

Written Direct Testimony

Contested Case Hearing on the Conservation District Use Permit for the Thirty Meter Telescope

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My name is Candace Fujikane, and I am an Associate Professor of English at the University of Hawai'i at Mānoa, where I have taught since 1995. I received a BA in English from UH Mānoa in 1990, and a Ph.D. in English from UC Berkeley in 1996. I am the Cultural Studies Concentration Advisor for the UH English Graduate Program, and I teach undergraduate and graduate foundations courses in literary and cultural studies, as well as classes on the literatures and mo'olelo (stories/histories) of Hawai'i, land struggles in Hawai'i and indigenous and critical cartography in Hawai'i. As an English professor, I teach the mo'olelo of Mauna a Wākea in my undergraduate courses and graduate seminars on the literatures of Hawai'i and literary and cultural studies. We trace the English translations back to the original Hawaiian texts in 'ōlelo Hawai'i, comparing the different versions and mapping them on the land.

I have published work on the mo'olelo (stories/histories) of Māui in Wai'anae, and my book manuscript examines indigenous and critical cartography in Hawai'i. I have been a board member of KAHEA: The Hawaiian Environmental Alliance since 2012.

I am also a member of Huaka'i i Nā 'Āina Mauna, a group led by Clarence Kūkauakahi Ching that has been walking the mountain lands since 2003. I have walked with Kū and others on the ancient kuamo'o (trails) of Mauna a Wākea since 2012. We have followed the path of Kāneikawaiola on Mauna a Wākea from Waiiau down to the springs of Houpokāne, Waihūakāne, and Lilinoe, and we have walked Pōhakuloa at Pu'u Ke'eke'e where the other springs Waiki'i, Anaohiku, and Kīpahe'ewai are said to have spread out from Mauna a Wākea to Hualalai, all the lands connected by the waters of Mauna a Wākea. This continuous path of water is recorded in the mo'olelo of Kamiki. We have walked the 'Umikoa-Ka'ula Trail from Pu'u Līlinoe to Pu'u Mākanaka, walking on the lands between Pu'u Poepoe, Pu'u Ala, Pu'u Hoaka, and Pu'u Māhoe. We have walked to the rim of Pu'u Kanakaleonui. We have also walked across the northern plateau, the proposed site of the TMT.

My testimony concerns the way that the TMT project is premised on the subdivision of lands and the subsequent argument that the TMT project would have a "less than significant" cultural impact on these subdivided lands. My testimony will be made in two parts. The first part of my testimony will focus on what I see as the rhetorical problems posed by the TMT's Conservation District Use Application (CDUA). As an English professor, I teach my students the art of rhetoric, that is, how to craft arguments for different audiences. The TMT's CDUA is an example of faulty logic and reasoning, many of them tautological (illogically circular with lack of evidence) and self-contradictory. These contorted illogics are the result of the CDUA's attempt to make substantial, adverse, and significant impacts "disappear" and to focus on "compliance" with regulations when the underlying problem is precisely that TMT itself cannot be compliant with the Conservation District Use criteria.

The second part of my testimony will focus on the mo'olelo of Mauna a Wākea that I teach in my undergraduate and graduate classes and the centrality of "mo'o," both as reptilian water deities, as in Mo'oinanea, the kahu or guardian of Waiiau, and in the way mo'o, as in mo'o'āina land divisions, embody parts of land that cannot be separated from the whole. In this

way, the bodies of water that mo‘o deities reside in stretch out across ahupua‘a that are connected by these waterways. Thus, mo‘o are not merely land divisions: they symbolize the “succession of land,” the ways that palena or boundaries mark differences in the way land is managed but not in the ecological or genealogical integrity of land. Based on these mo‘olelo that emphasize the integrity of the uplands of Mauna a Wākea, we can see that the TMT’s argument that the siting of the TMT Project on the northern plateau will have a “less than significant” impact is antithetical both to the fact that the proposed site for the TMT Project lies well within the designation of the Mauna Kea Summit Region Historic District (TMT FEIS, Vol. 1, p. S-3; Exhibit B.13c: map in Mauna Kea CMP, p. 2-31) and is also antithetical to Kanaka ‘Ōiwi values codified in the land division known as “mo‘o‘āina,” a series of interconnected lands that illustrate the genealogical relationships between landforms. The integrity of Mauna a Wākea is the highest expression of this interconnection of lands and traditional Hawaiian cultural practices based on the ways that landforms are ‘ohana or family to each other, and thus the CDUA falsely claims that the TMT Project will not have a substantial, significant adverse impact on cultural and natural resources.

I would like establish first that the overarching argument against the TMT’s CDUA is that cumulatively, the TMT project would add to the impacts of existing observatories in the Astronomy Precinct that are “substantial, adverse, and significant,” and for this reason, the BLNR must deny the TMT’s CDUA. As NASA’s Final Environmental Impact Statement for the Outrigger Telescopes project on Mauna Kea stated unequivocally in 2005, “From a cumulative perspective, the impact of the past, present, and reasonably foreseeable future activities on cultural and biological resources is substantial, adverse and significant” (Exhibit B13d: FEIS for the Outrigger Telescope Project, p. 4-124). The FEIS for the TMT thus states, “From a cumulative perspective, the impact of past and present actions on cultural, archaeological, and historic resources is substantial, significant, and adverse; these impacts would continue to be substantial, significant, and adverse with the consideration of the Project and other reasonably foreseeable future actions” (TMT FEIS, p. S-8). Because the NASA FEIS for the Outrigger Telescope Project establishes that past, present and reasonably foreseeable future activities is substantial, adverse and significant, the FEIS for the TMT can only add to that cumulative adverse impact and so it acknowledges that.

The TMT FEIS claims that the TMT Project will add a “limited increment” to the level of cumulative impact, but that claim is irrelevant because what must be considered is not the individual impact of the TMT Project but the cumulative impact of the TMT Project and the existing observatories. HAR §11-200-12 “Significance criteria” provides the state’s definition of “significance.” The 8<sup>th</sup> criterion states: “In most instances, an action shall be determined to have a significant effect on the environment if it”

- (8) Is individually limited but cumulatively, has considerable effect upon the environment or involves a commitment for larger actions. (Exhibit B.13e: HAR §11-200-12)

As NASA’s FEIS indicates, Mauna Kea is already overbuilt, and because the TMT Project will add to that substantial, adverse and significant impact, it will cumulatively have a considerable effect upon the environment. The TMT Project is therefore not consistent with the purpose of the Conservation District because it will have substantial, adverse, and significant impact on existing natural resources and surrounding areas.

Since the TMT FEIS has already established that the cumulative impact of the existing astronomical observatories is cumulatively substantial, adverse, and significant, the TMT's CDUA argues against itself when it attempts to claim "less than significant impact" on cultural and natural resources at the same time pointing out that the TMT Project is consistent with existing astronomical observatories. The TMT's CDUA attempts to argue that the siting of the TMT Project in Area E makes it "removed" from the cultural and natural resources, but it contradicts its own argument by pointing out that it is consistent with "the many existing astronomical observatories" in the surrounding area, the same existing astronomical observatories that have a cumulative substantial, adverse, and significant impact on cultural and natural resources. The TMT's CDUA claims, "As detailed in this CDUA, locating the TMT project in Area E will result in less than significant impact on historic properties, cultural practices and Native Hawaiian rights, as well as viewplanes, species habitat and existing facilities" (TMT CDUA, p. 2-27). The CDUA then goes on to contradict this claim by also pointing out that "As the Astronomy Precinct is the site of many existing astronomical observatories, the TMT project will be compatible with existing land uses" (TMT CDUA, p. 2-27).

This contradiction in the CDUA, where it claims that the TMT Site is both "far away from" cultural and natural resources and yet consistent with the "many" observatories is a result of what the CDUA *fails* to prove: the CDUA has not proved that the TMT Project will not have a substantial, adverse and significant impact on the pristine area where it is sited where there are many cultural and natural resources, all of which fall in the Mauna Kea Summit Region Historic District.

The TMT Project site is located in the area that is recognized as being historically and culturally significant, designated as the Mauna Kea Summit Region Historic District. The TMT's CDUA states, "The Observatory and Access Way, fall within the Mauna Kea Summit Region Historic District" (TMT CDUA, p. 2-6). The Mauna Kea Comprehensive Management Plan includes this map of the Mauna Kea Summit Region Historic District (Exhibit B.13c: Mauna Kea CMP, p. 2-31).

I also want to establish that the TMT FEIS acknowledges that the entire mountain, from the Saddle area up the summit is a sacred landscape. The TMT FEIS states,

Due to the spiritual and sacred attributes of Maunakea in Native Hawaiian traditions, traditional and customary cultural practices are preformed in the summit region, including. . . Practices associated with the belief in that *the upper mountain region of Mauna Kea, from the Saddle area up to the summit is a sacred landscape*, personifying the spiritual and physical connection between one's ancestors, history, and the heavens. (emphasis mine, TMT FEIS, Vol. 1, p. S-4)

The TMT's FEIS acknowledges that the summit is not the only area to be protected.

I want to turn now to a closer examination of the failures of the TMT's CDUA. First of all, there is a discrepancy between the TMT's CDUA quoting the State Land Use Law (Chapter 183C, Hawai'i Revised Statutes) instead of Hawai'i Administrative Rule §13-5-1 as it is cited in the first application question (Exhibit B.13f: HAR §13-5-1). These two texts differ, and the result is that the TMT's CDUA omits the protection of "cultural resources" as stated on the actual application. The TMT's CDUA states the purpose of the Conservation thus: "The purpose of the Conservation District to conserve, protect, and preserve the natural resources of

the State through appropriate management and use to promote their long-term sustainability and the public health, safety and welfare” (TMT CDUA, p. 2-1). The application itself actually states that it is the “natural and cultural resources” that is to be conserved, protected and preserved. The application states, “The purpose of the Conservation District to conserve, protect, and preserve the natural *and cultural resources* of the State through appropriate management and use to promote their long-term sustainability and the public health, safety and welfare” (emphasis mine). This omission is important because as I will illustrate here, the TMT project cannot “conserve, protect, and preserve” the natural or cultural resources of the northern plateau, the sacred ground that will be desecrated by the construction of the TMT.

In answering the question of whether the TMT project is consistent with the purpose of the Conservation District, the TMT’s CDUA sidesteps the failure of the proposed TMT structure itself to “conserve, protect, and preserve the natural and cultural resources” of Mauna Kea and redirects our attention to the “management” of the *consequences* of the project. In other words, to focus only on management considers only the consequences of the TMT project “after the fact” that the TMT itself that will violate the Conservation District Use criteria. Thus, in referring to the Comprehensive Management, the CDUA relies on “mitigation” and “management” measures, not to the construction of the TMT and the structure itself to meet the criteria of the Conservation District Use. The mitigation measures themselves are only made possible by the violations of the Conservation District Use criteria in the first place. Siting the TMT Project is not a mitigation measure (TMT CDUA, p. 2-8) as it will add to the cumulative substantial, adverse, and significant impacts of the existing astronomical observatories. Furthermore, the argument that siting the TMT Project in Area E at the site 13N so that it “will not be visible from culturally sensitive locations, such as the summit of Kūkahau‘ula, Lake Waiau, and Pu‘u Lilinoe” is not a mitigation measure because it fails to consider the fact that Hawaiian cultural practitioners conduct ceremony and look at viewplanes from all over the mountain, not just from those these sites, particularly since there are historic properties surrounding the site of the proposed TMT Project (Exhibit B13g: Mauna Kea CMP, p. 5-21). Most significantly, the viewplanes from Mauna Kea to Haleakalā would be adversely impacted by the visual and physical presence of the TMT.

Further mitigation measures proposed fail to address the harms to natural and cultural resources that the TMT Project would cause. Requiring a mandatory “Cultural and Natural Resources Training Program” to educate employees to “understand, respect, and honor Mauna Kea’s cultural landscape and cultural practices” (TMT CDUA, p. 2-8) is not a mitigation measure because that traditional cultural landscape will no longer be visible at the site of the TMT Project and will adversely impact the surrounding areas. How is such cultural and natural resources training be a mitigation measure when the very presence of the TMT Project itself would exemplify the failure to “understand, respect, and honor Mauna Kea’s cultural landscape and cultural practices”?

The CDUA fails to address the fact that the TMT project is not consistent with the purposes of the Conservation District precisely because of the harm to cultural and natural resources that would be caused by the construction of the TMT, as documented in the TMT’s Cultural Impact Assessment. There, cultural experts, practitioners, and longtime residents testify to the cultural harm and the harm to peoples’ well-being of this massive 5-acre complex in a pristine area of a mountain that the TMT’s CIA recognizes is the firstborn child of Papahānaumoku, Earth Mother, and Wākea, Sky Father (TMT FEIS, CIA in Vol 3, p. 195). Mauna a Wākea is the elder sibling of the kalo and of the Kanaka. The whole of the mountain

is the sacred realm of the akua, the deities Kāne, Poli‘ahu, Lilinoe, Waiau, Kahoupokāne, Mo‘oinanea, Kūkahau‘ula and other deities who are embodied in land formations. Construction of the TMT would cause violent desecration: the grading of area where massive rocks and stones are embedded in the earth, the excavation two stories into the ground, the removal of 66,000 cubic yards of earth that the TMT FEIS acknowledges is sacred. If an average commercial dump truck can carry 10-14 cubic yards of dirt, it would take between 4570 and 6400 dump trucks to remove land from the TMT site that the TMT’s FEIS acknowledges is sacred.

The TMT’s CDUA also fails to address at least two key points about cultural impact. First, the CDUA fails to address the recommendation of the TMT’s CIA:

Based on the majority view of participants in this current study who have voiced their concerns against proposed actions on Maunakea, it was recommended that Project proponents strongly consider no further development, including the TMT Observatory Project and the TMT Mid-Level Facility at Hale Pōhaku, take place on Maunakea. (TMT FEIS, CIA in Vol. 3, p. 204)

The CIA then goes on to say that if the TMT Project proceeds, there are “alternative proposals and remediation measures suggested by CIA study participants” (TMT FEIS, CIA in Vol. 3, p. 204). Yet the CIA has already acknowledged that the majority view of the participants is that there should be no further development of Mauna a Wākea and no TMT Project. Is that majority view to be overturned by the minority who support the project? Even more tellingly, participants who stand for the sacredness of Mauna a Wākea and oppose the TMT Project explained that they did not expect that their concerns would be listened to. As Ku‘ulei Keakealani states in her CIA interview, “If the majority of the testimony is ‘No, don’t put that TMT there,’ and it still goes in anyway, did it just not matter that we all said, ‘no, no’?” (TMT FEIS, CIA in Vol. 3, p. 157). Moreover, as I have illustrated, the mitigation measures in no way address the specific substantial, adverse and significant impacts that the Project would cause and in no way would render that desecration a “less than significant impact.”

The second point that the CDUA fails to address is the State of Hawai‘i desecration law. Hawai‘i Revised Statutes Division 5 on Crimes and Criminal Proceedings §711-1107 states that

- 1) A person commits the offense of desecration if the person intentionally desecrates:
  - (a) Any public monument or structure;
  - (b) A place of worship or burial; or
  - (c) In a public place the national flag or any other object of veneration by a substantial segment of the public.
- (2) “Desecrate” means defacing, damaging, polluting, or otherwise physically mistreating in a way that the defendant knows will outrage the sensibilities of persons likely to observe or discover the defendant's action. (Exhibit B.13h: §711-1107)

The TMT FEIS acknowledges that “Maunakea is a sacred cultural landscape” (TMT CIA p. 195). It acknowledges that “Among the many critical findings of Maly and Maly’s (2005) cumulative research is the emphasis on Maunakea as a sacred landscape” (TMT CIA, p. 197). How is the decision to go forward with this project not a desecration of the land that the TMT

FEIS acknowledges is sacred land, from the Saddle Road to the summit (TMT FEIS, p. S-4)? Such desecration is punishable by law.

We can see one of the central fallacies in the TMT's CDUA is its assertion that the TMT Project will have no substantial or significant adverse effect on the cultural practices because it is "removed" from the places of highest cultural concern. The TMT's CDUA states, "the Project is not anticipated to result in any substantial or significant adverse effect on the cultural practices of the surrounding community or State" (TMT CDUA, p. 2-8). The TMT's CDUA uses a tactic deployed by developers over again today: developers break up culturally significant places like the Mauna Kea Summit Region Historic District into smaller and smaller fragments in order to argue that each fragment is no longer culturally significant because they are "removed" from each other, even though the application itself states that proposed projects should not involve the subdivision of land precisely because the significance is the relationships of landforms to each other in the integrity of the Historic District. The TMT CDUA states,

The Project has been sited in an area removed from places of highest cultural concern including the Kūkahau'ula traditional cultural property (TCP) and Lake Waiau. (TMT CDUA, p. 2-8)

First of all, we see how the TMT's CDUA is focusing on "cultural practices" instead of the "cultural resources" that is the focus of the Conservation District Use criteria as stated in Hawai'i Administrative Rule §13-5-1. Furthermore, instead of considering how the all of the places in the Mauna Kea Summit Region Historic District are culturally significant, the TMT's CDUA isolates only three TCPs as culturally significant sites. In this way, the TMT CDUA isolates these sites to claim that other sites, such as the proposed site of the TMT is not culturally significant. The TMT FEIS states, "The TMT Observatory will be placed at the 13N site where it will not be visible from culturally sensitive locations, such as the summit of Kūkahau'ula, Lake Waiau and Pu'u Lilinoe" (TMT FEIS Vol. 1, p. S-12). Yet the TMT FEIS identifies over 263 historic properties, including 141 ancient shrines in the Mauna Kea Science Reserve (TMT FEIS, p. P-3). What remains is the irreducible fact that these TCPs, historic properties and the TMT site are all located within the Mauna Kea Summit Region Historic District, and more importantly, belong to the integrity of the lands of Mauna Kea as a sacred place.

The 7<sup>th</sup> Conservation District Use criterion clearly states that conservation lands are not to be subdivided, but what the TMT CDUA is doing is to subdivide the Mauna Kea Summit Region Historic District to make it look like site of the TMT Project is disconnected from the sites of cultural concern and the adverse impacts of the "many" observatories in the vicinity of these sites of cultural concern. First, the application states, "If applicable, describe how subdivision of land will not be utilized to increase the intensity of land uses in the Conservation District." The TMT's CDUA responds to this criterion by stating, with no justification, that "The proposed TMT project does not involve the subdivision of land" (CDUA 2-28). Yet the TMT's CDUA does not *prove* that the project does not involve the subdivision of land. In actuality, it is precisely the subdivision of land that we see in the CDUA that describes the location of the TMT site as a "five-acre site" called "Site 13-North (13N)" in "Area E" in the "Astronomy Precinct" in the "Mauna Kea Science Reserve (MKSr)" (CDUA 1-6). How is that not a subdivision of land? Moreover, the CDUA attempts to justify how the project is consistent with existing observatories: "As the Astronomy Precinct is the site of many existing

astronomical observatories, the TMT project will be compatible with existing land uses” (CDUA 2-27). How is this not an intensification of land uses for “the many astronomical observatories” in the Conservation District?

By claiming that the TMT project is consistent with these “many astronomical observatories” to prove consistency with existing uses, *the CDUA impales itself upon its own argument as clearly intensifying the land use for astronomical observatories in a subdivision that is a part of the Mauna Kea Summit Region Historic District*. The TMT FEIS acknowledges that the practices are associated with the belief that “the upper mountain region of Mauna Kea, from the Saddle area up to the summit is a sacred landscape” (TMT FEIS, Vol. 1, S-4) and that TMT CIA also acknowledges that “Maunakea is a sacred landscape” (TMT FEIS, CIA in Vol. 3, p. 195)

Yet as cultural practitioners have argued, all of the mountain lands of Mauna Kea, including the northern plateau itself is sacred. The TMT’s CIA acknowledges the extensive and significant cultural studies work carried out by Kepā and Onaona Maly in 2005 (TMT FEIS, CIA in Vol. 3, p. 197), and in their account, Maly and Maly explains that it is not just the uplands that are sacred and culturally significant but also the lands that lie upon the slopes of Mauna Kea as well as the lands from which Mauna Kea can be viewed:

Because of the nature of the Hawaiian system of beliefs and land management, this study looks not only at the upper regions of Mauna Kea, but also at the lands which lie upon the slopes of Mauna Kea. In the traditional and historical setting, the people living on the lands which rested upon, or even viewed Mauna Kea, shared ties to the upper mountain regions as well. (Exhibit B.13i: Maly and Maly 2005, p. v)

Maly and Maly elaborate on the reasons why the summit of Mauna Kea cannot be considered in isolation from the slopes of Mauna Kea, explaining the significance of the integrity of lands. The knowledge of this significance is preserved in traditional Hawaiian land terms:

In any discussion of Hawaiian land—‘āina, that which sustains the people—and its place in culture, it is also appropriate to briefly discuss traditional Hawaiian land terms, as the terms demonstrate an intimate knowledge of the environmental about them. We observe once again, that in the Hawaiian mind, all aspects of natural and cultural resources are interrelated. All are culturally significant. Thus, when speaking of Mauna Kea—the firstborn child of Hawai‘i, abode of the gods—its integrity and sense of place depends on the well-being of the whole entity, not only a part of it. (Exhibit B.13i: Maly and Maly 2005, p. v)

I’d like to focus more on Maly’s call to attend closely to traditional Hawaiian land terms to identify the significance of the integrity of land.

In my own published work, I have researched Land Commission Awards to understand how knowledge of land is encoded in land divisions. Of particular interest is the land division known as “mo‘o‘āina.” If we take an ahupua‘a as a measurement of land, an ‘ili is smaller than an ahupua‘a and next in importance. “Mo‘o‘āina,” then, is defined by Mary Kawena Pukui and Samuel H. Elbert under the many meanings of “mo‘o” as a “narrow strip of land, smaller than an ‘ili” (Exhibit: B.13j: Pukui and Elbert, *Hawaiian Dictionary*, p. 253-254). The term mo‘o‘āina is particularly significant because of the root word “mo‘o.” The base word mo‘o also evokes a composite meaning of, among many things, “lizard, reptile,” “succession, series,

especially a genealogical line,” “story, tradition, legend” “narrow strip of land, smaller than an ‘ili,” “small fragment, as of tapa,” “narrow path, track,” “raised surface extending lengthwise between irrigation streamlets,” “ridge, as of a mountain,” “grandchild,” “brindled, as a dog, streaked.” From these definitions we see the composite meaning of mo‘olelo (story/history) as a fragment of a story that is part of a larger story, mo‘o‘āina as a smaller land division, a part of a larger land base, and through mo‘okū‘auhau (genealogy), the lines that connect mo‘olelo, mo‘o‘āina, mo‘okū‘au‘hau and Kanaka ‘Ōiwi themselves.

Mo‘o‘āina ask us to consider the relationality between land formations within an ahupua‘a as well as land formations that are distant from each other but still interconnected. Mo‘o‘āina embody the value of the connectedness of land formations through genealogy, and these mo‘o‘āina were often referred to as simply “mo‘o.” It is important to note here that ‘Ōiwi did practice kālai‘āina, a political economy of the redistribution and division of lands that occurred with the reign of new chiefs, but this did not affect the ways that places were understood in relation to each other, nor did it affect ‘Ōiwi traversal of these boundaries.

Mo‘o‘āina are remembered in oral testimony recorded as Land Commission Awards in 1850. For example, as I was researching lands identified by Samuel Kamakau as the birthplace of the kupua (supernatural being) Māui in Wai‘anae, I came across Land Commission Award (LCA) 3131. A man named Kuapuu had applied for three apana or sections of land and was granted only one of them. What is deeply telling and beautiful about these maps of mo‘o‘āina is that they are defined by what lies on their borders, by their *relationality to other mo‘o‘āina*. LCA 3131 consists of three “apanas” or sections. Section 3 is a mo‘o‘āina, described as a wauke valley at the base of Pu‘u Heleakalā:

No. 3131 Kuapuu claimant. Lauhulu sworn, the land of claimant consists of 2 mooaina, called Puniaikane and Kamai in the ili Lelekoae, W. O. [Wai‘anae, O‘ahu]

Apana 3: an awawa wauke [wauke valley] mauka [or near the mountains]

M [Mauka, inland] by the pali

Ewa [East] pali Kiilauhulu

MK [Makai]: “ ” iliaina Kaolae

W [Wai‘anae, west]: the kula pili [a grassy plain] (Exhibit B.13k: LCA 3131 in Foreign Testimony)

Key here is that mo‘o‘āina are not defined by abstract cardinal directions north, south, east or west but in their relation to other land formations: there is mauka, inland, in relation to the mountains, makai, seaward, in relation to the sea, ‘Ewa (instead of “east”), designating the location as east of Lualualei and Wai‘anae (instead of “west”), designating the location as west of Lualualei. Therefore, we can map this mo‘o‘āina on the ground as being makai or seaward of wauke valley, bordered inland and in the direction of ‘Ewa by pali or cliffs, and mauka or inland of the ‘ili Kaolae.

These lands were also identified as simply as “mo‘o” in Kuapu‘u’s own account, and he uses the names of the other tenants to identify the surrounding mo‘o that locate his mo‘o:

No. 3131 Kuapuu

To the Land Commissioners, Greetings: I, the one whose name is below, hereby state my claim for the land in the ili in the Ahupuaa of Leleakoae, Waianae, Island of Oahu.

There is one moo, bounded on the south by the moo of Keaomakani, on the west by the weed-grown moo, on the north by an adjoining moo, on the east by the moo of Kahau. There is one valley planted in wauke and one kula adjoining Maili. I got this claim before the printing of the law.

#### KUAPUU

The term “mo‘oāina,” then, draws us back to the mo‘olelo of the great love of Kūkahau‘ula for Poli‘ahu and their joining made possible by Mo‘oinanea, the reptilian water deity of Lake Waiau.

One of the most stunning visual illustrations of mo‘o‘āina that specifically depicts the cultural value of the integrity of land the story of the migration of mo‘o to Hawai‘i and the image of the procession of mo‘o on O‘ahu, the procession of reptilian deities\ stretching from Waialua to Kapūkakī, known as Red Hill. *Keaomelemele* is a mo‘olelo recorded by Moses Manu in 1884. The mo‘olelo tells of Keaomelemele, the Golfen Cloud, a woman whose leo hula wale nō, her chanting, splits the mountain of Konahuanui apart from Waolani and creates Nu‘uanu valley. When it is time for the ho‘āo, the marriage, of Kaumailiula and Keaomelemele, her kupuna, the mo‘o or reptilian water deity Kamo‘oinanea, gathers her great family of mo‘o to accompany her from her home islands in the clouds, the islands of Nu‘umealani, Ke‘alohilani and Kuaihelani, to O‘ahu, and once there the procession stretches east from Pua‘ena in Waialua across O‘ahu to Kapūkakī. The story explains,

Ua hiki mua mai [o Kamoooinanea] ma Puaena, Waialua, aia ma laila kona wahi i hoonoho pono ai i kana huakai nui, oia hoi ka huakai o na moo. Aia ma ke kula o Lauhulu ma Waialua, ua pani paa loa ia ia wahi e na moo. O ka kini mua ana keia o na moo kupua ma keia pae aina, ma muli no ia o ka makemake o Kamoooinanea, a penei e maopopo ai ka nui o na moo. Ua hoonoho palua ia ka hele ana o ka huakai, o ka makamua o na moo, aia i ka piina o Kapukaki, a o ka hope no hoi aia no i Lauhulu, a ma waena mai o keia wahi mai Waialua a Ewa, ua pani paa loa ia e na moo. (Exhibit B.131: Moses Manu, *Keaomelemele*, p. 71)

[Moooinanea] arrived first at Puaena in Waialua. There she arranged her great company of lizards. The plain of Lauhulu in Waialua was covered with them. This was the first time that the supernatural lizards arrived on these islands. It was through the will of Moooinanea. This is how we know of the number of lizards, she set them two by two in the procession. When the first of the lizards reached the incline of Kapukaki (Red Hill), the last ones were still in Lauhulu and between the two places, from Waialua to Ewa, the places were covered with lizards. (Exhibit B.131: Manu, *Keaomelemele*, trans. by Mary Kawena Pukui, p. 157)

In this illustration, we see the mo‘o‘āina embodied as reptilian deities are connected through the mo‘okū‘auhau, the genealogical line of Mo‘oinanea; thus, illustrating how the mo‘o‘āina are the smaller land divisions that are ‘ohana to each other, family bound by their genealogical relationships across the larger land divisions of the ahupua‘a. As the distance from Waialua to Kapūkakī represents the expansiveness of the procession, the great numbers of mo‘o stretched across the island illustrate the continuities of the mo‘o‘āina. Eventually, the mo‘o akua spread throughout all of the islands to dwell in springs and ponds and other bodies of water from

Hawai'i to Ni'ihau. Here we see a radically different economy of land that foregrounds the familial relationships of land as well as the networks of protectors of the land gathering together in this mo'olelo that traces the birth of land and water features.

Mo'o'aina, then, represent an intimate knowledge of land and the ways that land is understood in succession, in relation to adjacent lands, but when we turn to Mauna a Wākea, we see that the TMT Project is proposed to be sited in the undivided ahupua'a of Ka'ohē, an even higher expression of the integrity of land (Exhibit B.13.m: Figure 2-2 from the Mauna Kea Cultural Resources Management Plan (CRMP), p. 2-5). Ka'ohē as an ahupua'a in the wao akua, the realm of the gods, differs from ahupua'a in the wao kanaka, the realm of people at the lower elevations. The Ka'ohē lands upon which the Astronomy Precinct has been located is not divided in to smaller land divisions. Victoria Kamāmalu relinquished this ahupua'a of Ka'ohē to Kauikeaouli on January 27, 1848 at the time of the privatization of land in the Māhele (Exhibit B.13n: *Māhele Book*, 1848, p. X). Critically important here is that there has only ever been one kuleana award in the entire ahupua'a of Ka'ohē at the lower elevations that was in cultivation of coffee, arrowroot, banana and taro (TMT FEIS, Vol. 3, p. v.5). As surveyor Curtis J. Lyons explained in 1875,

The whole main body of Mauna Kea belongs to one land from Hamakua, viz., Ka'ohē, to whose owners belonged the sole privilege of capturing the ua'u, a mountain-inhabiting but sea-fishing bird (Exhibit B.13o: Curtis J. Lyons, 1875, cited in Maly 2005, 13-14).

Lyons clearly refers to this land as “one land,” not a land that has ever been subjected to subdivision.

Siting the TMT on the northern plateau would violate this integrity of the land, thus resulting in substantial and significant adverse impacts to the cultural and natural resources of Mauna a Wākea that represents the highest expression of the integrity of lands and land formations.

This integrity of the uplands, the refusal to isolate the summit from the other lands above the treelines, the lands both the summit and the northern plateau, is evident in the mo'olelo we read in my classes. For example, Emma Ahuena Davison Taylor's (1866-1937) account of Kūkahau'ula, Poli'ahu and Mo'oinanea entitled “The Betrothal of the Pink God and the Snow Goddess, The Pink Snow is Always Seen Upon Mauna Kea,” was published in July 1931 in *Paradise of the Pacific*. In this mo'olelo, Ahuena describes the domain of Poli'ahu as stretching from the summit to the fern belt: “[Kūkahau'ula] watched her every day as she played with the kini-akua (fairies) amidst the silversword (hina-hina) near the pool, and, sometimes further down near the fern belt” (Exhibit B.13p: Ahuena, “The Betrothal”). Later, Kūkahau'ula is watching: “Poli'ahu was coming slowly down the mountainside almost to where plant life grew.” The “uplands” are further referenced in Mo'oinanea's final chant,

Ku-kahau-ula and Poliahu, Oh!  
 These two were betrothed in the Chilling Frost  
 In the cold region of Mauna Kea;  
 They are the residents of the *uplands* [emphasis mine],  
 The children of the thicket of wild-woods  
 The thicket that radiates their love

From the summit of Mauna Kea. (Exhibit B.13p: Ahuena, “The Betrothal)

As this mo‘olelo illustrates, Poli‘ahu, her sisters and Kūkahau‘ula, like the cultural practitioners who honor them, were not limited in their traversal of the mountains to the three TCPs of Pu‘u Kūkahau‘ula, Pu‘u Lilinoe and Waiiau or to their viewplanes.

The fallacies, omissions, and contradictions of the TMT’s CDUA and its failure to prove that the proposed TMT Project meets the criteria of the Conservation District Use are a result of a root problem: the TMT’s CDUA cannot make the substantial, adverse and significant impacts of an 18-story industrial complex on a 5-acre footprint in a conservation district disappear. As Hawai‘i Supreme Court Justice Sabrina McKenna reminded us in the court case on the BLNR’s procedural error regarding the approval of the TMT’s CDUA, “Justice can perform its function in the best way only if it satisfies the appearance of justice. Justice must not only be done, but manifestly seen as done.”

As members of Huaka‘i i nā ‘Āina Mauna, we walk across different places on the uplands of Mauna a Wākea in the traditional Hawaiian practice of ka‘apuni māka‘ika‘i, the practice of traveling on spritual huaka‘i or journeys taken as occasions to view, remember and teach the mo‘olelo of the wahi pana or celebrated places. Such practices take us on kuamo‘o (trails) beyond the narrow view of the TMT’s CDUA and its identification of only three places of cultural concern—Pu‘u Kūkahau‘ula, Pu‘u Līlinoe, and Waiiau. The cultural practices on huaka‘i take us in the footsteps of Kamiki, the warriors of ‘Umi, the kupua Māui, and Queen Emma to different parts of the mauna, all of which are sacred and all of which are related to other land formations, through both viewplanes and genealogies. This cultural practice of ka‘apuni māka‘ika‘i is also critical to the stewardship and monitoring of sacred sites, and we have seen desecration happening on remote places on the mountain.

I do not have Hawaiian genealogy, but I have grown pili (close) to Mauna a Wākea from walking the ancient kuamo‘o with Kūkauakahi Ching. Through listening to his stories of his different huaka‘i across the mountain lands, I learned to grow so much aloha for Mauna a Wākea. We have looked out over nā ‘āina mauna, the mountain lands, the gently sloping terrain of rocks, and we have seen the land open up to a stunning vista as the late afternoon sun casts a golden glow on the grassy sloping terrain. I think of of Poli‘ahu and her sisters, Līlinoe, Waiiau and Kahopoukāne, all dressed in the golden pā‘ū made from the kapa lā pounded from the rays of the sun as they traverse the uplands of Mauna a Wākea down to the fern belt, making their way down well below the northern plateau.

The TMT’s CDUA fails to prove that the TMT Project is consistent with the eight Conservation District use criteria; therefore, the Board of Land and Natural Resources must deny the TMT’s CDUA for the Conservation District Use Permit.