306**	10-Aug	7210	1401515	3173634	125	3.7	120.6	98

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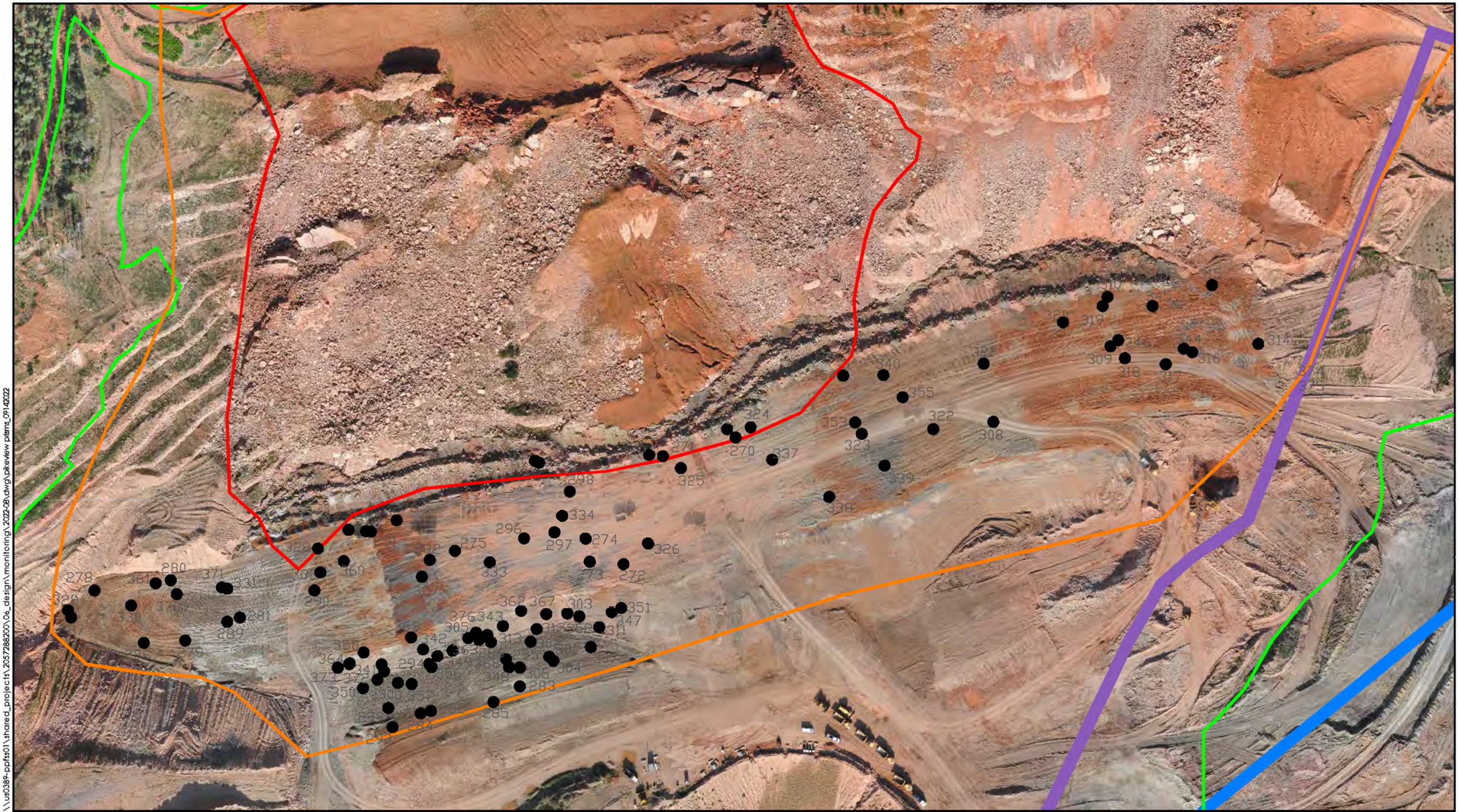
BCC Test	Test No.	Date	Elevation (ft)	Northing (ft)	Easting (ft)	Wet Density (pcf)	Moisture Content (%)	Dry Density (pcf)	Compaction (%)
Test O9	**#307**	10-Aug	7212	1401633	3173600	135.5	6.8	126.8	100
Test AA10	**#308**	10-Aug	7248	1402303	3173225	133.9	2.8	130.2	100
Test AA11	**#309**	10-Aug	7252	1402498	3173099	126.9	6.6	119	96
Test AA12	**#310**	10-Aug	7258	1402493	3173017	126.8	4.6	121.3	98
Test P6	**#311**	11-Aug	7213	1401647	3173567	125.2	5.6	118.5	96
Test P7	**#312**	11-Aug	7214	1401543	3173570	125.9	5.4	119.4	97
Test P8	**#313**	11-Aug	7213	1401461	3173580	135.8	11.8	121.4	98
Test BB1	**#314**	11-Aug	7260	1402744	3173095	123.7	2.1	121.2	98
Test BB2	**#315**	11-Aug	7260	1402667	3172997	121.6	5	115.9	94
Test BB3	**#316**	11-Aug	7259	1402634	3173109	118.4	7	110.6	90
Test BB4	**#317**	15-Aug	7258	1402590	3173129	132.4	2.4	129.3	100
Test BB5	**#318**	15-Aug	7258	1402522	3173119	134	3.3	129.7	100
Test BB6	**#319**	15-Aug	7258	1402485	3173032	132.3	4.4	126.7	100
Test BB7	**#320**	15-Aug	7259	1402419	3173059	120.9	2.5	118	96
Test BB8	**#321**	15-Aug	7257	1402287	3173128	117.4	2	115.1	93
Test BB9	**#322**	15-Aug	7249	1402203	3173237	134.6	3.2	130.4	100
Test BB10	**#323**	15-Aug	7248	1402084	3173245	132.7	5.9	125.2	100
Test BB11	**#324**	15-Aug	7248	1401899	3173234	124.1	5.4	117.8	95
Test BB12	**#325**	15-Aug	7246	1401783	3173302	122.7	2.9	119.2	97
Test BB13	**#326**	15-Aug	7242	1401729	3173428	116.9	1.9	114.8	93
Test BB14	**#327**	15-Aug	7235	1401352	3173483	127.7	3.7	123.1	100
Test BB15	**#328**	15-Aug	7240	1401179	3173436	128.5	11.1	115.7	94
Test CC1	**#329**	17-Aug	7242	1400763	3173539	127.6	9.3	116.8	95
Test CC2	**#330**	17-Aug	7242	1400868	3173531	123.2	6	116.2	94
Test CC3	**#331**	17-Aug	7243	1401028	3173503	121.1	1.6	119.3	97
Test CC4	**#332**	17-Aug	7241	1401183	3173476	120.3	3.1	116.7	95
Test CC5	**#333**	17-Aug	7240	1401465	3173459	121.2	3.3	117.3	95
Test CC6	**#334**	17-Aug	7241	1401586	3173382	127.9	4.1	122.9	100
Test CC7	**#335**	18-Aug	7246	1401730	3173280	130.9	7	122.3	99
Test CC8	**#336**	18-Aug	7248	1401860	3173237	131.8	7.8	122.3	99
Test CC9	**#337**	18-Aug	7245	1401935	3173288	118.8	5.2	112.9	91
Test CC10	**#338**	18-Aug	7242	1402030	3173350	120.6	1.8	118.4	96
Test CC11	**#339**	18-Aug	7243	1402122	3173298	121.6	3.1	117.9	96
Test CC12	**#340**	18-Aug	7252	1402120	3173147	121.4	3.9	116.8	95
Test Q17	**#341**	23-Aug	7215	1401289	3173640	123.2	3.6	119	96
Test Q18	**#342**	23-Aug	7216	1401354	3173604	126.1	3.1	122.3	99
Test Q19	**#343**	23-Aug	7216	1401487	3173565	132.9	8	123	100
Test DD1	**#344**	23-Aug	7261	1402620	3173103	123.2	2.2	120.6	98

BCC Test	Test No.	Date	Elevation (ft)	Northing (ft)	Easting (ft)	Wet Density (pcf)	Moisture Content (%)	Dry Density (pcf)	Compaction (%)
Test DD2	**#345**	23-Aug	7263	1402568	3173032	123.2	2.5	120.2	97
Test DD3	**#346**	23-Aug	7262	1402511	3173089	121.7	1.8	119.5	97
Test R20	**#347**	24-Aug	7217	1401668	3173542	128.4	6.6	120.4	98
Test R21	**#348**	24-Aug	7217	1401497	3173633	117.6	2	115.2	93
Test R22	**#349**	24-Aug	7216	1401378	3173615	124.5	4.8	118.7	96
Test S7	**#350**	25-Aug	7217	1401254	3173668	123.5	4.4	118.3	96
Test S8	**#351**	25-Aug	7216	1401684	3173535	134.4	8.8	123.5	100
Test S9	**#352**	25-Aug	7216	1401614	3173549	131.1	4.5	125.4	100
Test DD4	**#353**	25-Aug	7249	1402073	3173226	130.8	3.5	126.4	100
Test DD5	**#354**	25-Aug	7249	1402053	3173148	129.7	3	126	100
Test DD6	**#355**	25-Aug	7250	1402152	3173184	135.2	5.3	128.5	100
Test T12	**#356**	26-Aug	7219	1401368	3173633	121.9	6.1	114.9	93
Test T13	**#357**	26-Aug	7218	1401335	3173661	129.3	4.8	123.3	100
Test T14	**#358**	26-Aug	7219	1401255	3173609	123.7	8	114.6	93
Test DD7	**#359**	26-Aug	7245	1401259	3173407	119.5	4.2	114.7	93
Test DD8	**#360**	26-Aug	7244	1401222	3173457	129.8	4.1	124.8	100
Test DD9	**#361**	26-Aug	7244	1400909	3173494	121.6	5.7	115	93
Test U7	**#362**	29-Aug	7220	1401517	3173540	127.2	3.9	122.4	99
Test U8	**#363**	29-Aug	7220	1401403	3173606	122.3	9.4	111.8	91
Test U9	**#364**	29-Aug	7221	1401232	3173627	128.9	8.3	119	96
Test DD10	**#365**	29-Aug	7243	1401547	3173293	128.5	7.3	115.1	93
Test DD11	**#366**	29-Aug	7243	1401540	3173290	130	5.5	123.2	100
Test V11	**#367**	30-Aug	7219	1401559	3173545	119.8	4.4	114.7	93
Test V12	**#368**	30-Aug	7219	1401447	3173588	116.6	4.6	111.5	90
Test V13	**#369**	30-Aug	7220	1401334	3173584	123.1	8.9	113	92
Test EE1	**#370**	30-Aug	7245	1400944	3173512	117.9	2.9	114.7	93
Test EE2	**#371**	30-Aug	7244	1401019	3173501	125.8	7.7	116.8	95
Test W9	**#372**	30-Aug	7220	1401231	3173628	117.5	5.9	110.9	90
Test W10	**#373**	30-Aug	7220	1401278	3173654	119.7	6.5	112.4	91
Test X9	**#374**	31-Aug	7221	1401212	3173634	122.5	2.9	119	96
Test X10	**#375**	31-Aug	7222	1401285	3173629	118.9	2.6	115.9	94
Test X11	**#376**	31-Aug	7222	1401442	3173576	120.3	2.6	117.2	95

Notes:

1. As of August 30, 2022, a total 1,200,000 yd3 had been placed and compacted. This requires 240 compaction tests, and 374 tests have been taken.



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LEGEND

- Permit/Affected Lands Boundary
- City Grading Permit Boundary
- Proposed Disturbance Limit
- Landslide Extent
- Buttress Fill Extent
- Compaction Test Location

N

0 150' 300'

Client/Project
CONTINENTAL MATERIALS CORP.
PIKEVIEW QUARRY SLOPE MONITORING

Project No.
2057288200

Title
COMPACTION TEST LOCATIONS

Revision
#

Date
2022.09.30

Drawn By
PK

Figure No.
6

Appendix E

Disposal of Shop Demolition Items

The shop was demolished during the week of July 18, 2022, and the debris was properly disposed of during the subsequent weeks. The debris was separated into trash, concrete rubble, hazardous materials, and scrap metal. Trash was hauled to the local landfill, scrap metal was hauled to a recycling yard in Fountain, and hazardous materials were hauled to a disposal or recycling facility. The concrete floor of the shop was cut into pieces and buried onsite in the "buffer zone" between the landslide slope and the buttress fill. The concrete rubble did not contain rebar. Any remaining equipment or debris will also be sold or properly disposed of. The following table describes how the demolished material was disposed.

Item	Removed By	Hauled To
Shop Structure and exterior		
Steel framework of shop building	Affordable Services	Evraz Steel Mill Pueblo Colorado
Steel Sheeting Exterior shop	Affordable Services	Evraz Steel Mill Pueblo Colorado
Insulation ceiling and walls Shop	Affordable Services	Midway Landfill Waste Management
Wood Frame attached to the shop	Affordable Services	Midway Landfill Waste Management
Shop Interior		
Interior Wood frame walls	Affordable Services	Midway Landfill Waste Management
Parts Washer	Wagner Cat	Shop Colorado Springs
Pressure washer	Onsite	
Grinders	Employee Retained	Colorado Springs CO
Drill Press	Employee Retained	Colorado Springs CO
Welding Tables	Employee Retained	New Mexico
Propane Heaters	Affordable Services	Salvage Colorado Springs CO
Bolts and Fittings	Power Equipment Shop	Colorado Springs CO
Cabinets	Employee Retained	Colorado Springs CO
Compressor	Onsite	
Bridge crane	Onsite	
Windows with Asbestos	Paramount Environmental Services	Removed by certified disposal Company
Fueling Station		
Diesel Tank	Eddie Steele	Angle Fire New Mexico
Gasoline Tank	Eddie Steele	Angle Fire New Mexico
Lines and Hoses	River Bend	Emptied and Disposed Midway landfill
Meters	Emptied and Disposed	Midway Landfill
Metal Walkways	River Bend	Colorado Recycle Colorado Springs CO
Misc Liquids onsite		
Used Oil Tank	Power Equipment Co	Shop heater burner Colorado Springs CO
Zep Soap 55 gallon Drums	Wagner Cat	Colorado Springs CO
Drill Oil 55 gallon Drum	Onsite	
Hydraulic Oil 5 gallon Buckets	Onsite	
Used oil open cans	Combined to Tote	Shop heater burner Colorado Springs CO
Power Line and Transformers	Main Electric	removed from Site to Pueblo CO
Poles	River Bend	Cut and Delivered to Midway Land Fill
Concrete floor	River Bend	Cut up and buried in buffer zone