



January 3, 2023

Sentinel Peak Resources
5640 South Fairfax Avenue
Los Angeles, California 90056

Attention: Mr. Daniel D. Taimuty
EH&S Compliance Manager

Subject: Geotechnical and Engineering Geology Evaluation
Baldwin Hills Community Standards District
2022 Annual Ground Movement Survey
Inglewood Oil Field 2021 Production Year

Dear Mr. Taimuty:

Sentinel Peak Resources has asked Laguna Geosciences, Inc. to perform a Geotechnical and Engineering Geology evaluation of the results of the 2022 Annual Ground Movement Survey (2021 Production Year) in regards to regional uplift and subsidence. The ground movement survey is performed in general compliance with the Baldwin Hills Community Standards District Environmental Impact Report requirements for the operation of the Inglewood Oil Field which is located in the Baldwin Hills area of Los Angeles, California.

This letter report summarizes our analysis of ground survey and satellite data that bear upon the amount of vertical and horizontal ground surface movement that occurred during the Inglewood Oil Field 2021 production year. It should be noted that the production season for this campaign included July 2021 through June 2022. We specifically analyzed the ground survey data provided by PSOMAS (2022), and the Interferometric Synthetic Aperture Radar (InSAR) surveys provided by CGG (2022).

Based on comparison of the 2021-2022 PSOMAS ground survey data:

- None of the monuments indicated uplift of more than 0.6. inches over the 2021-2022 time period.
- Three of the monuments decreased in elevation more than 0.6 inches over the 2021-2022 time period with one out of the three being a monument that was twinned 2014.
- The maximum elevation increase was 0.11 in./yr. at both Monuments 107 and 112. Monument 107 is located outside the BHCS D boundary to the south. Monument 112 is located inside the western boundary of the BHCS D.

- The maximum decrease was -1.62 in./yr. at Monument 110. Monument 117 had the second highest decrease (-0.70 inches). Monument 308 had the third highest decrease (0.66 in./yr) and is a Monument that was later twinned by 50000 in 2014.
- With the exception of last year, there was a return of the subsidence trend observed within the oilfield region. Vertical movement is now characterized by subsidence (as opposed to last year's uplift) within the BHCS D. Subsidence in the center of the oilfield (110, 117 and 308) indicates a maximum of approximately -1.62 and -0.70 and -0.66 inches, respectively, and the subsidence extends, to a lesser degree, beyond the north and east boundary of the BHCS D. Uplift beyond the western and southern boundary ranged from 0 to 0.11 in./yr.
- The maximum horizontal movement was located outside the boundary of the BHCS D to the west at Monuments 114 with movement of 1.26 in./yr. The second highest horizontal movement was noted at Monument 120 located inside the western boundary.
- In general, most of the monuments moved to the west, and in a predominantly north-westerly direction. However, several monuments near the northwest boundary of the BHCS D moved in a north-easterly direction.
- In general, most of the monuments east of the fault zone moved in a westerly direction with a mix of the monuments moving in northeasterly and southeasterly directions.
- The cumulative vertical ground movement for the 2010 through 2022 surveys indicates the maximum cumulative elevation decrease since 2010 is -4.13 inches at both Monuments 116 and 50004. However, it should be noted that Monument 50004 was twinned with 303 in 2014 because Monument 50004 was considered suspect due to near surface conditions.
- The maximum cumulative elevation increase since 2010 is 1.69 inches at Monument 128, located outside the BHCS D.

Based on the 2021-2022 InSAR data:

- “From July 2021 to June 2022, vertical displacement is predominantly characterized by subsidence within the Community Standards District (CSD) reaching approximately -1.75 in.”
- “From July 2021 to June 2022, east-west displacement generally corresponds to contraction towards the centre of the vertical subsidence feature. The maximum rates are approximately 0.75 inches in the westerly direction and 1 inch in the easterly direction.”
- “In comparison to last year, displacement regimes resume an overall subsidence trend after a period of uplift documented in the previous report (2020-21).”
- “Cumulative ascending line of sight displacement from 2010-2022 reaches a maximum of approx. -4 inches (predominantly subsidence) from October 2010 to June 2022.”

The ground movements observed in current and past AGMS as summarized above are relatively small, and taken in context with other regional ground movement in southern California, are not excessive.

It is LGI’s recommendation that monitoring of the BHCSO and geotechnical and engineering geology evaluations of individual property damage claims continue as outlined in the Baldwin Hills Community Standards District (BHCSO) Environmental Impact Report (Marine Research Specialists, 2008). This monitoring allows Sentinel to continue to be proactive and helps identify where current processes are effective and where changes could be beneficial.

For readers who are not familiar with potential geotechnical causes of ground movement and historical movement within the vicinity of the Baldwin Hills, please see previous summaries and analysis in reports by Laguna Geosciences, Inc. (Laguna Geosciences, Inc., 2014-2021).

The work has been objectively conducted in accordance with generally-accepted professional practice standards for this type of work by California Professional Registered Engineers and Geologists. LGI believes the analysis performed and the conclusions and recommendations developed to be accurate and relevant. However, certain information contained in this report may have been rightfully provided to LGI by third parties or other outside sources. LGI does not make any warranties or


representations, whether expressed or implied, regarding the accuracy of such information, and shall not be held accountable or responsible in the event that any such inaccuracies are present.

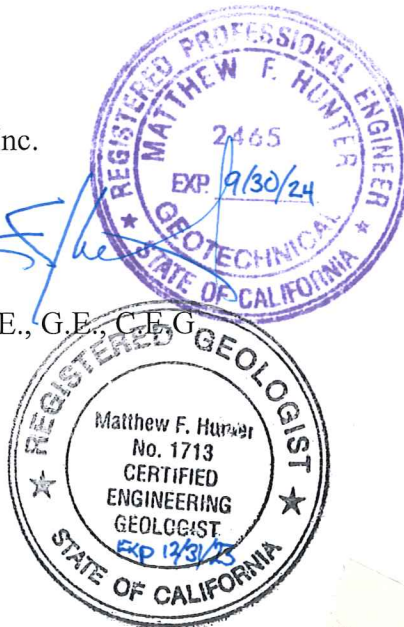
The judgments, conclusions, and recommendations described in this report pertain to the conditions judged to be present or applicable at the time the work was performed. Future conditions may differ from those described herein and this report is not intended for use in future evaluations of the Site. This report has been prepared solely for the use of Sentinel Peak Resources, its agents, and its legal counsel, as it pertains to the Site. The purpose of this analysis was to assess the movement in relation to oil field activities from a Geotechnical Engineering and Engineering Geology point of view. Any reliance on, or use of, this report by any third party shall be at such party's sole risk.


Please do not hesitate to contact LGI if you have any questions regarding this report or any other matter.

Sincerely,

Laguna Geosciences, Inc.


Matthew F. Hunter, P.E., G.E., C.E.G.
Principal Engineer




Rachel Martinez, P.G.
Principal Geologist