To:	Jerald Schnabel	From:	Paul Kos
	Continental Materials Corp.		Denver, CO 80222
File:	April 2022 Monitoring Summary	Date:	May 31, 2022

Reference: April 2022 Geotechnical Monitoring Summary Pikeview Quarry

1.0 INTRODUCTION

Stantec Consulting Services Inc. (Stantec) has prepared this April 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, pending 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 April 2022. Continuous monitoring by the robotic survey system began in 2010 and has continued through the month April 2022 uninterrupted. 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 April 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.

When present, 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 April 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 April 26, 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 April.
- Three excavators, five dozers and eight haul trucks are operating in a loop on the pit floor to move 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. (Photos 1 and 2)
- 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 3)
- 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, and this area is maintained approximately 5 feet lower than the working bench. (Photos 6 and 7)
- Prisms were removed and new prisms placed as grading progresses, and the line of sight was cut-off between the prisms and the station.
- Riprap has been produced and stockpiled at several locations on site.
- No cracking was observed on the native granite slopes above the extents of the disturbed area.
- Previously Observed Cracks: Previously observed tension cracks remain on the production floor and at the crest of fill slopes. These cracks appeared the same as in previous inspections. (Photo 4)
- 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. (Photo 4)
- 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. (Photo 8)

- 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 are currently 24 active prisms; 3 prisms are control points located outside the slope movement area, 17 prisms are located on the slopes surrounding the landslide area, and 4 prisms are located at the toe of the landslide. As the slope is backfilled and graded, the existing prisms will be removed, and additional prisms will be installed. In April, 6 prisms were added. Three prisms were added near the toe of the slope, two prisms were added to monitor large boulders on the slope, and one prism was added on the bedrock above the slope. 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. The alarm notes and actions taken are logged, and the alarms are summarized in Table 2. 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 April 2022, movement alarms were received from prisms P1, P25, P32, and P33; however, when the prisms were inspected, there were no signs of slope movements. In each case, the subsequent readings returned to normal, and the alarm is assumed to be a data error related to weather conditions. All other alarms were determined to be caused by weather or equipment operations blocking the prism.

Table 2 Alarm Summary

Date(s)	Alarm	Cause/Actions taken	Issue Resolved
04/03/2022	Several prisms could not be found on multiple scans	Fog. Site visually inspected and no signs of movement	04/03/2022
04/03/2022	Regression limit exceeded P25	Data error. No sign of movement after inspection. Reading of +0.412’	04/03/2022
04/03/2022	Regression limit exceeded four times at P33	Data error. No sign of movement after inspection. Readings of +0.547’, +0.398’, -0.357’, and -0.392’	04/03/2022
04/04/2022	Points not found	Fog. Site visually inspected and no signs of movement	04/04/2022
04/10/2022	P33 not found	Single event, no work being performed at time of missed reading	04/10/2022
04/12/2022	Points not found	Snow, fog, wind	04/12/2022
04/18/2022	TOE1 not found	Equipment movement blocking prism	04/18/2022
04/19/2022	TOE1 not found	Equipment movement blocking prism	04/19/2022
04/22/2022	TOE1 not found	Equipment movement blocking prism	04/22/2022
04/24/2022-04/25/2022	Points not found	Snow	04/25/2022

04/25/2022	BR2 not found	Snow on prism	04/25/2022
04/28/2022	Regression limit exceeded P32	Data error. No sign of movement after inspection. Reading of -0.373’	04/28/2022
04/29/2022	TOE6 not found	Equipment movement blocking prism	04/29/2022
04/30/2022	P32 not found	Single event, no work at time of alert	04/30/2022
04/30/2022	Regression limit exceeded P01	Data error. Not repeated. Reading of +0.355’. No work at time of alert	04/30/2022

The prism monitoring results for transverse and height displacements, monthly change, and cumulative change are summarized in Table 3 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 has been several years for all the prisms except P69. Prism P69 was moved on June 20, 2020, and the displacements included in Table 3 are the displacements since that date. 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 17 of 24 prisms with recorded displacements limited to data scatter and not actual movements. Prisms P63, TOE4, and TOE5 are located at the toe of the landslide, and these locations showed slope creep movements at slow velocities. Prisms BR1, BR2, NP66, and TS1 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	-0.035	-0.044	0.0516	0.0611	New Prism. Slope creep movements.
BR2	-0.034	-0.042	0.0921	0.1181	New Prism. Slope creep movements.
CP1	-0.005	-0.038	0.0019	0.0388	
CP4	0.001	-0.029	0.0027	0.0296	
CP5	0.027	-0.062	0.0283	0.0691	
NP2	0.105	-0.110	0.0152	0.2027	
NP3	0.013	-0.027	0.0402	0.0438	New Prism
NP66	0.606	-0.845	0.0339	1.2653	Slope creep movements.
P1	0.351	-0.063	-0.0028	0.3582	
P2	0.146	-0.047	-0.0045	0.2224	
P25	-0.011	0.027	0.0123	0.1735	
P32	-0.069	-0.101	0.0192	0.3092	
P33	-0.100	-0.075	0.0105	0.2216	
P35	0.033	-0.205	0.0129	0.4507	
P4	0.367	-0.148	-0.0031	0.4954	
P5	0.402	-0.167	0.0010	0.6348	
P63	15.857	-6.497	0.0189	17.1367	Slope creep movements.
P69	0.006	-0.075	0.0016	2.0384	
P70	0.348	-0.329	0.0066	0.6253	
TOE1	0.165	-0.002	0.0081	0.1808	
TOE4	-0.009	0.006	0.0196	0.0291	New Prism. Slope creep movements.
TOE5	-0.052	-0.032	0.0412	0.0649	New Prism. Slope creep movements.
TOE6	0.000	0.001	-0.0040	0.0160	New Prism
TS1	-0.009	-0.036	0.0424	0.0672	Slope creep movements.

4.0 DRONE SURVEY

The site was flown for aerial imagery using an unmanned aircraft system (UAS or ‘drone’) on, April 28, 2022. 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 March topography was also compared to the April 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 South Borrow Area 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 April. The grading commencing by spreading the temporary fill stockpile followed by transporting material from the South Borrow Area and North Borrow Area. Importing fill also continued. Fill was placed in one-foot lifts, moisture conditioned as necessary, and compacted. Compaction testing began March 2022 and will continue at the rate of at least one test per 5,000 yd^3 placed. During April, approximately 300,000 yd^3 had been placed and compacted. This required at least 51 compaction tests. There were 49 compaction tests recorded in April and a total of 11 tests recorded on March 28 and 31. Volumes are tracked on a weekly basis, and the volumes and tests from the week of March 28 would apply to April. All tests 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:

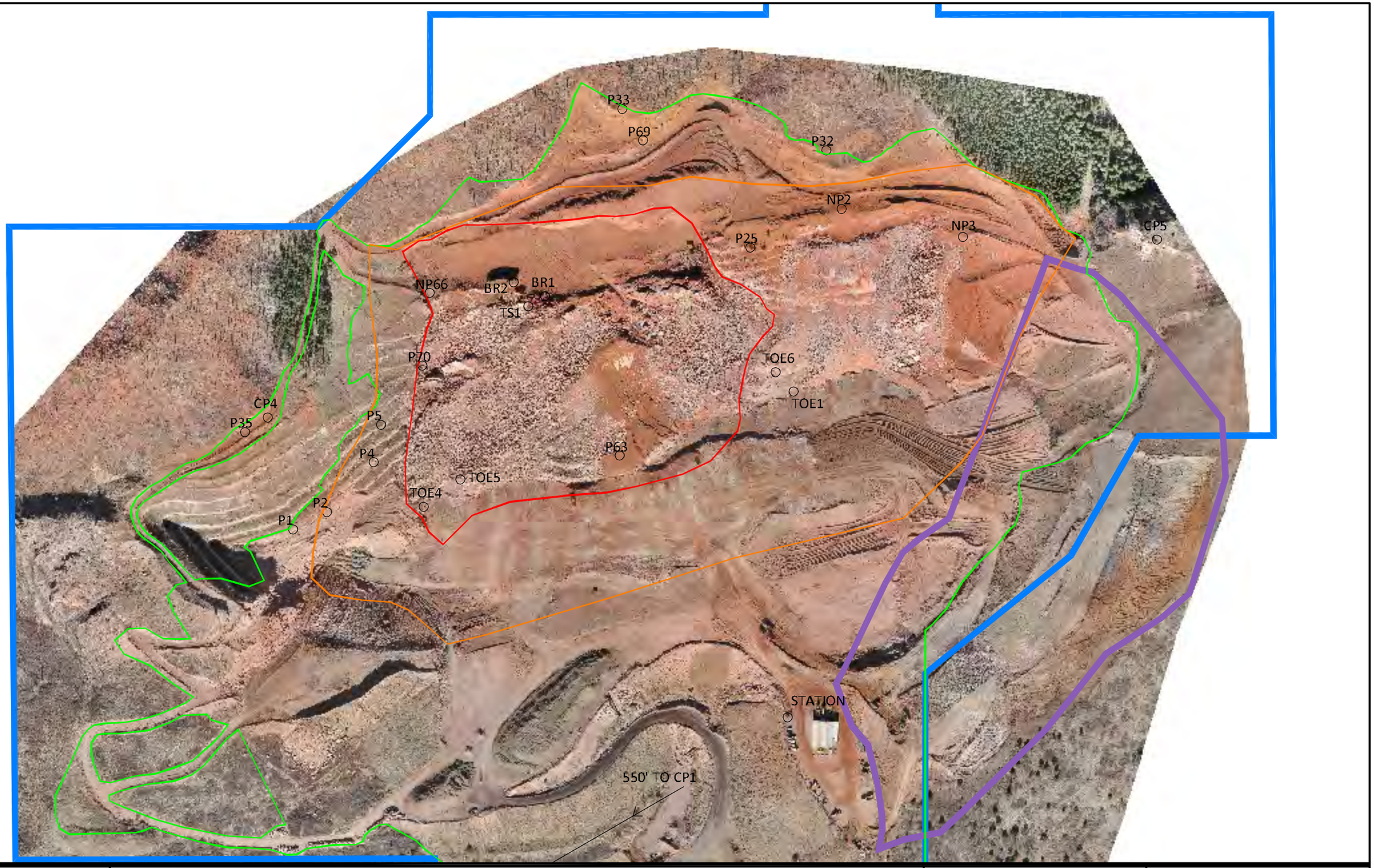
- Continue reclamation grading
- Continue importing fill material
- Continue geotechnical monitoring
- Continue quality assurance testing
- Continue removing and replacing prisms on an as-needed basis

7.0 CONCLUSIONS

The data collected in April 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 April 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.



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'

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Client/Project
CONTINENTAL MATERIALS CORP.
PIKEVIEW QUARRY SLOPE MONITORING

Project No.
2057288200

Title
SITE MAP

Revision
#

Date
2022.05.31

Drawn By
PK

Figure No.
1

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Appendix A

Visual Inspections

6. Compacted area along safety buffer zone.

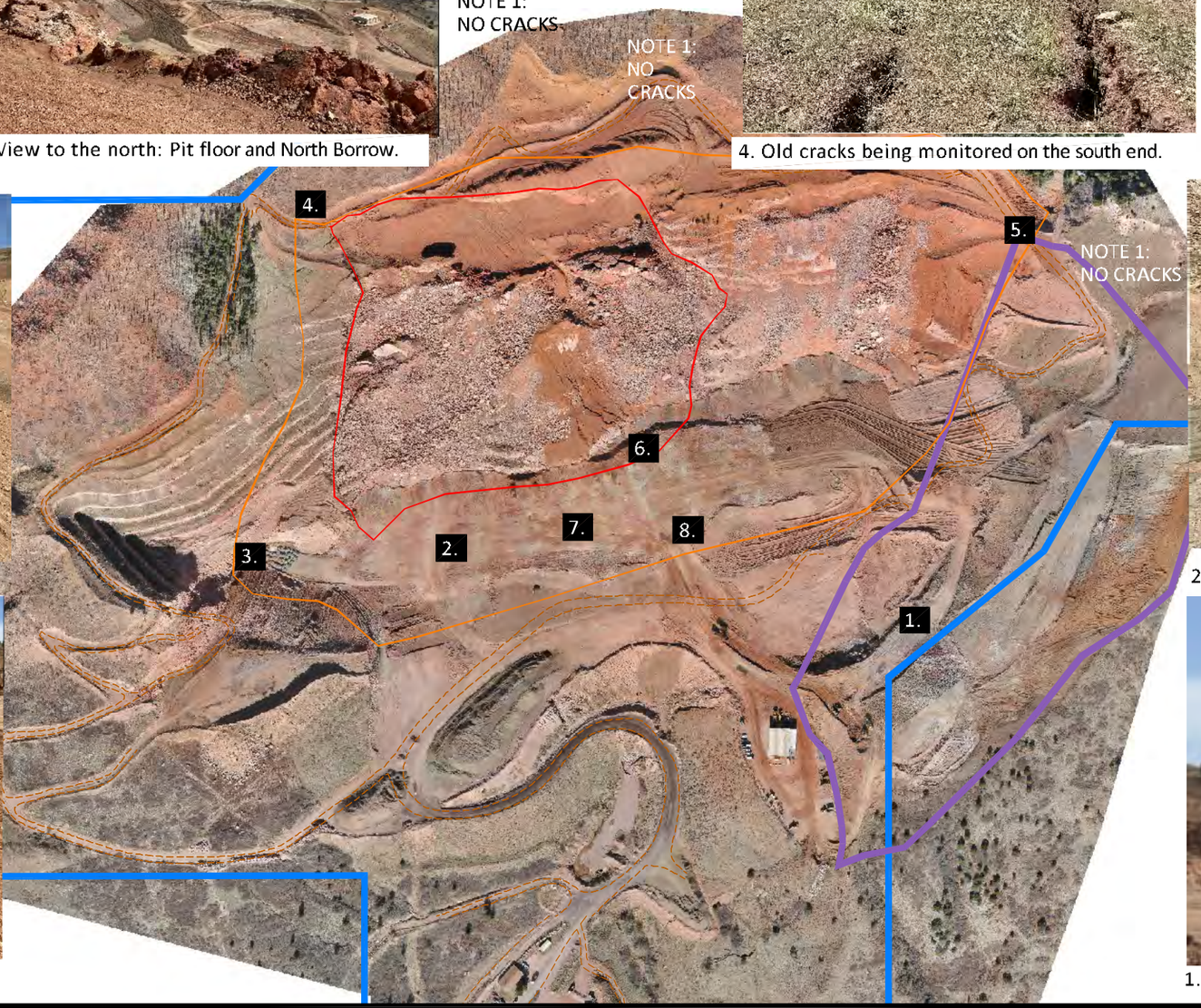
5. View to the north: Pit floor and North Borrow.

4. Old cracks being monitored on the south end.

3. Material piled at the toe of the bench.

7. Compactor in the pit area.

8. Culvert in the pit has been filled in.



2.Compaction zone in the pit as seen from the south.

1.Excavators cutting a bench in the North Borrow area.

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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 APRIL 26, 2021.

N

0 400' 800'

Client/Project
CONTINENTAL MATERIALS CORP.
PIKEVIEW QUARRY SLOPE MONITORING

Project No.
2057288200

Title
OBSERVATIONS FROM APRIL INSPECTION

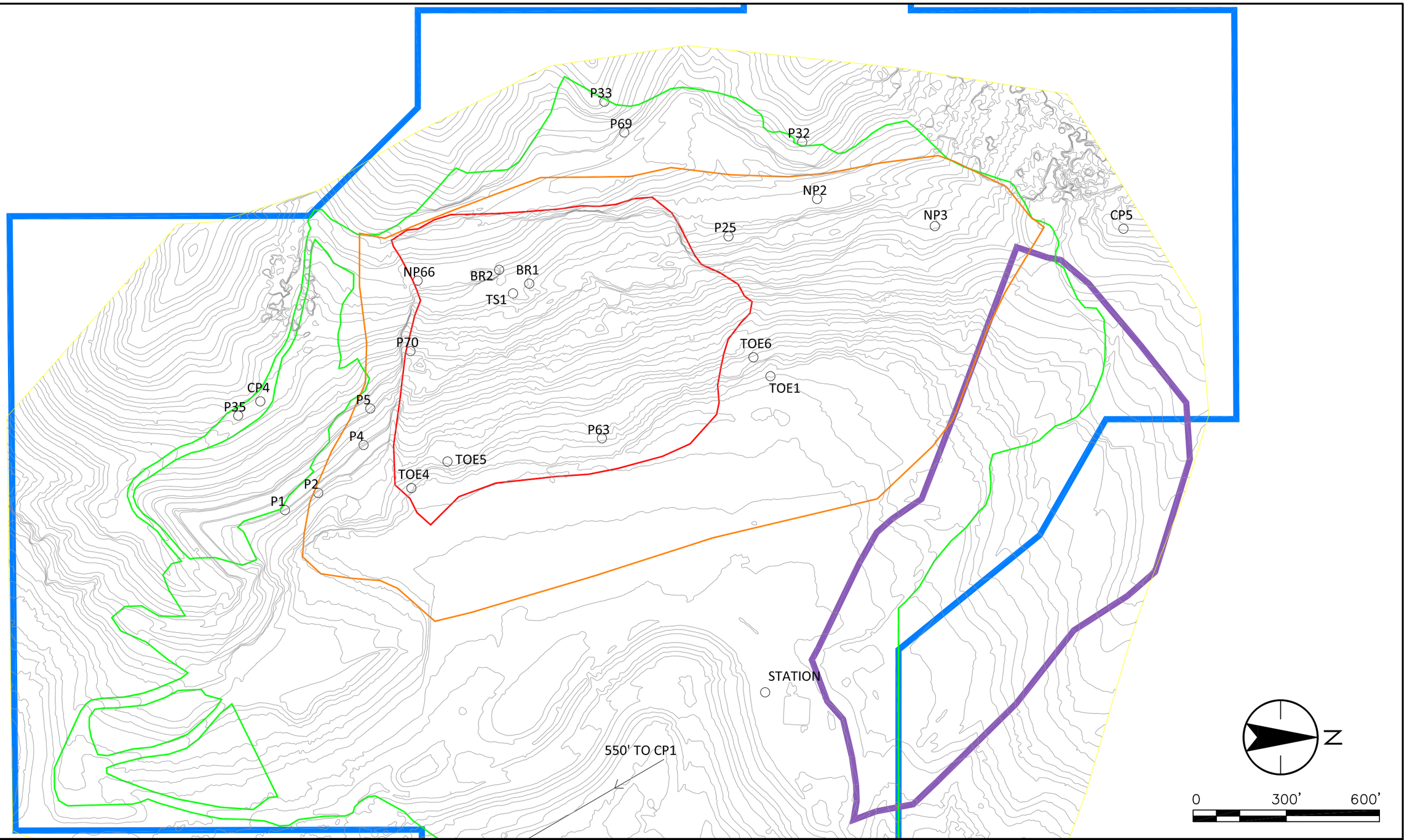
Revision	Date
#	2022.05.31
Drawn By	Figure No.
PK	2

Table A-1 Summary of Daily Inspecitons

Date	Notes	Inspection By
April 1, 2022	No Movement observed. Good to proceed.	Jerald Schnabel
April 2, 2022	No work.	Not applicable
April 3, 2022	No work.	Not applicable
April 4, 2022	No Movement observed. Good to proceed.	Jerald Schnabel
April 5, 2022	No Movement observed. Good to proceed.	Jerald Schnabel
April 6, 2022	No Movement observed. Good to proceed.	Jerald Schnabel
April 7, 2022	No Movement observed. Good to proceed.	Jerald Schnabel
April 8, 2022	No Movement observed. Good to proceed.	Jerald Schnabel
April 9, 2022	No work.	Not applicable
April 10, 2022	No work.	Not applicable
April 11, 2022	No Movement observed. Good to proceed.	Jerald Schnabel
April 12, 2022	No Movement observed. Good to proceed.	Jerald Schnabel
April 13, 2022	No Movement observed. Good to proceed.	Jerald Schnabel
April 14, 2022	No Movement observed. Good to proceed.	Jerald Schnabel
April 15, 2022	No Movement observed. Good to proceed.	Jerald Schnabel
April 16, 2022	No work.	Not applicable
April 17, 2022	No work.	Not applicable
April 18, 2022	No Movement observed. Good to proceed.	Jerald Schnabel
April 19, 2022	No Movement observed. Good to proceed.	Jerald Schnabel
April 20, 2022	No Movement observed. Good to proceed.	Jerald Schnabel
April 21, 2022	No Movement observed. Good to proceed.	Jerald Schnabel
April 22, 2022	No Movement observed. Good to proceed.	Jerald Schnabel
April 23, 2022	No work.	Not applicable
April 24, 2022	No work.	Not applicable
April 25, 2022	No Movement observed. Good to proceed.	Jerald Schnabel
April 26, 2022	No Movement observed. Good to proceed.	Jerald Schnabel
April 27, 2022	No Movement observed. Good to proceed.	Jerald Schnabel
April 28, 2022	No Movement observed. Good to proceed.	Jerald Schnabel
April 29, 2022	No Movement observed. Good to proceed.	Jerald Schnabel
April 30, 2022	No work.	Not applicable

Appendix B

Prism Survey



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 APRIL 28, 2022 DRONE SURVEY.
5. CONTOUR INTERVAL IS 10 FEET

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Client/Project
CONTINENTAL MATERIALS CORP.
PIKEVIEW QUARRY SLOPE MONITORING

Project No.
2057288200

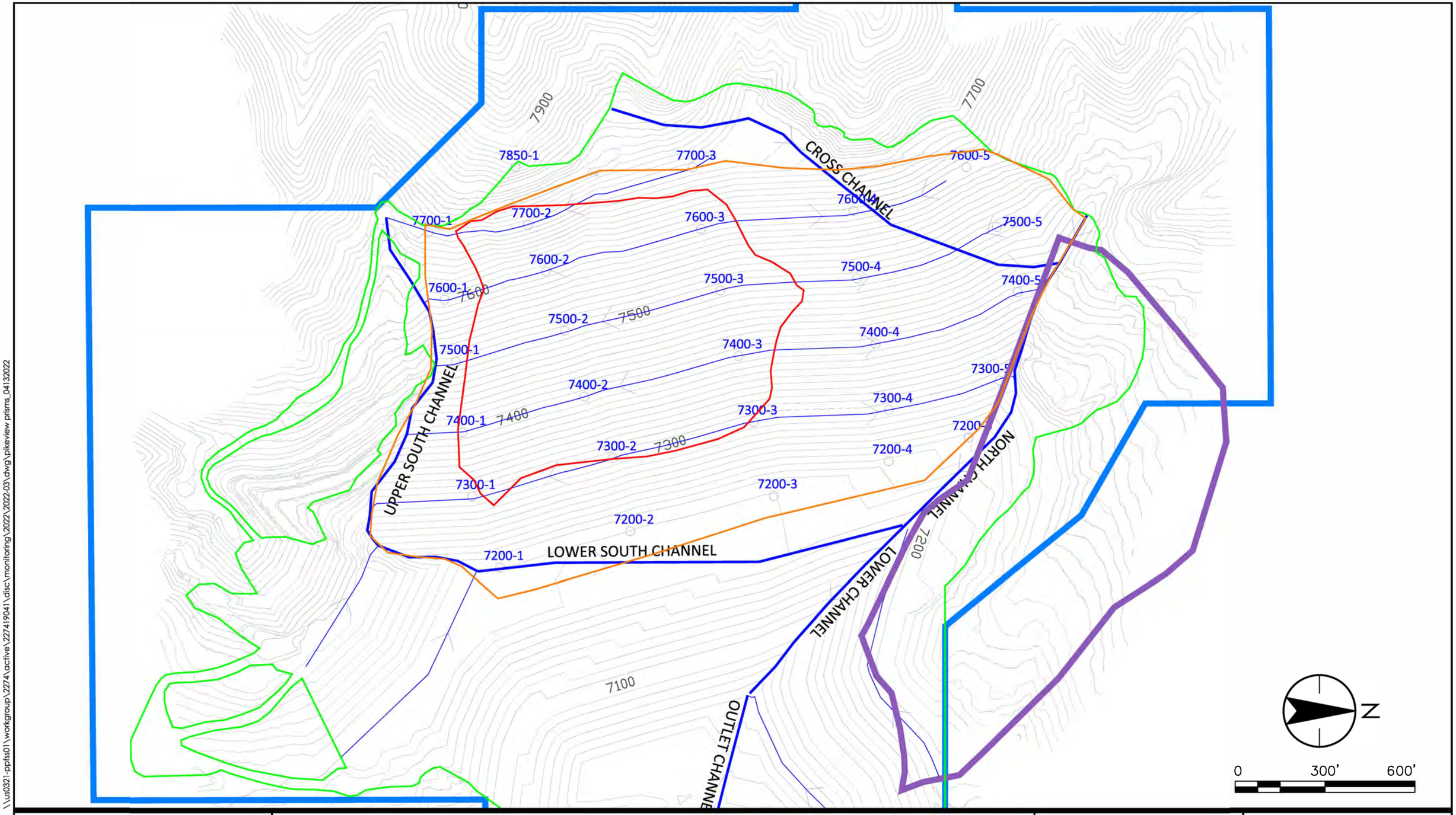
Title
EXISTING PRISMS WITH CURRENT SURFACE

Revision
#

Date
2022.05.31

Drawn By
PK

Figure No.
3



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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. 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.

Client/Project
CONTINENTAL MATERIALS CORP.
PIKEVIEW QUARRY SLOPE MONITORING

Project No.
2057288200

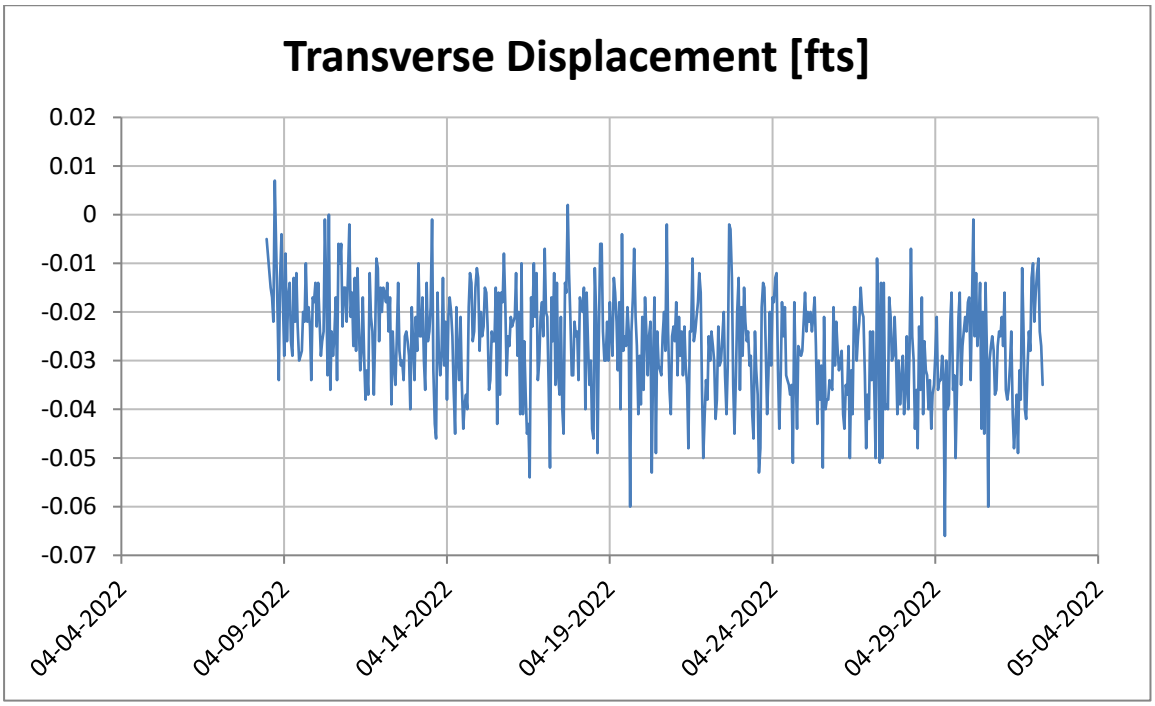
Title
PROPOSED PRISMS WITH RECLAMATION SURFACE

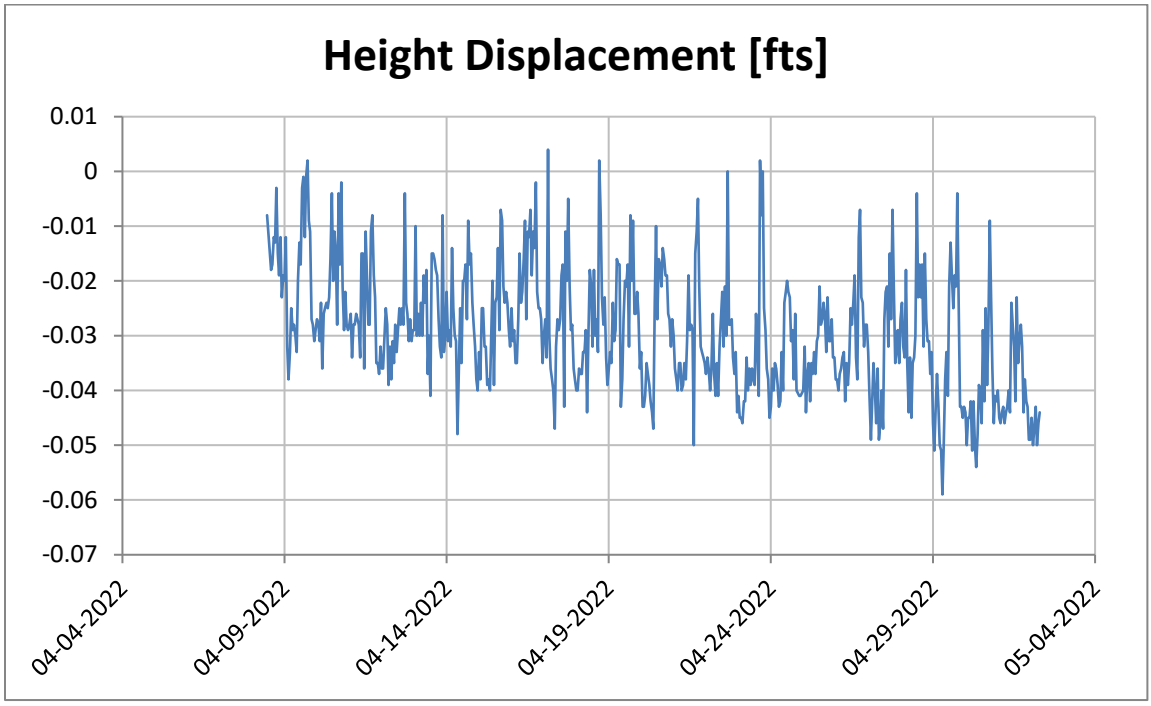
Revision	Date
#	2022.05.31
Drawn By	Figure No.
PK	4

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
NP3	22-Apr-22	Prism Added	Originally NP1. Prism re-set in same spot and is now NP3
TOE6	22-Apr-22	Prism Added	Originally TOE3. Prism moved to a higher elevation and is now TOE6

Prism BR1

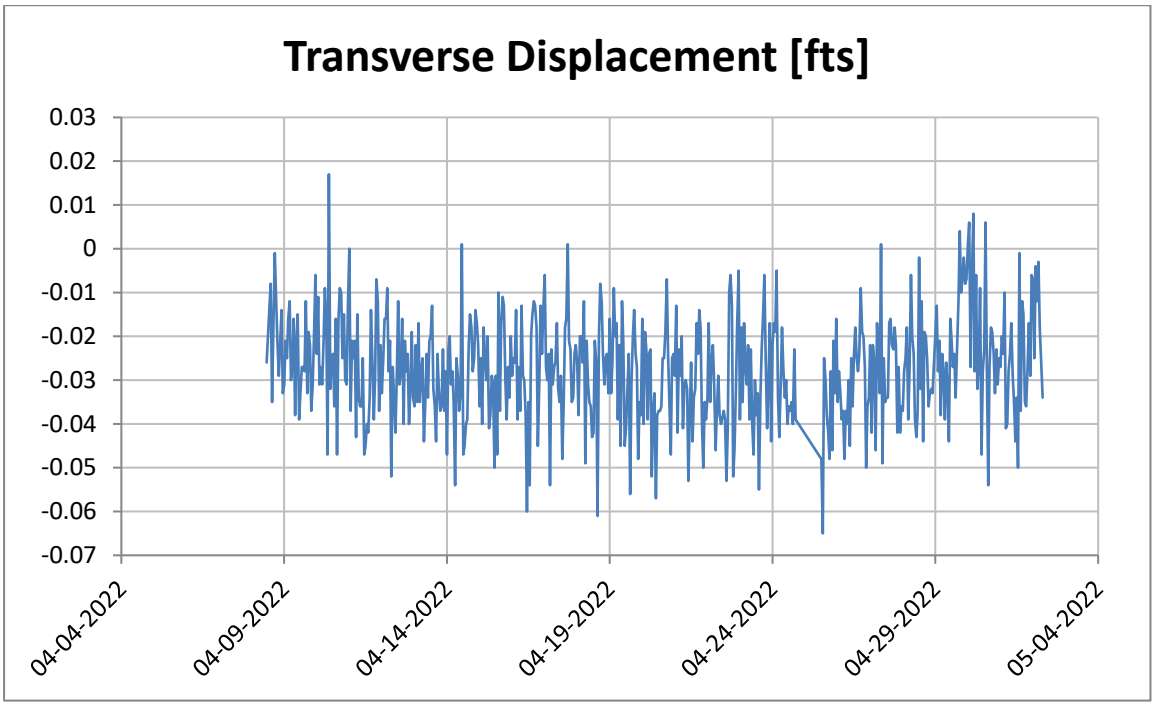


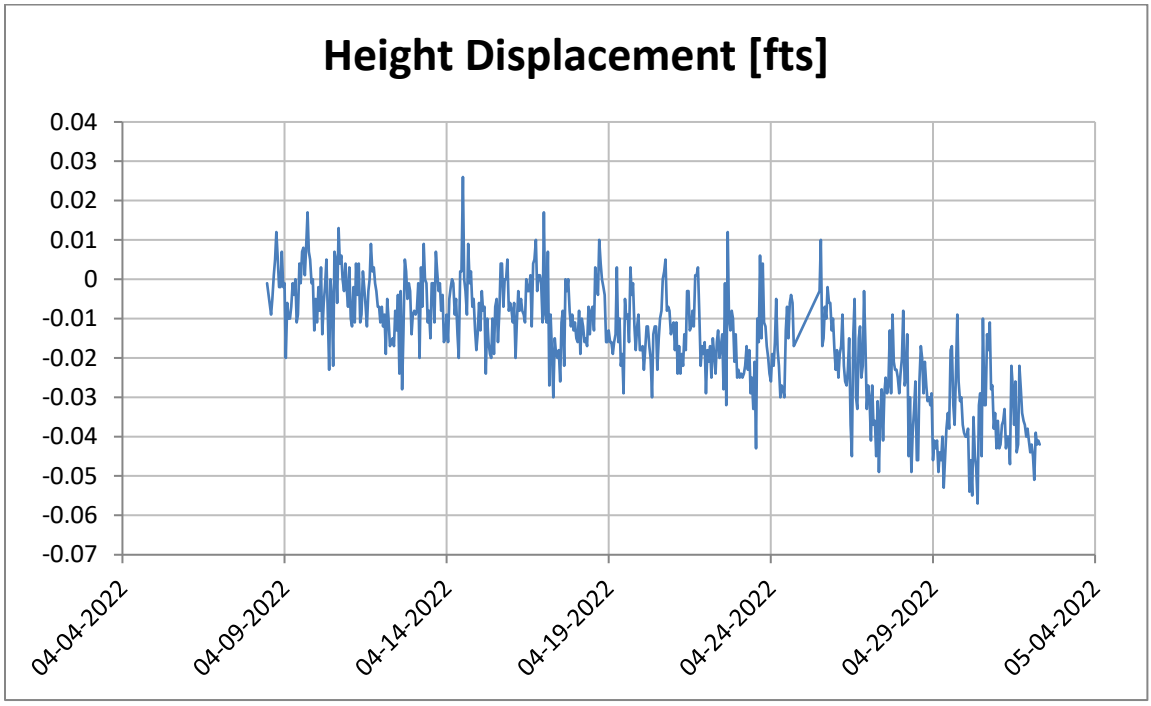


Notes:

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.
6. Prism installed April 8, 2022.

Prism BR2





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5. Prism records slope creep movements with slow velocity.
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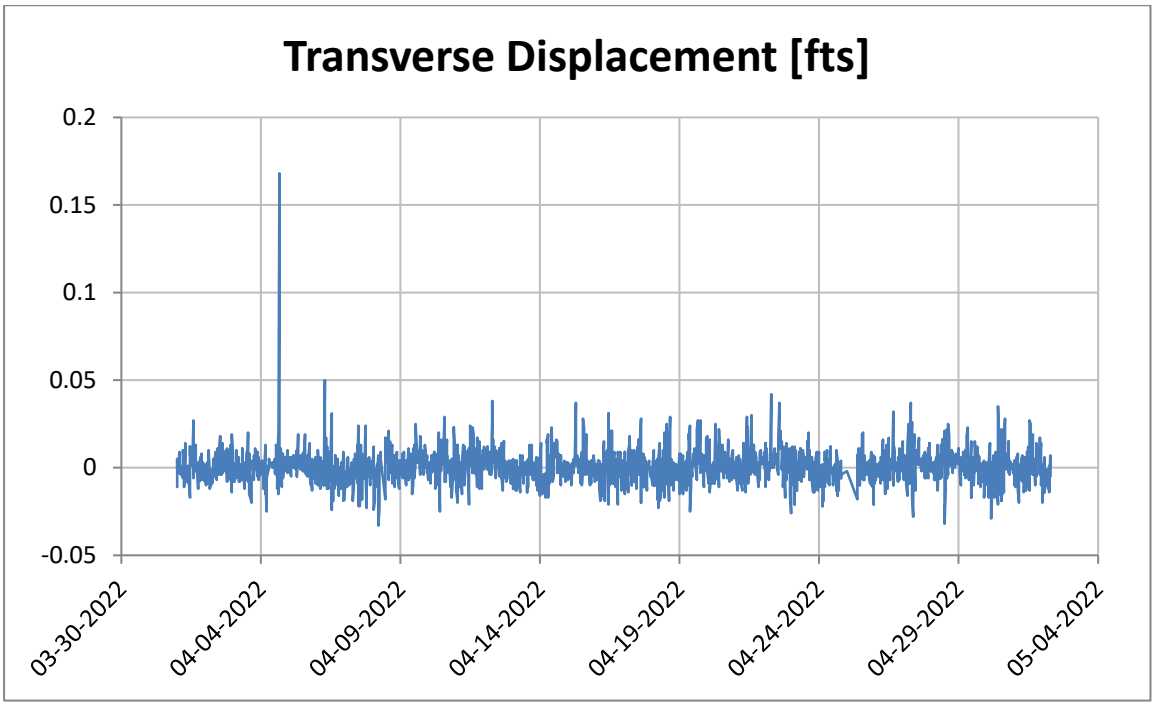
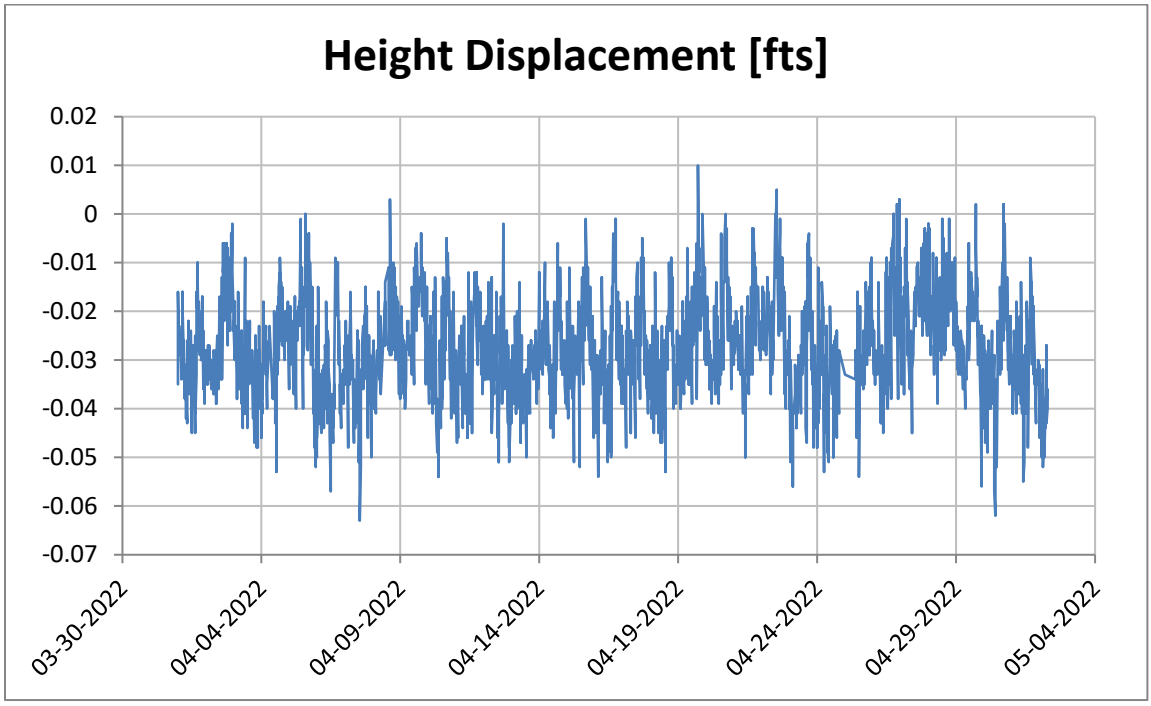
Prism CP1

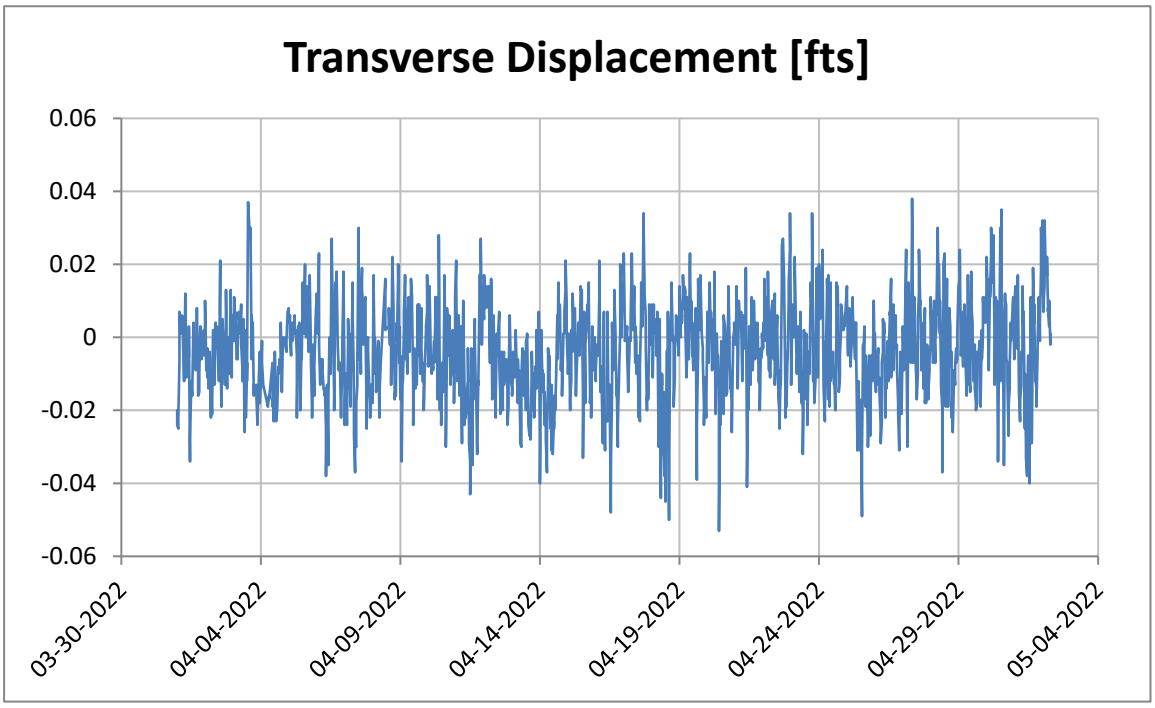


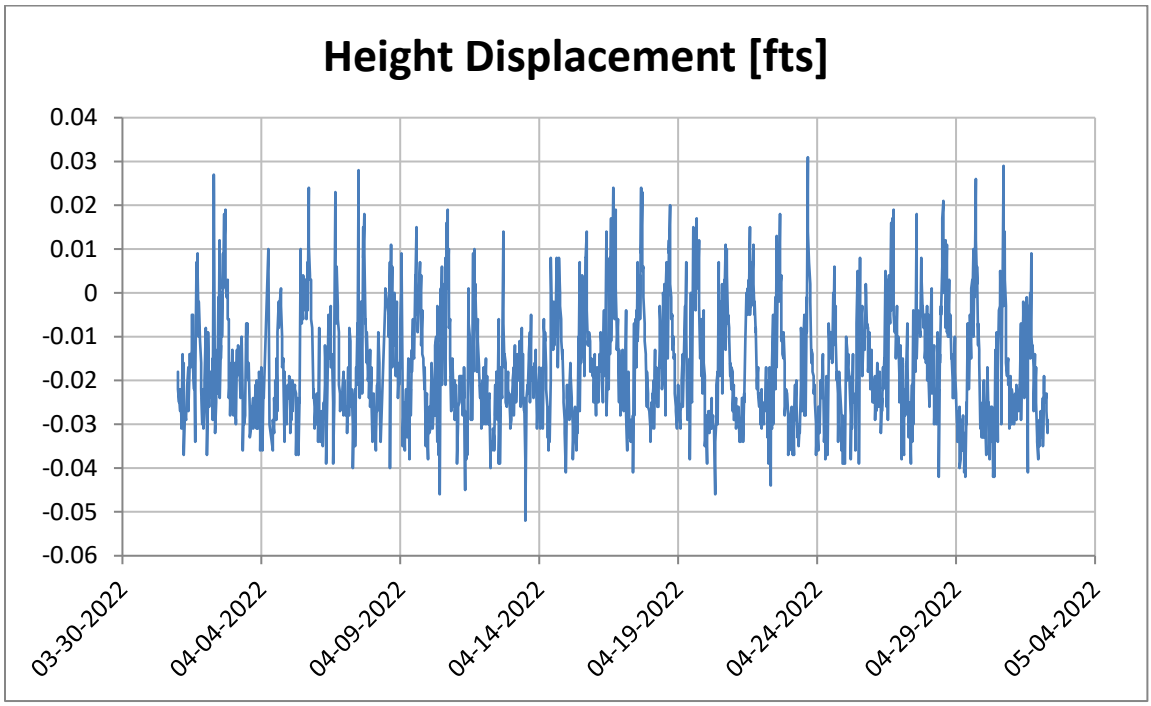


Notes:

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.

Prism CP4

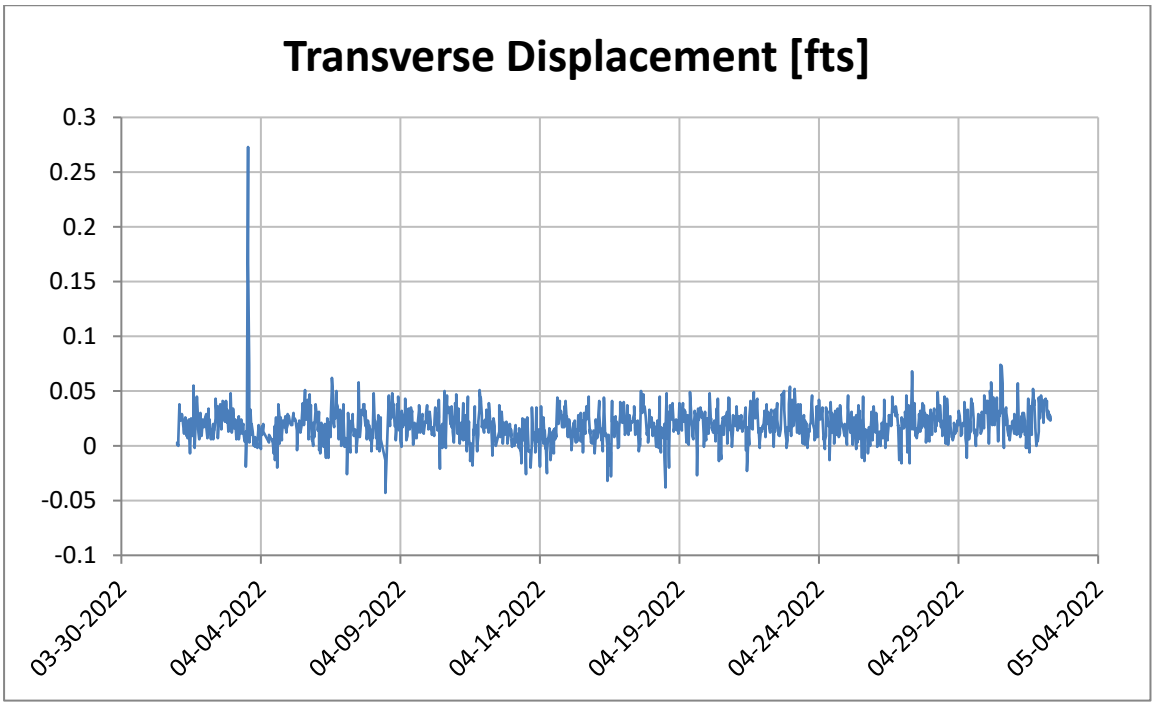


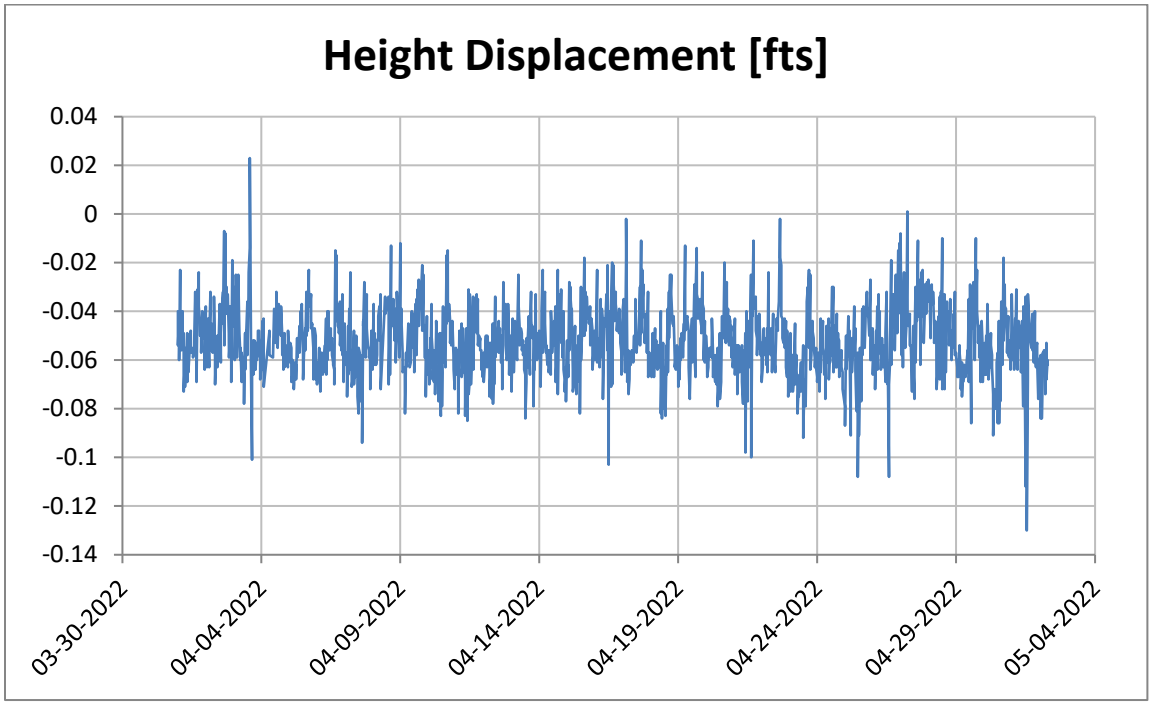


Notes:

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.

Prism CP5

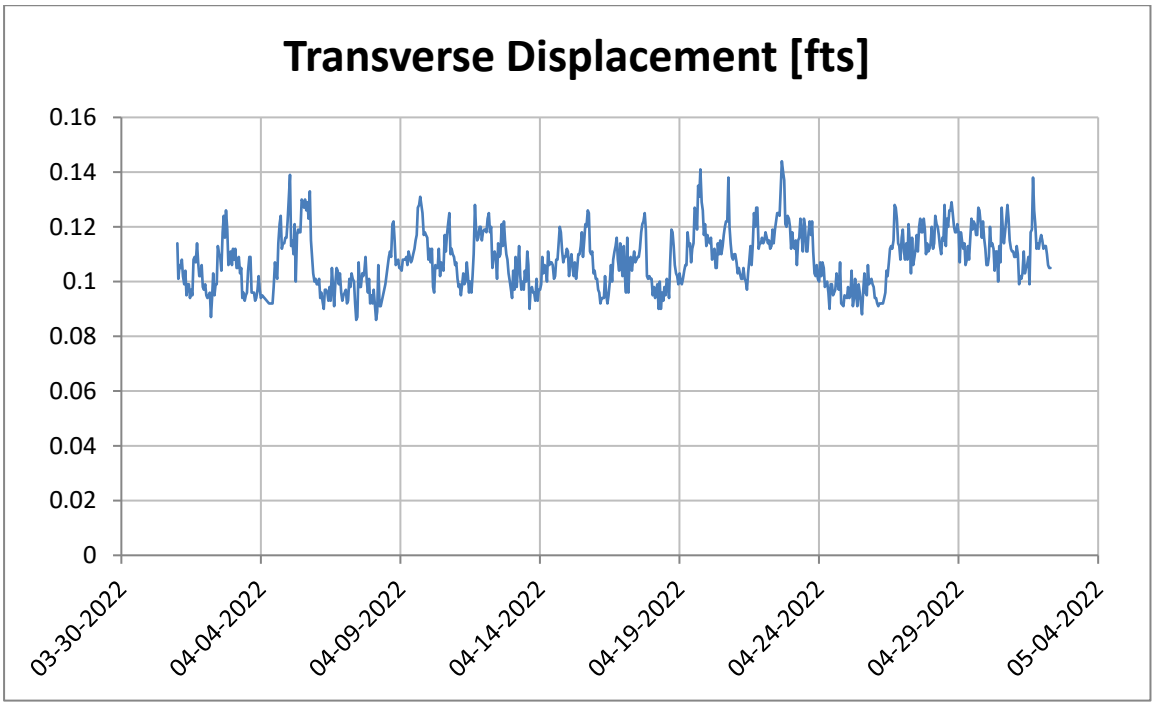


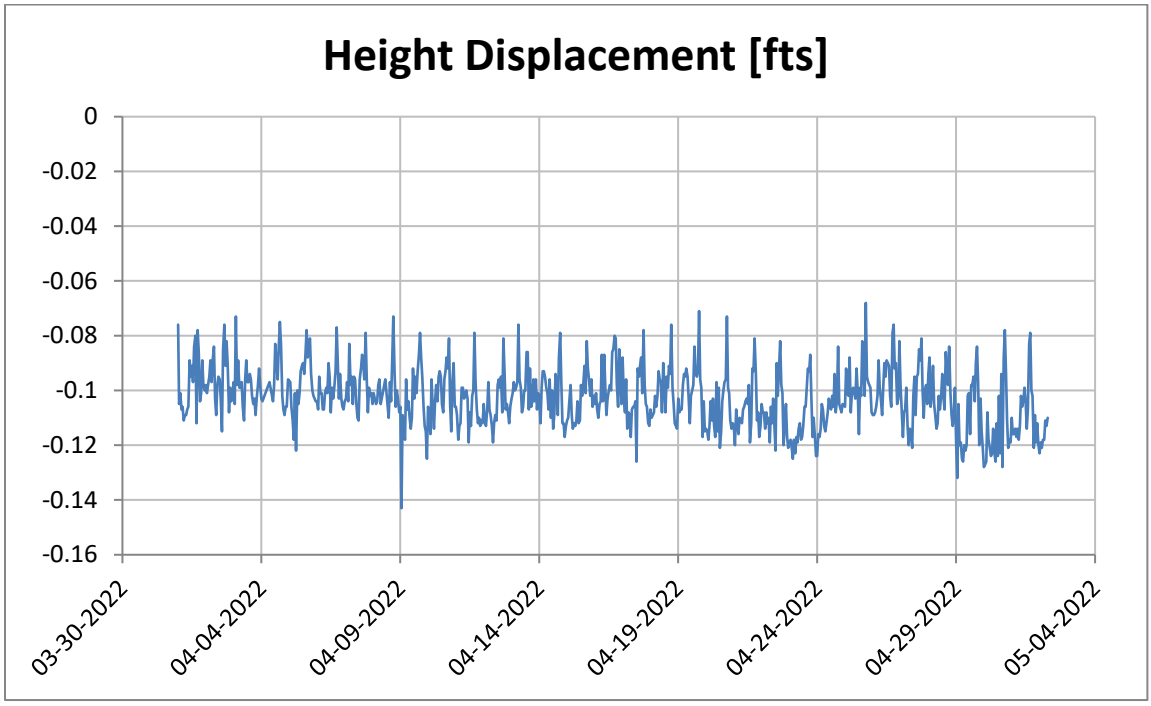


Notes:

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.

Prism NP2

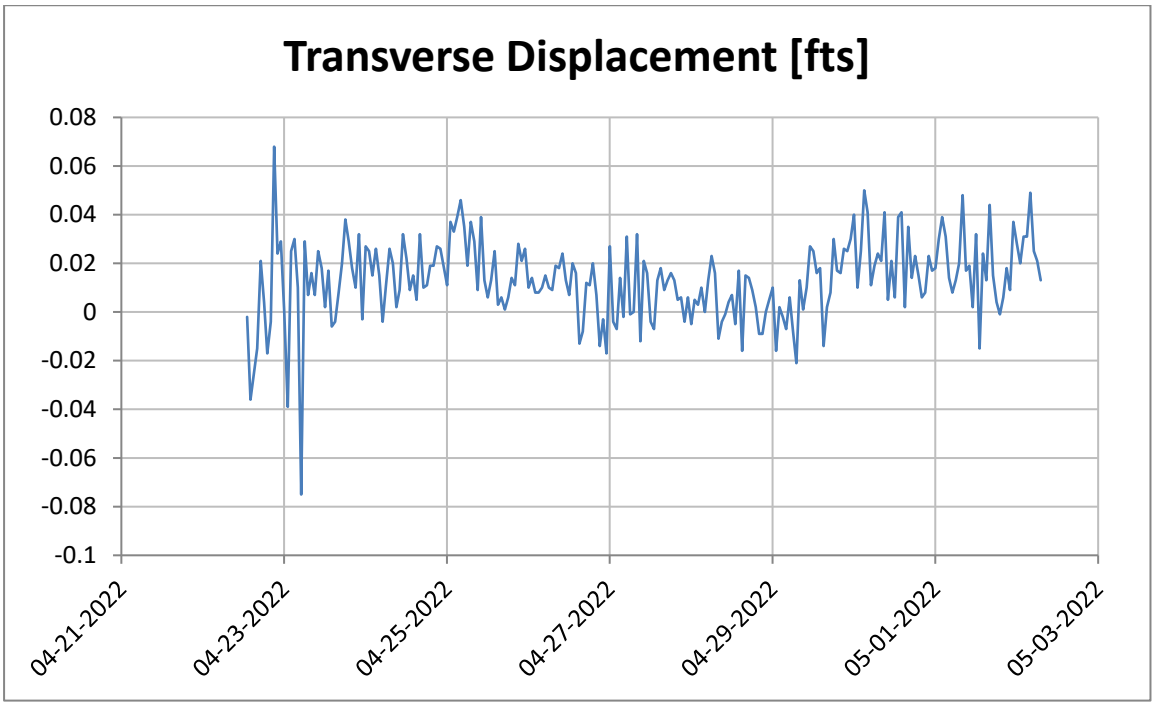


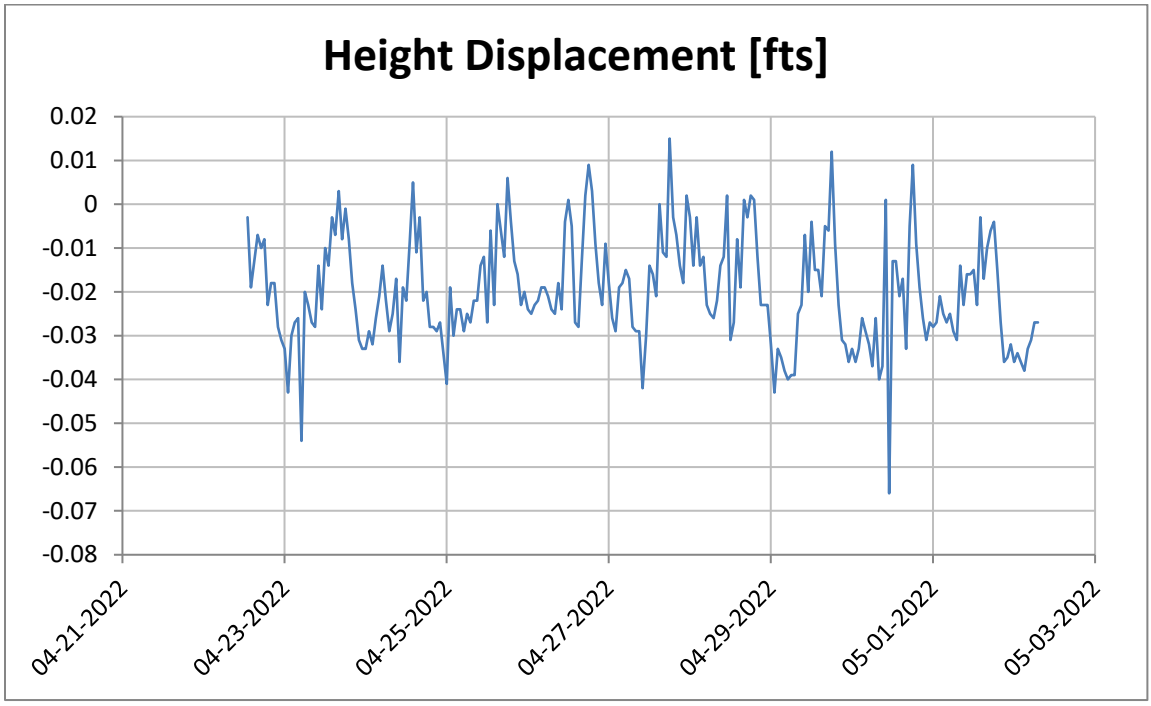


Notes:

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.

Prism NP3

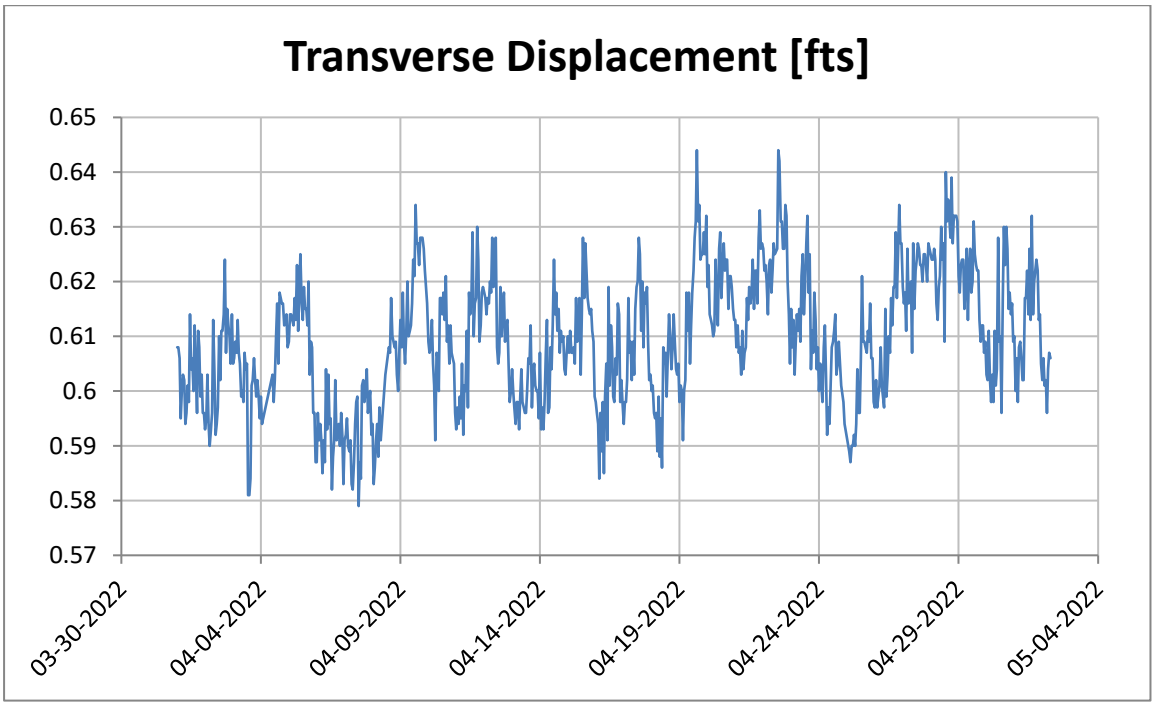


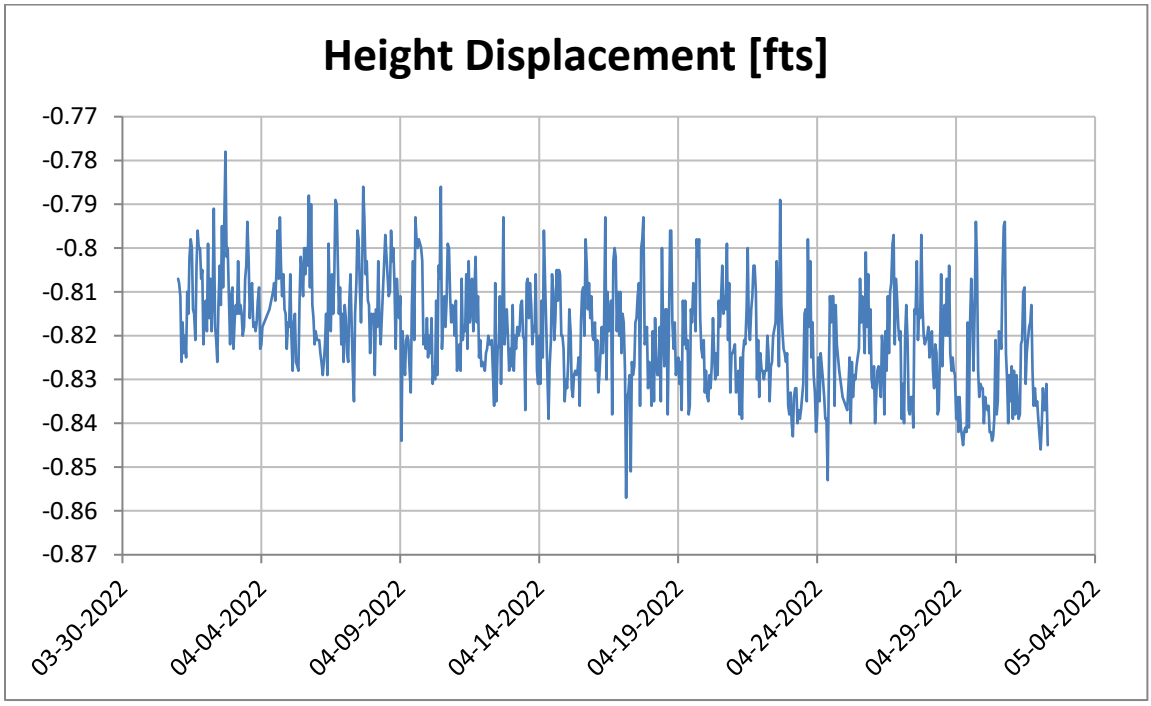


Notes:

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.
5. Prism installed April 22, 2022.

Prism NP66

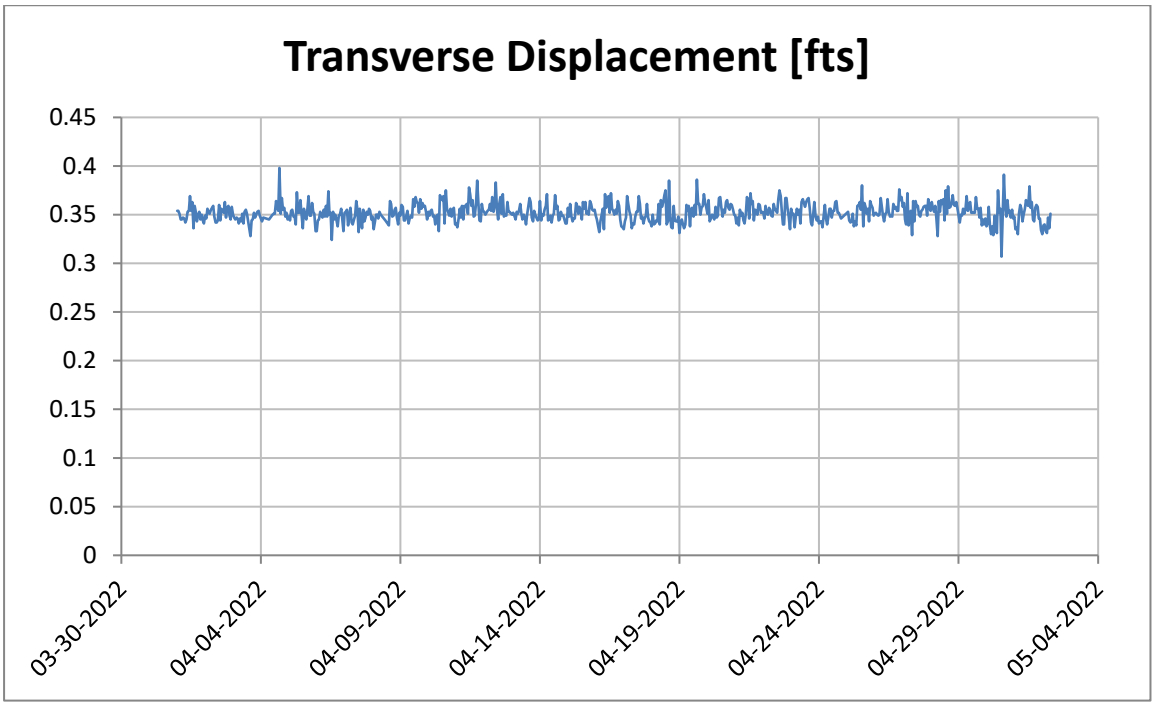


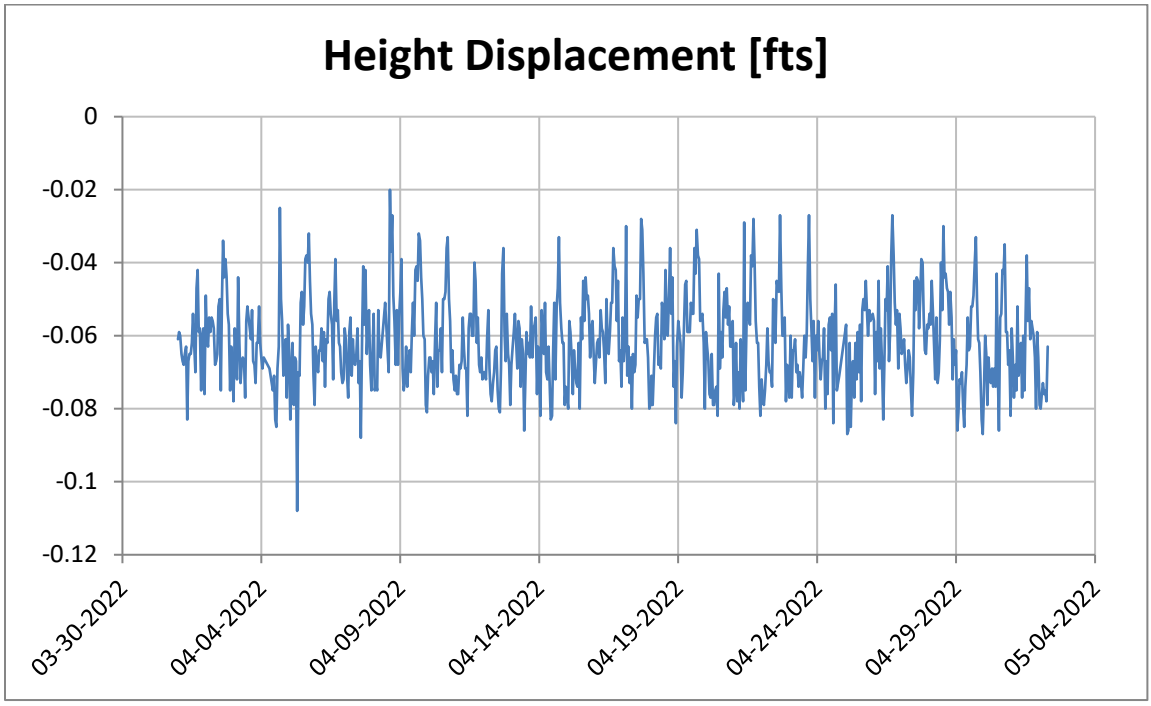


Notes:

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.

Prism P1

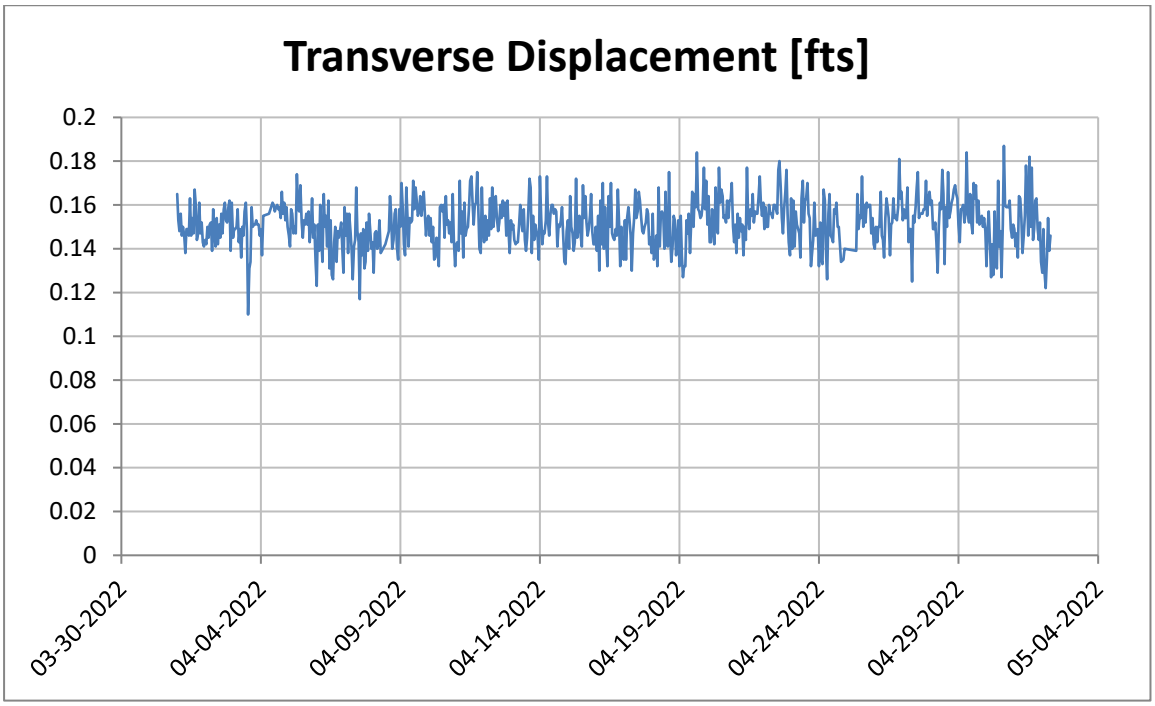


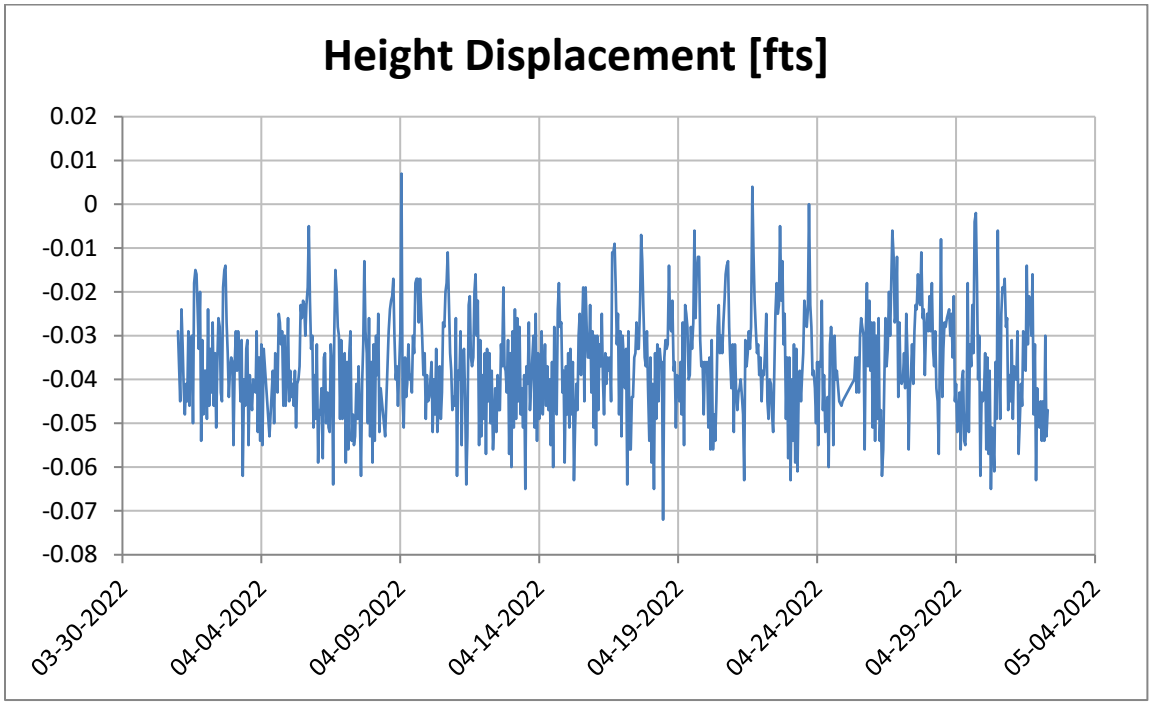


Notes:

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. Regression limit alarms were received on April 30.

Prism P2

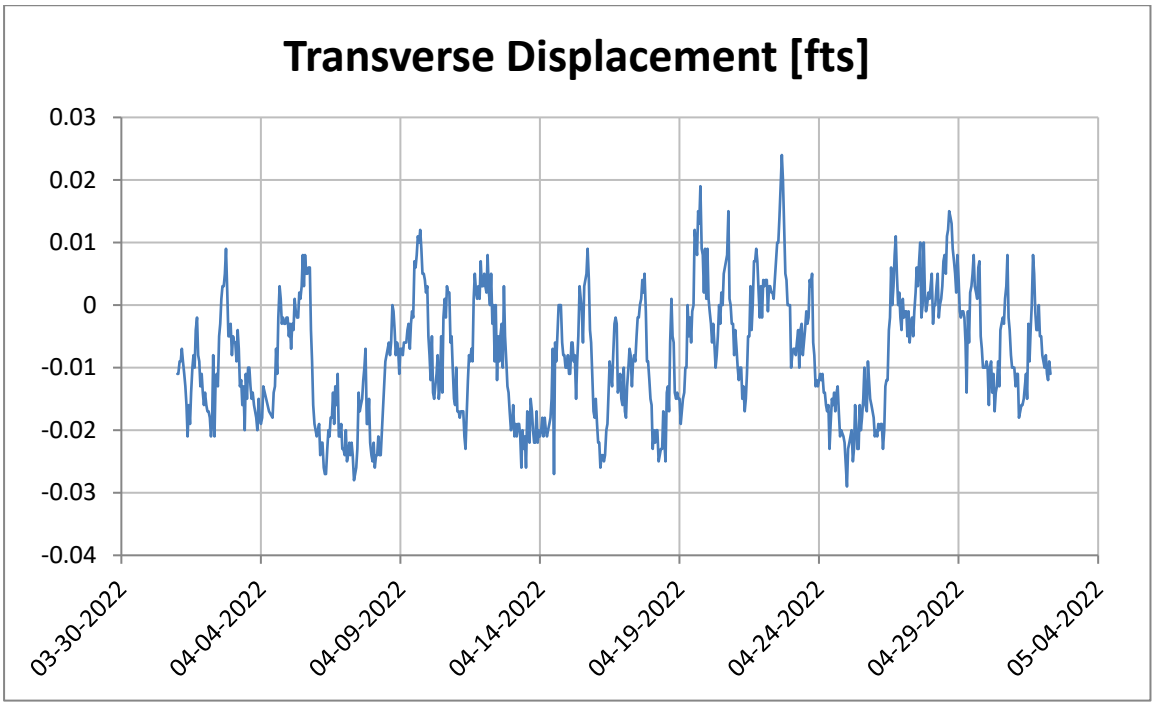


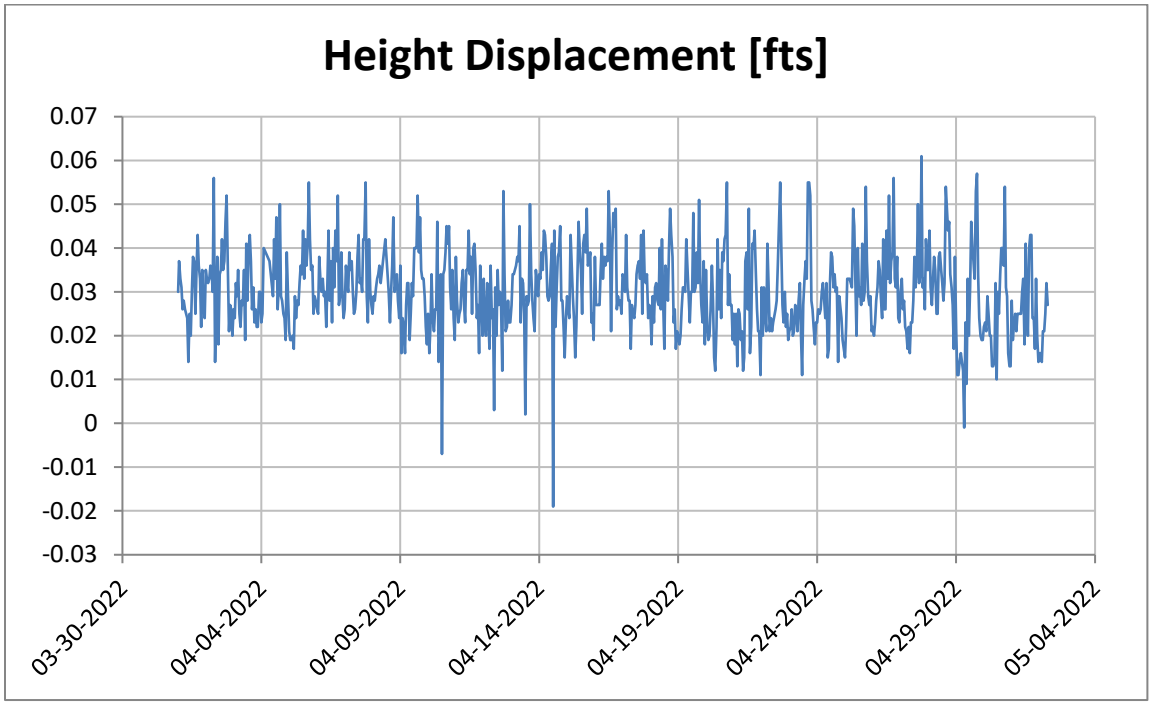


Notes:

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.

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. Regression limit alarms were received on April 3.

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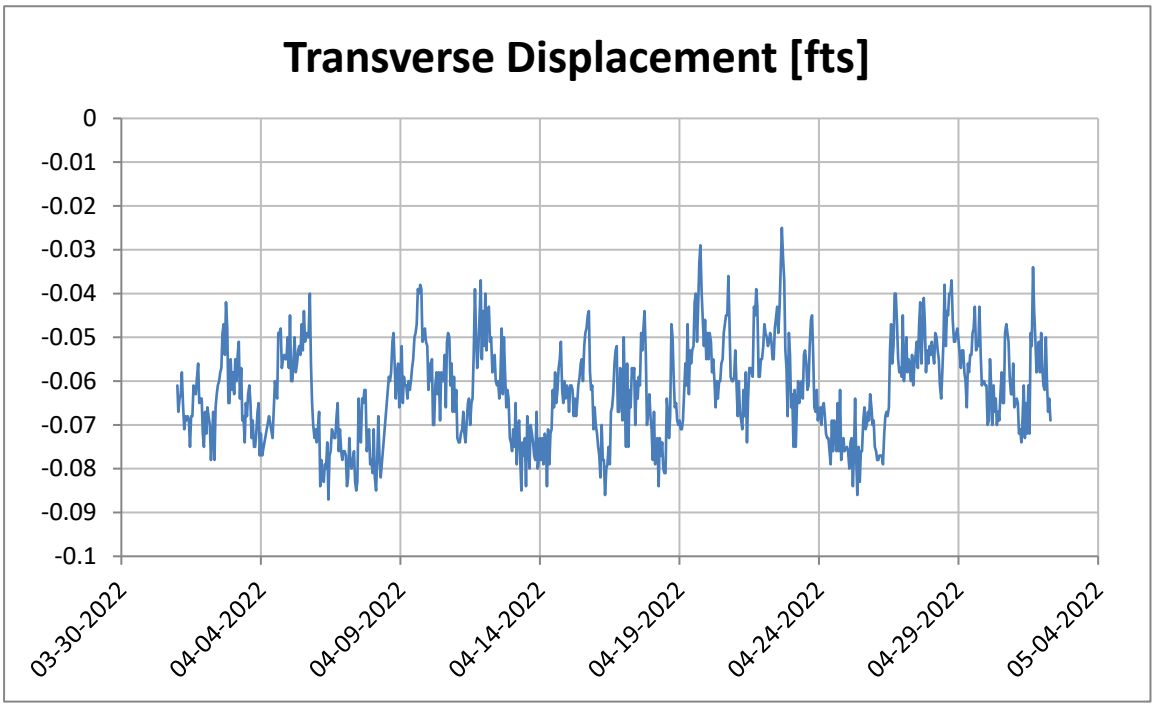
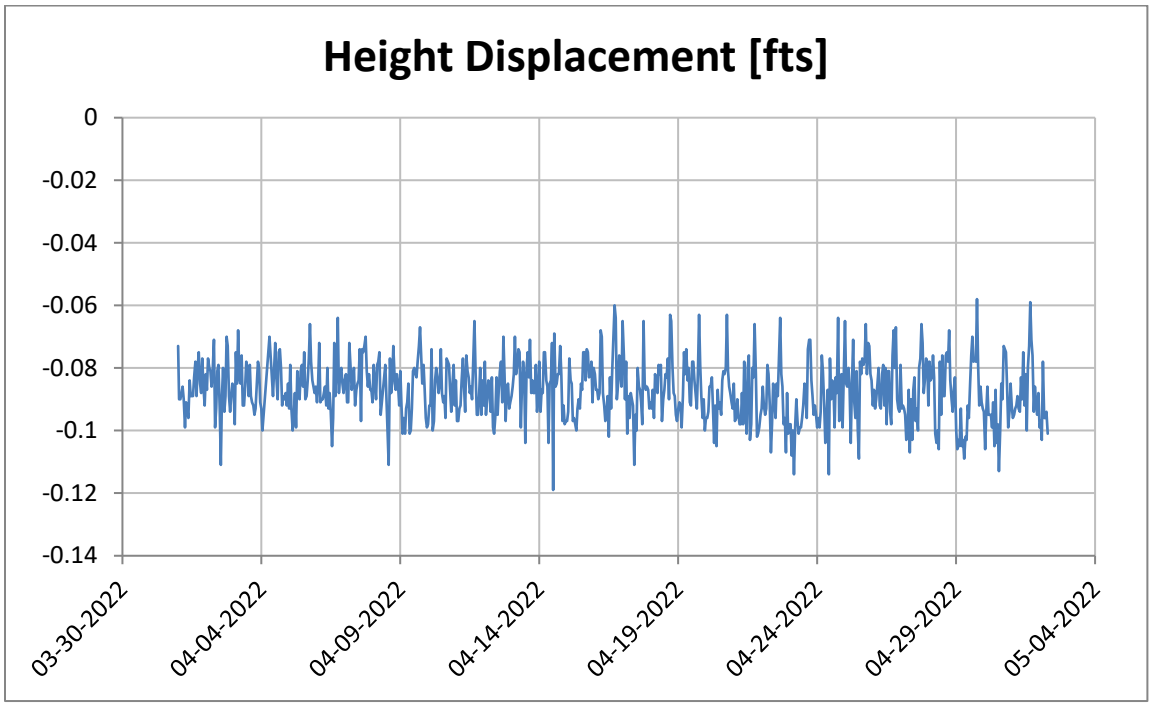
Prism P32

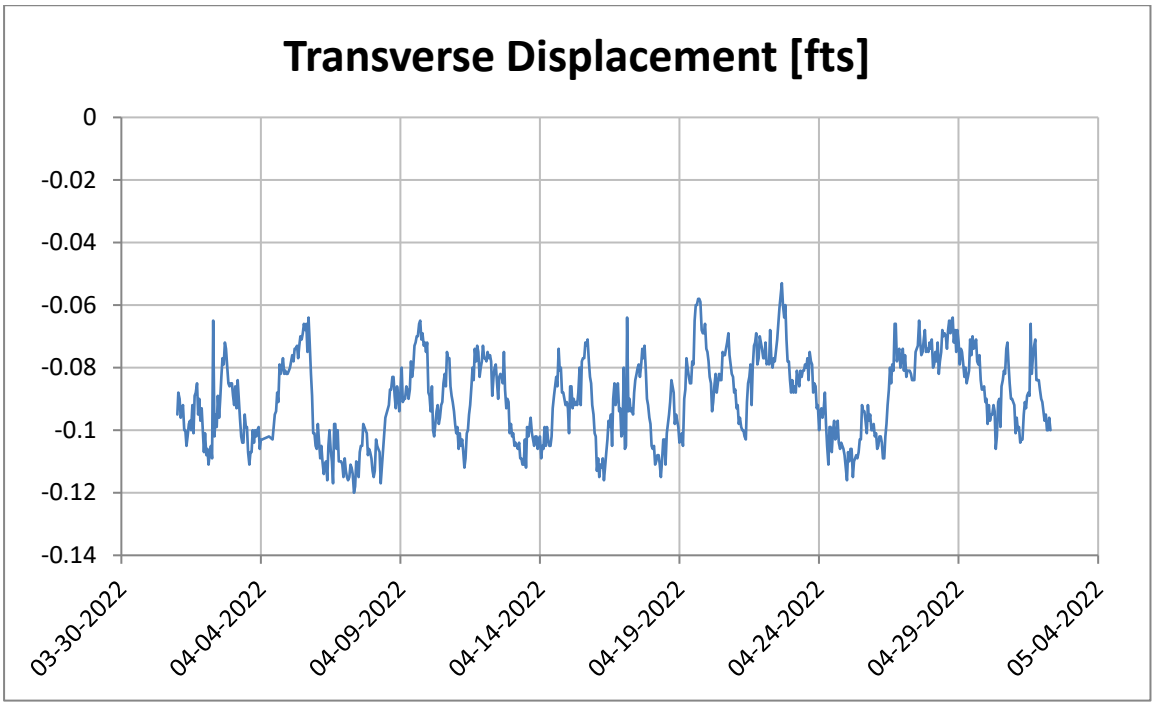


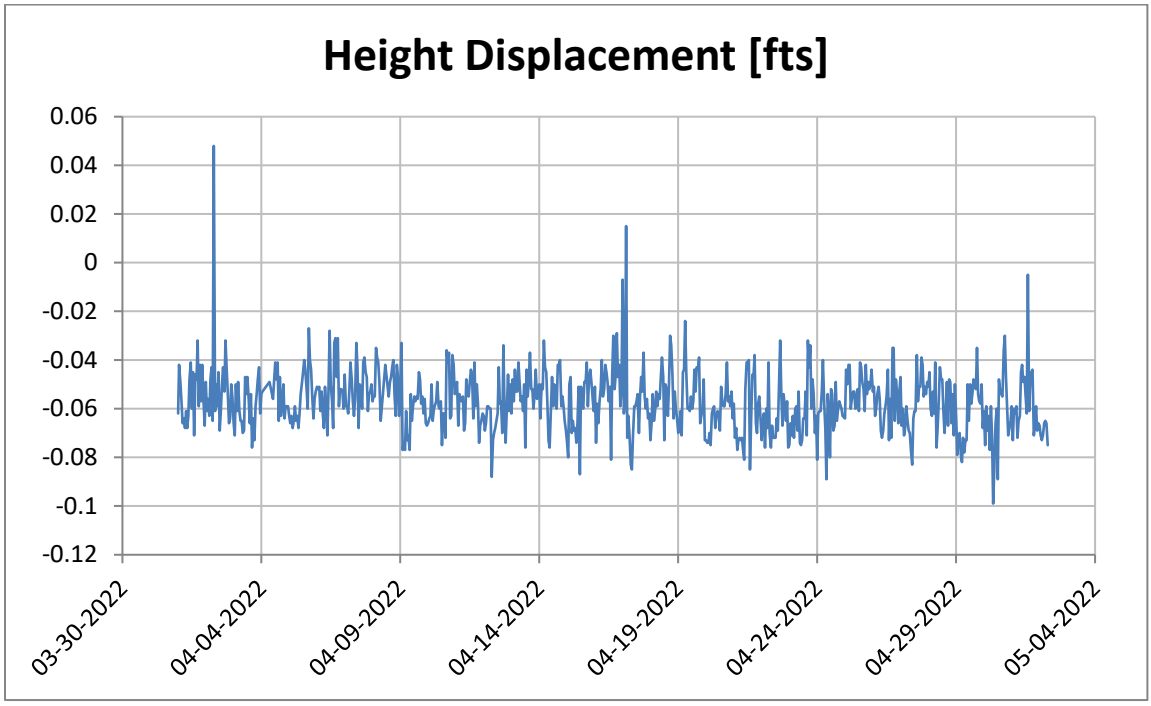


Notes:

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. Regression limit alarm was received on April 28.

Prism P33

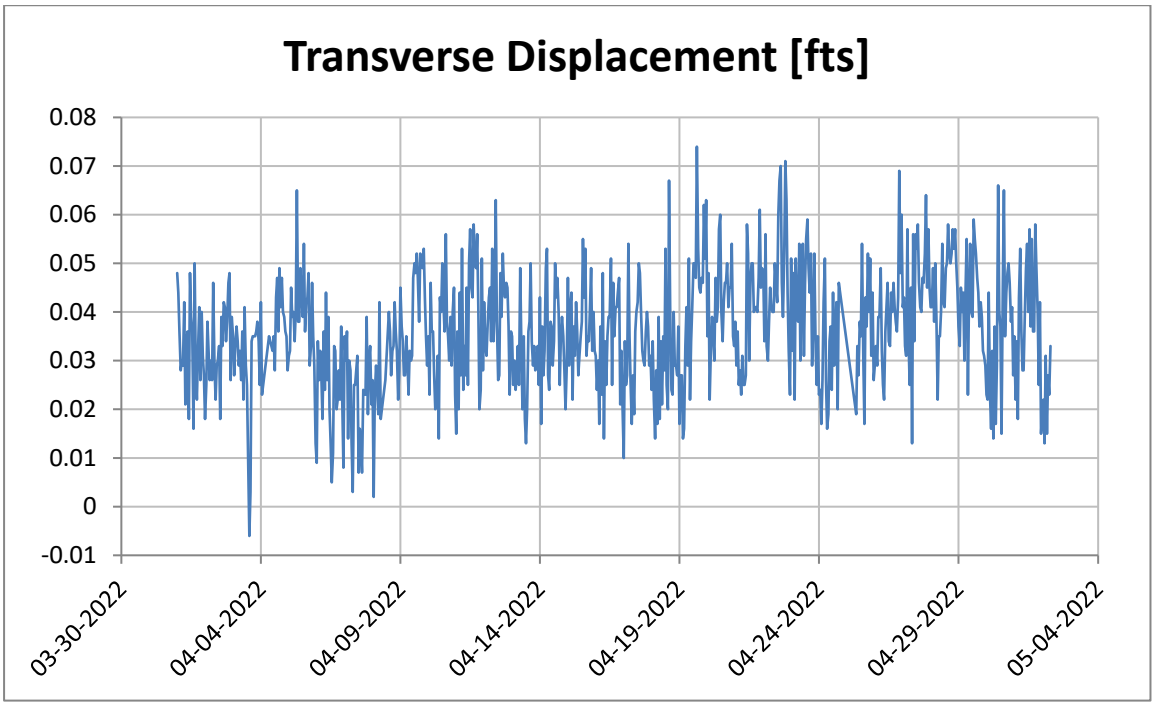


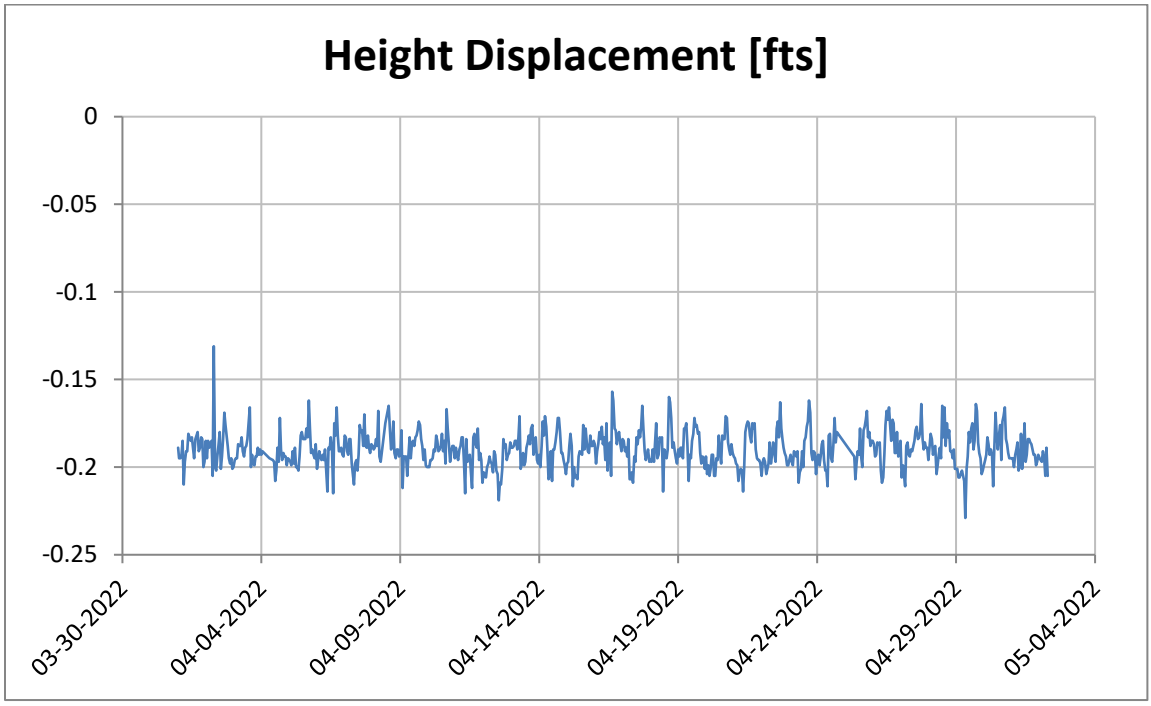


Notes:

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. Regression limit alarms were received on April 3.

Prism P35





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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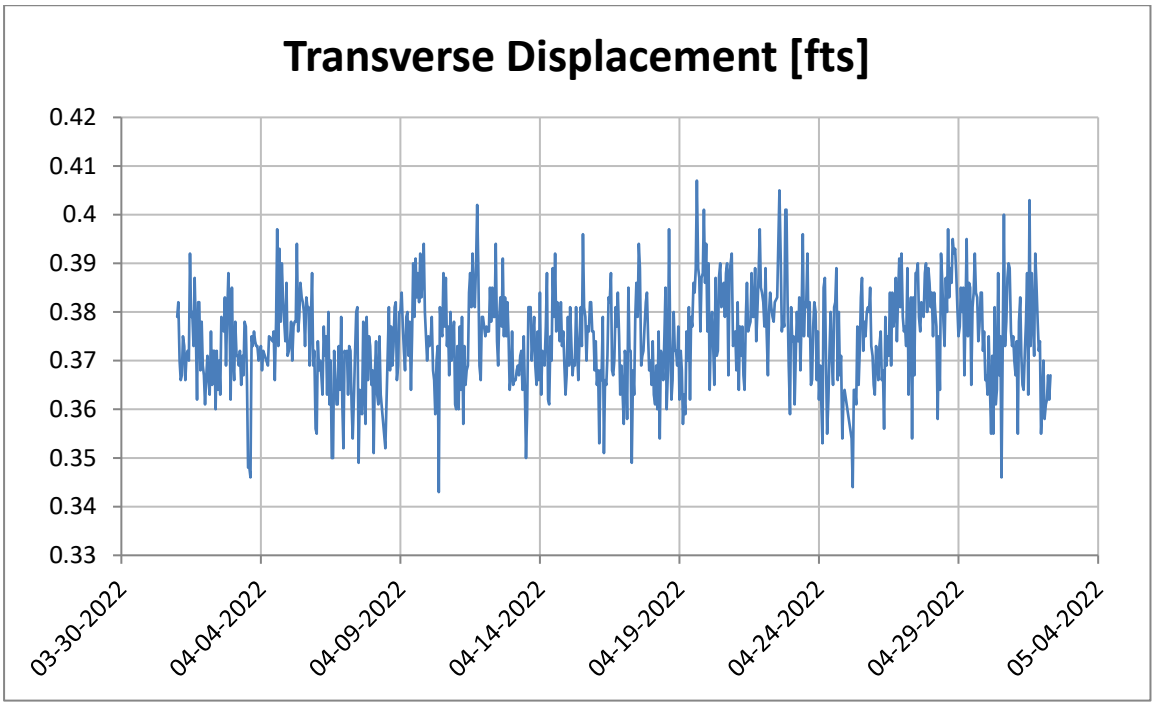
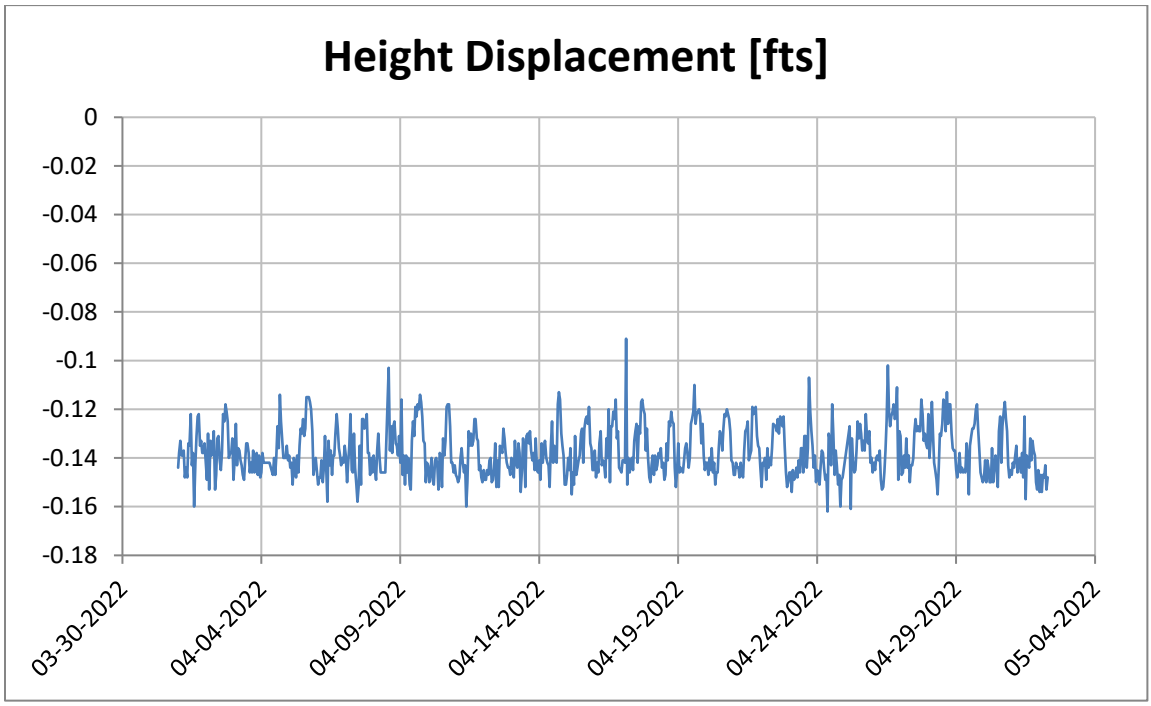
Prism P4

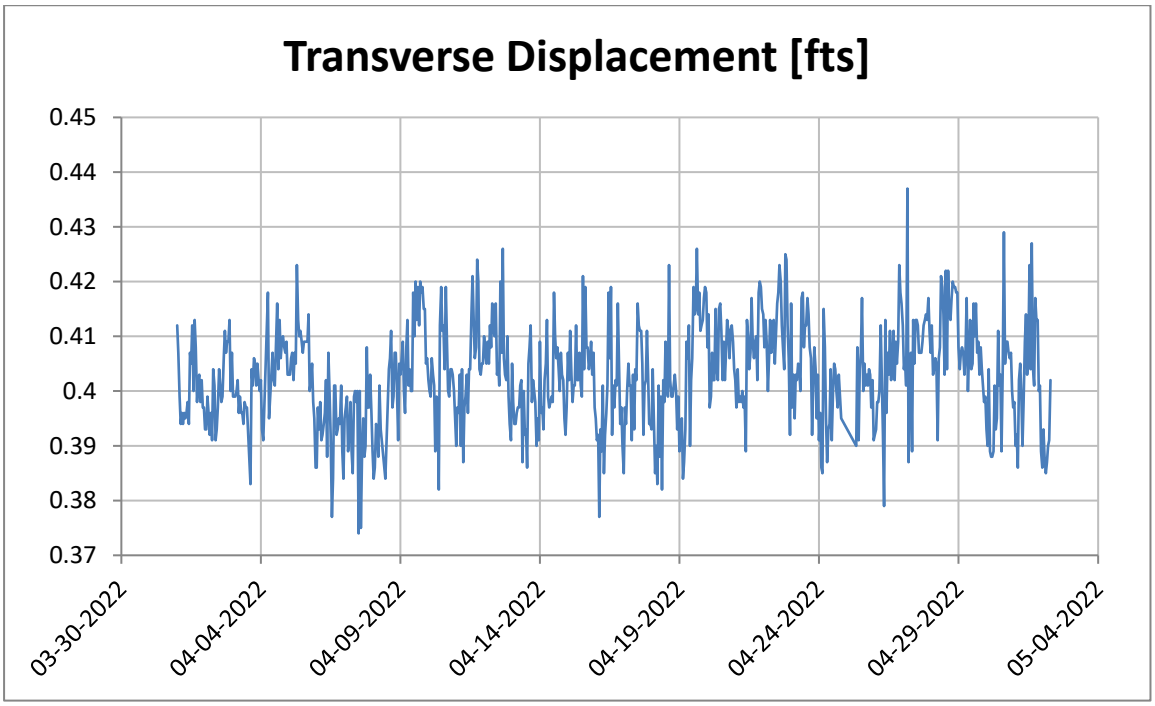


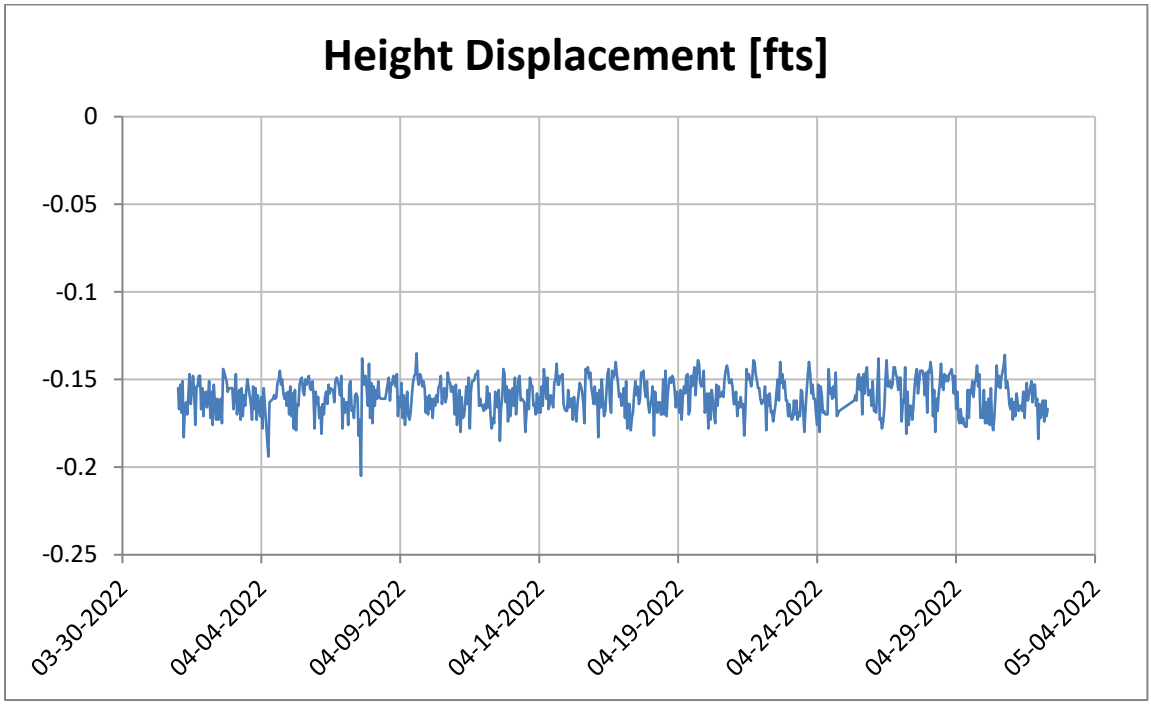


Notes:

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 P5

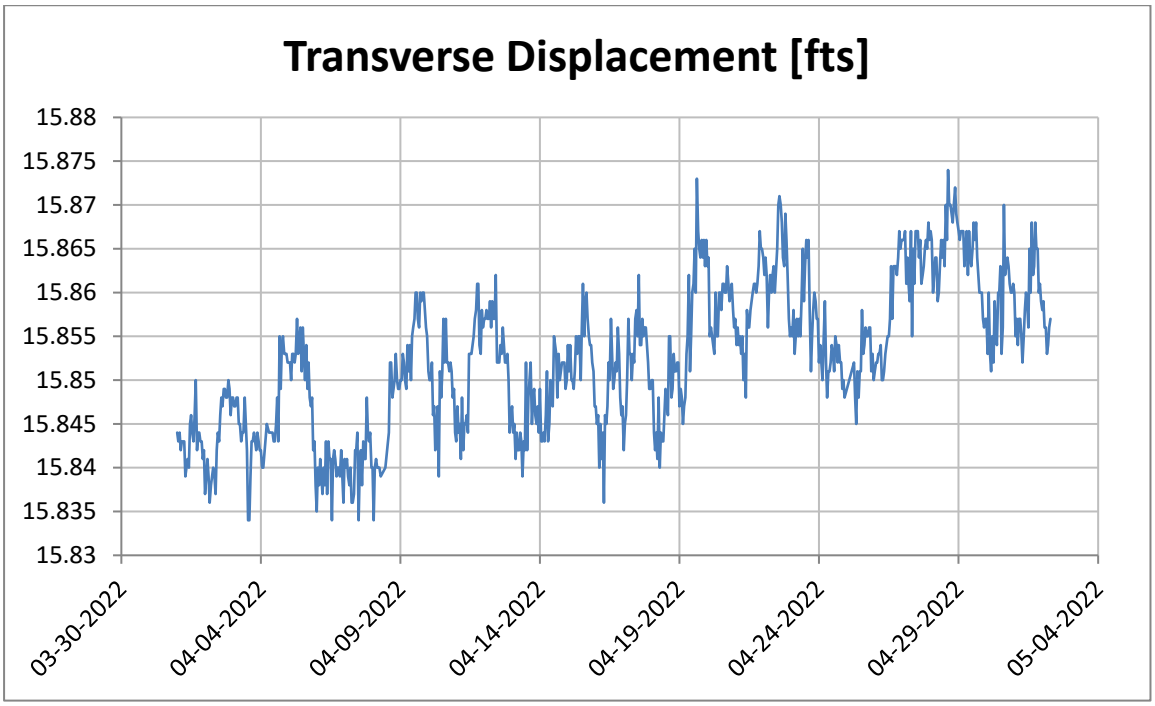


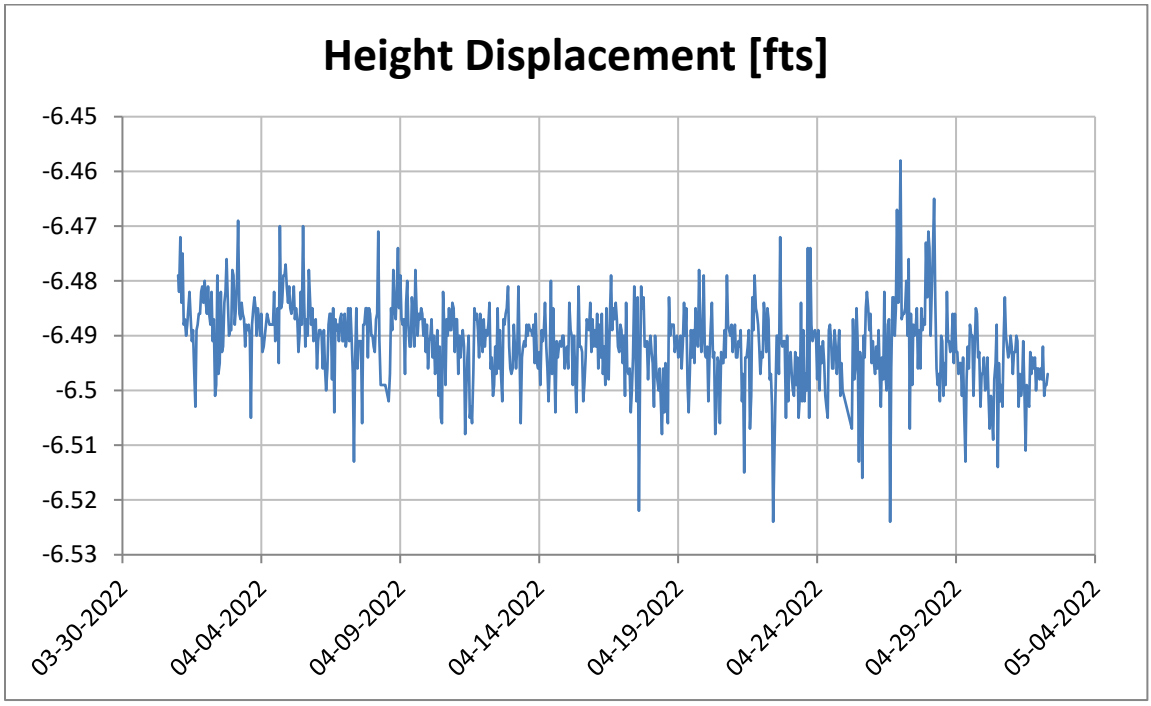


Notes:

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.

Prism P63

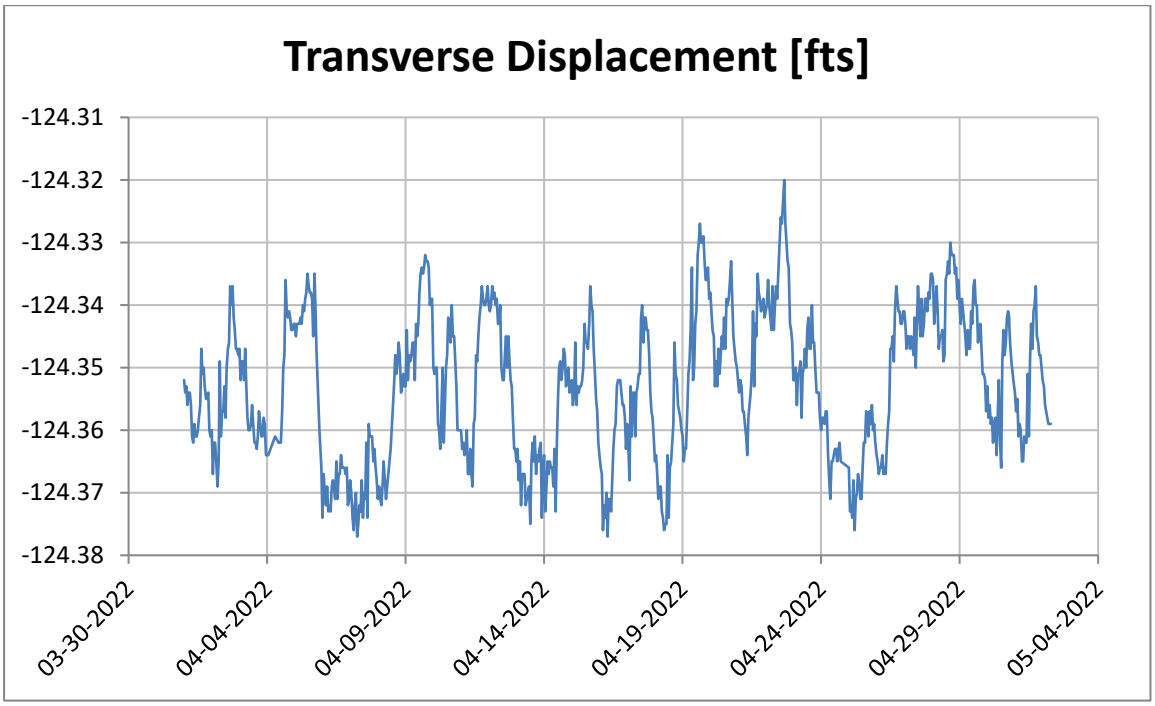


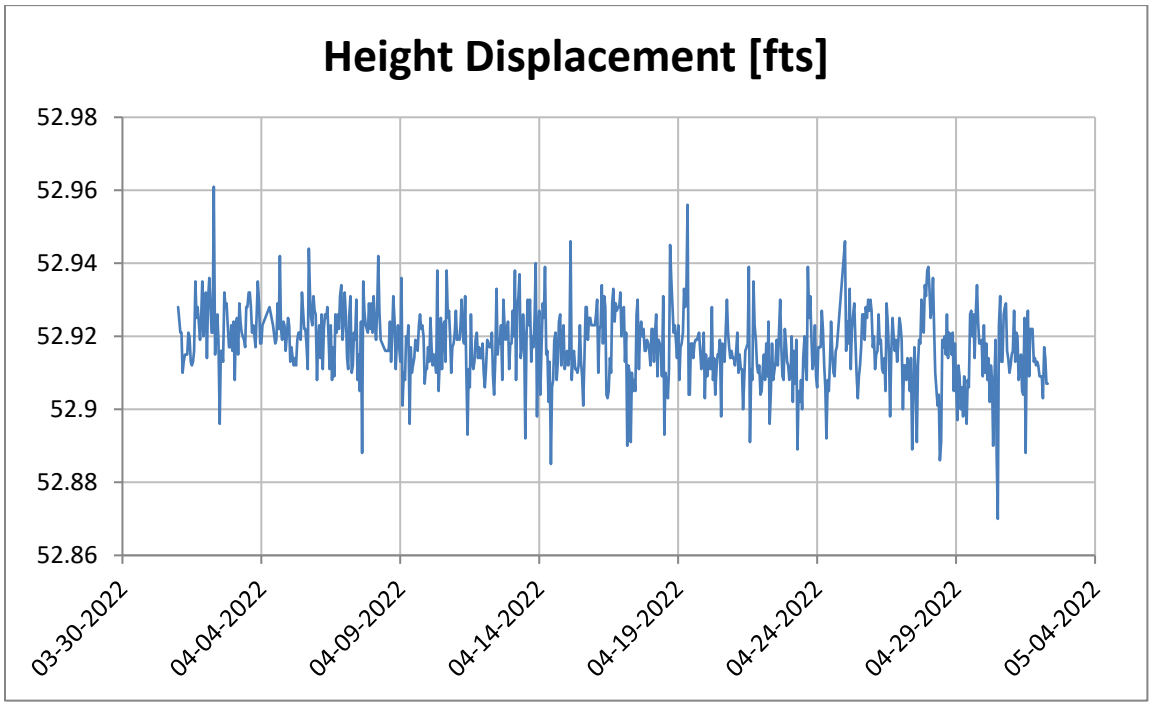


Notes:

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 records slope creep movements with slow velocity.

Prism P69

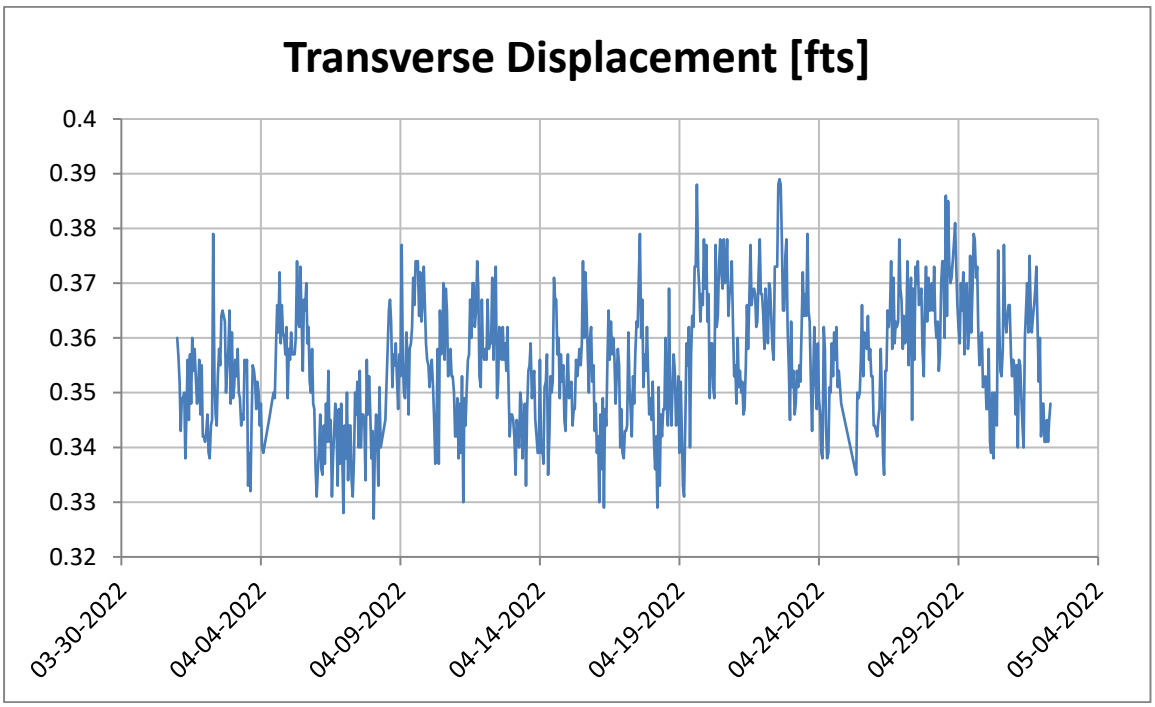


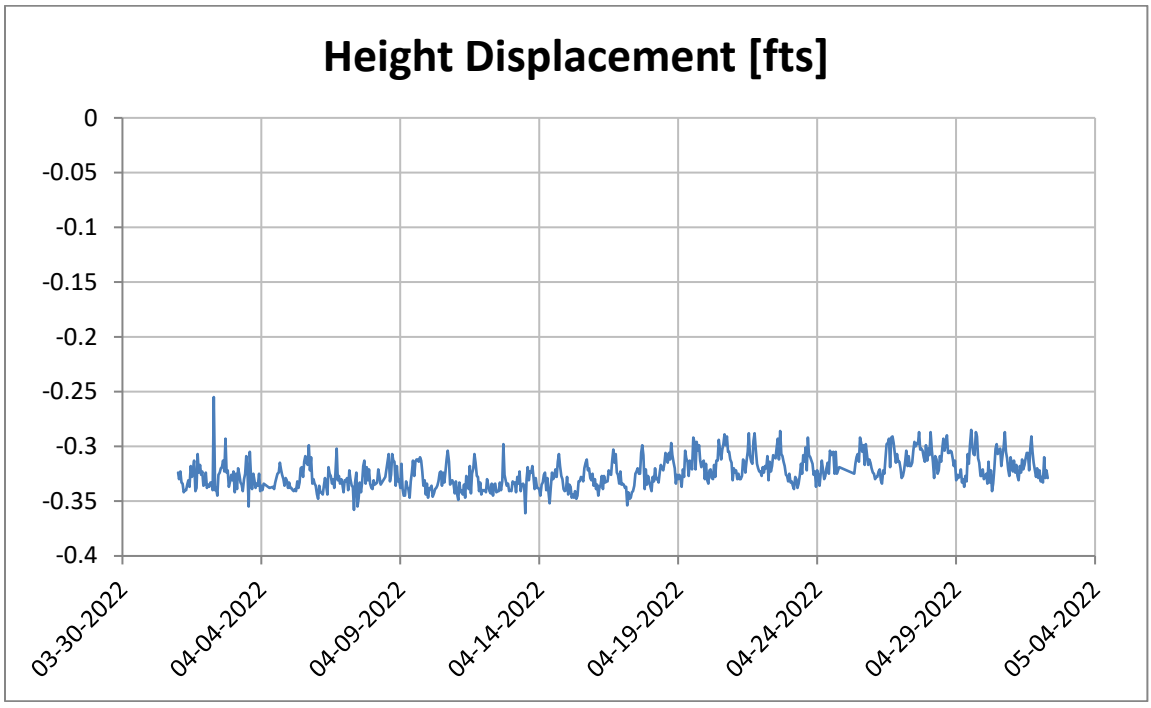


Notes:

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.

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.

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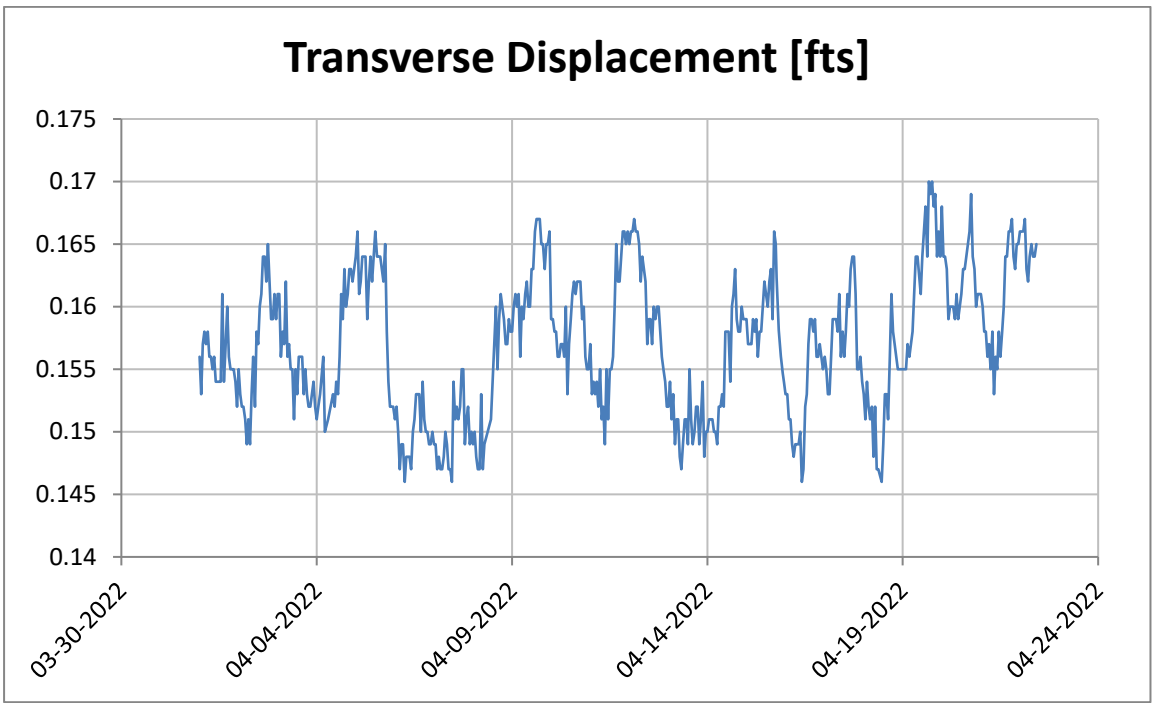
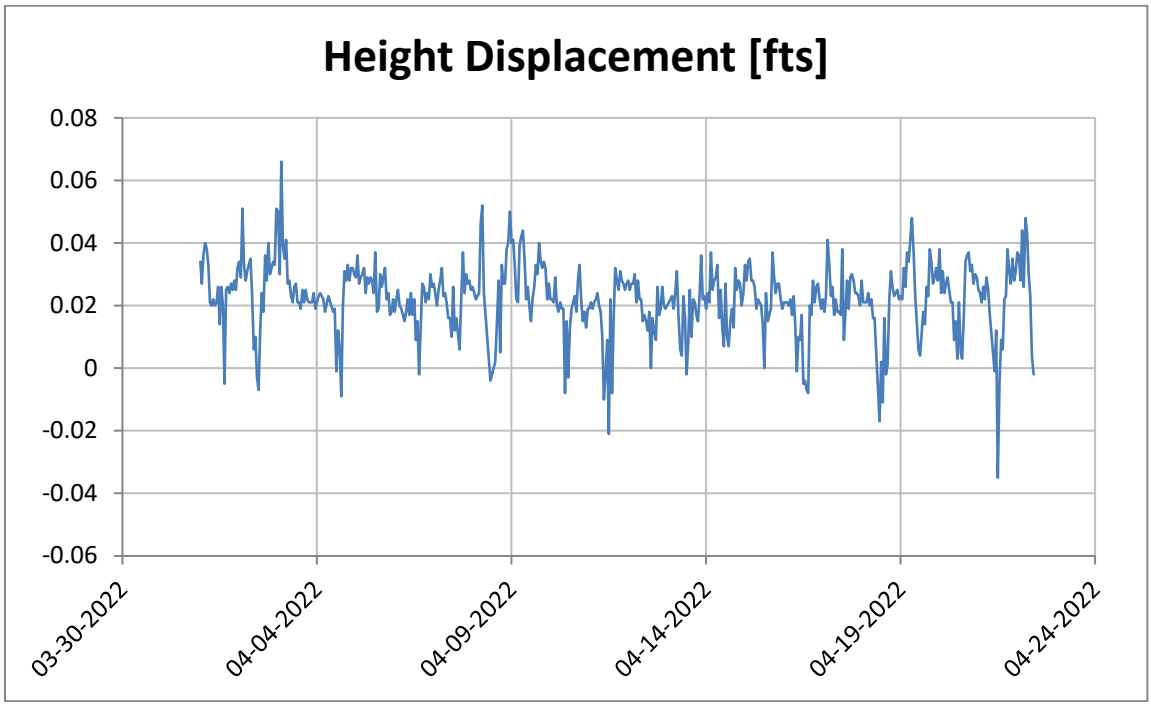
Prism TOE1

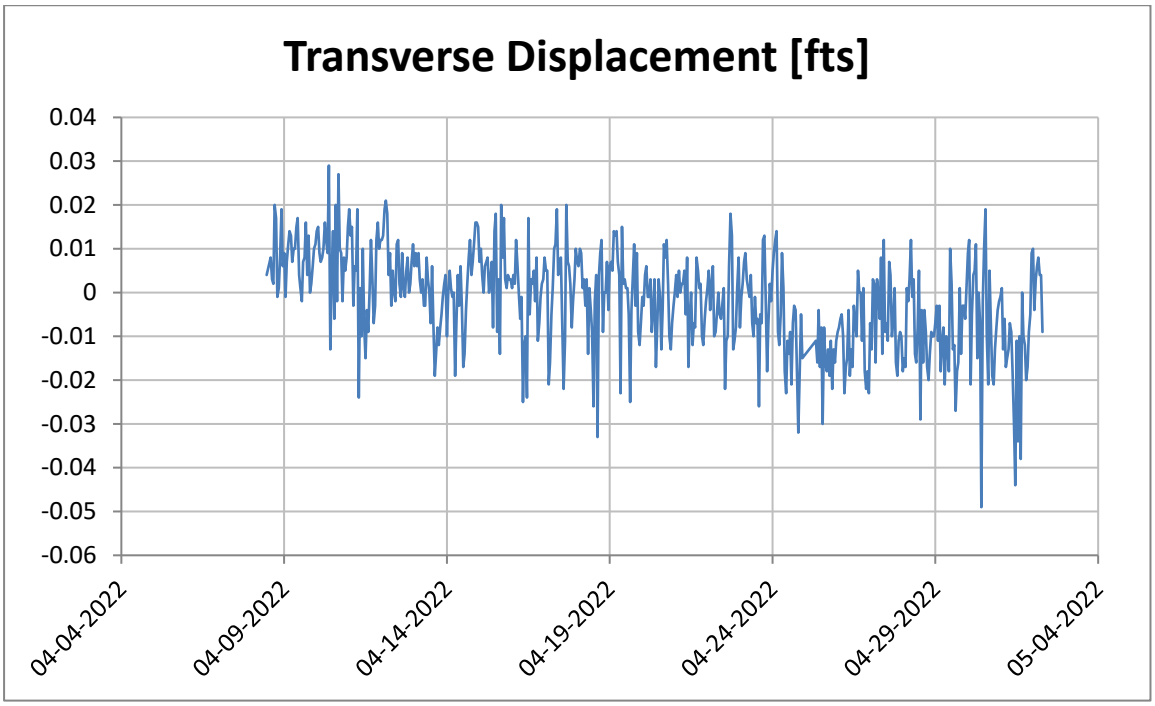


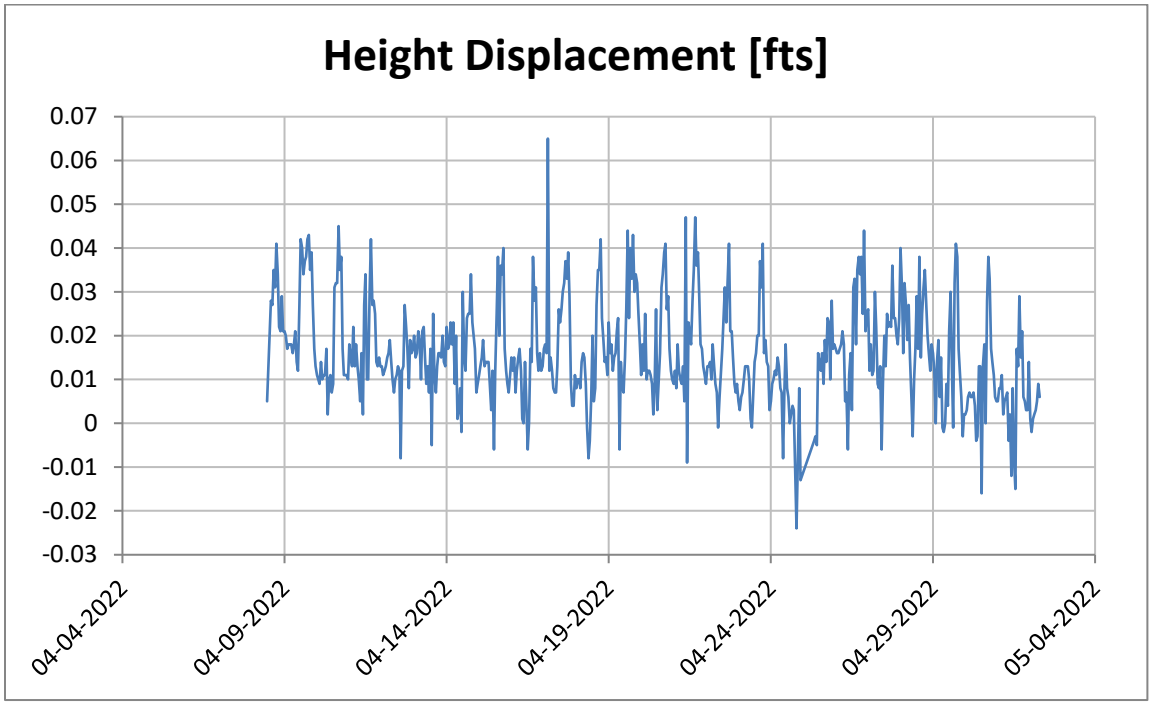


Notes:

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.

Prism TOE4

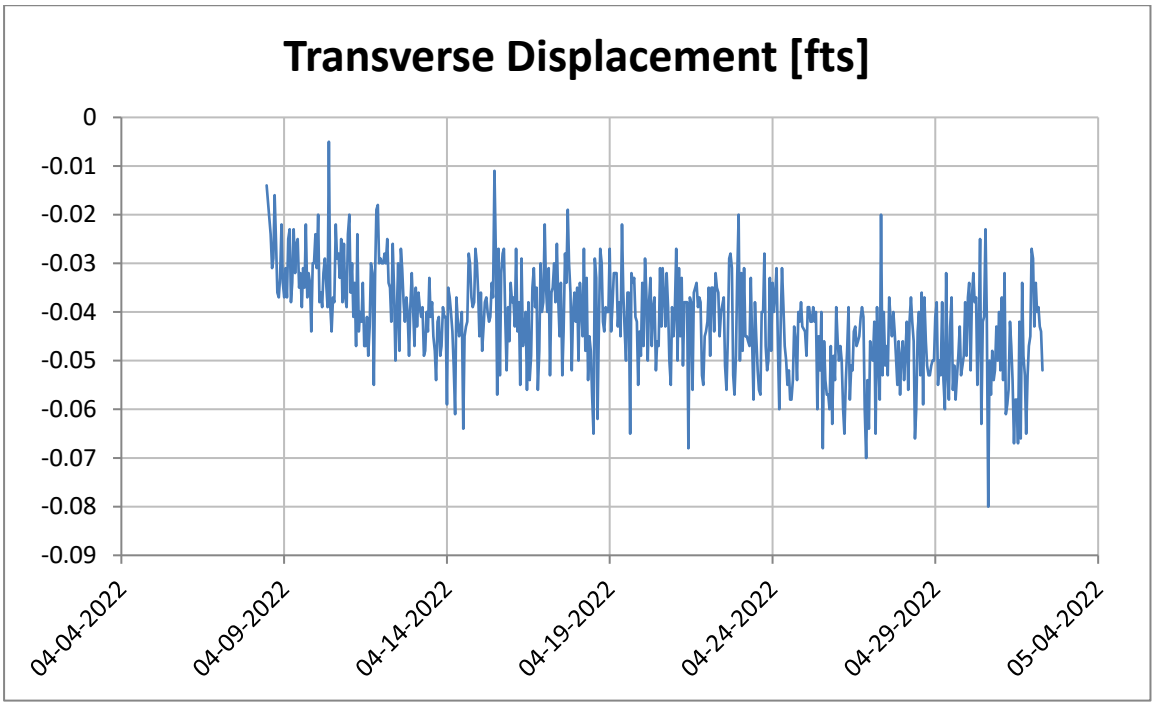


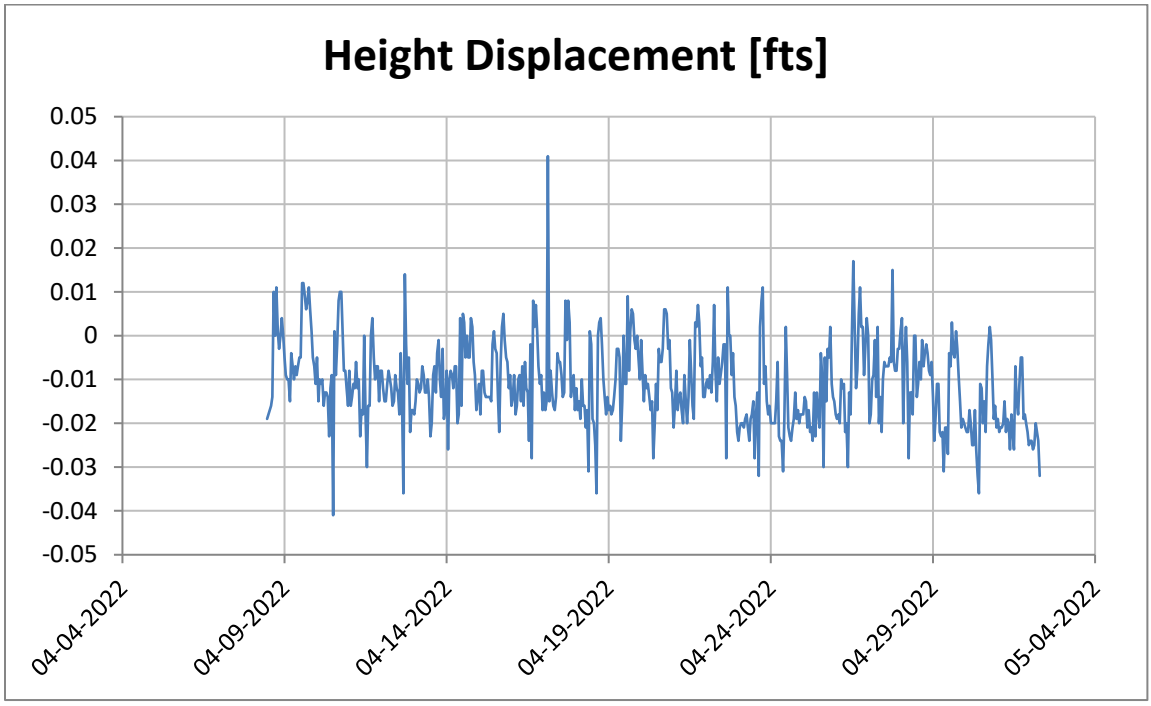


Notes:

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. Prism installed April 8, 2022.

Prism TOE5

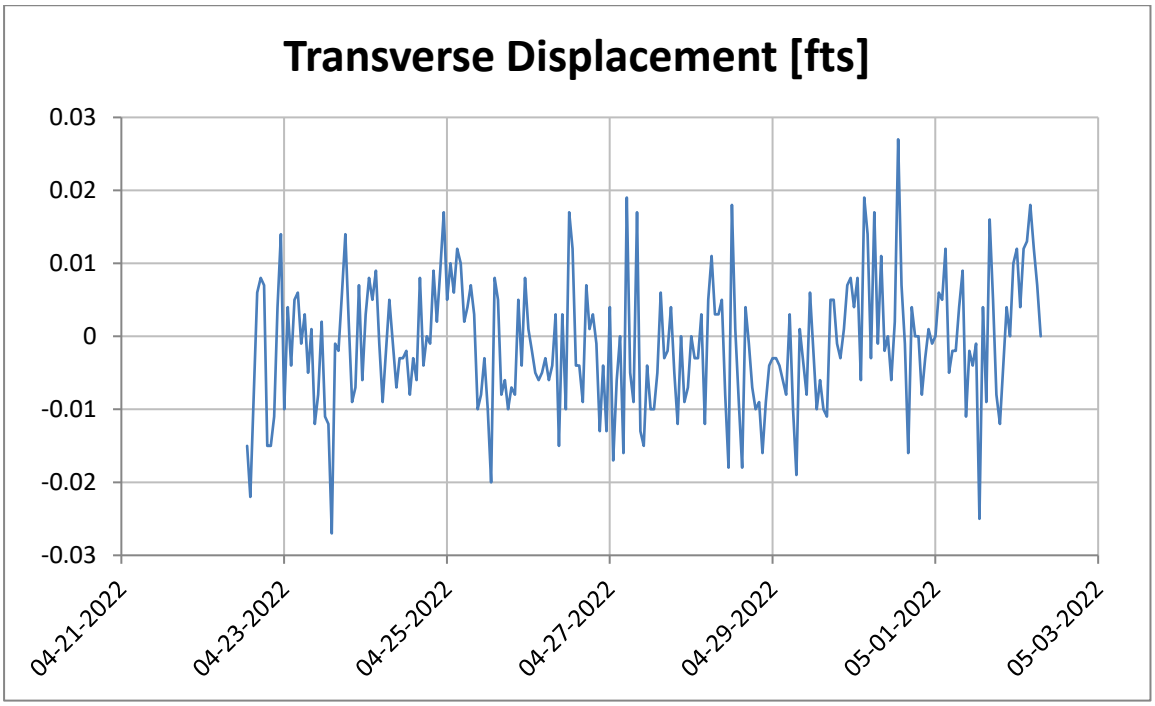


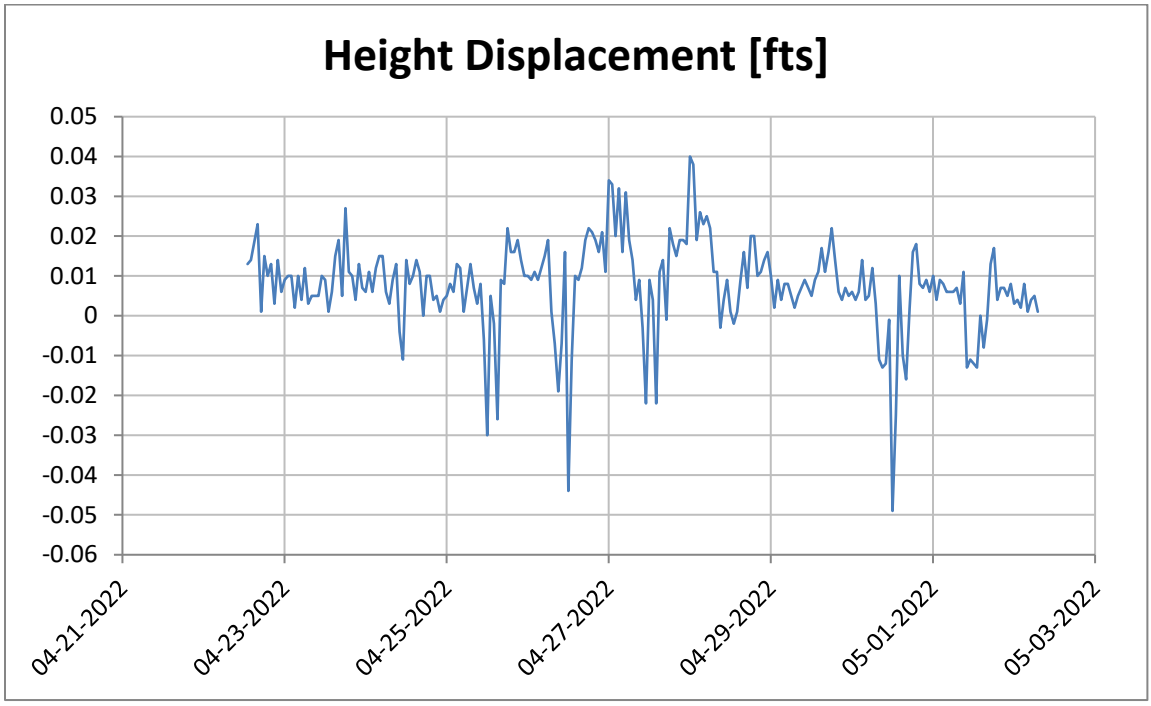


Notes:

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 records slope creep movements with slow velocity.
6. Prism installed April 8, 2022.

Prism TOE6

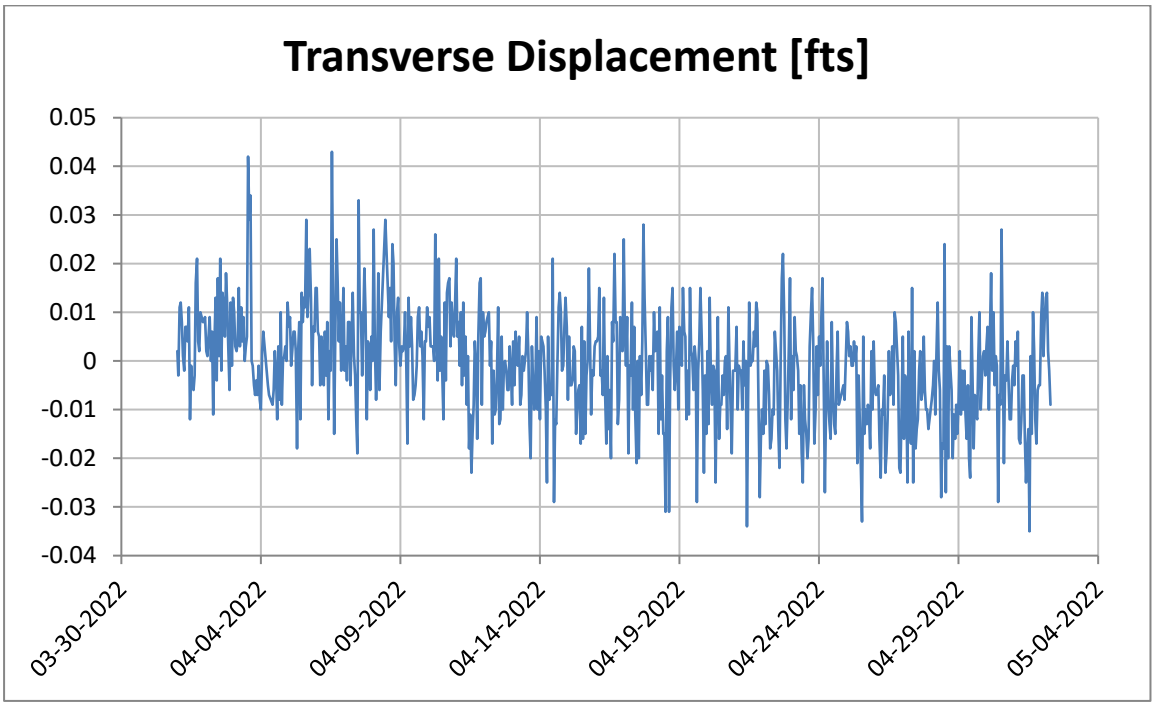


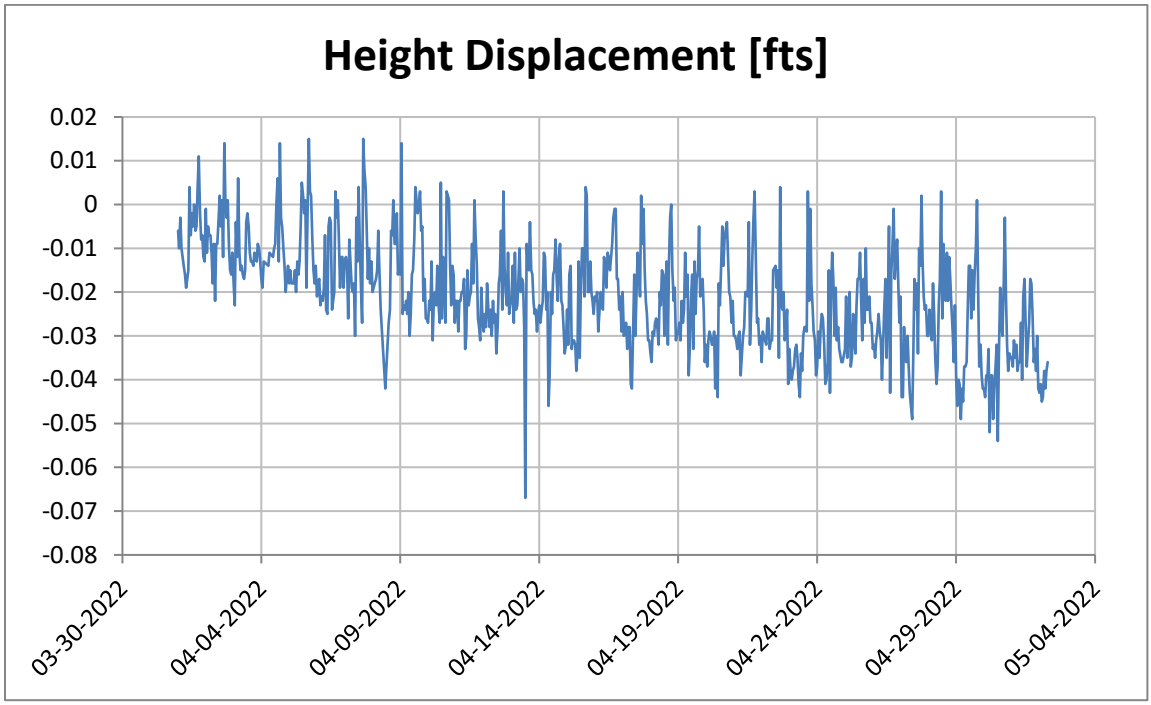


Notes:

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 installed April 22, 2022.

Prism TS1





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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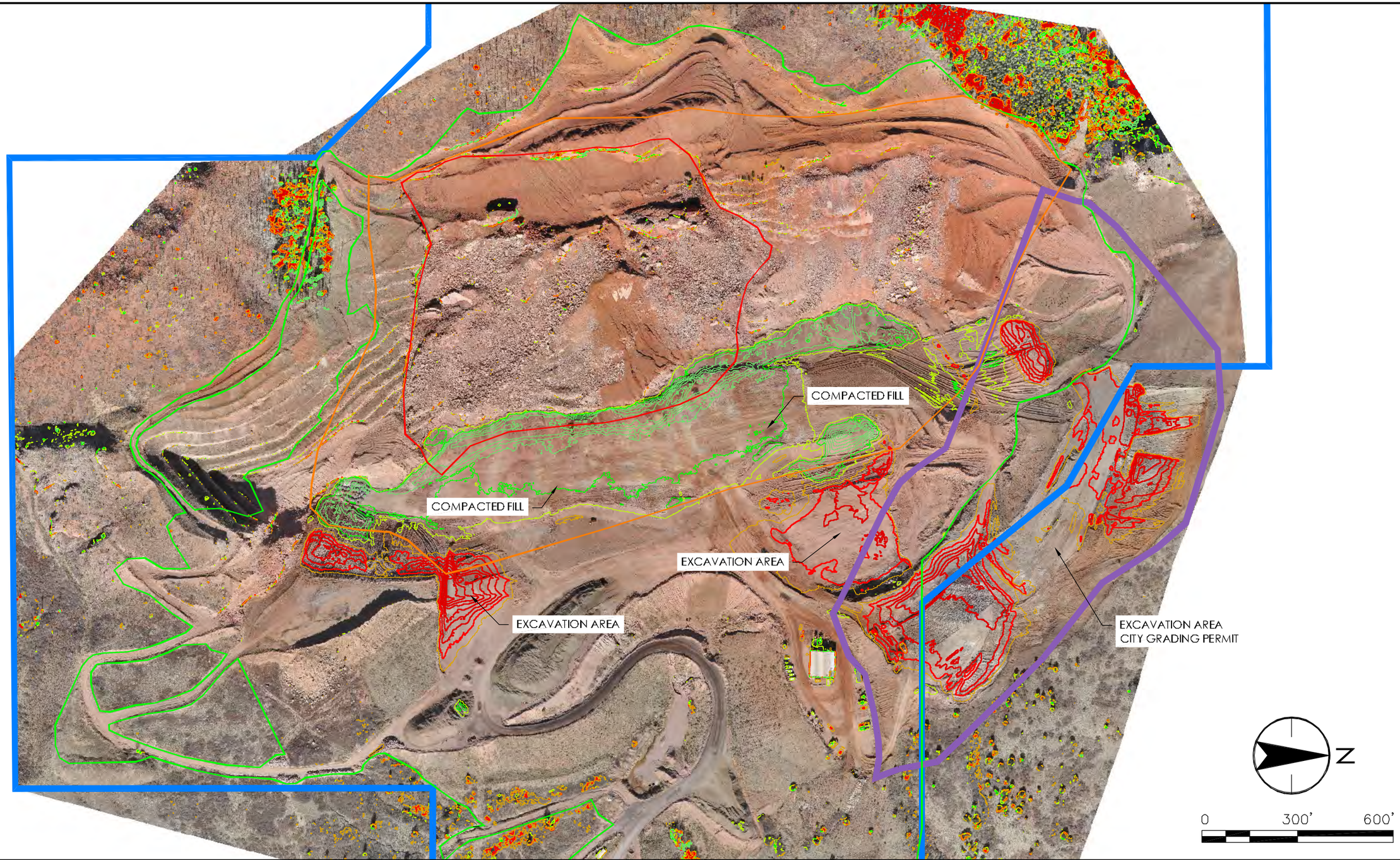
Appendix C

Drone Survey



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Stantec

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
- Comparison Contour. Increase in elevation. (CI=5')
- Comparison Contour. Decrease in elevation. (CI=5')

1. COMPARISON OF DRONE FLIGHTS FROM 03/28/2022 and 04/28/2022.

Client/Project
CONTINENTAL MATERIALS CORP.
PIKEVIEW QUARRY SLOPE MONITORING

Project No.
2057288200

Title
EXISTING PRISMS WITH CURRENT SURFACE

Revision	Date
#	2022.05.31
Drawn By	Figure No.
PK	5

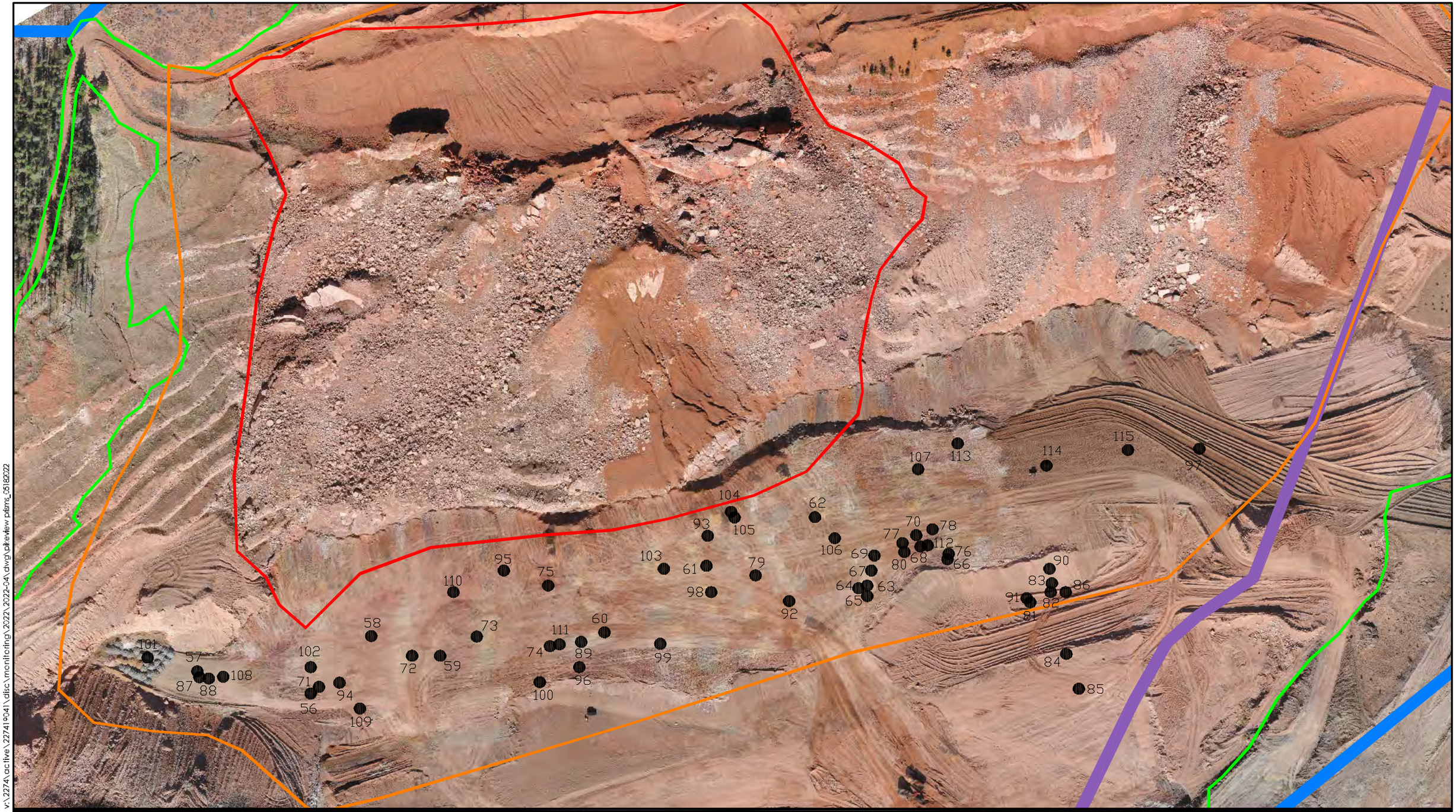
Appendix D

Compaction Testing Results

Compaction Testing Log

BCC Test	Test No.	Date	Elevation (ft)	Northing (ft)	Easting (ft)	Wet Density (pcf)	Moisture Content (%)	Dry Density (pcf)	Compaction (%)
Test J1	#56	28-Mar	7200	1401155	3173580	115.5	2.6	112.8	92
Test J2	#57	28-Mar	7203	1400966	3173543	122.9	11.7	111.2	91
Test J3	#58	28-Mar	7202	1401256	3173484	115.3	2.6	112.6	92
Test J4	#59	28-Mar	7201	1401371	3173517	113.2	1.5	111.7	91
Test J5	#60	31-Mar	7200	1401645	3173478	126.2	15.4	110.8	91
Test J6	#61	31-Mar	7201	1401815	3173367	128	6.3	121.7	99
Test J7	#62	31-Mar	7205	1401996	3173286	124.6	3.8	120.8	97
Test J8	#63	31-Mar	7201	1402083	3173400	120.5	3.3	117.6	95
Test J9	#64	31-Mar	7202	1402083	3173400	124	4.7	119.3	96
Test 2	#65	31-Mar	7202	1402083	3173405	124	3.9	122.3	98
Test 2	#66	31-Mar	7202	1402217	3173356	118.8	3.7	115.1	95
Test 1	#67	1-Apr	7204	1402090	3173375	126.2	4.1	122.1	96
Test 2	#68	1-Apr	7207	1402172	3173335	127.3	4.1	123.2	96
Test 1	#69	1-Apr	7206	1402095	3173350	119.3	3.9	115.4	93
Test 2	#70	1-Apr	7208	1402165	3173316	122.9	4.5	118.4	94
Test K1	#71	5-Apr	7203	1401157	3173573	144.8	8	136.9	96
Test K2	#72	5-Apr	7203	1401324	3173517	124.5	5.8	118.7	95
Test K3	#73	5-Apr	7203	1401432	3173485	126.7	7.6	119.1	96
Test K4	#74	5-Apr	7200	1401554	3173501	123	4.5	118.5	95
Test K5	#75	5-Apr	7204	1401551	3173400	130.2	9.7	120.5	97
Test K6	#76	6-Apr	7205	1402219	3173347	112.6	2.1	110.3	90
Test K7	#77	6-Apr	7207	1402142	3173329	112.9	3	109.6	90
Test K8	#78	6-Apr	7209	1402192	3173306	122.4	3.3	118.5	97
Test K9	#79	7-Apr	7207	1401897	3173383	140.8	6.4	134.3	100
Test K10	#80	7-Apr	7206	1402145	3173344	129.9	2.9	127	95
Culvert Depression 1	#81	8-Apr	7179	1402355	3173428	140.2	6.9	133.2	98
Culvert Depression 2	#82	11-Apr	7184	1402389	3173411	133.8	7.3	126.4	95
Culvert Depression 3	#83	11-Apr	7185	1402391	3173396	128	6	122	93
Culvert Depression 4	#84	11-Apr	7186	1402415	3173514	132.4	9.4	123	94
Culvert Depression 5	#85	11-Apr	7187	1402436	3173572	132.6	6	126.5	95
Culvert Depression 6	#86	12-Apr	7189	1402414	3173411	123.9	7.9	116	92
Test L1	#87	12-Apr	7211	1400972	3173547	125.5	10.7	114.8	97
Test L2	#88	12-Apr	7211	1400985	3173555	121.5	9.4	112.1	91
Test L3	#89	12-Apr	7202	1401606	3173494	124	4.4	119.6	94

BCC Test	Test No.	Date	Elevation (ft)	Northing (ft)	Easting (ft)	Wet Density (pcf)	Moisture Content (%)	Dry Density (pcf)	Compaction (%)
Culvert Depression 7	#90	12-Apr	7190	1402387	3173372	126.3	7.4	118.9	93
Culvert Depression 8	#91	12-Apr	7190	1402349	3173421	123.7	4.8	118.9	92
Test L4	#92	13-Apr	7202	1401953	3173426	124	8.2	115.8	94
Test L5	#93	13-Apr	7208	1401817	3173317	134.5	13.7	120.8	98
Test L6	#94	13-Apr	7205	1401203	3173562	139.1	9.2	129.9	99
Test L7	#95	14-Apr	7210	1401477	3173375	132.6	4.8	127.9	96
Test L8	#96	14-Apr	7202	1401603	3173536	129.4	4.6	124.8	95
Test K11	#97	19-Apr	7239	1402637	3173172	124.9	2.8	122.1	93
Test L9	#98	19-Apr	7206	1401823	3173411	124.1	2.4	121.7	93
Test L10	#99	19-Apr	7204	1401738	3173497	141.3	6.5	134.8	100
Test L11	#100	19-Apr	7201	1401537	3173561	130.7	3.9	126.8	96
Test M1	#101	19-Apr	7215	1400883	3173520	122.7	7	115.7	92
Test M2	#102	19-Apr	7209	1401155	3173536	123.6	6.3	117.3	92
Test M3	#103	20-Apr	7211	1401744	3173372	129.2	10.9	118.3	93
Test M4	#104	20-Apr	7216	1401857	3173278	128.4	7.1	121.3	94
Test M5	#105	20-Apr	7216	1401856	3173277	129.7	7.5	122.2	94
Test M6	#106	21-Apr	7211	1402029	3173321	129.4	11.4	118	96
Test M7	#107	21-Apr	7220	1402168	3173206	116.5	4.9	111	90
Test N1	#108	22-Apr	7215	1401009	3173552	128.4	5.8	121.4	98
Test N2	#109	22-Apr	7206	1401237	3173605	131	6.8	122.7	99
Test N3	#110	22-Apr	7214	1401393	3173411	115.8	4.1	111.1	90
Test N4	#111	22-Apr	7233	1401570	3173498	124.1	7	116	94
Test N5	#112	26-Apr	7215	1402184	3173333	124.4	9	114.1	92
Test N6	#113	26-Apr	7223	1402234	3173163	115.8	4.6	110.7	90
Test N7	#114	28-Apr	7221	1402382	3173200	123.5	4.5	118.2	96
Test N8	#115	28-Apr	7232	1402518	3173174	123.9	3.5	119.9	97



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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
2022.05.31

Drawn By
PK

Figure No.
6