

Caltech Submillimeter Observatory Decommissioning Log of Materials Removed from UH Management Areas

December 20, 2024

This document serves to summarize the materials removed from UH Management Areas at the summit of Maunakea during decommissioning of the Caltech Submillimeter Observatory (CSO). This document has been prepared by Caltech based on information provided by the contractor for CSO Decommissioning, Goodfellow Brothers Inc. (GBI), and their subcontractor Northwest Demolition and Dismantling, Inc. (NWDD) and reviewed by them.

In addition to the materials noted in the table, two types of material were moved from the site to the Batch Plant (i.e., did not leave the UH Management Area) during grading and restoration:

- 36 tons (est.) of mortar sand (2 GBI tandem dump loads) that had covered the underground water tank;
- and, 1440 tons (est.) of rocks/cinder (72 GBI tandem dump loads).

These materials will be available for reuse by other summit projects. Both moves were done with CMS approval as is documented in the daily Hawaiian Cultural Monitor (HCM) and weekly Independent Decommissioning Project Manager (IDPM) reports. Logging details for these loads are provided in [GBI Demo Hauling Quantities FINAL Amended Reformat.pdf](#).

The fiberglass water tank noted above was taken by Mauna Kea Support Services for potential future use. It was trucked to Hale Pohaku on 6/14/2024 and is currently stored there. It therefore has not exited the UH Management Areas.

Notes on table:

- “(est.)” indicates the load was not weighed but the amount was estimated based on the volume of the mode of transport. Where “(est.)” is not used, the load was weighed.
- The pdf files listed are available adjacent to this document at

<http://www.cso.caltech.edu/wiki/cso/outreach/outreach#documents>

Notes on [NWDD - CSO Mauna Kea Solid Waste Summary Form AMENDED 2024-12-20.pdf](#):

- A single load (Tag # 85494, Truck # 140) had to be stored overnight at DeLuz Trucking’s yard. It was delivered the following morning to the landfill (Tag # 81682, Truck # 141). While different tractors were used on 5/3/24 and 5/4/24, the load itself remained in the same trailer for the entire trip.

Notes on [GBI Demo Hauling Quantities FINAL Amended Reformat.pdf](#):

- A single load has multiple truck tag numbers associated with it because the Hawaii Public Utilities Commission (PUC) rate changes depending on where the truck is on the haul route. The load driver, type, and weight are listed only for the first truck tag for a particular load.
- Loads listed on the spreadsheet without truck tag numbers refer to loads hauled using GBI’s own tandem dump truck. These loads did not involve DeLuz Trucking, so invoice numbers and truck tag numbers were unnecessary.

- “Discolored Soil” refers to soil that was excavated from the bottom of the cesspool and taken to the GBI Quarry with the Concrete Debris load in Truck #110 on 6/12/2024, Tag #'s 86599, 81397, and 81399. This soil had been shown to be free of contamination (see *CSO Material Storage and Waste Management Memo* for relevant references), but, due to its discoloration, it was deemed undesirable to deposit it at the Batch Plant with other soil. The disposition of the discolored soil was not mentioned in the relevant IDPM and HCM reports; it appears to have escaped the notice (or recollection) of the IDPM and HCM. To maintain the integrity of those reports, no changes have been made to reconcile them with this Log.
- The loads with the note “For NWDD - Contaminated Soil” refer to empty rolloff bins brought to the site for storage and transport of the “Segregated Soil” (see next bullet) to landfill.
- “Segregated Soil” in the table refers to the loads listed as “Contaminated Soil” by GBI, which designates soil that was under the asphalt parking lot during hydraulic fluid release from NWDD equipment and was segregated because of an initial determination of contamination due to the release. This soil was taken to the landfill. See *Removal Action Report for a Release During the Caltech Submillimeter Observatory Decommissioning* (Lehua) for further detail on the soil sampling and the disposition of this soil.

Material	Total Amount	Mode of Transport	Destination	Documentation and Comment
Electrical transformer	one	HELCO truck	HELCO	Hawaiian Electric Company disconnected and removed the electrical transformer servicing the CSO site on 2/28/2024. Documented in HCM report 2024-02-28 CSO Transformer Removal - 2024-02-28 CSO Transformer Removal ...pdf
Construction and Demolition Debris	33.1 tons	7 DeLuz end dump loads	West Hawaii Sanitary Landfill	NWDD - CSO Mauna Kea Solid Waste Summary Form AMENDED 2024-12-20.pdf Includes: Contractor's Solid Waste Summary Landfill Tracking spreadsheet Receipts from landfill
Scrap metal (aluminum and steel)	170 tons (est.)	48 DeLuz end dump loads	DeLuz Quarry → overseas recycler	NWDD - CSO Mauna Kea Solid Waste Summary Form AMENDED 2024-12-20.pdf Includes: Steel Tracking spreadsheet The material was delivered to DeLuz Quarry for stockpiling. It was to be combined with scrap metal from other NWDD jobs on the Big Island and scrap metal from underground utility removal (see below) before shipping to recycler.
Concrete Debris	1157 tons (est.)	39 DeLuz end dump loads 8 GBI tandem dump loads	GBI Quarry to be crushed for reuse	GBI Demo Hauling Quantities FINAL Amended Reformat.pdf
Asphalt Debris	156 tons (est.)	6 DeLuz end dump loads	GBI Quarry to be crushed for reuse	GBI Demo Hauling Quantities FINAL Amended Reformat.pdf
Scrap Metal (conduits, rebar, etc.)	8 tons (est.)	2 rolloff containers on Ledwell trailer	DeLuz Quarry → overseas recycler	GBI Demo Hauling Quantities FINAL Amended Reformat.pdf The material was delivered to DeLuz Quarry for stockpiling. It was to be combined with scrap metal from the enclosure removal (see above) and other NWDD jobs on the Big Island before shipping to recycler.
Discolored Soil	de minimis	Included in a Concrete Debris load	See Concrete Debris above	GBI Demo Hauling Quantities FINAL Amended Reformat.pdf A de minimis amount of discolored soil from the bottom of the cesspool excavation was included with Truck #110's Concrete Debris load on 6/12, identified by Tag #'s 86599, 81397, and 81399. See Notes.
Segregated Soil listed as "Contaminated Soil"	44 tons	1 DeLuz end dump load 1 rolloff container on lowboy trailer	West Hawaii Sanitary Landfill	GBI Demo Hauling Quantities FINAL Amended Reformat.pdf See also <i>Removal Action Report for a Release During the Caltech Submillimeter Observatory Decommissioning</i> (Lehua), which includes profile and manifest for deposit of material at landfill. Material was transferred from rolloff container to end dump at De Luz Trucking yard for deposit at landfill.