

To: Jerald Schnabel From: Paul Kos
Continental Materials Corp. Denver, CO 80222
File: January 2022 Monitoring Summary Date: February 28, 2022

Reference: January 2022 Geotechnical Monitoring Summary Pikeview Quarry

1.0 INTRODUCTION

Stantec Consulting Services Inc. (Stantec) has prepared this January 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 January 2022.

It is important to note that activities at the Pikeview Quarry are focused on preparation for reclamation construction. This includes coordinating with contractors, importing fill and topsoil, preparing growth medium, clearing construction areas of equipment, extra parts, and trees and shrubs, preparing riprap, and site maintenance; no fill is being permanently placed on the slopes. Continuous monitoring by the robotic survey system began in 2010 and has continued through the month January 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 January 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:

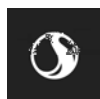
- Meet corporate risk management requirements,
- Provide ongoing slope monitoring and advance warning of any changed conditions that could pose a hazard to workers or to the public,
- Document the geotechnical performance of the slope, and
- Document monthly site grading activities and construction quality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



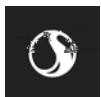
2.0 VISUAL INSPECTIONS

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 on a daily basis 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 January 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 January 18, 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.

- Topsoil is being delivered to site and placed in four locations on site for future use. (Photos 1 and 8)
- The main topsoil stockpile located at the top of the access road ramp is receiving most of the material. After it is dumped here it is pushed by a loader. (Photo 2)
- Riprap continues to be produced on the production floor.
- Fill material continues to be delivered to the central location on the production floor where it is temporarily placed. (Photos 3 and 7)
- Larger pieces of the slide continue break down and break away into smaller pieces. (Photo 4)
- 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.
- The berm of the pond below the Middle Peak has been notched as previously recommended. This will serve to keep the water level from exceeding a specific level. (Photo 5)
- Several prisms were passed along the walking route and appeared to be in their original position and operating normally. Control points and most of the monitoring points are permanently cemented into the ground while some of the monitoring points are cemented into 5-gal buckets to be portable as needed. (Photo 6)
- 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.
- No cracking was observed on the native granite slopes above the extents of the disturbed area.
- Older cracks and recent cracks are being 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.



- 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.

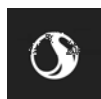
3.0 PRISM SURVEY

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 four hours. There are currently 20 prisms; 3 prisms are control points located outside the slope movement area, 13 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, additional prisms will be installed. The existing 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. On January 6, 2022, a movement alarm was received from Prism P32; however, the next reading showed that the prism had not moved. This was confirmed with a visual inspection, and the alert is believed to be a data error associated with weather. On January 11, 2022, a movement alarm was received from Prism P25. When the prism was inspected, there were signs of wildlife and no signs of slope movements. All other alarms were determined to be caused by weather.

Table 2 Alarm Summary

Date(s)	Alarm	Cause/Actions taken	Issue Resolved
12/31/2021-01/02/2022	Several prisms could not be found on multiple scans	Fog, snow, wind blocked prisms	01/02/2022
01/05/2022	Several prisms could not be found on multiple scans	Fog blocked prisms	01/05/2022
01/06/2022	Several prisms could not be found on multiple scans	Fog, snow, wind blocked prisms	01/06/2022
01/06/2022	P32 Limit Check Level 1 Exceeded	P32 spiked then returned to normal the next morning. Assumed to be data error related to weather.	01/06/2022
01/08/2022-01/09/2022	Several prisms could not be found on multiple scans	Cold and Frost blocked prisms	01/09/2022
01/11/2022	P25 Limit Check Level 1 Exceeded	Prism likely moved by sheep	01/11/2022
01/12/2022	System-wide error	System was reset, now functioning properly	01/12/2022
01/14/2022-01/15/2022	Several prisms could not be found on multiple scans	Snow blocked prisms	01/15/2022
01/19/2022	Several prisms could not be found on multiple scans	Snow and Fog blocked prisms	01/19/2022
01/20/2022	Several prisms could not be found on multiple scans	Snow and Fog blocked prisms	01/20/2022



01/21/2022-01/22/2022	Several prisms could not be found on multiple scans	Snow and Fog blocked prisms	01/22/2022
01/25/2022-01/26/2022	Several prisms could not be found on multiple scans	Snow, Fog and Frost blocked prisms	01/26/2022
01/27/2022	Several prisms could not be found on multiple scans	Snow and Fog blocked prisms	01/28/2022

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 $\pm 4 \text{ mm} + 1.5 \text{ ppm}$ for prisms located greater than 500m from the station; these equates to an accuracy of $\pm 0.016 \text{ ft}$.

The data show stable conditions with no movement for 15 of 20 prisms with recorded displacements limited to data scatter and not actual movements. As discussed above, Prism P25 was displaced by wildlife on January 11, 2022. There were no signs of movement in the areas of these prisms, and there were signs of wildlife in the area. Prisms P63 and TOE3 are located at the toe of the landslide, and these locations showed slope creep movements at slow velocities. Prisms NP2 and NP66 are located above the landslide, and these prism also recorded slope creep movements at slow velocity. This settlement is likely related to the landslide material consolidating under its own weight. Plots of the transverse and height displacements for each prism are included in Appendix B.

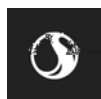


Table 3 Prism Summary

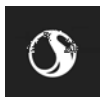
Prism ID	Cumulative Transverse Displacement (ft)	Cumulative Height Displacement (ft)	Monthly Delta (ft)	Cumulative Delta (ft)	Notes / Recommendations
CP1	-0.002	-0.021	0.0208	0.3746	
CP2	-0.056	0.001	0.0068	0.4089	
CP3	0.281	-0.215	-0.0116	0.3587	
NP1	0.622	-0.910	-0.0044	1.1031	
NP2	0.106	-0.088	-0.0052	0.1782	Slope creep movements.
NP66	0.583	-0.756	0.0609	1.1589	Slope creep movements.
P1	0.371	-0.042	0.0208	0.3746	
P2	0.173	-0.024	0.0304	0.2302	
P25	-0.007	0.044	-0.0046	0.1574	Possible wildlife interference.
P32	-0.075	-0.093	-0.0261	0.2708	
P33	-0.086	-0.056	-0.0254	0.1909	
P35	0.053	-0.180	0.0100	0.4400	
P4	0.395	-0.122	0.0181	0.4976	
P5	0.419	-0.140	0.0113	0.6313	
P63	15.791	-6.443	0.0605	17.0551	Slope creep movements.
P69	0.022	-0.050	0.0119	0.6117	
P70	0.360	-0.320	0.0235	0.1865	
TOE1	0.151	0.056	0.0235	0.1865	
TOE2	0.660	-0.640	-0.0116	0.9628	
TOE3	3.513	-1.762	0.1457	4.1925	Slope creep movements.

4.0 DRONE SURVEY

The site was flown for aerial imagery using an unmanned aircraft system (UAS or 'drone') on, January 13, 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 December topography was also compared to the January topography to identify changes in the site topography. Comparison of the two surveys showed that approximately 3,872 yd³ of fill had been imported and temporarily placed on the stockpile near the top of the ramp. Additionally, 12,000 yd³ of topsoil were imported for a total of approximately 60,000 yd³ of topsoil stockpiled onsite. 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

No fill was permanently placed at the quarry in January. Once fill placement starts, the fill will be placed in one-foot lifts, moisture conditioned as necessary, and compacted. Compaction testing will commence at the rate of at least one test per 5,000 yd³ placed.

Per CMC, imported material is being stockpiled onsite for placement at a later date. The material will be tested for compaction level and areas failing compaction testing will either be further compacted until the specification is met or removed and replaced in a compacted manner.

6.0 RECLAMATION PROGRESS

CMC is actively working towards reclaiming 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

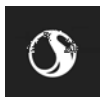
Phase 4 - Site Construction execution

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	February 4, 2022
Phase 4 – Contractor Mobilization to Site	February 2022
Phase 4 – Contractor Demobilize from Site	Summer 2023
Phase 5 – Final Revegetation season 2 Begins	2023 until acceptance

Progress of activities this month:

- Completed negotiations with preferred contractor and executed a construction contract
- Importing fill material continued
- Processing of riprap continued
- Geotechnical monitoring continued



- Processing of Growth Medium for use as topsoil continued
- Removal of site debris continued. Materials, equipment, and debris onsite are being removed to prepare the site for the reclamation contractor.
- Completed clearing and grubbing operations for initial construction work

Work planned for next month includes:

- Project kick-off meeting
- Contractor quality assurance document preparation, stormwater permitting, and readiness review
- Contractor mobilization to site
- Contractor to initiate earth moving activities
- Continue importing fill material
- Continue geotechnical monitoring
- Continue processing of Growth Medium
- Continue processing of riprap
- Continue to remove site debris

7.0 CONCLUSIONS

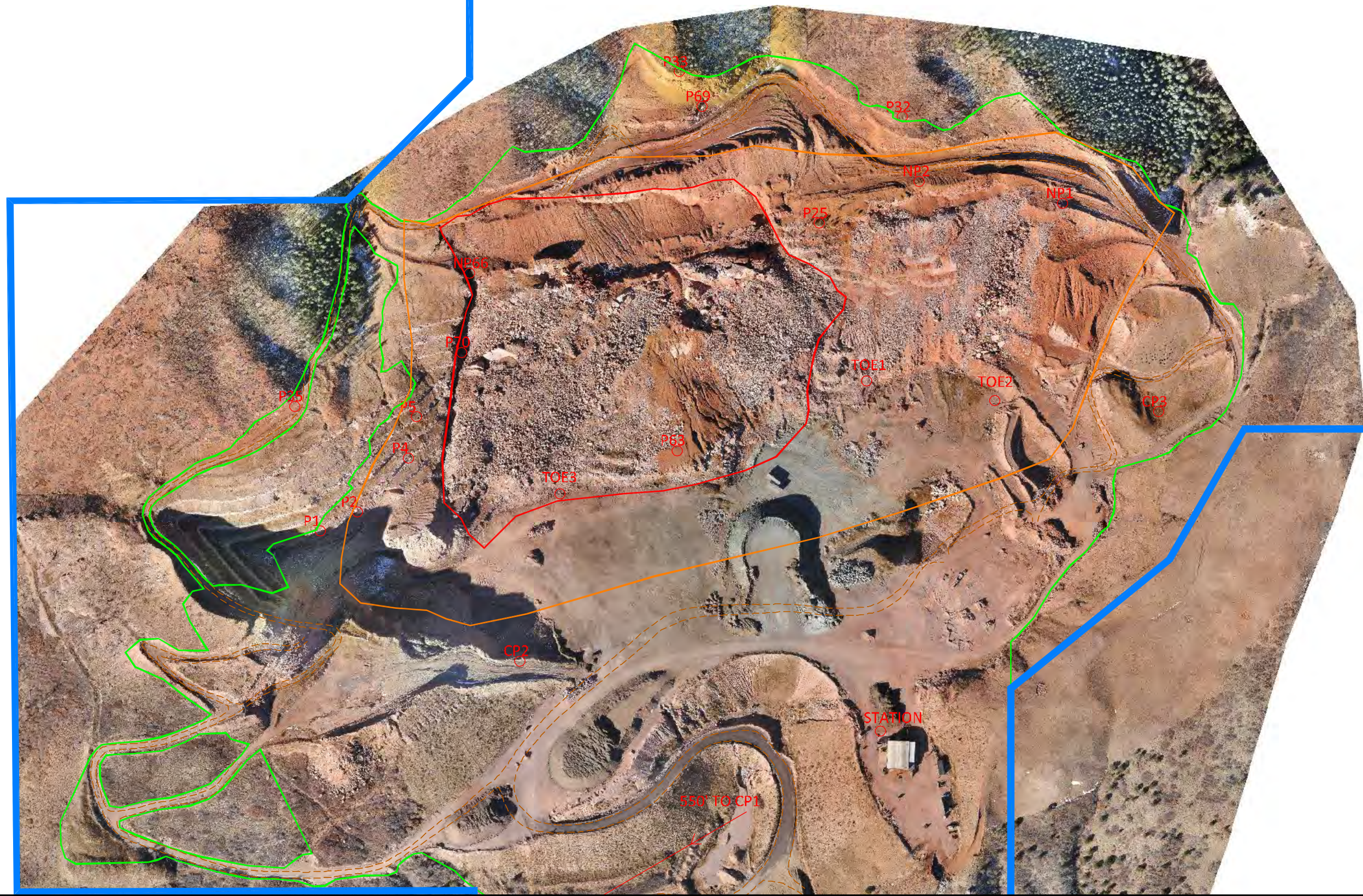
None of the data collected in January 2022 indicate evidence of any large-scale movements that increase risk to workers or to the public. The landslide area continues to show slope creep movements with slow velocities. Shallow surface erosion continues to occur requiring ongoing maintenance and cleanup.

- 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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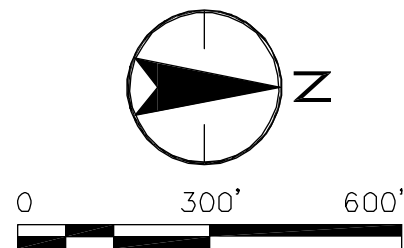
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LEGEND

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



Client/Project
CONTINENTAL MATERIALS
CORP.
PIKEVIEW QUARRY SLOPE
MONITORING

Project No.
227419041

Title
SITE MAP

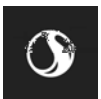
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Date
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Appendix A

Visual Inspections



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6. Prism along road overlooking production floor.



5. Level-control notch cut into pond.

NOTE 1:
NO CRACKS



4. Large section of slide on the slope.



3. Topsoil stockpiles on the right and fill on the left.



7. Fill material is dumped here then pushed by dozer.



8. Topsoil stockpiled across from the scale house.



2. Topsoil stockpile at top of ramp being pushed by loader.



1. Topsoil is delivered to four locations on site.



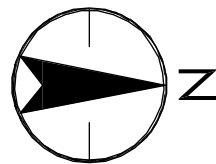
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LEGEND

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

NOTES

- NO CRACKS OBSERVED IN THIS AREA.
- ALL PHOTOS TAKEN JANUARY 18, 2021.



0 400' 800'

Client/Project

CONTINENTAL MATERIALS
CORP.
PIKEVIEW QUARRY SLOPE
MONITORING

Project No.

227419041

Title

OBSERVATIONS FROM
JANUARY INSPECTION

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Date

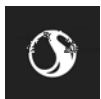
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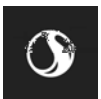
Table A-1 Summary of Daily Inspections

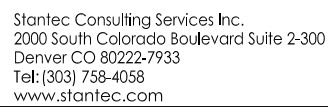
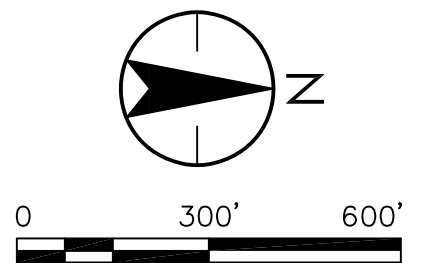
Date	Notes	Inspection By
January 1, 2022	Snow and fog blocked prism readings. Cleared to proceed.	Jerald Schnabel
January 2, 2022	Snow and fog blocked prism readings. Cleared to proceed.	Jerald Schnabel
January 3, 2022	No Movement or change observed. Good to proceed	Jerald Schnabel
January 4, 2022	No Movement or change observed. Good to proceed	Jerald Schnabel
January 5, 2022	Fog and frost blocked prism readings. No signs of movement at P32. Cleared to proceed.	Jerald Schnabel
January 6, 2022	Snow and fog blocked prism readings. Cleared to proceed.	Jerald Schnabel
January 7, 2022	No Movement or change observed. Good to proceed	Jerald Schnabel
January 8, 2022	No Movement or change observed. Good to proceed	Jerald Schnabel
January 9, 2022	Fog and frost blocked prism readings. Cleared to proceed.	Jerald Schnabel
January 10, 2022	No Movement or change observed. Good to proceed	Jerald Schnabel
January 11, 2022	Wildlife moved P25. Cleared to proceed.	Jerald Schnabel
January 12, 2022	No Movement or change observed. Good to proceed	Jerald Schnabel
January 13, 2022	No Movement or change observed. Good to proceed	Jerald Schnabel
January 14, 2022	Snow and fog blocked prism readings. Cleared to proceed.	Jerald Schnabel
January 15, 2022	Snow and fog blocked prism readings. Cleared to proceed.	Jerald Schnabel
January 16, 2022	No Movement or change observed. Good to proceed	Jerald Schnabel
January 17, 2022	No Movement or change observed. Good to proceed	Jerald Schnabel
January 18, 2022	No Movement or change observed. Good to proceed	Jerald Schnabel
January 19, 2022	Snow and fog blocked prism readings. Cleared to proceed.	Jerald Schnabel
January 20, 2022	Snow and fog blocked prism readings. Cleared to proceed.	Jerald Schnabel
January 21, 2022	Snow and fog blocked prism readings. Cleared to proceed.	Jerald Schnabel
January 22, 2022	Snow and fog blocked prism readings. Cleared to proceed.	Jerald Schnabel
January 23, 2022	No Movement or change observed. Good to proceed	Jerald Schnabel
January 24, 2022	No Movement or change observed. Good to proceed	Jerald Schnabel
January 25, 2022	Snow and fog blocked prism readings. Cleared to proceed.	Jerald Schnabel
January 26, 2022	Snow and fog blocked prism readings. Cleared to proceed.	Jerald Schnabel
January 27, 2022	Snow and fog blocked prism readings. Cleared to proceed.	Jerald Schnabel
January 28, 2022	No Movement or change observed. Good to proceed	Jerald Schnabel
January 29, 2022	No Movement or change observed. Good to proceed	Jerald Schnabel
January 30, 2022	No Movement or change observed. Good to proceed	Jerald Schnabel
January 31, 2022	No Movement or change observed. Good to proceed	Jerald Schnabel



Appendix B

Prism Survey





- Permit/Affected Lands Boundary
- Proposed Disturbance Limit
- Landslide Extent
- Buttress Fill Extent
- Existing Prism
- Proposed 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 JANUARY 13, 2021 DRONE SURVEY.
5. CONTOUR INTERVAL IS 10 FEET

CONTINENTAL MATERIALS
CORP.
PIKEVIEW QUARRY SLOPE
MONITORING

Project No.
227419041

EXISTING PRISMS WITH CURRENT SURFACE

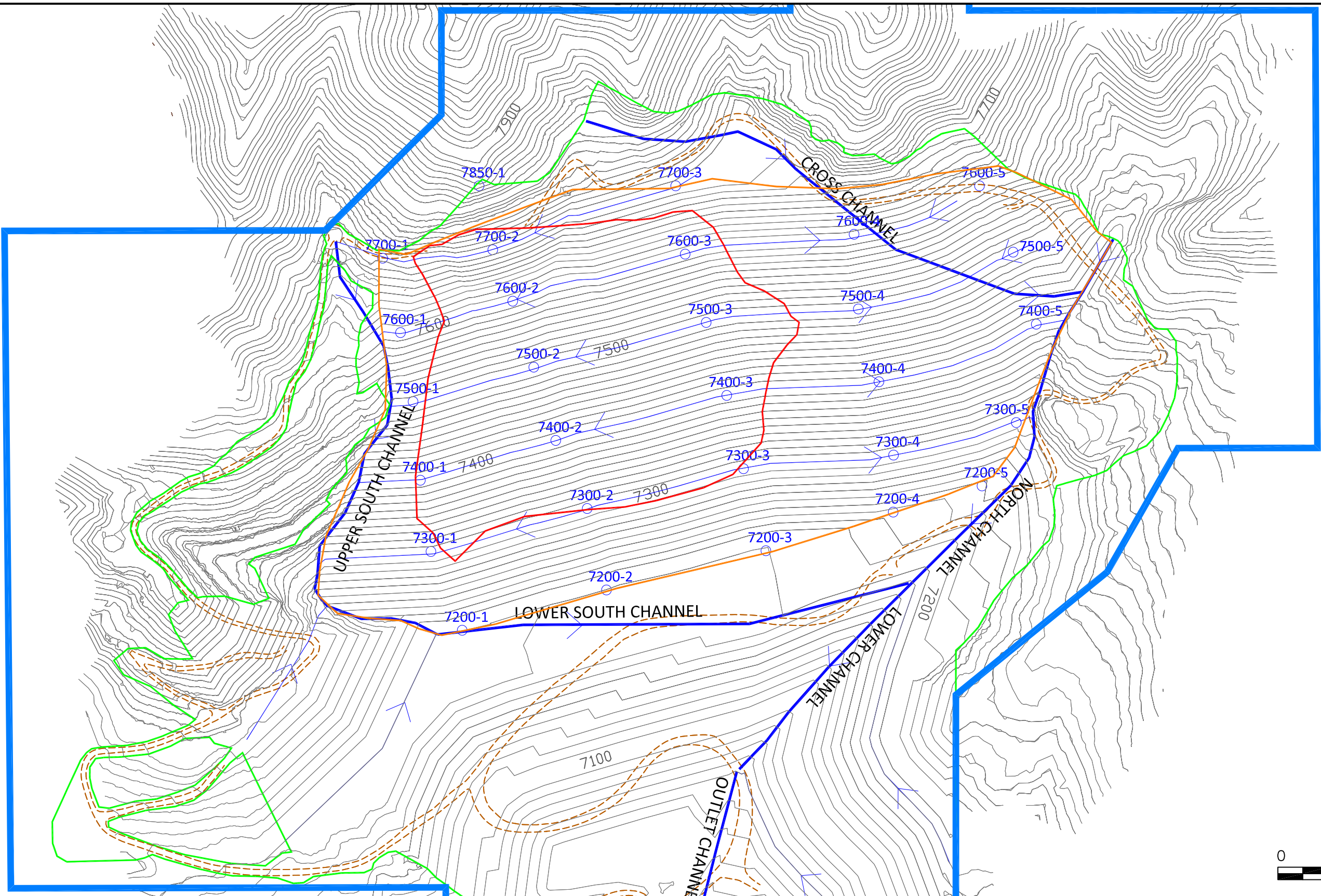
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Date
2022.02.28

Figure No.
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LEGEND

- Permit/Affected Lands 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.
227419041

Title

PROPOSED PRISMS WITH
RECLAMATION SURFACE

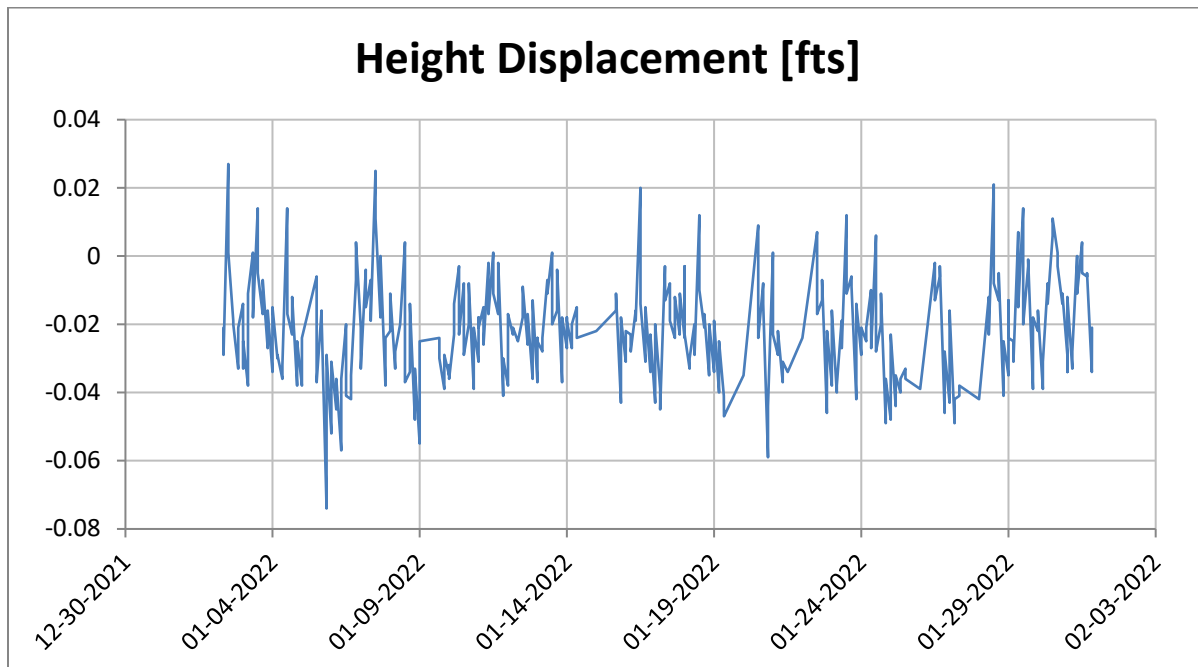
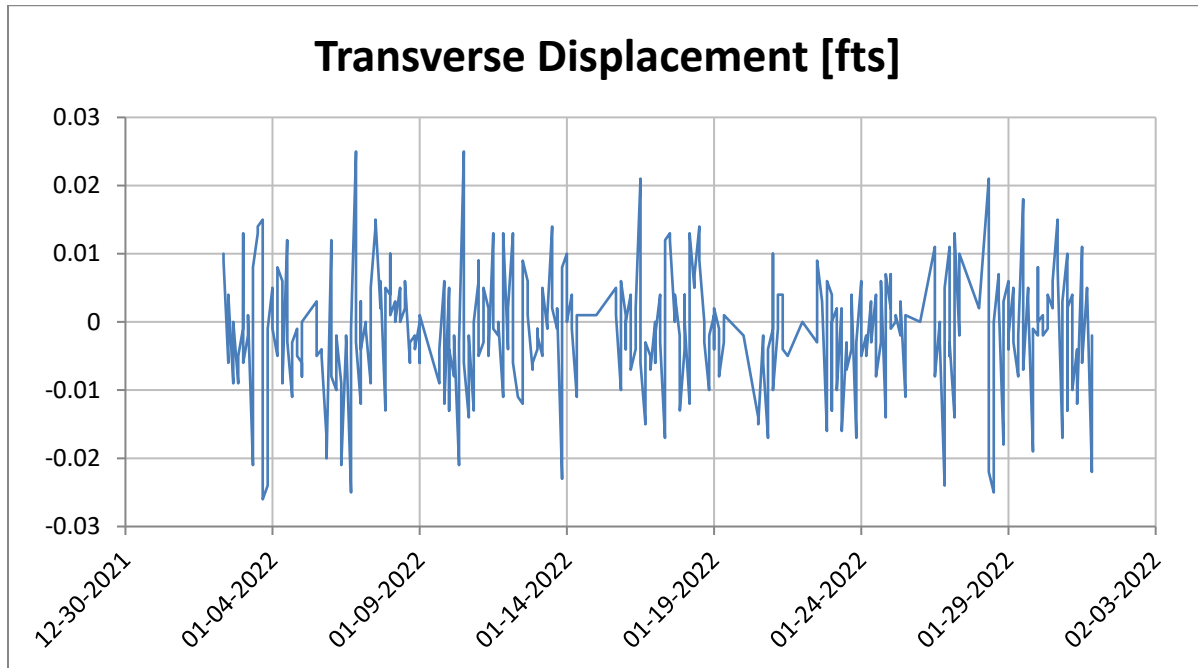
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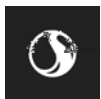
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Prism CP1

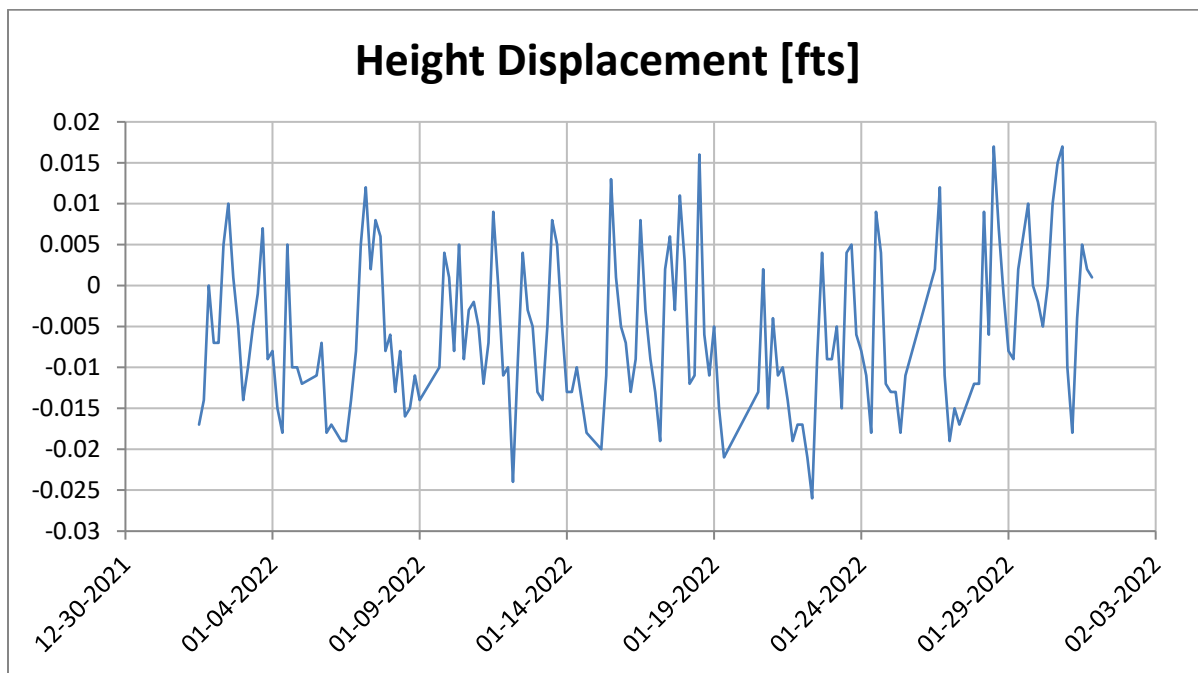
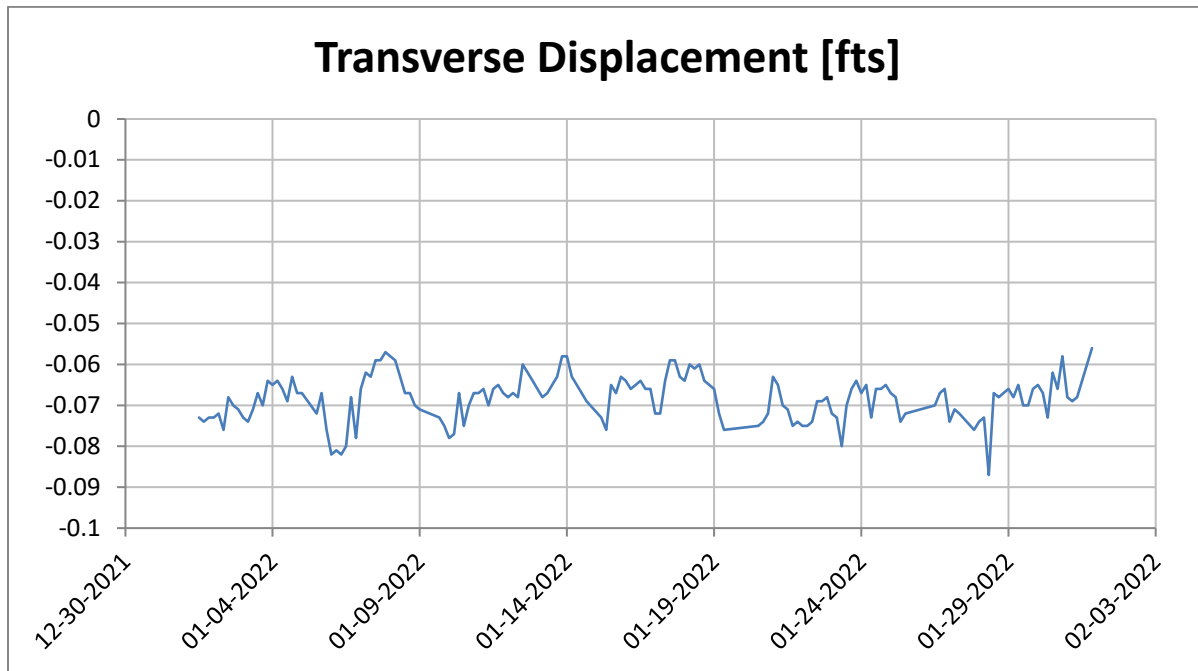


Notes:

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.

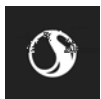


Prism CP2

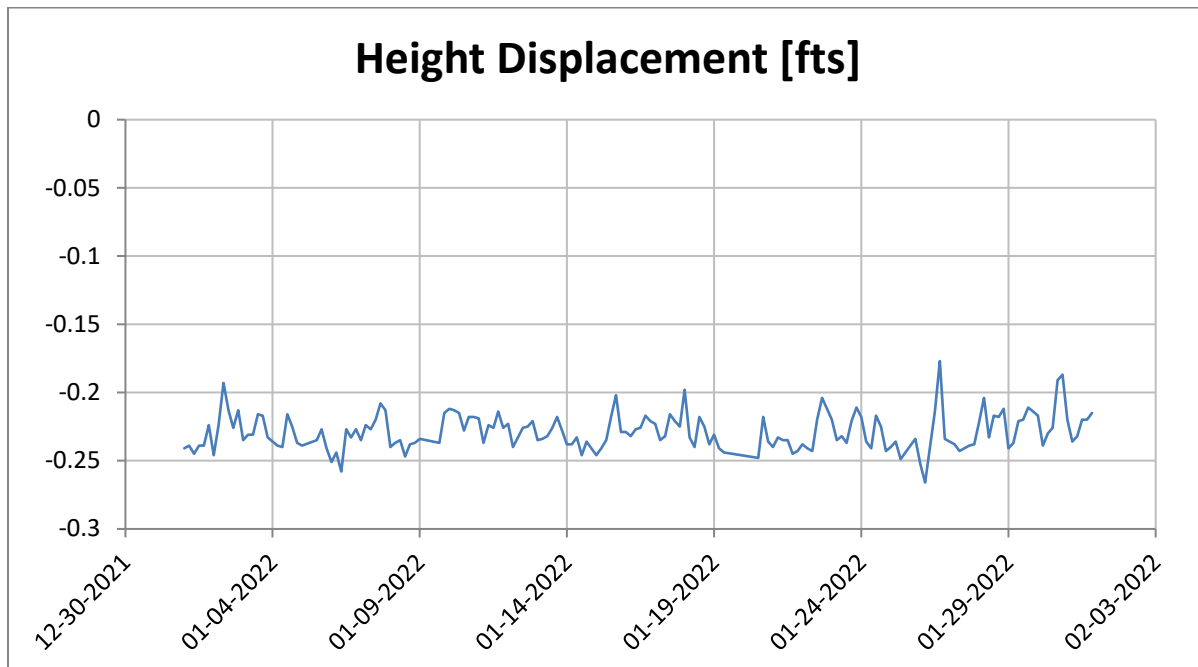
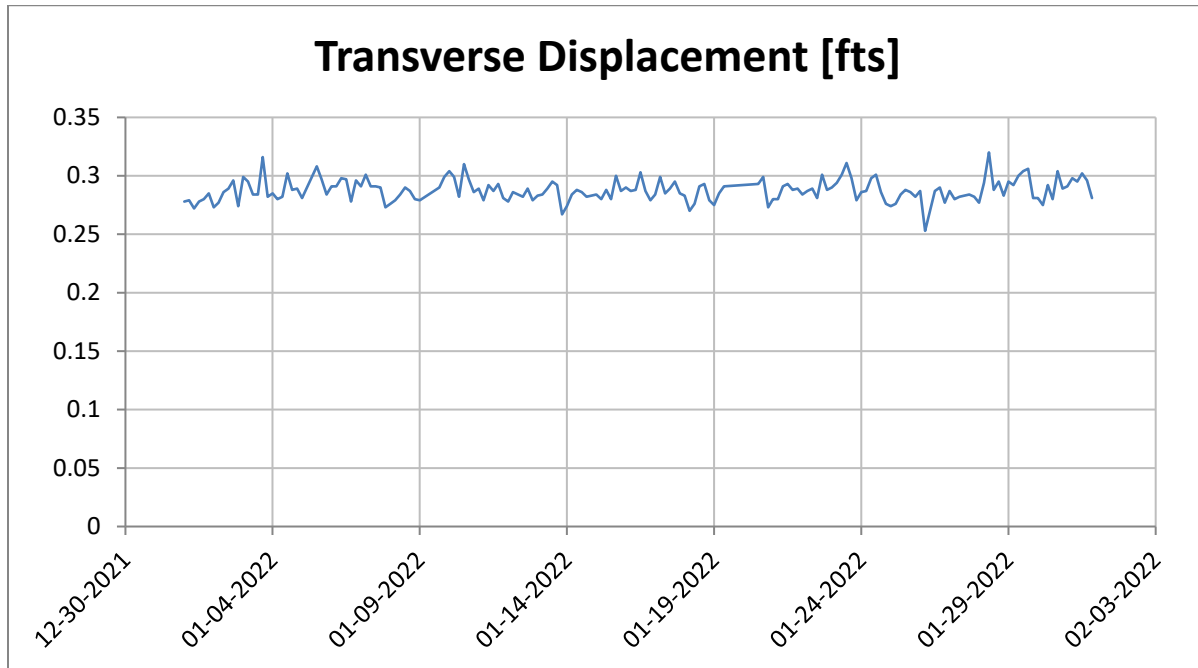


Notes:

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.

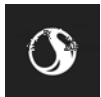


Prism CP3

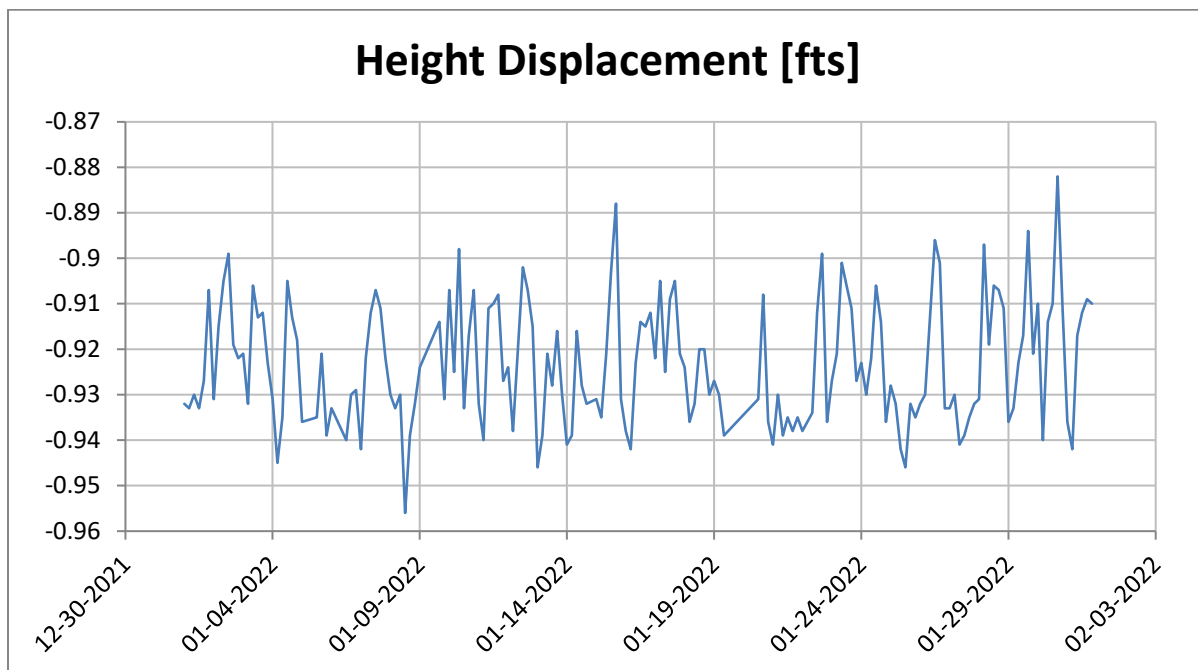
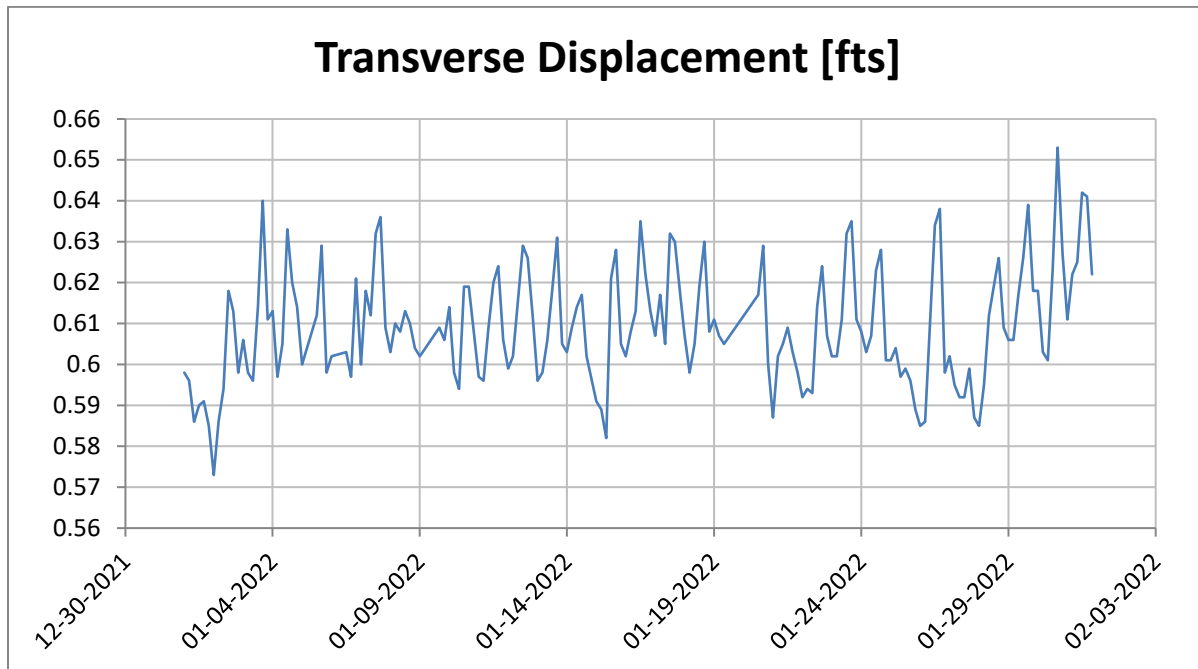


Notes:

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.

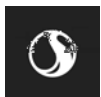


Prism NP1

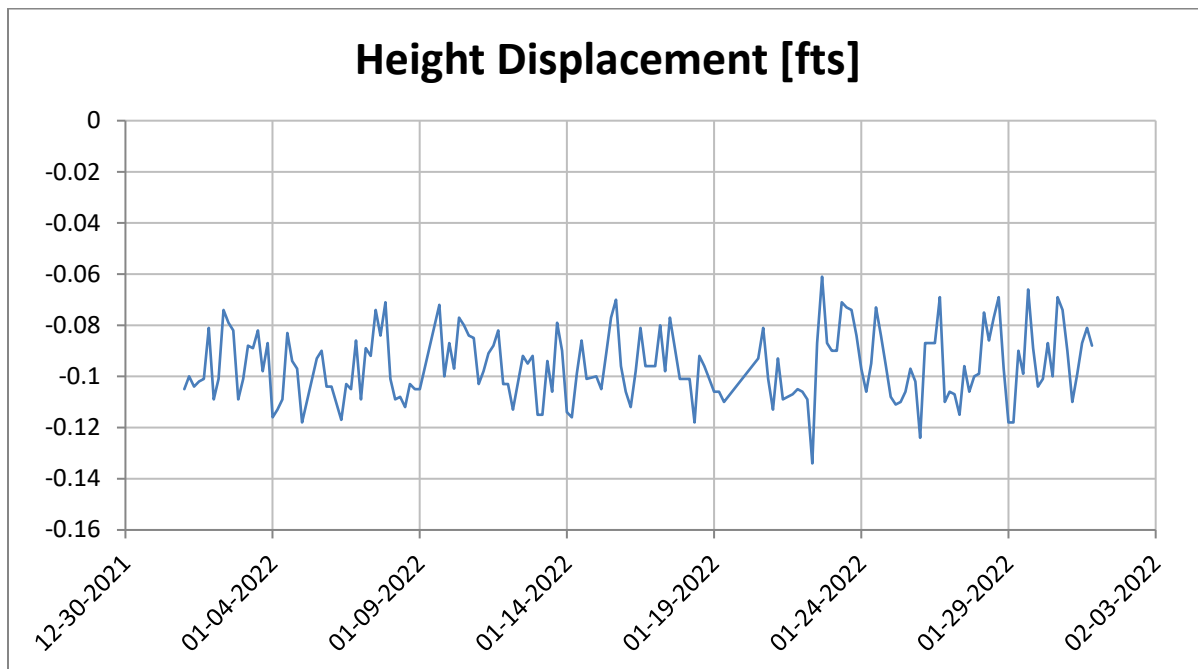
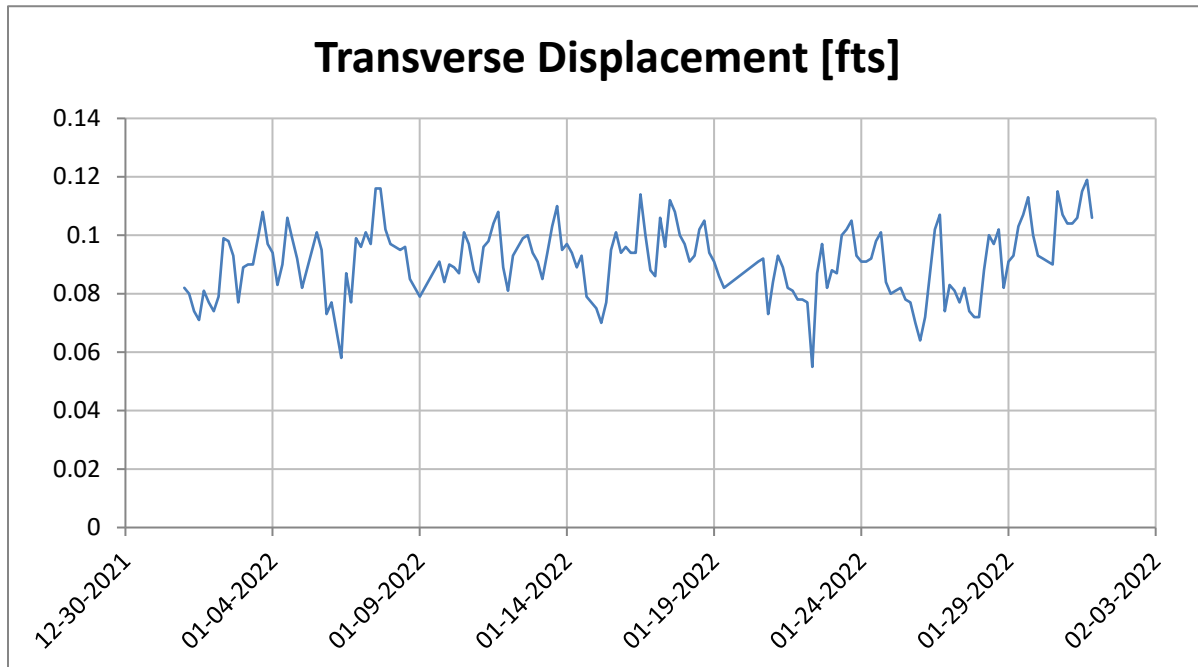


Notes:

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.

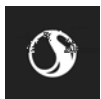


Prism NP2



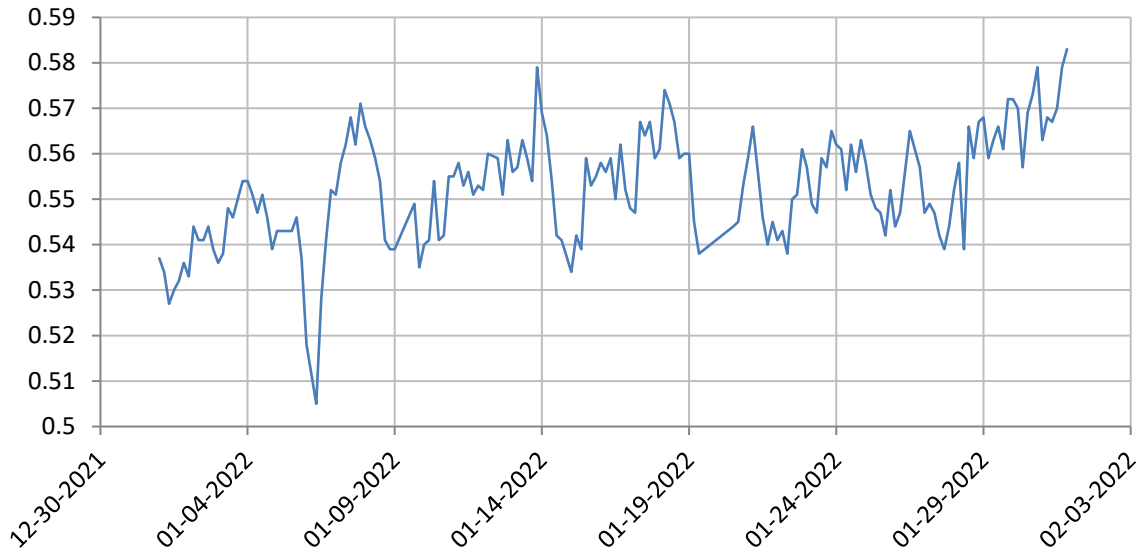
Notes:

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. Prism records slope creep movements with slow velocity.

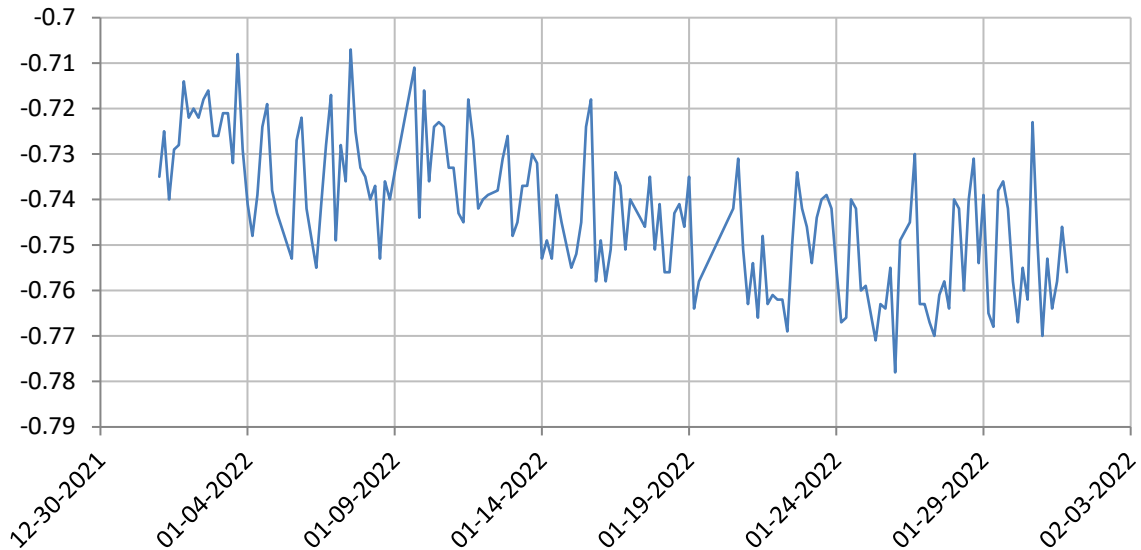


Prism NP66

Transverse Displacement [fts]



Height Displacement [fts]

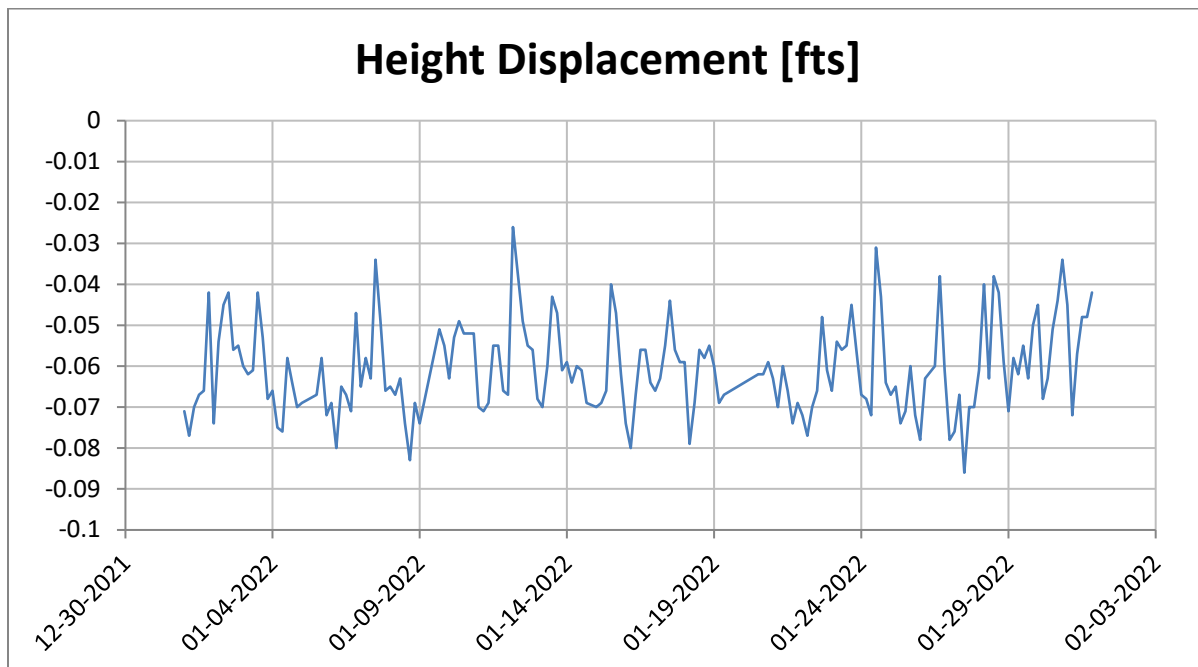
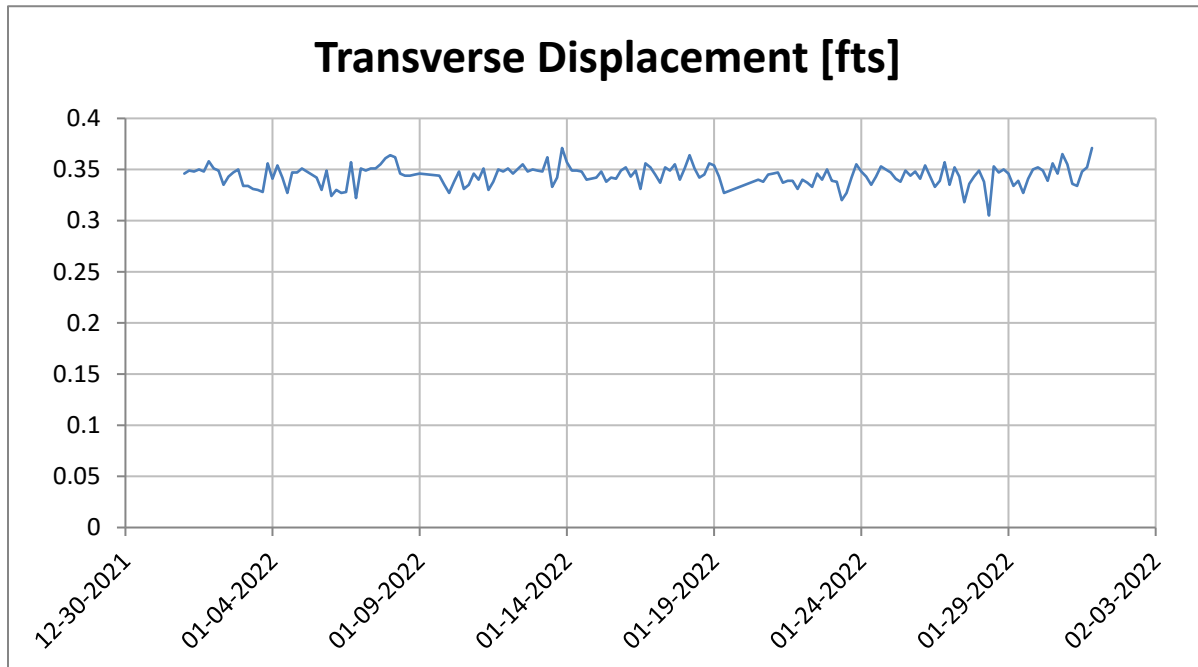


Notes:

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.

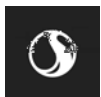


Prism P1

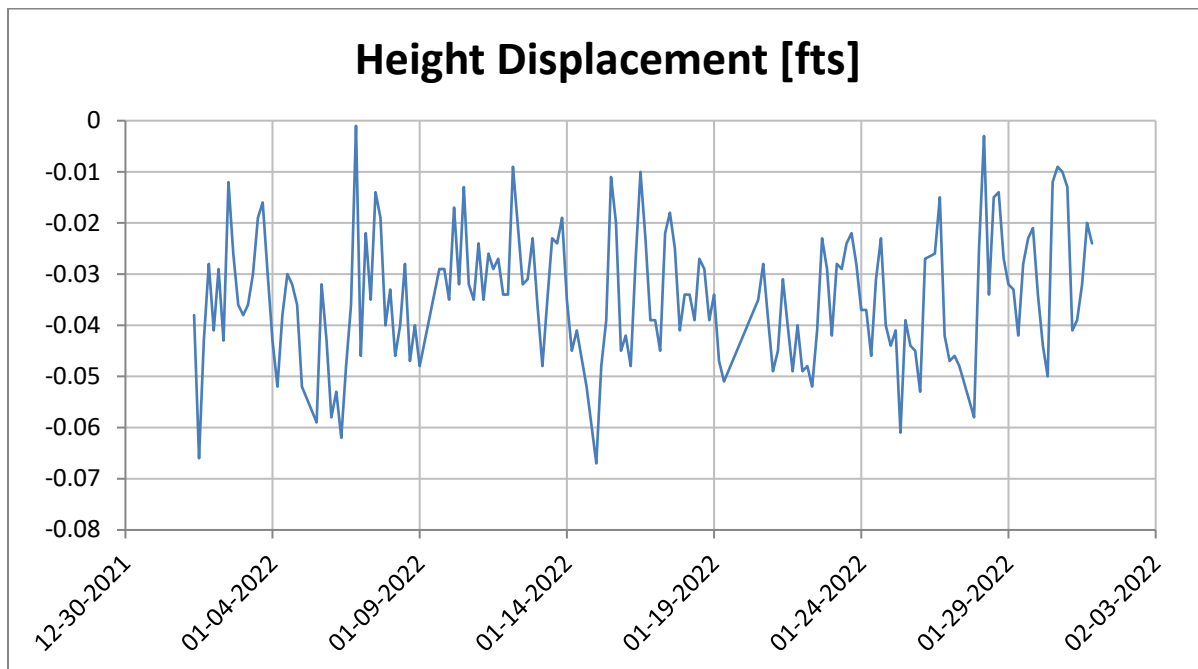
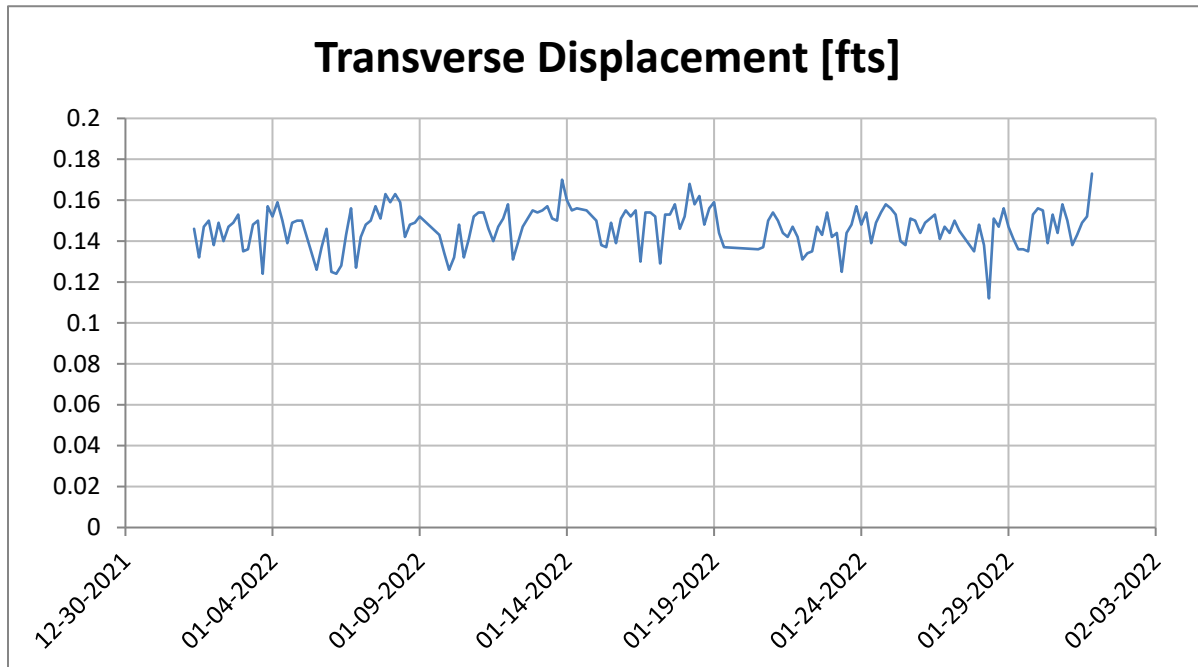


Notes:

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.

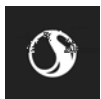


Prism P2

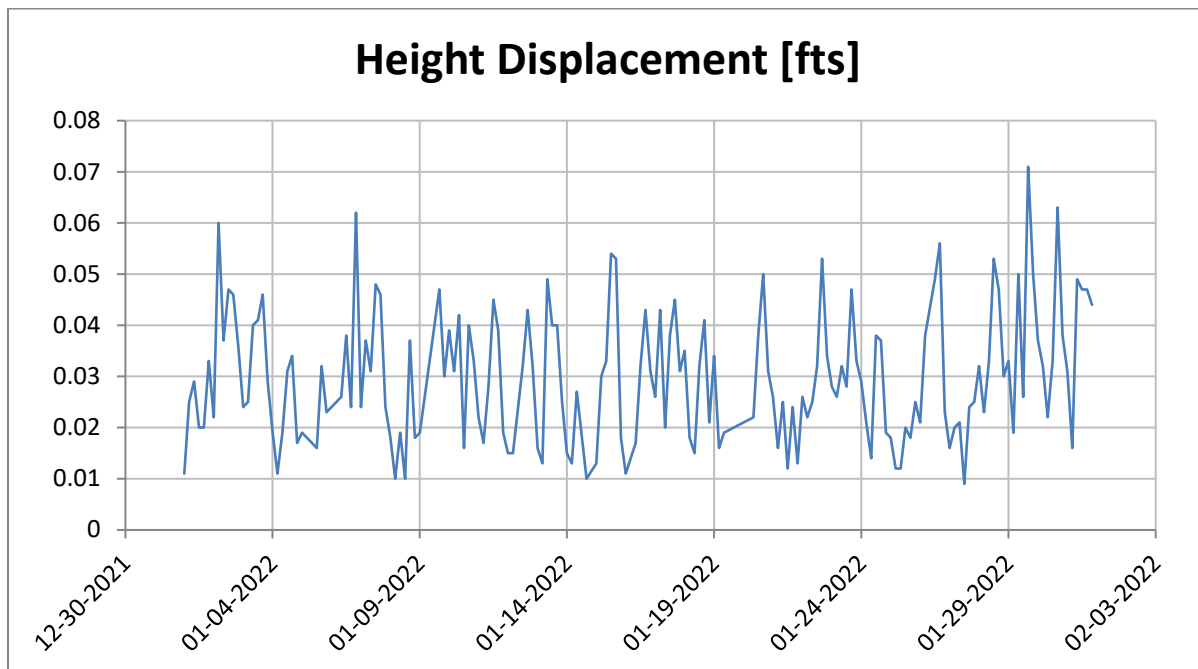
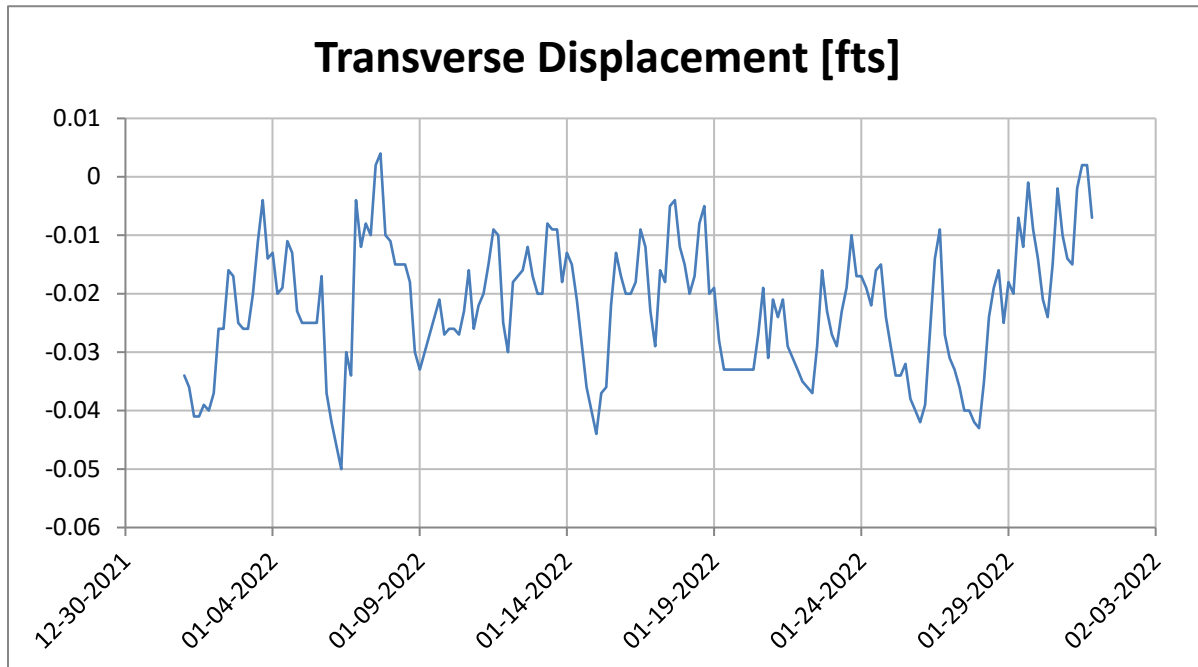


Notes:

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.

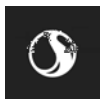


Prism P25

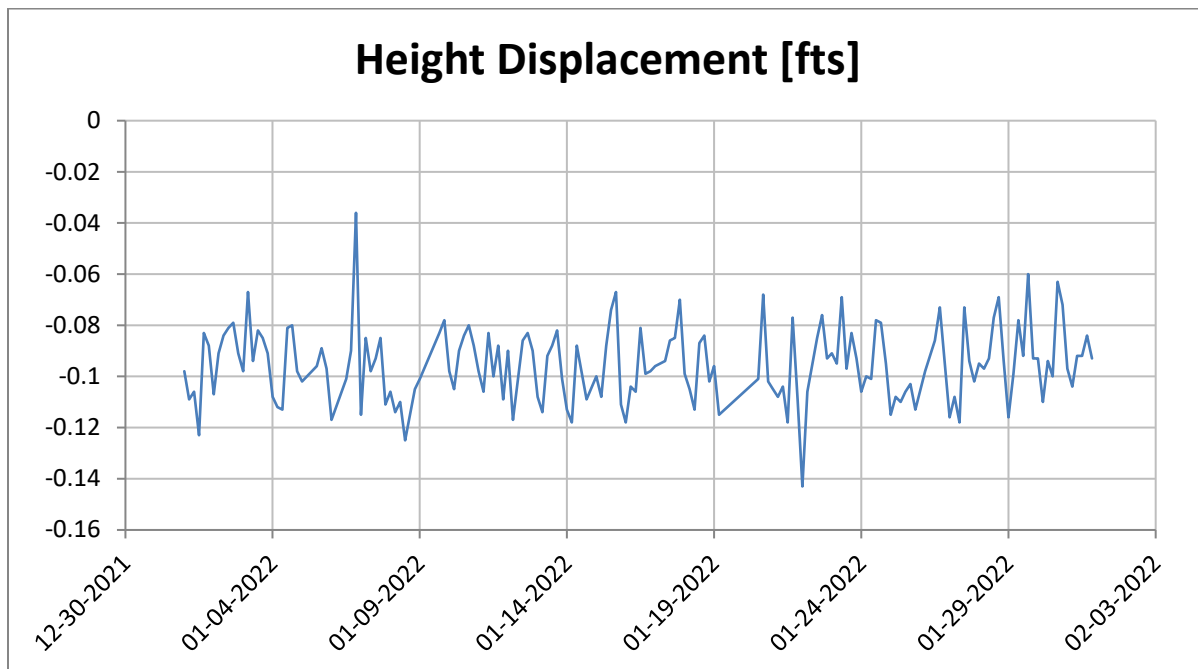
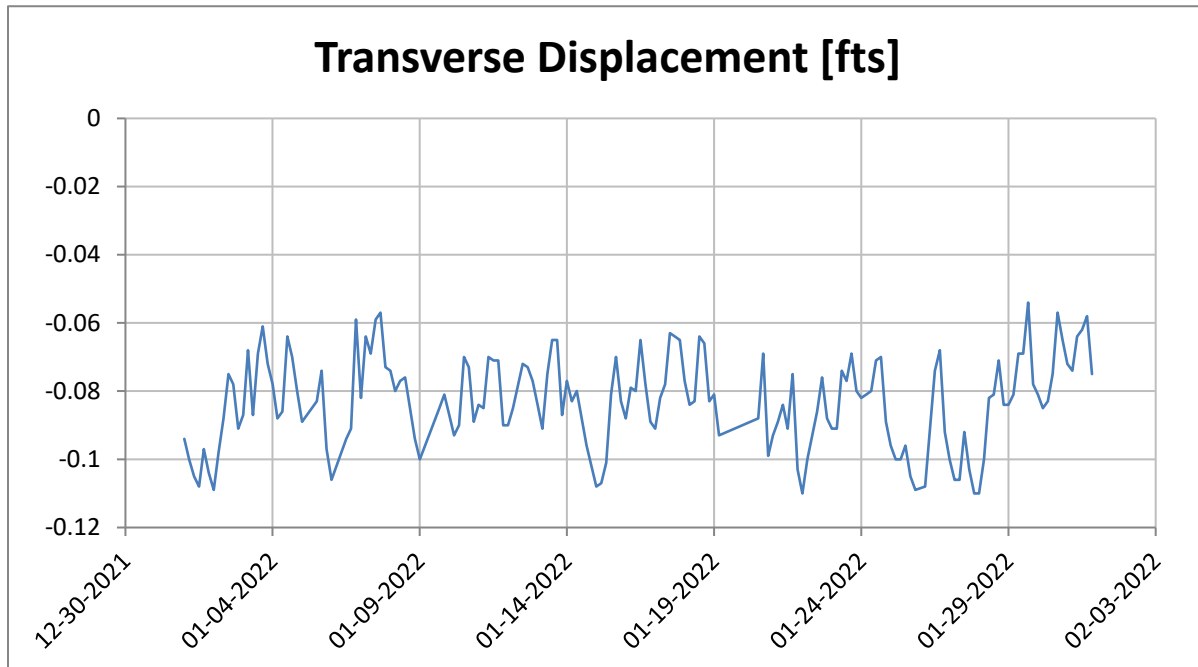


Notes:

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. Alarm recorded on January 11, 2022. Attributed to wildlife in the area.

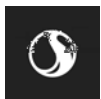


Prism P32

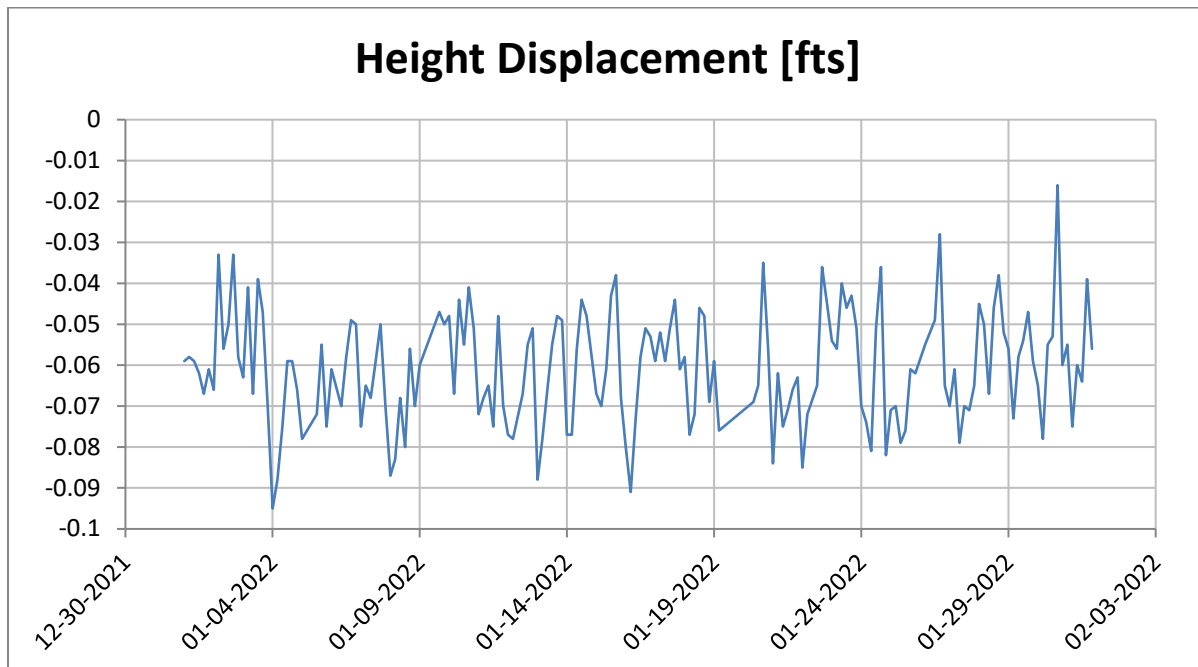
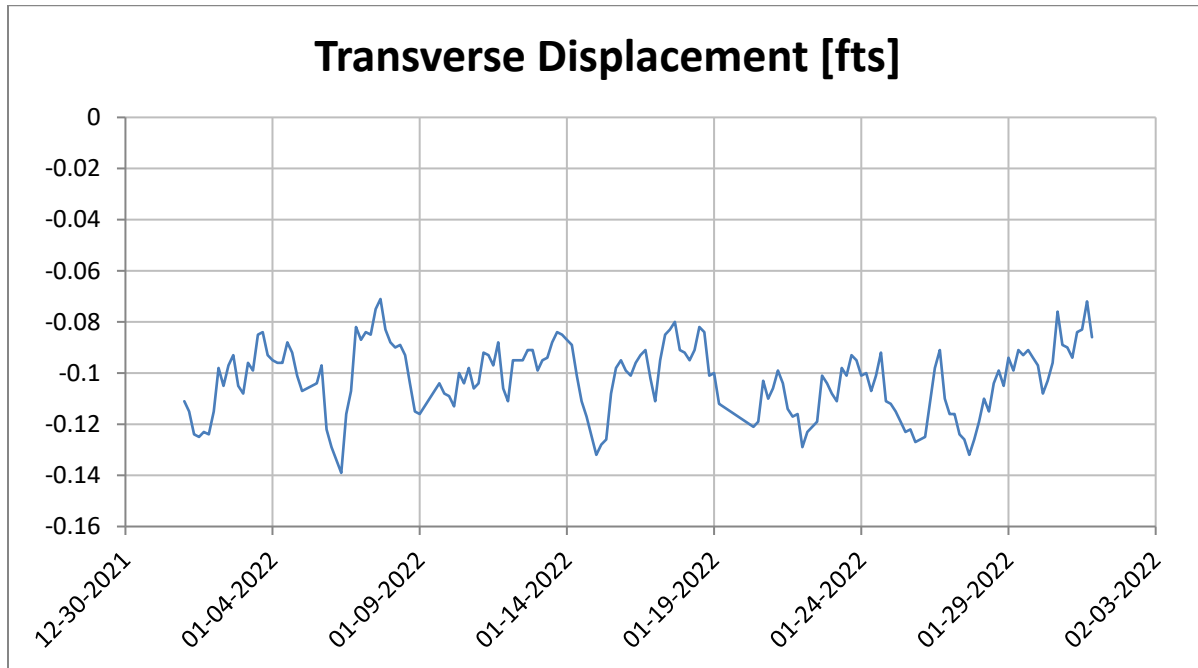


Notes:

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. Alarm recorded on January 6, 2022. Assumed to be data error from inclement weather.

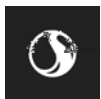


Prism P33

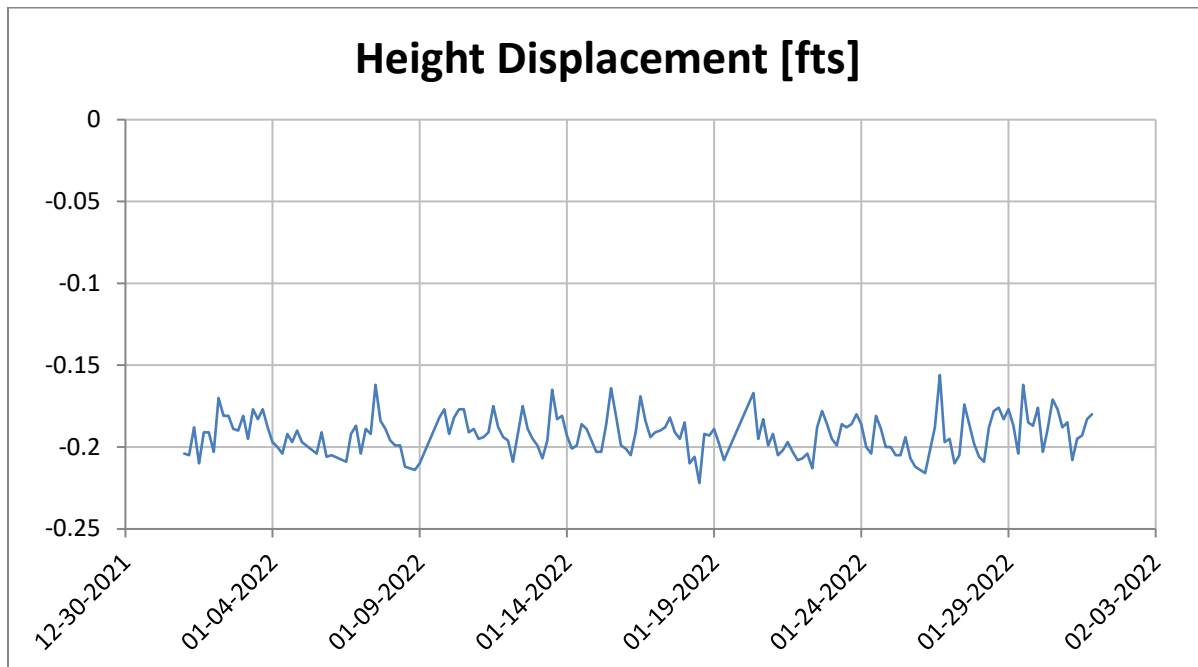
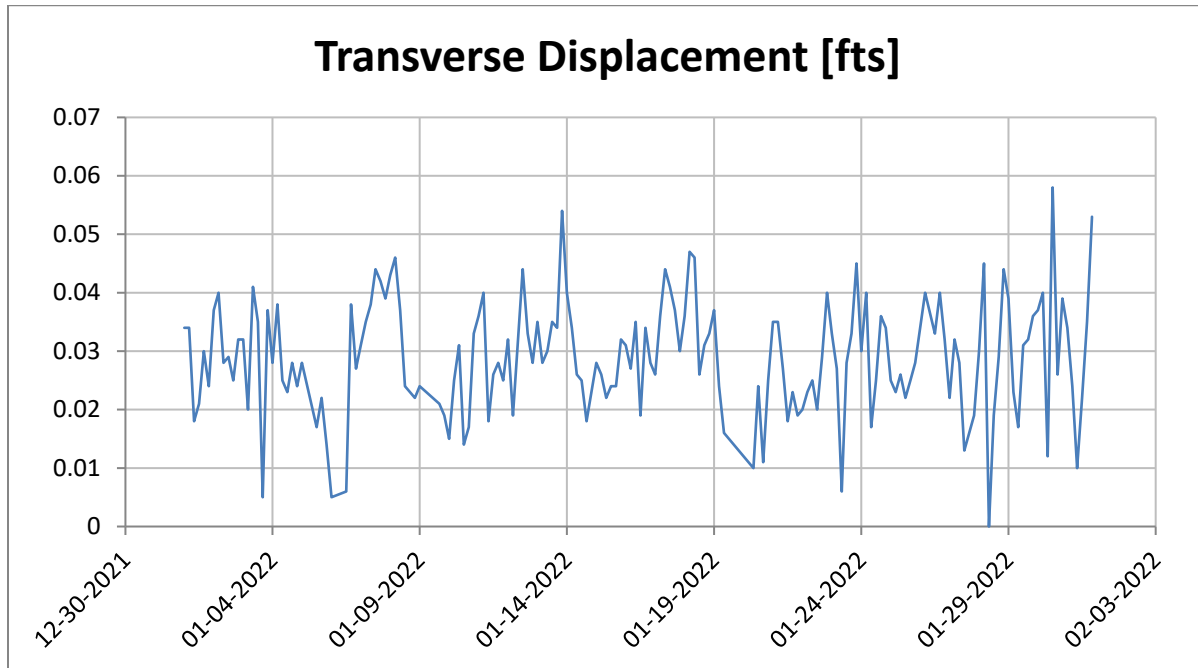


Notes:

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.

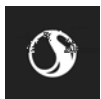


Prism P35

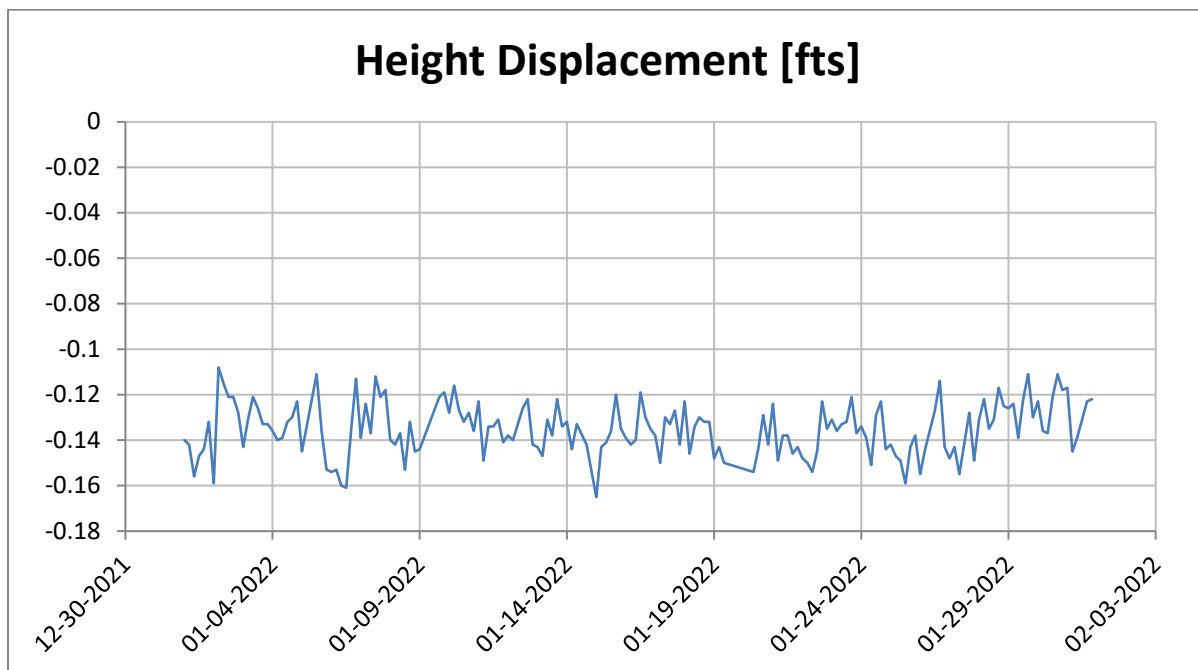
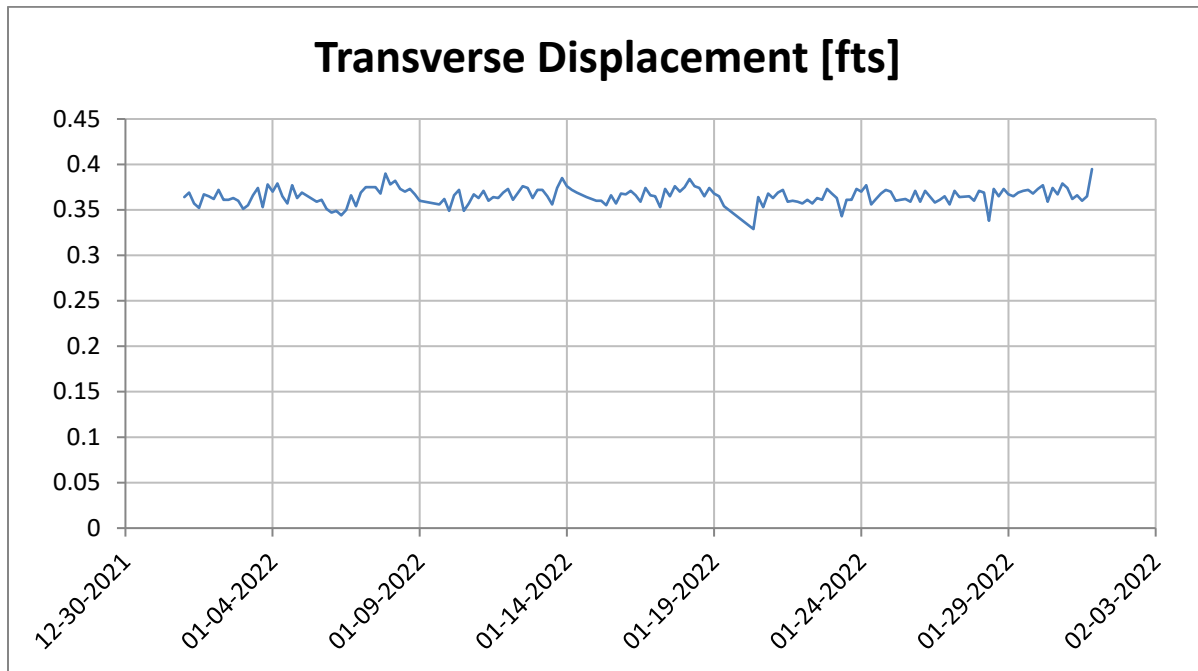


Notes:

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.

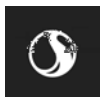


Prism P4

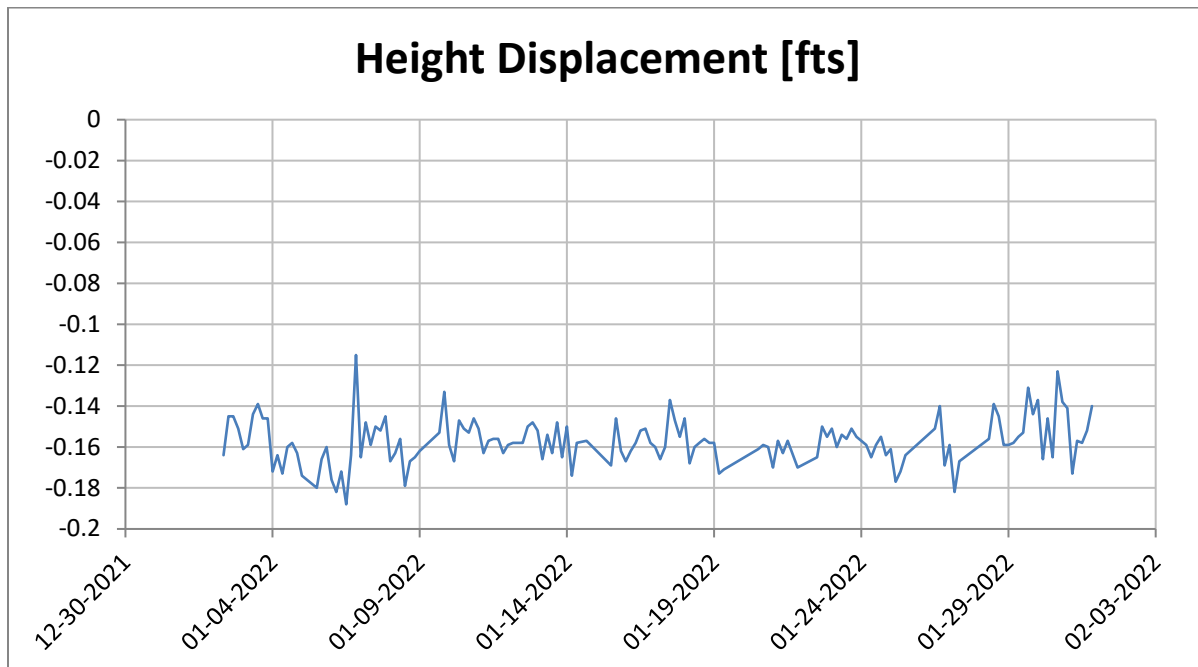
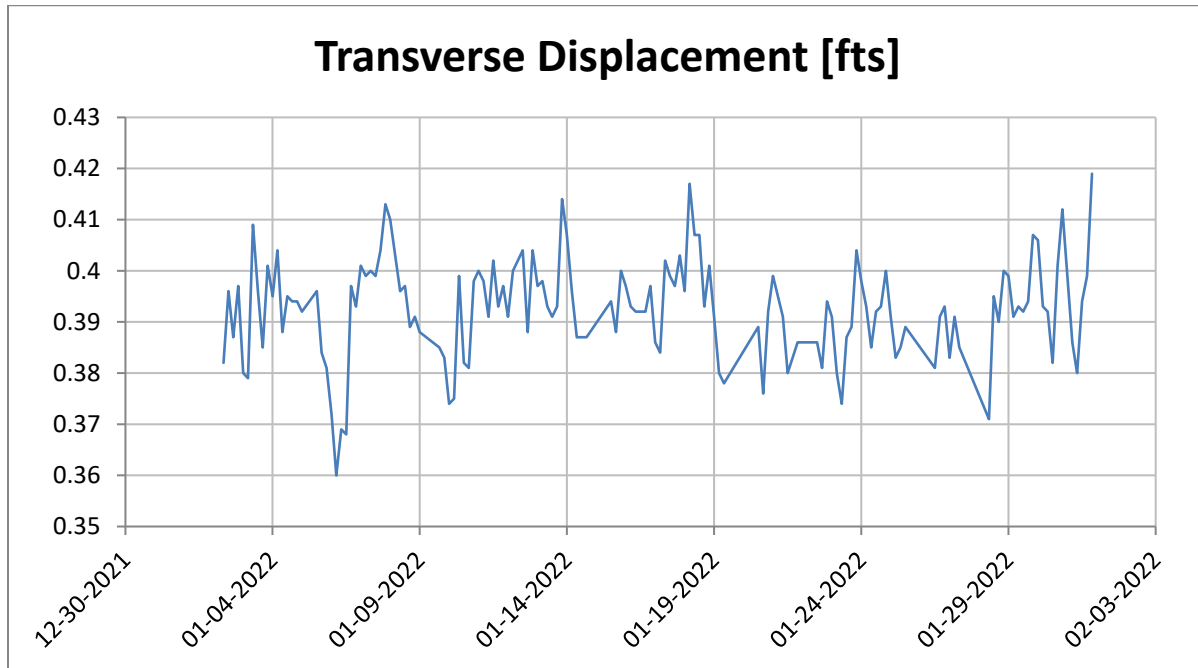


Notes:

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.

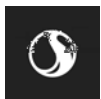


Prism P5



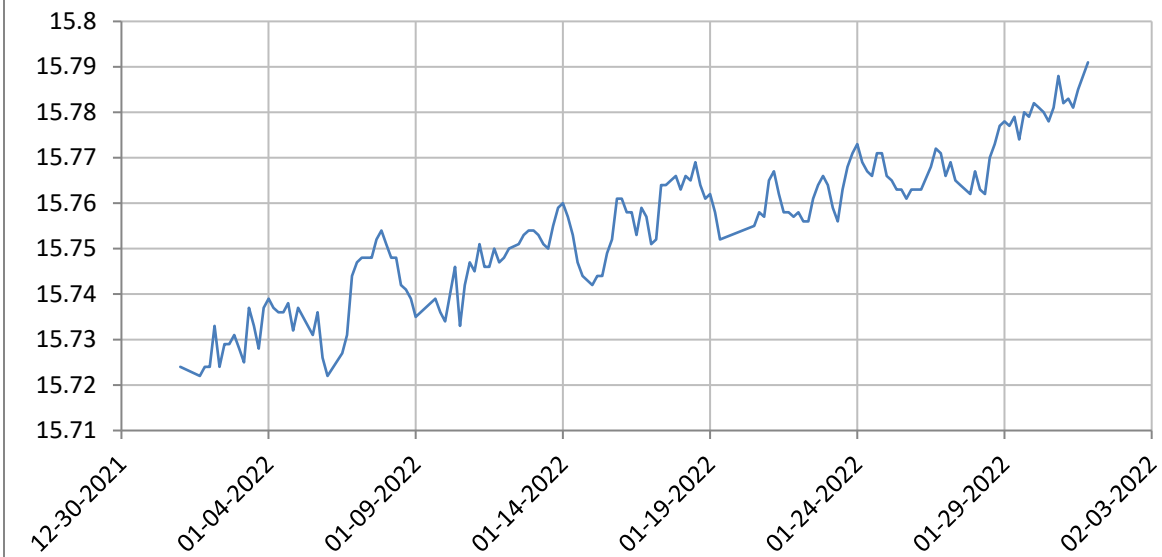
Notes:

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.

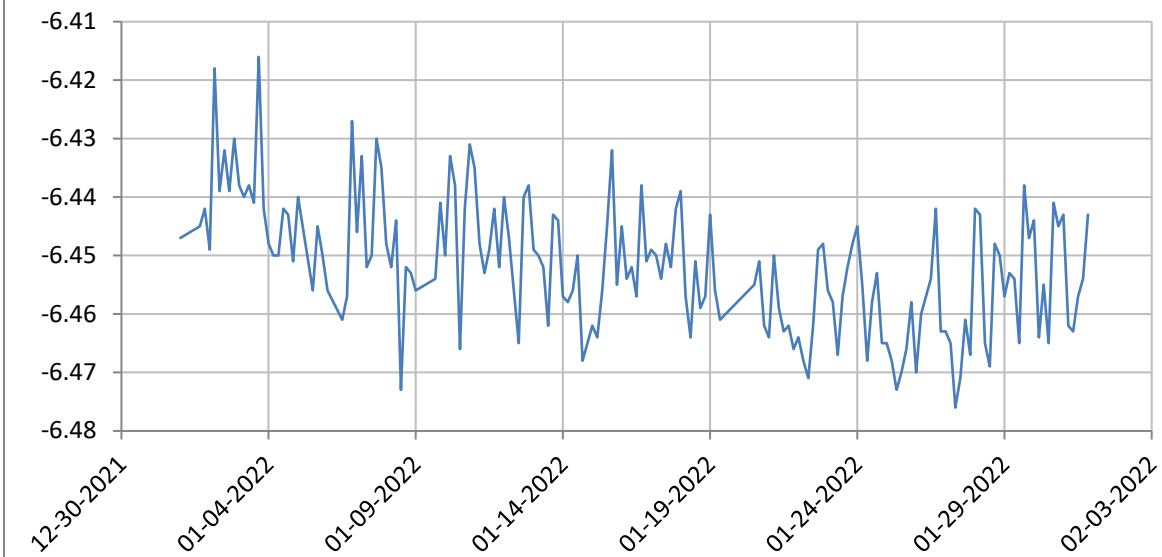


Prism P63

Transverse Displacement [fts]



Height Displacement [fts]

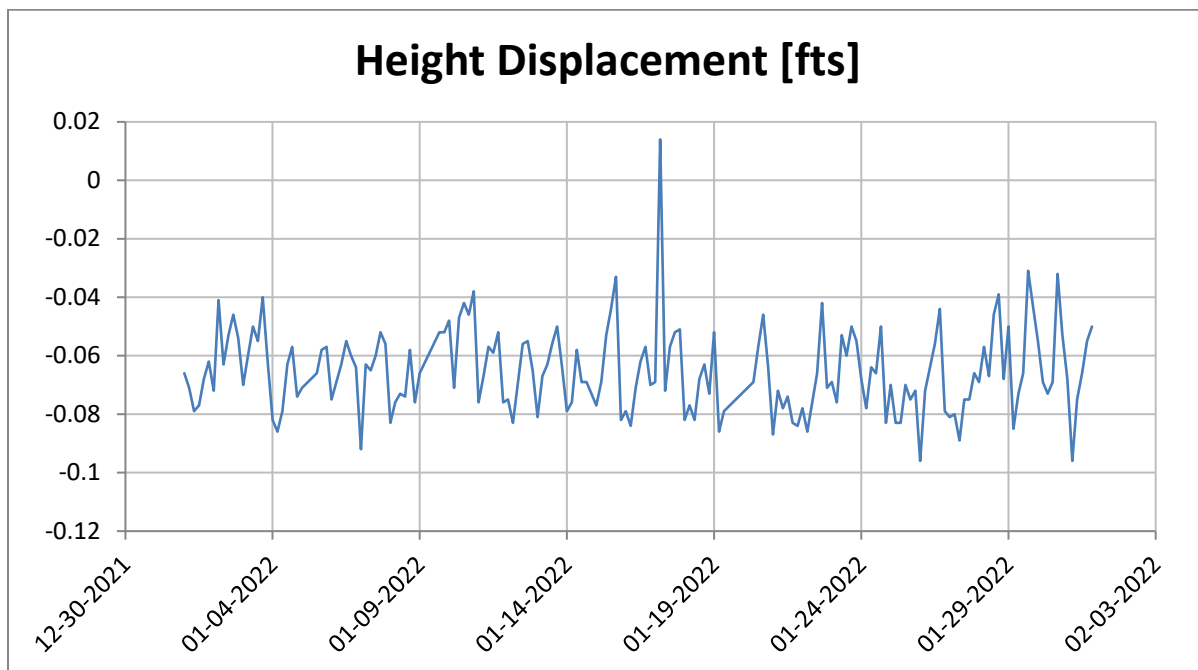
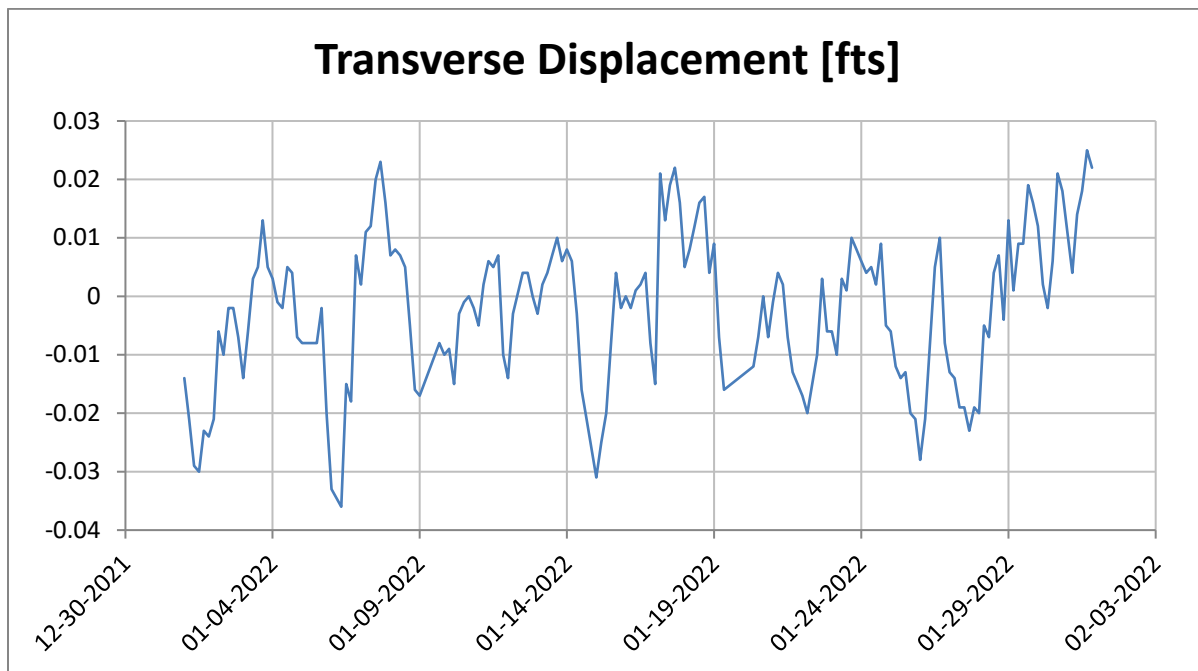


Notes:

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.

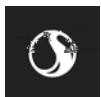


Prism P69

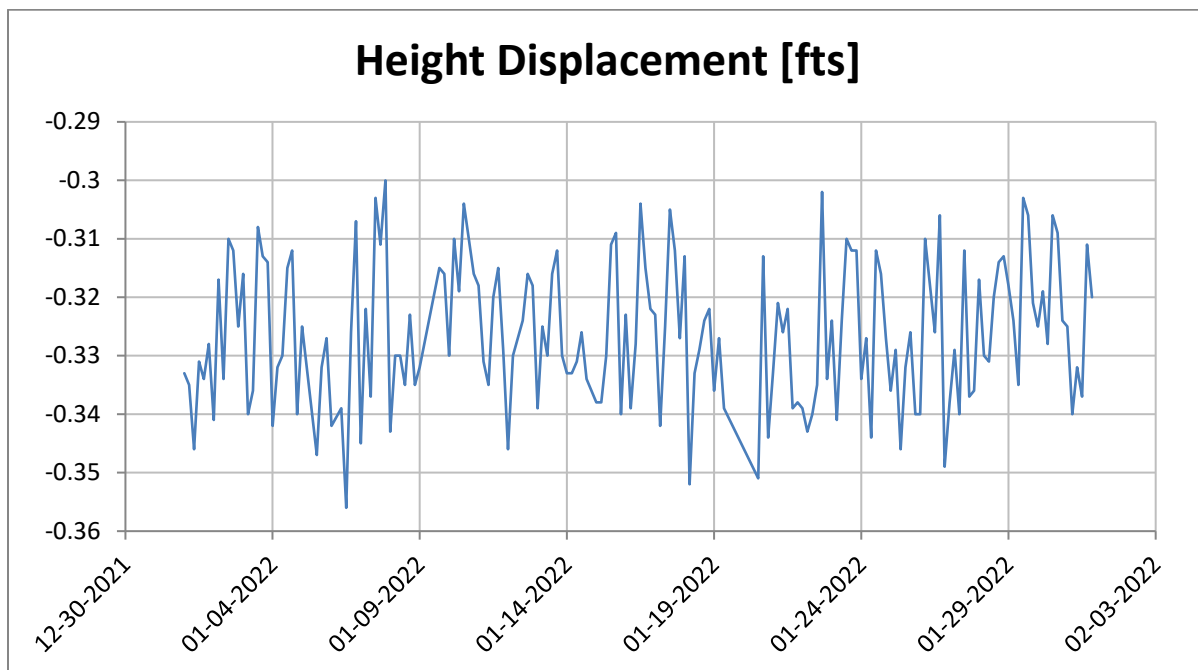
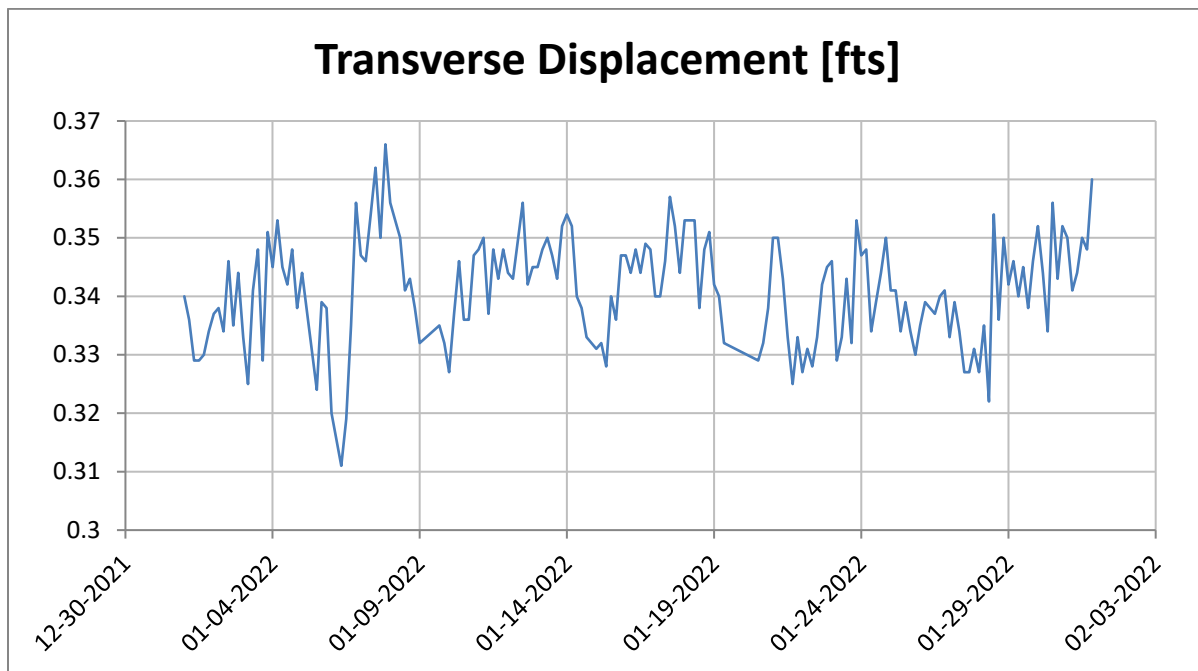


Notes:

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.

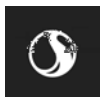


Prism P70

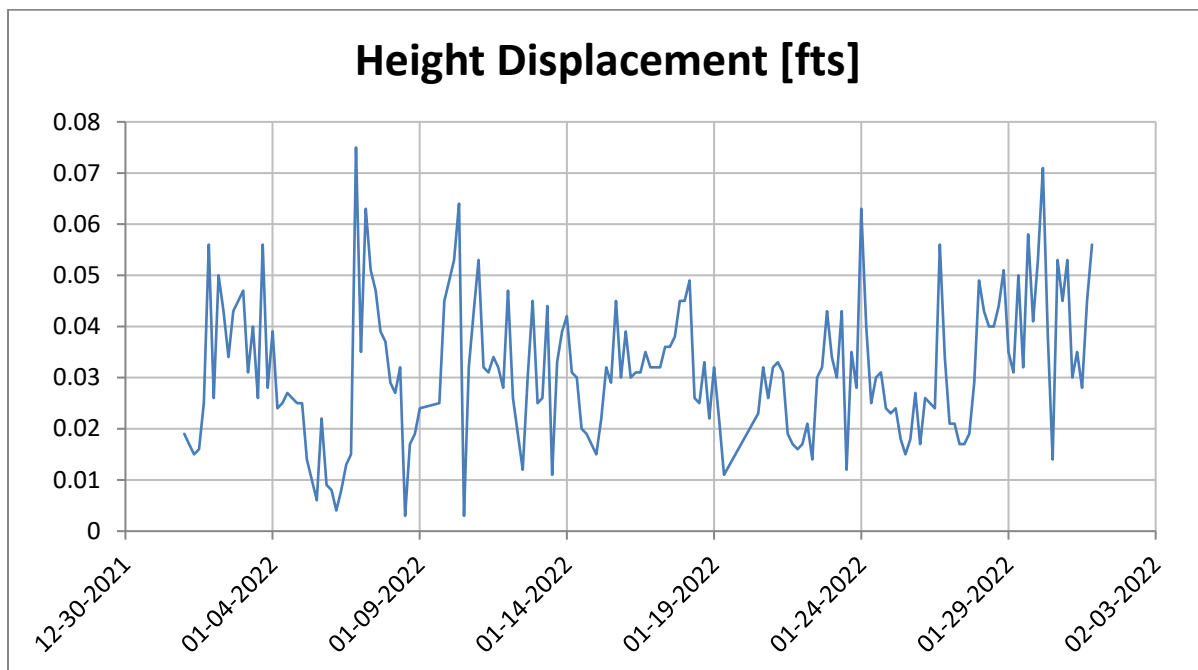
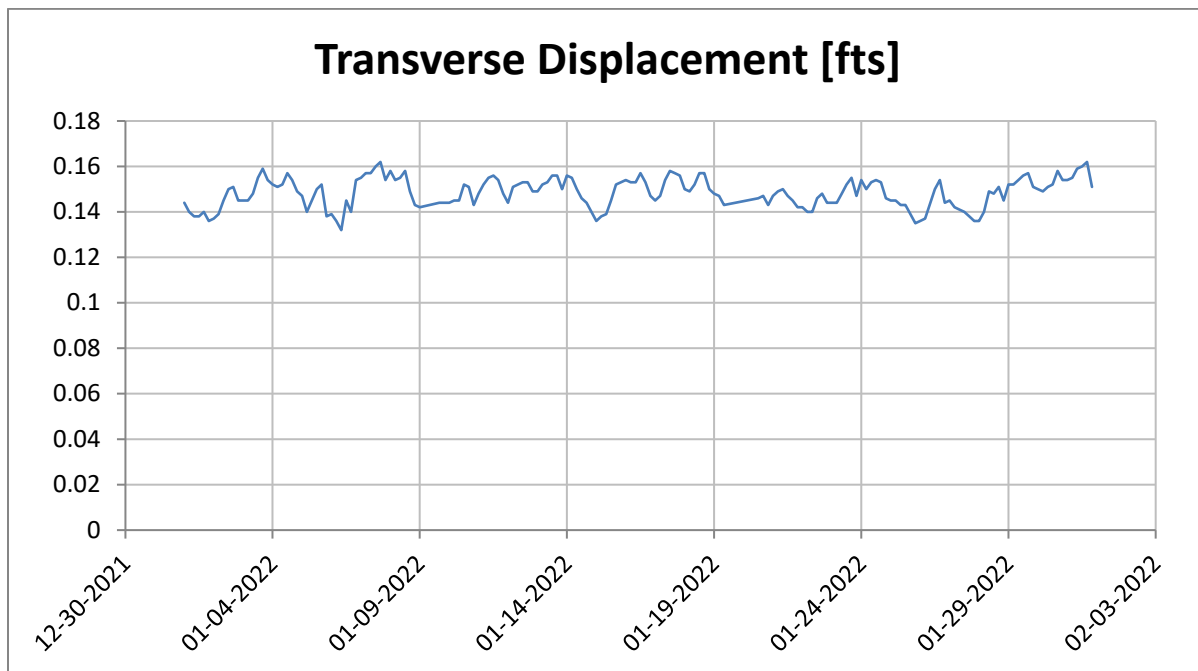


Notes:

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.

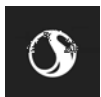


Prism TOE1

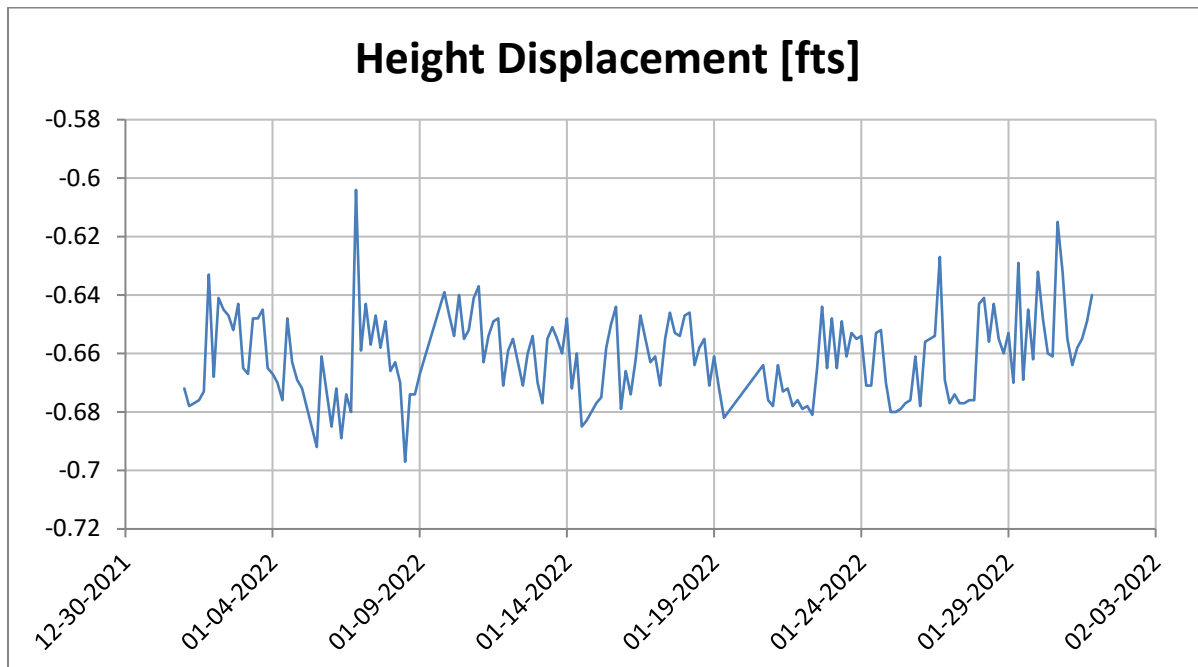
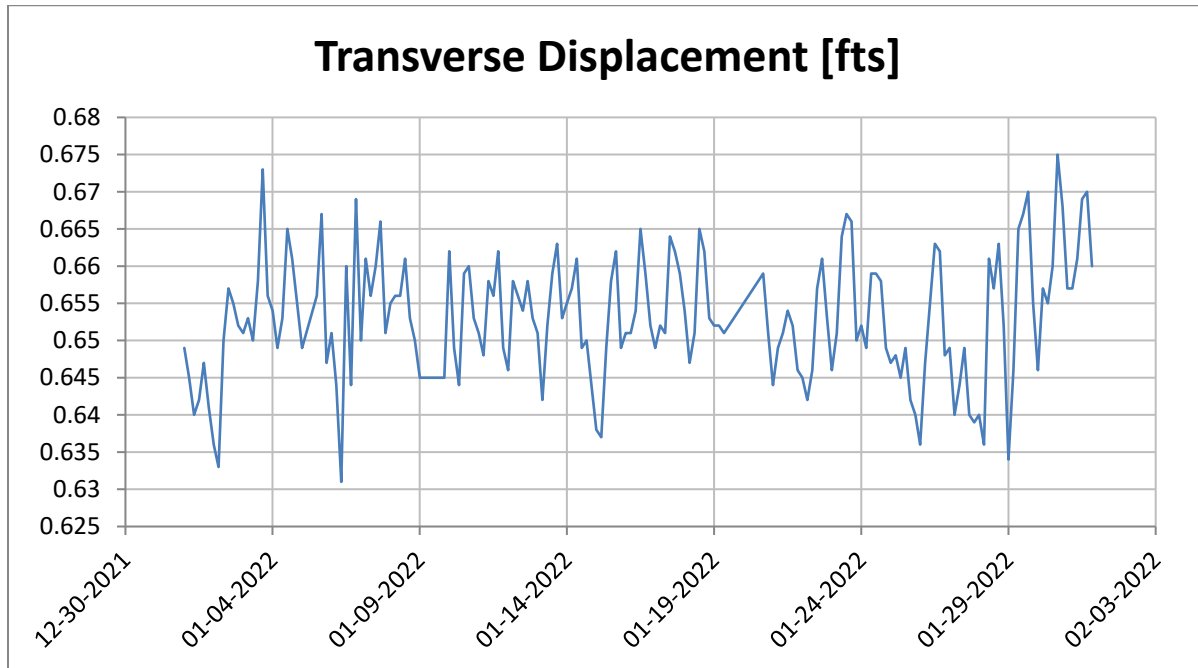


Notes:

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.

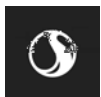


Prism TOE2

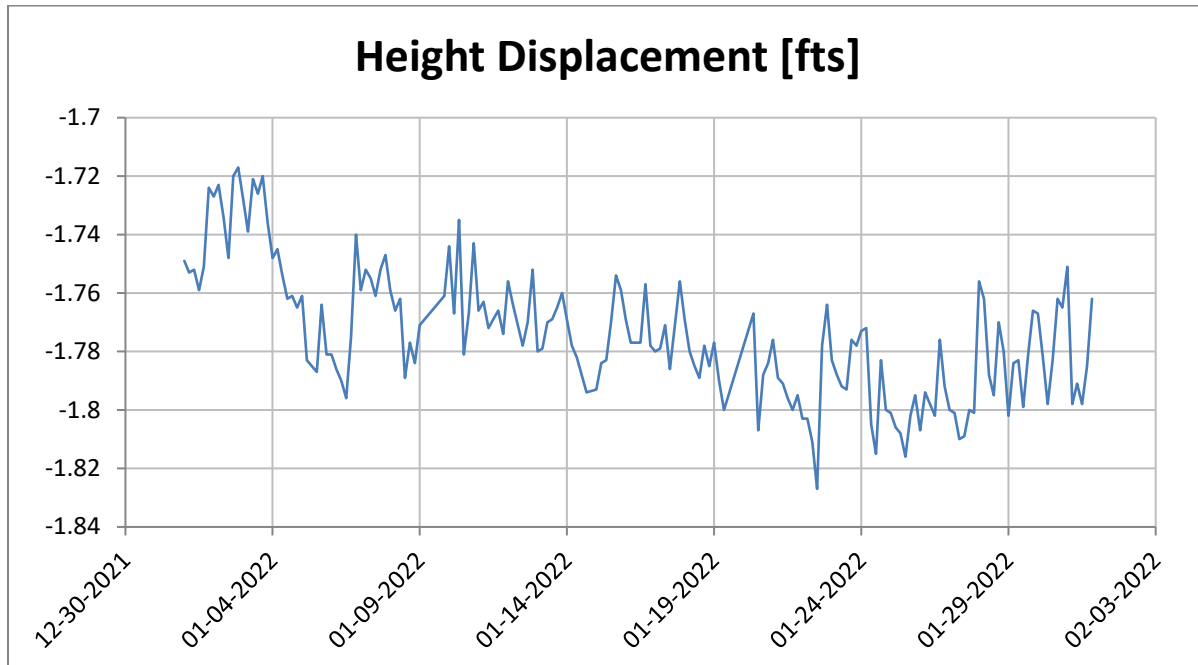
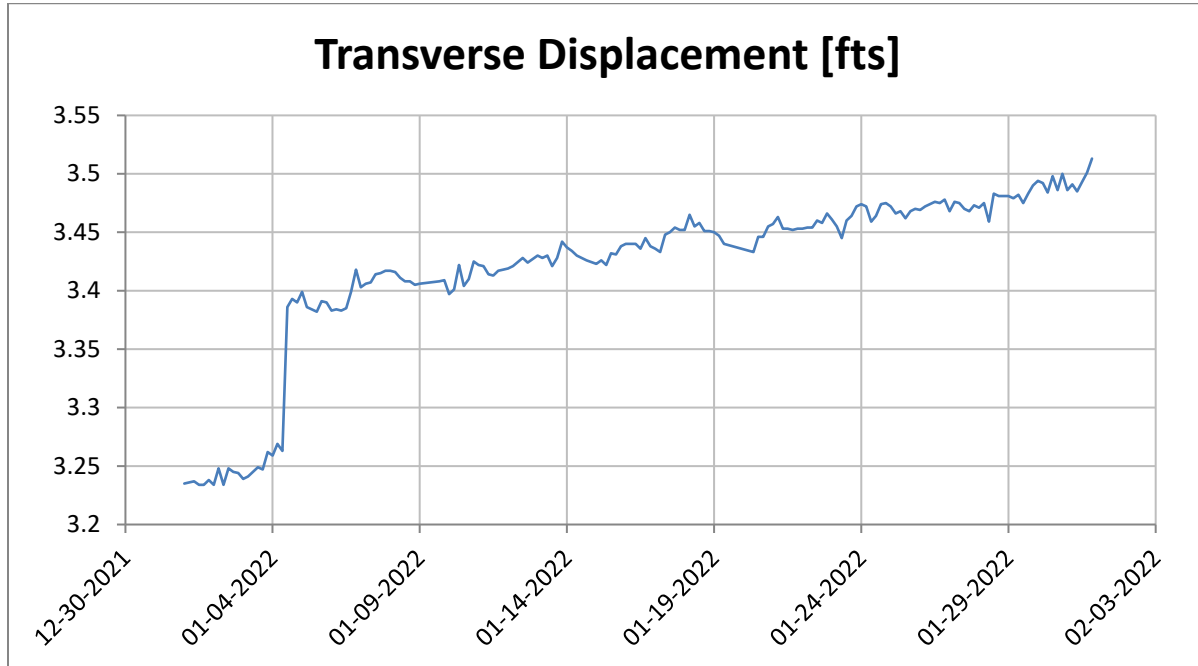


Notes:

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 TOE3



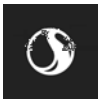
Notes:

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 located at toe of slide where ongoing slope creep movements at slow velocity are expected.



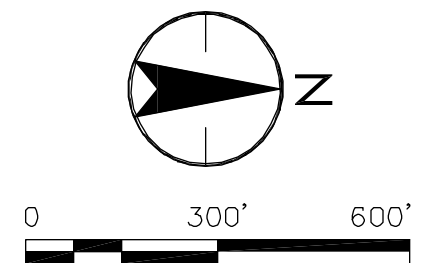
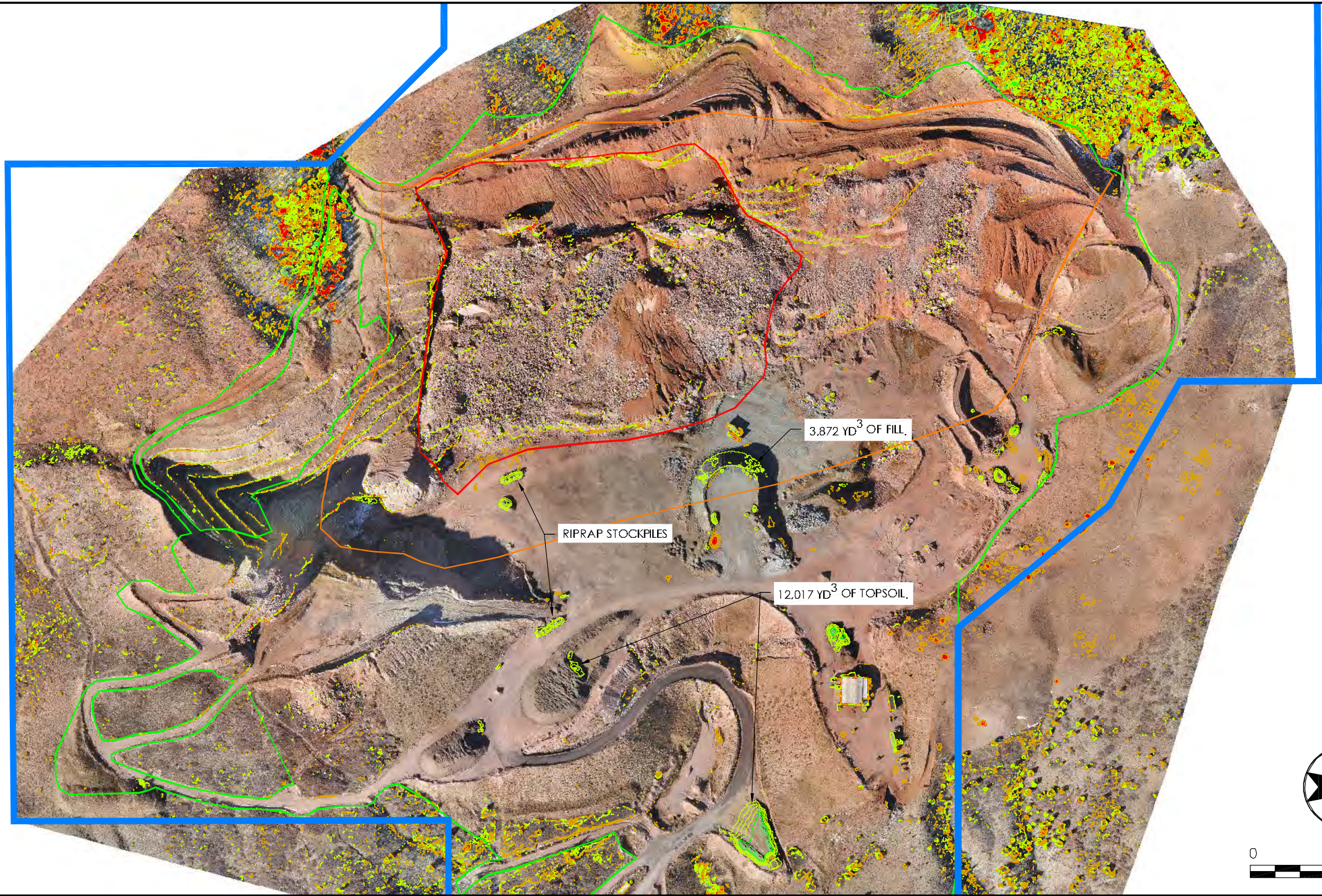
Appendix C

Drone Survey



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2022.02.17 3:17:17 PM



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

LEGEND

- Permit/Affected Lands 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 12/13/21 and 01/13/2022.

Client/Project

CONTINENTAL MATERIALS
CORP.
PIKEVIEW QUARRY SLOPE
MONITORING

Project No.
227419041

Title

EXISTING PRISMS WITH
CURRENT SURFACE

Revision
#

Drawn By
PK

Date
2022.02.28

Figure No.
5