

SAVING SITES: ONE LOOTING STEP AT A TIME

UTILIZING GEOGRAPHIC INFORMATION SYSTEMS (GIS) AND GOOGLE
EARTH

TO ANALYZE LOOTING PATTERNS OF NASCA SITES

by
Amelia Dall, B.A.

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Committee Members:

Christina Conlee, Chair

Todd Ahlman

Ana Juarez

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DEDICATION

To Ivy and Grey, my two most loyal companions on many late nights.

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ABSTRACT

To be able to preserve looted sites, one must identify the patterns and develop prevention strategies to avoid further looting. The illegal antiquities trade has had its' roots in the archaeological field since the beginning of time. One of the reasons why looting happens is because of the collectors' widespread interest in the rich, cultural materials that are found at cultural heritage sites. Therefore, preservation of looted sites is critical in archaeology. The dire threat of looted artifacts exists in cultural heritage sites, especially in countries that have few-to-little resources to develop and implement prevention strategies.

Focusing on Nasca sites, current laws and regulations have been established between United States and Peru in order to criminalize looters, such as the Memorandum of Understanding (MOU). The law is placed to prevent the international antiquities market from profiting from looted artifacts and in order to create an ethical environment within museums and their affiliates. However, the law still does not benefit specific Nasca sites that have already been looted or their artifacts from circulating in the international antiquities trade.

Therefore, utilizing modern technology is an important and effective method of understanding the deep implications of looting, specifically in Nasca. Using Geographic Information Systems (GIS) and satellite imagery from Google Earth can provide a method for analyzing looted pits in Nasca, Peru, and to develop a tracking method to

identify the range of looting over the years. The approach aims to lower the cost of prevention strategies and to implement an adequate prevention of already looted pits, which in turn can be used to hamper any further looting.

Documenting images and area measurements of Nasca sites that were looted in the years 2002 and 2016, the project aims to utilize a GIS analysis of the impact on the region. Deriving research from Dr. Sarah Parcak's work on satellite imagery and looting, Dr. Katharina Schrieber's archaeological survey, Brooke Boyer's thesis, among other acclaimed publications, I hope to gather an understanding of the importance for preservation and prevention methods against looting.

I. INTRODUCTION

The ancient civilizations of Peru were unknown to archaeologists and collectors outside of the country until the nineteenth century (Proulx 2006) when the first Nasca pottery came to light. The culture, Nasca, was made known from a collection in 1842 by Captain Francois Joseph Amedee de Campe de Rosamel (1809 – 1853), a Frenchman, who embarked on a trip around the world. He brought back to France the Nasca collection he had found, and among them, the five Nasca vessels (which Uhle later found, and was the source of his expedition) that were not given recognizance until 1898 (Proulx 2006). The first known Peruvian collection is attributed to Jose Mariano Mercado who sent his collection to European scholars in 1881. As a resident of Puno (a city in Peru located on Lake Titicaca), Dr. Macedo (1823 – 1894), was the first person to have truly paid any kind of attention towards the provenance of antiquities. His Peruvian collection was mostly derived from archaeological contexts that had not been discovered yet, which screams to the obvious concern of the long history of looted artifacts (Rowe 1959). “In 1876, Jose Mariano Macedo opened his private collection of Peruvian antiquities to a select public in Lima. In the years to come, Argentine clergymen, celebrated French actresses, Lima intellectuals, and eminent German ethnologists could ‘admire [Macedo’s] treasures’ in his private residence on Plaza Bolivar. By the year 1881 Macedo owned around



Figure 1: Nasca Double Spout Masked Serpentine Creature Pottery

2,000 ‘antiquities’: elaborate and colorful ceramics – head busts of humans, animal figurines, and representations of flora – as well as colorful textiles, and precious metal artefacts.” (Ganger 2014: 101). However, the most precious of his collection were the bundle of 158 colored knots and twisted strings, the *kipu* of the Incas. In 1882, Jules Hamy published an article “Les collections peruvienne du Docteur Macedo,” about the collection from Macedo in *Revue d’Ethnographie*, and illustrated one of the Nasca vessels (a Nasca Phase 3 double spout bottle with a double-headed masked Serpentine Creature from the Ica Valley, Fig. 1) which was one of the earliest known illustration with a proper provenience (Proulx 2006).



Figure 2: Frederich Max Uhle

Macedo had sold some of his collection, which included three Nasca style vessels,

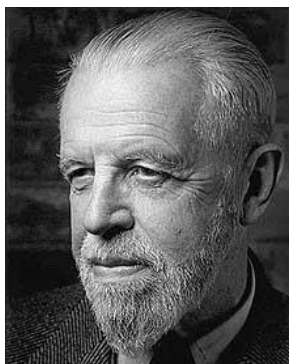


Figure 3: Alfred L. Kroeber

two from Ica and the third from Arica to the Berlin Ethnographic Museum, which had questioned the provenience of their source thus opening the door to the world of looted objects and the concern for certain adequate preservation methods. Frederich Max Uhle (Fig. 2) who is an important

character in the Andes archaeological field, coming from Germany with a Ph.D. in the linguistics field, and realizing that he did not want to become a philologist, he turned to anthropology and acquired his first employment as an assistant to the director of the Konigliches Zoologisches und Anthropologisch-Ethnographisches Museum in Dresden

(Proulx 2006). A friendship with one of the acclaimed Peruvianists, Alphons Stubel, Uhle raised his interest in South America and after accepting a position with the Konigliches Museum fur Volkerkunde in Berlin, which was where he first encountered Mercado's three Nasca vessels from his collection (Proulx 2006). Realizing the infinite possibilities that could come from identifying where the polychrome potteries had been discovered, and the understanding of a mysterious culture (Nasca) that could come with it, Max Uhle led the first scientific expedition in February 1901 to Peru in the lower Ica valley (Proulx 1999). The discovery of the Nasca style was credited to Uhle. Being the first person to excavate cemeteries that had these exquisite polychrome potteries that no one had a clue where they came from, or how they came to be, or the culture that had created them, Uhle must have recognized that he was researching the find of a lifetime and he had come across these potteries because they were looted.

Uhle led the revolution of Nasca studies, and I think that Alfred L. Kroeber's recently published 1926 expedition book was no other than a celebration of the accomplishments for the Nasca profession. Alfred L. Kroeber (Fig. 3) was a man of many talents, having studied under Franz Boas, although his notable success was when he was the first person to receive a Ph.D. in Anthropology awarded by Columbia University. Max Uhle had introduced the world of Nasca culture to Alfred L. Kroeber in the early 20th century, which led to the publication of Uhle's collection from the Ica Valley with Duncan Strong in 1924, and the publication of Uhle's collection from Nasca with Anna Gayton in 1927, with the ultimate devotion towards writing the published 1926 expedition book (Kroeber and Collier 1998). The two field seasons in Peru led by Kroeber was successful because he had documented the largest collection of Nasca

mortuary goods, and the first time there were an attempt to seriate Nasca pottery, no other collection had been published of this size and in extreme detail (Kroeber and Collier 1998). This research led to an expansion in Nasca studies, Lawrence Dawson completed a new Nasca seriation at Berkeley beginning in the 1950's (Kroeber and Collier 1998), to which Vaughn et al. (2014) tested using OSL (Optically Stimulated Luminescence), and found that some phases of the seriation were in a valid chronological order but some others were factors not of time. The sites that Kroeber had found, which were published by Patrick Carmichael after his death, were relocated by Katharina Schreiber (Fig. 4) and in the 1926 expedition book, included a new map with her recent surveys (Kroeber and Collier 1998). In this thesis, I use Dr. Schreiber's UTM coordinates of the Nasca, Aja, and Tierra Blancas valleys.



Figure 4: Dr. Katharina Schreiber

As many years passed, with much time researching the seriation of Nasca ceramics, it was clear that identifying the provenience of each archaeological artifact was a constant struggle. "The Nasca developed intricate and stunning material culture such as their elaborate ceramics, and these caught the attention of neighboring people in Peru as well as foreigners until modern times." (Boyer 2010: 1). When the looters come across an archaeological burial site, they fall prey to the illicit international trade that devours many Latin America objects, and they continue to loot because of its' priceless value. "The looting of archaeological sites in Peru grew from a trickle to a hemorrhage during the last three decades of the nineteenth century" (Proulx 2006: 21). It is why when one comes across an artifact from any Latin America region with no known provenience, it must be

treated with high suspicion. “Archaeology is a critical component in the study and understanding of human history, and the destruction of archaeological finds has both material and intellectual consequences.” (Proulx 2013: 111).

Looted pits come in all forms (Fig. 5) and the depth/width can be of any size. For



Figure 5: Image of a Looting Pit

my research, I aim to offer recommendations on how to improve the approach towards preservation of looted sites in the best cost-efficient method possible. In this thesis, I use spatial analysis from satellite imagery obtained by Google Earth. Though

analyzing satellite imagery from afar does inhibit some problematic issues, such as difficulty identifying

whether there are looted pits at a particular site, my thesis is merely a suggestion in the archaeological record in order to advance our preservation methods towards looted archaeological sites. In Chapter Five, Approach and Methods, I will discuss how I acquired images from Google Earth and analyzed them in the ArcGIS (ArcMAP) program. Even though most archaeological objects in the Nasca region are lost due to looting, this thesis aims to document the remaining sites to increase attention towards the protection and preservation of Nasca sites. Since Dr. Sarah Parcak (Fig. 6) published her researched work of documenting Tanis (a lost



Figure 6: Dr. Sarah Parcak

Egyptian city that was made famous with

Raiders of the Lost Ark), finding 17

potential pyramids, around 3,000 settlements, and 1,000 lost tombs with “space

archaeology” (satellite imagery + spacecraft + spatial analysis), there has been developed efforts going into this field to find lost civilizations, hidden structures, and degree of looting. I will discuss more on Dr. Parcak and other scientists’ findings using satellite imagery in Chapter Four, Previous Research on Looting. The struggle with satellite imagery is that you go through three things that a burial site is covered by: vegetation, soil or sand, modernity (buildings, football field, house, etc) (Parcak 2016). Luckily, the Nasca region is composed of a dry climate, which means less impact on the sites by vegetation and increases the ability to easily identify looted pits.

Recognizing the patterns of certain data is very important in this thesis. In the Results and Discussion chapter, I will be discussing my findings within the patterns of: elevation zones, time period, degree of looting, number of looted pits, site type (habitation, cemetery), and visible structures (ancient structures that was made by the people of that specific time period). I will also be highlighting the numeral differences between two specific years, 2002 and 2016 (highest vs. highest; lowest vs. lowest), and then comparing 2002 vs. 2002, and 2016 vs. 2016. Sarah Parcak (2015) stated that there is a growing global concern for archaeological sites being affected by looting and it is important to recognize whether looting increases (or decreases) during political conflict in the country, or other reasons, to help protect heritage sites from such damage.

Prior starting the thesis project, my suspicion was that looting would have had increased from 2002 to 2016 because of the technological advancements of society, which would provide looters better means of “excavation” tools. Looting has long been rooted in civilization since the beginning of time, but I think that looting has possibly significantly increased due to three main factors: availability of transportation (easier to

drive to sites, instead of walking), machinery (bulldozers, to be specific), and much improved instruments for looting. The population increase means the roads are improved and maintained, which also means more people that has access to transportation.

Question remains whether inexperience is a factor in looting, does it mean that there are broad type of people that currently loot? However, I also had thought that looting might not have had increased because of the ostracizing of the “profession” and the regulations (such as the MOU) that had since then been established to prevent further looting of archaeological sites.

Using GIS and satellite imagery from Google Earth is a cost-efficient way to document degrees of looting. GIS can enhance the ability to recognize, diagnose, and identify looted sites by generating area measurements of each looted pit. The data from the research can help heritage preservation organizations (such as the Sustainable Preservation Initiative, (<http://www.sustainablepreservation.org/>) located in Peru and New York City) provide information to local government organizations to prove that burial sites, regardless of the fact that they have already been looted, would need further conservation efforts. My research goal is to present my findings with the said method and to describe the degree of looted pits in detail. This thesis can provide a starting path for other researchers using satellite imagery and GIS for looted archaeological sites in many parts of the world. It is my long-term vision to develop an interactive website with a map of looted heritage areas for archaeologists to upload their data, and share with peers in this field, and to recognize and understand the environmental impact of looting. Hopefully, I would be able to further my research by doing a PhD study someday.

II. HISTORICAL BACKGROUND

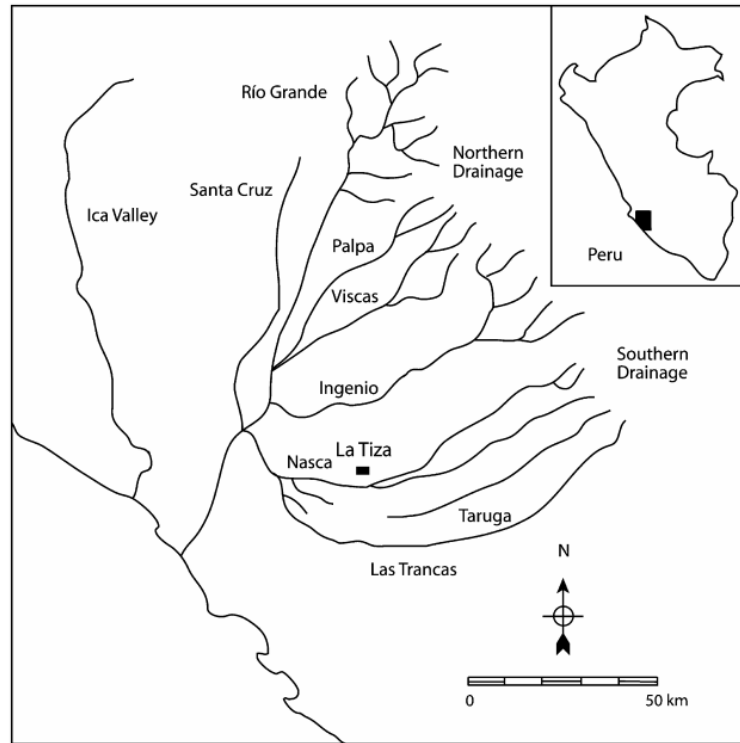


Figure 7: Map of Nasca, Peru

As a country with a trifecta of distinct environmental zones (desert, highland, and tropical rainforest) , it was also home to ancient cultures such as the famed Inca Empire, one of the largest known states in Pre-Columbian America until the conquest of the Spaniards in the 16th century. The long mountain ranges of the Andes mountain, tropical basins, and the dryness of the Peruvian desert created such environmental biodiversity in Nasca, Peru to generate a habitable region. The area has a steep topography that leads to abundant diversified ecological zones (Contreras 2010). Stretching for miles along

Peru's South Coast, and where most research had focused on a specific region, the Nasca drainage.

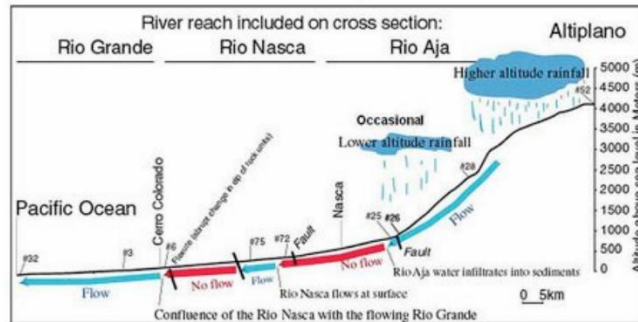


Figure 8: Infographic of Nasca Drainage

Described as a “sub-tropical desiccated desert” (Proulx 2006: 1), the distance between two famed rivers, Ica and Nasca, are less than 20 - 25 kilometers apart (Silverman and Proulx 2002, Proulx 2006) and 50 km distance runs between the north-south rivers. Since the Pacific Ocean was to the west, the coastal rivers originate in the highlands because of the runoffs from the mountains during the summer rainfalls (December – March) which fills the rivers, then flows into the ocean (Silverman and Proulx 2002). Agriculture was only was available at certain areas, confined to the river oases and the best (and largest) agricultural lands are located inland from the shore (Silverman and Proulx 2002). “The middle valley, known as the *chala*, was the major settlement zone in the Nasca heartland. Starting at 500 meters above sea level and extending to 2,300 meters is a hot, dry transitional region known as the *yunga*. This ecological zone was also important to the Nasca people, although population density there was not nearly as great as in the *chala*.” (Proulx 2006: 1) The Nasca river does not

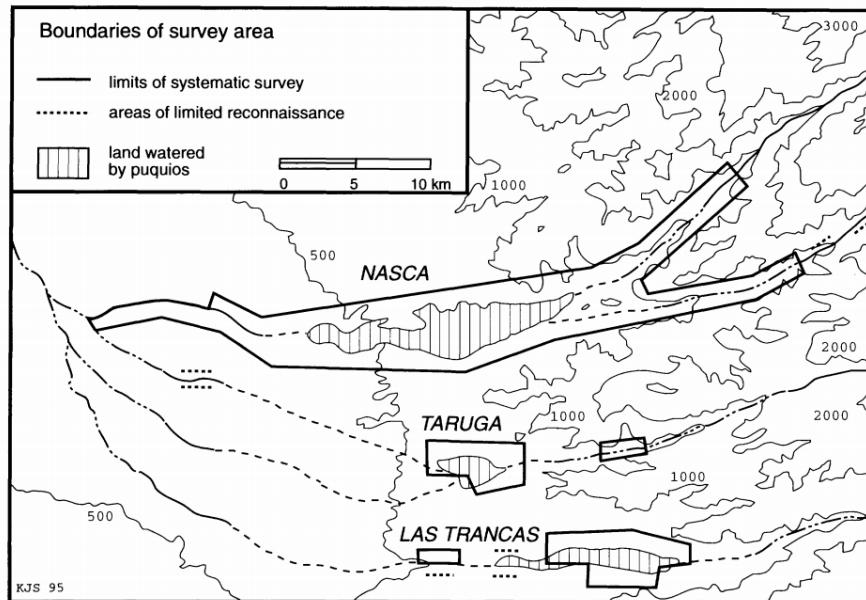


Figure 9: Map of Survey Areas in Nasca

have headwaters (a tributary stream of a river close to or forming part of its source) because the river itself came from the two rivers in the north, the Aja and Tierras Blancas rivers, and they both have their own headwaters (Silverman and Proulx 2002).



Figure 10: Image of a Puquio

“In addition to its multiple tributaries, the Rio Grande de Nazca drainage is unusual because two different water regimes operate: a northern one of surface water which produced a more or less standard coastal irrigation system, and a southern one whose characteristic scarcity of surface water was resolved in the past through the construction of an ingenious system of underground canals or galleries that tapped

subsurface water and surface leader canals and reservoirs from which fields were irrigated”

(Silverman and Proulx 2002: 45).

Puquios (Fig. 10, underground horizontal aqueducts) as they are now commonly known, but called as “filtration galleries” by Helaine Silverman and Donald Proulx in their book “The Nasca”, which they felt might be a better name because it was such an earlier name in the archaeological literature. However, there was evidence that Rostworowski had found that suggested the *puquios* were once called as *huncolpi* in the ancient times (Silverman and Proulx 2002). Silverman and Proulx stated that to develop a man-made filtration gallery (*puquios*) consisted of several parts: an excavated horizontal tunnel in a lateral way until it arrived to the point where it intersected with the underground aquifer, the walls had to be lined with river cobbles without the use of mortar because the water had to be filtered through these stones to run through the gallery, and they were narrow, less than one square meter (2002: 45). Although, the amount of *ojos* (funnel-shaped holes dug into the galleries, at varying intervals between 10 – 30 km apart) are typically different for each *puquio* (Schrieber and Lancho 1995; 2003).

<i>Time Period</i>		<i>Culture</i>	<i>Date</i>
Late Horizon		Inca	1476 – 1532 C.E.
Late Intermediate		Tiza	1000 – 1476 C.E.
Middle Horizon		Wari, Loro	650 – 1000 C.E.
Early Intermediate		Nasca	1 C.E. – 650 C.E.
Early Horizon	Paracas, Proto-Nasca	900 B.C.E. – 1 C.E.	
Initial		Hunters and Gatherers and Initial Farmers	1800 – 900 B.C.E.
Pre-Ceramic		Hunters and Gatherers	3500 – 1800 B.C.E.

Table 1: Chronology of Nasca region

However, to understand how the Nasca culture came to be, hunters and gatherers first occupied the region sometime during the Preceramic period with the earliest dates in the middle valleys around 3500 B.C.E but



Figure 11: Nasca Geoglyph in the form of a bird

there was likely much earlier occupation along the coast and in the highlands (Table 1) (Conlee 2015). The Initial Period, also called the Formative, begun in 1800 B.C.E. and ended around 900 B.C.E. It was when the pottery and the new settlement sites by farmers appeared alongside the coastal valleys in order to benefit cultivation from the rivers. During the Early Horizon (900 – 1 C.E.) was when the important funerary grounds of the Paracas culture emerged, and extensive knowledge of irrigation and water management developed.

In the Early Intermediate Period (1 C.E. – 650 C.E.), the Paracas transitioned to the Nasca culture, and was the first large, regionally integrated, complex society in the region. Cahuachi, a religious center believed to have numerous been a pilgrimage site, thrived and had several large pyramid mounds and plazas (Silverman 1993; Kantner and Vaughn 2012). It was also a place where craft specialists created beautiful, elaborate works of arts and crafts (textiles, pottery) (Aveni 2006; Conlee 2008; Vaughn 2009; Silverman 2016). The geoglyphs (Nasca lines, Fig. 8) also developed during this time, which were an integral part of Nasca culture religious practices. The area that the Nasca people occupied was a dry environment in the river valleys of the Rio Grande de Nasca drainage and the Ica Valley, which provided such measures for perfectly preserved archaeological remains due to the large-scale irrigation that was from the river runoff from the adjacent highlands (Shimada et al. 1991).

The Nasca culture continued some aspects of the Paracas culture, and still was a culture of its' own (Proulx 2006). They were well known for their mummified disembodied heads (trophy heads), *puquio* system, geoglyphs (the Nasca Lines), and the skills to create such elaborate pottery. The ceramics of the region were how the Nasca

chronology had been split into specific order, and were identified by each distinct sub-regional styles. The seriation of Nasca pottery was first identified by Uhle and Kroeber. Later, Lawrence E. Dawson, whom in the 1950's, worked at Museum of Anthropology at the University of California, Berkeley created the phase sequence that is still used today (Proulx 2006). It is important to note that the phase sequence created three separate timelines of the Early Intermediate Period of the Nasca culture; Early Nasca (C.E. 1 - 450), Middle Nasca (C.E. 450 – 550), Late Nasca (C.E. 550 – 650) (Boyer 2010; Conlee 2006; Silverman 2002).

Dr. Kroeber initially had an assessment of the Nasca pottery sequence, though his 1927 seriation with Anna Gayton, unfortunately was not widely accepted as well as his reevaluation of the sequence in 1956 (Kroeber and Collier 1998). The three separate timelines of the Nasca chronology were defined within nine phases of ceramic seriation as described by Donald Proulx (2006: 4) derived from Lawson Dawson's seriation system. "Although Dawson's system is widely used today and Kroeber's is seldom mentioned, it is ironic that after so many years, Kroeber is still the first to present his final results with the publication of this volume; Dawson's seriation still has not been published in its entirety. Kroeber remains the only author to attempt a full description of the entire Nasca stylistic sequence" (Kroeber and Collier 1998: 20). "The geographical complexity of the Rio Grande de Nazca drainage and the likelihood of pots moving out of their original locus of manufacture (for variety of reasons) strongly suggests that regional variation must be taken into consideration in understanding style and chronology" (Silverman and Proulx 2002: 37).

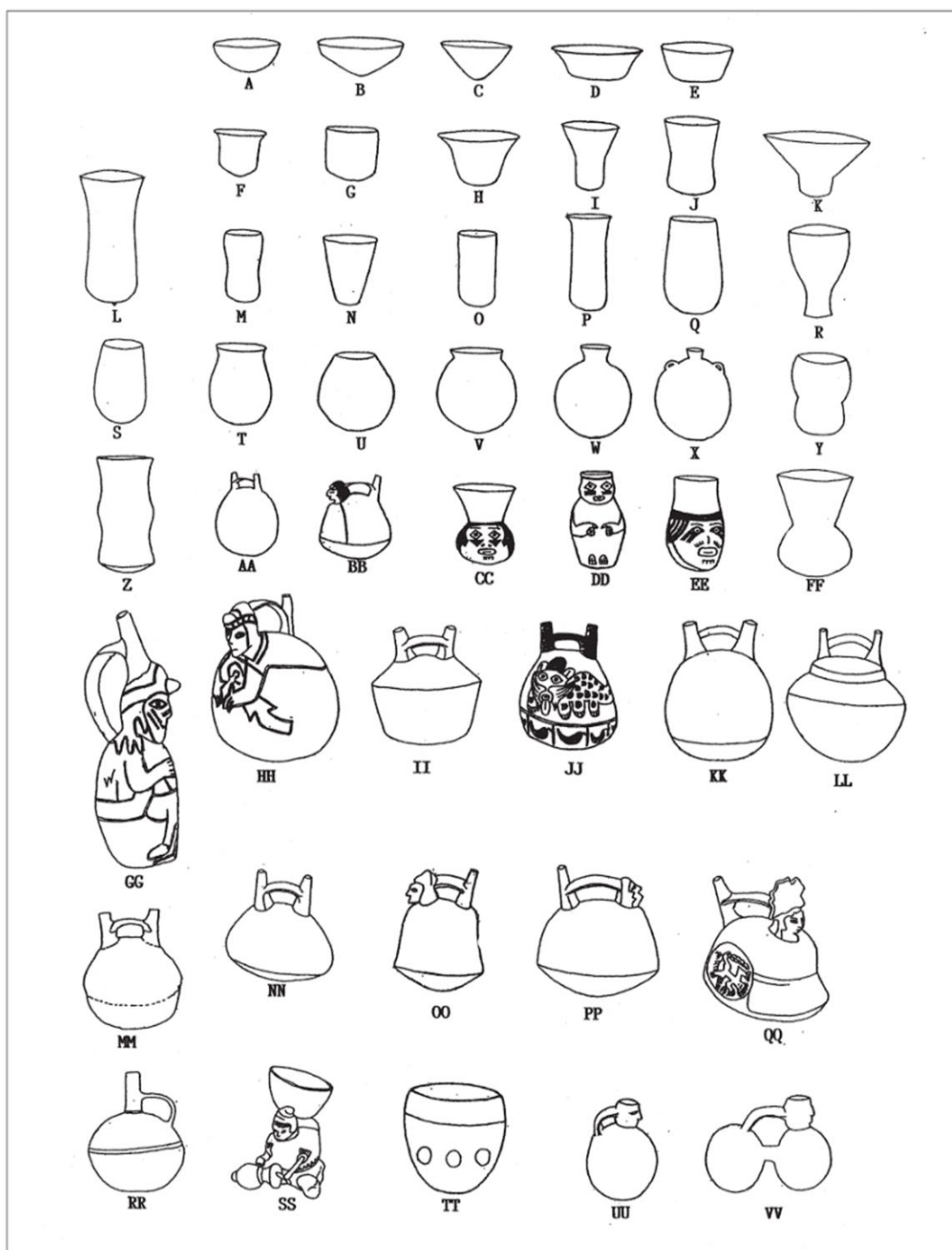


Figure 12: Chart of principal Nasca vessel shapes

Phase 1 is long thought to be a process of transitioning from the Paracas culture to Nasca, from the earlier version of Paracas pottery and the Nasca style of slip-painted pottery (Proto-Nasca, 100 B.C.E.). As for Phases 2 to 4, the pottery that Nasca created mainly focused on naturalistic themes of two different kinds, secular (birds, plants, fish) and mythical (supernatural, deities). However, Proulx emphasized Phases 2 to 4 are sometimes introduced as “Early” or “Monumental” (Early Nasca, 75 B.C.E. to 175 C.E.). Phase 5 was when the Nasca people became more abstract and creative with the style of their pottery. Proulx stated that the prolific (Phase 5) “was a time of great innovation and change” (2006, p. 4). The Nasca started to incorporate rays, tassels, and volutes in their work (Middle Nasca, Transitional, 300 C.E.). During the Late Nasca period, Phases 6 and 7, was “the high point of the prolific strain and the end of the Nasca sequence in the Early Intermediate Period.” (Proulx 2006: 4) Phases 8 and 9 is when the Nasca style transitions to the emerging Huari Culture of the Middle Horizon period (650 C.E.) and is called disjunctive. The style was of elements that were turned “into abstract geometric forms as well as the introduction of outside elements...” (Proulx 2006, p. 4) “Nasca archaeology is in dire need of a consistent series of phase-by-phase radiocarbon dates. This will be possible only with more excavation, ideally at habitation sites” (Silverman and Proulx 2002: 39).

Periods Estimated Dates Stylistic Strains Dawson's Phases Sawyer's Phases

Middle Horizon	650 C.E.	Disjunctive	9	Nasca-Wari
Middle Horizon	650 C.E.	Disjunctive	8	Nasca-Wari
Early Intermediate	550 C.E.	Proliferous	7	Late Nasca
Early Intermediate	425 C.E.	Proliferous	6	Late Nasca
Early Intermediate	300 C.E.	Transitional	5	Middle Nasca
Early Intermediate	175 C.E.	Monumental	4	Early Nasca
Early Intermediate	50 C.E.	Monumental	3	Early Nasca
Early Intermediate	75 B.C.E.	Monumental	2	Early Nasca
Early Intermediate	100 B.C.E.	Proto-Nasca	1	Proto-Nasca

Table 2: Nasca Pottery Stylistic Elements

The people of the Nasca culture were the first large, regionally integrated, complex society in the region. They occupied an area of dry desert environment in the river valleys of Rio Grande de Nasca drainage and the Ica Valley. It probably did not seem much, but the desert environment helped the Nasca flourish in their time, and was indeed prosperous (Silverman and Proulx 2002). The archaeological remains of the Nasca were greatly preserved because of the Pre-Hispanic dry conditions and the large-scale irrigation that was from the adjacent highlands of the nearby river runoff (Shimada et al. 1991). Felipe Guaman Poma de Ayala considered the town of the Nasca as a place where the wine was better than Spain, and famously said “*abundancia y poca agua*” (both abundance and scarcity of water) to appropriately characterize Nasca.

In terms of appearance of the Nasca people, there obviously is no concrete evidence to what they looked like, but an estimation can be made by using examples of modern Andean people because the Nasca were their predecessor and their closely related ancestors: the Asiatic peoples of Siberia and Mongolia (Silverman and Proulx 2002). The archaeological remains of the well-preserved mummies and ceramic representations supported the theory as well. “The Nasca had high, padded

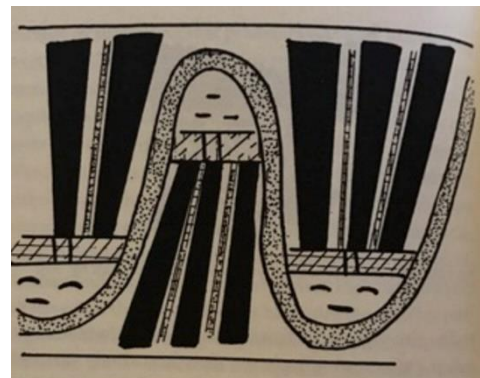


Figure 13: Cranial deformation pottery style

cheekbones, an epicanthic fold of the eyelids, “shovel-shaped” incisor teeth (a concave depression in the back of these teeth), and straight black hair.” (Proulx 2006: 3) They all were also short, an average height of 5’1 feet for males and a shorter height for the females, heavily manipulated frontal-occipital cranial deformation in both sexes, which

started when they were infants and commonly portrayed in ceramic effigies (Fig. 13), though the frequency has not yet been determined (Proulx 2006). It was important to the Nasca peoples to recognize whomever was in their culture, and they did so by physical attributes (cranial deformation) and impermanent attributes (language and clothing) (Silverman and Proulx 2002).

The language of the Nascas has been widely debated, but Max Uhle (whom started out in the career of philology) confirmed that there were two language strata in the Ica valley. Since there were no archaeological record of Nasca peoples' language because they did not have any writing system thus enabling no way to prove their communication style due to the Spanish arriving hundreds of years after the Nasca culture disappeared, but linguistic reconstruction can provide some kind of insight into the matter (Silverman and Proulx 2002). From Silverman and Proulx, they provided an intercept from Max Uhle's 1924 book, pages 130 – 1: "The older geographic names in the valley of Ica and lower down on the river belong, so far as we can see, to at least two different languages. One of these is Quechua, the other older. We count among geographical terms of Quechua provenience the following: Chirana, Huacachina, Chulpaca, Tinguina, Comatrana, Callanga. Among those of an older origin would be: Ica, Lujaraca, Tajaraca, Ocucaje, Oyujaya, Cachiche, Tate." Recognizance of pre-existing non-Quechua languages on the south coast is especially important, to understand that the older language might have been spoken by previous cultures.

Mortuary practices (definition: interment of the dead and the context, ritual of the burial) in the Nasca culture was a lengthy approach (Fig. 14). "One theme shared by all areas of the Andes is the presence of premonumental and monumental burial contexts, a

distinction that correlates roughly with presedentary societies of the Formative and later periods, respectively” (Dillehay 2011: 5). Although there were at least 800 well-defined archaeological contexts throughout the Andes, identifying certain patterns were a

problem (Dillehay 2011). Premonumental:

the body is laid below ground and the living permanently closes the tomb. Monumental:

the living and the dead continue to interact

by above ground tombs with continued

visibility and accessibility with the tomb

after burial rituals. “In a mortuary

population, status hierarchies may be

identified by segregated burial locations,

restricted distributions of artifact types,

variation in body treatment and tomb

form, and differential expenditures of energy on the interment” (Carmichael and Dillehay 2011: 162).

Only a part of the Nasca population received such elaborate burial ritual and treatment and burials in monuments or cemeteries, women and children were underrepresented as well (Dillehay 2011). The standard practice for Nasca people was that they were buried in singular interments in shallow pits, with cists and large purpose-made jars, and the bodies were in seated, flexed positions and deposited in underground tomb chambers with stout pole roofs and sometimes marked with wooden posts (Carmichael and Dillehay 2011; Quilter 2014). The iconography and symbolism

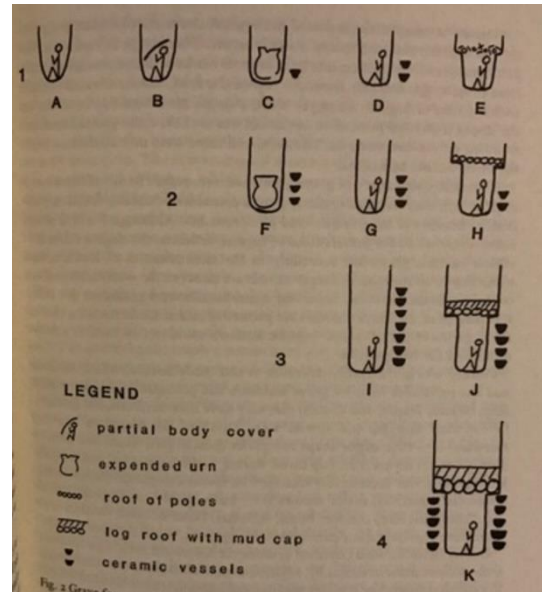


Figure 14: Differences of Nasca burial contexts

established on the polychrome funerary pots and textiles were mirrored from the geoglyphs, which also represented the local fauna and flora, and had scenes that were related to Nasca cultural activities with Anthropomorphic Mythical Beings and deities that were thought to be offerings to water and agricultural fertility (Proulx 1971). The tendencies were to use expended cooking ollas for children, serviceable storage jars for adults, and some individuals were buried in urns within pit or shaft graves (Carmichael and Dillehay 2011). As apparent from looted pits of certain Nasca cemeteries, the ones at Cahuachi seemed to be lined up next to each other in a lineal formation so it was suspected that leader-priest grave types were of huge, adobe-block built (Strong 1957). Grave goods in Nasca burials varied but organic materials were typical: textiles, gourd containers, baskets, feathers, raw cotton, bundles of human hair, and plant remains (Carmichael and Dillehay 2011). Collective memory, language and oral narratives, references to places, and specific cultural practices significantly contribute to the mortuary rituals of the Nasca people (Silverman 2002).

The Andean region experienced considerable climatic change during the Middle Horizon (650 – 1000 C.E.) and drove the highland Wari state to reorganize their culture, and expand their territories into coastal regions, moving into the Nasca area. New burial practices and settlement patterns are documented in the region, which was associated with the Wari culture, as well (Conlee 2010). It was apparent that the Wari culture had traditional practice of reopening a grave several times, possibly called as secondary burial, but this has not been determined because the disruption of tombs could have been caused by looting instead (Isbell 2004). There were “many Wari capitals, secondary cities, provincial centers, and communities that were spread across the Central Andes”

(Isbell 2004: 4). The excavations at Conchopata was significant for Wari archaeology. When Conchopata was identified as a “palace compound” (Isbell 2004: 6), it became clear that there were hierarchical stratigraphy. Following the collapse of the Wari state, the Late Intermediate Period (1000 – 1476 C.E.) brought the return of independent polities to the region and material culture had changed drastically with a certain focus on utilitarian wares, and less finely made goods (Conlee 2010). Under the assumption that the Late Intermediate was the “end of the Classic Nasca” (Conlee 2003: 48) little is known about the cultural heritage and much have been looted. Last but not least, the Late Horizon (1476 – 1532 C.E.) was when the Inca Empire spread from its’ capital of Cuzco in the highlands to conquer much of the Andean world, including Nasca. The fall of the entire Andean culture came about 1532 when the Spanish Conquistadors, led by the famed Francisco Pizarro, conquered Atahualpa (Inca’s last emperor) and the rest of the Incas.

III. LOOTING AND AERIAL IMAGERY

Colin Renfrew explained the danger of losing heritage sites to looting and the lack of preservation efforts beautifully: “Crisis is not too strong of a word to use when we speak of the predicament which today faces the historic heritage in nearly every country on earth” (2000: 9). Looting by definition is to intentionally steal, and a looter is one who steals then sells cultural antiquities for profit. Our archaeological resources are how we all learn about our past, and to educate others, especially of the future, of the aspects of each culture in this world. Without our antiquities, or our records of language, our history is lost. Looters help the age-old cycle of selling unprovenanced antiquities, while destroying important archaeological sites, to satisfy the lucrative market in illicit artifacts to which buyers (private collectors and some major museums of the world such as The Getty) harbor in their collections, whether they be private, for-profit, or public. However, there has been an increased concern about the connection between illicit antiquities and drugs, money laundering, and war (such as ISIS destroying heritage properties and selling artifacts to fund their operation).

I find it strange also that the collection of unprovenanced antiquities by wealthy private individuals is still widely considered as a socially acceptable undertaking, and that reputable scholars are willing to contribute to the published catalogues when such assemblages, replete with looted antiquities, are given public exhibition by public institutions, although I myself must plead guilty to having done so in the past.

(Renfrew 2000: 10)



Figure 15: Organized Looting Pits

The consequences of looting crises in the nations that has very little known about its' prehistory. For example, Africa's cultural heritage has had been robbed for many years. Mali, a country in Africa, has a possibility of 80 – 90% of their archaeological sites plundered. The method, or basically, the loss of so many artifacts then was dubbed as 'cultural genocide' (Conflict Antiquities 2012). Which was a new term coined by Dr. Klena Sanogo, whom recognized that there were two categories of looting. She emphasizes that in Mali (which can also be said the same for any nation on earth): subsistence looting, which means looting is done by locals that are concerned with problems of survival, and organized crime networks' illicit excavation, which means family-based criminal gangs and dealer-assembled gangs (1999). As for the archaeological monetary value, looters typically get only 2% or even, 1% or less, of the final price of an artifact from the middleman, who then sells for a much higher price to a dealer, who then sells for a much, much higher price to a collector. There also has been evidence of some village elders establishing committees to loot or to sell their own

cultural artifacts to fund their infrastructure, and other important stuff that they might need (Hammer, 2009).

Looting is one of the most common ways that an archaeological site can be destroyed. Using Google Earth, a satellite imagery program, to document locations where there might be looting is a way to fight crime and save the cultural heritage for all nations. Satellite imagery is an innovative tool to spot signs of looting of an archaeological site. From miles high above Earth's surface, it can be especially difficult to recognize looted pits apart from trees, farming techniques, or another landscape features but using educated guesses to identify specific shapes and color, one can determine looted pits. The difference between archaeologists and looters are quite simple: looters look for areas of interest and dig numerous times, creating large, erratic holes in the ground and maim whatever archaeological artifacts that happened to be in their way. Whilst, archaeologists gather permission from the local government or the owner of the land to dig on their property, typically using 2x2 meter squares to lessen the damage to the site and any artifacts that may be in their way, then record whatever has been discovered, and work extensively on getting the artifacts or the location preserved.



Figure 16: Moonscape Looting Pits

There are a couple of characteristics of looted pits (as explained by Sarah Parcak, 2015): they are always in groups, so from afar, they look like couple of clustered holes because looters rarely give up on a site after digging one pit. Secondly, looted pits are known to have distinct shapes, in round, circular pits, or a rounded-square shape because they may appear larger and more rectangular in some looted pits (Fig. 15). This is probably because the looters may have had identified an ancient wall, then they dig in the direction of the wall to follow its' end point, and eventually, dig for whatever was in the middle of the wall. The third characteristic of looted pits is to look for the contrast in the color of the surrounding landscape. For example, when the looted pits are deep and the sun is at the correct angle in the image (when using Google Earth, the program will base your image on whatever time of the day the location you are looking at), the pits appear darker than normal and they usually stand out. However, not all looted pits have a shadow when they are in the sun, so, there might be other irregularities in the image (such as shape of the pits, or the shape of another landscape objects) that can help identifying looted pits. The size of the looting pits would be around 2 to 5 meters wide (however, the number is not always absolute and depend on whatever terrains because it is easier to dig through sand than dirt and vegetation), and typically half the size of a car, which can serve as a point of reference to measure the pits. Large machinery, such as bulldozers, are an example of objects that looters may use to dig an archaeological site and the bulldozer tracks can be easily identified by parallel lines that move away from a cleared area to disguise as preparing the land for farming. Looting pits are typically in a clear, obvious moonscape (Fig. 16), or in a linear fashion.

To the untrained eye and a person not educated in the technological advancements of archaeology when it comes to spatial surveys, only relying on TEDx presentations, would think that Dr. Sarah Parcak had paved the way for “space archaeology”. Her innovative method of using satellite imagery with her project, Global Xplorer which is “an online platform that uses the power of the crowd (“citizen explorers”) to analyze the incredible wealth of satellite images currently available to archaeologists” (www.globalexplorer.org), to find archaeological sites before being present at the site itself certainly made waves all over the world. However, this was not the first time that an archaeologist had used this method, nor was it the first time that this method has been published. It is important to recognize that this method is innovative, and certainly can be used in any numerous ways to gather vital information about certain locations.

Aerial photography is a tool that archaeologists used, before satellite imagery, to identify possible sites (an example: aerial view of Cahuachi, by Helaine Silverman 1993, Fig. 17) and still is a usable tool to photograph sites when one is in the site’s physical presence. It is clearly described as taking photos of the ground, using such bird’s eye view,



Figure 17: Aerial Photography of Cahuachi

from an elevated position. Before drones came into the archaeological scene in the 21st century, archaeologists since 1906 (Estes et al. 1977) would use aircrafts such as helicopters, balloons, blimps, dirigibles, rockets, pigeons, kites, and parachutes. Archaeologists also had to obtain photographs from local government organizations, to

gather permission first before looking at possible sites to excavate. However, the first known aerial photograph was in 1858 from 80 meters high, when Gaspar Felix Tournachon (“Nadar”) photographed the village of Petit-Bicetre (Estes et al. 1977) using a balloon (Fraser 2010). Since then, innovative technology has had developed to better suit specific fields, such as drones and Google Earth satellite imagery for archaeological sites.

Satellite imagery is not such an innovative way that was presented recently, but has been around for so many years. However, the difference between then and now is that our images are producing better quality at a speed never before, and people are now understanding of the technological benefits from using aerial photos. This kind of opportunity, to look at photos that was taken from space, was only limited to certain people with specific clearance (such as NASA, or government organizations).

IV. APPROACH AND METHODS

There are 1,019 archaeological sites recorded in the southern Nasca drainage (Nasca, Aja, Tierras Blancas, Taruga, and Las Trancas valleys) that were documented using Global Positioning System (GPS) based on the Universal Transverse Mercator coordinate system (UTM) by Dr. Katharina Schrieber. The focus of this research is the 431 UTMs recorded in the Nasca Valley (which consists of the Nasca, Aja, and Tierras Blancas tributaries) in Peru. The data consists of habitation sites (villages, towns) and cemeteries (above ground and underground tombs) in the area. The sites were identified and recorded by Dr. Katharina Schrieber doing full coverage survey in the 1980s and 1990s. The site numbers were recorded using GIS by the year that they were documented, for example, “**90**07400” means that they were recorded in the year of 1990, by the first two numbers in each site ID (as indicated in bold, above). Surface collection of diagnostic ceramics was done at most sites to provide chronology and several sites identified on the survey have since been excavated (Conlee 2003,2016; Edwards and Schreiber 2014; Van Gijseghem 2006; Vaughn 2009; Vaughn and Linares Grados 2006; Whalen and González La Rosa 2014).

Borrowing Dr. Schrieber’s UTM coordinates, the sites in each of the tributaries (Nasca, Aja, and Tierras Blancas) are recorded by numbers provided by Dr. Schrieber and each valley is colored in three distinct groups (yellow, pink, and blue) on Google Earth (Fig. 14). Nasca is documented as Valley 10 (yellow-colored push pins), Aja is documented as Valley 11 (pink-colored push pins), and Tierras Blancas is documented as Valley 12 (blue-colored push pins). Each group is also easily identified by their region

differences. Nasca is to the west on the map, closer to the Pacific Ocean and the near populated city, Aja is to the northeast, and higher in elevation, on the north side of the drainage, and Tierras Blancas is to the southeast, and higher in elevation as well.



Figure 18: Nazca Map from Google Earth



Figure 19: Nasca Map from Google Earth with UTM Coordinates

Dr. Katharina Schrieber found and documented the 431 archaeological sites in Nasca, Aja, and Tierras Blancas before hand held GPS, so the coordinates were marked on maps, and as of recently one of her graduate students, Jessica Kaplan, converted the information to UTM's. The lowest elevation site in the Nasca tributary is 307 meters a.s.l, and the highest is of 931 meters a.s.l. The lowest elevation in Aja is 700 meters, and the highest is 1233 meters. The lowest elevation in Tierras Blancas is 770 meters, and the highest is 1624 meters. The Nasca sites are situated very near to the populated city, or a few miles further, and are in a higher probability of being subjected to looting. For example, site #8600101 (habitation, Late Intermediate Period) is located at 559 meters North, which is a few miles further from the populated city, has a scale on the degree of

looting at a 4 out of 10 in the year of 2010 with around 10 looted pits. Another example, site #9022302 (cemetery, Loro and Early Middle Horizon Period) is located at 507 meters South, which is further from the populated city but is in the “backyard” of a farm, has a scale on the degree of looting at a 8 out of 10 in the year of 2010 with around 200 looted pits. However, as for Aja and Tierras Blancas, because they are in an entirely different elevation zones (much higher than Nasca), they are not anywhere close to the populated city and are typically not subjected to looting due to the difficulty of accessing these sites.

I saved images from Google Earth of each Nasca site, some are grouped together because they are close in proximity and some are of individual sites , and recorded each site into folders that specifies which year the image was taken. Unfortunately, recording images for the years 1990’s to 2000’s proved to be difficult because they were not as sharp as the images after 2002. The sharpness of an image is crucial to the thesis project to identify pits and to draw each site in order to verify the area measurement of the looted pits. The year 2002 was as far back as I could go, to have a clear view of each site, and some of the sites were not able to go further than the year 2014. I picked 14 sites out of 431 sites, ten from the Nasca valley, three from the Aja valley , and one from the Tierras Blancas valley. To be clear, I have analyzed all sites but doing an additional analysis on certain 14 sites, out of 431. The reasoning for my pick was intentional. The Aja and Tierras Blancas yielded little to no degree of looting so there were not enough analysis to provide accurate, estimated results. The Nasca valley, on the other hand, was bountiful with looted pits and provided better comparison results. I compared two years: 2002 and 2016. I figured that a lengthy time span between years would provide an accurate estimation of how much looting has had increased, or decreased. After deciding on how I

wanted to position an image, I recorded each site with a note on the upper-right corner that says, “Figure 1” and on the upper-left corner that says “*LS#*: *X* / *DoL*: *X* / *#S*: *X*” (Fig. 20 and 21). Each is an abbreviation for the spreadsheet (APPENDIX: NASCA UTM_s SPREADSHEET) that documented vital components of the site:

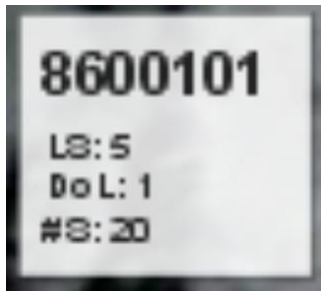


Figure 20: Google Earth Map Legend (I)

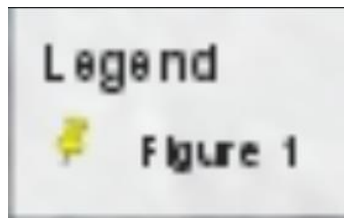


Figure 21:
Google Earth
Map Legend (II)

X = estimated number of pits

LS# = an estimation of how many Looted pits there are at that Site, by 10's

DoL = an estimation of the Degree of Looting from the scale of 1 to 10

#S = an estimation of the visible Structures at the site, by 10's



Figure 22: Area Measurements of site #9621800

Afterwards, I drew area measurements in Google Earth of looted pits in each site (Fig. 22) so the program would create a KML file in order to translate the coordinates in the image into shapefiles in ArcGIS (ArcMAP). Therefore, in the spreadsheet, a detailed description of each site is documented, explaining the amount of looted pits, and of the concerns surrounding site preservation. To identify the number of looted pits, I decided to count them by the 10's. For example, if a site had around 15 looted pits, they would be in the "20" category. If a site had around 5 looted pits, they would be in the "10" category. I selected an estimation by the 10's instead of counting the exact number of looted pits because it would make analysis very confusing and would be a wide range of probabilities. I decided to use "10's" as a scoring method because it gives my project the

ability to have an estimation rather than assuming the exact looted pits of each site. An estimation provides the recognition of most common factor within each patterns. Using an estimation by 10's gives me a way to recognize the amount of looting for each site and understand how much risk there is for a certain site. The spreadsheet also has a column of notes, elaborating the reasons why I selected specific numbers for certain sites. For example, I was not able to see any degree of looting in site 8600500 (habitation, Late Nasca) using Google Earth, and no structure was visible. Even though there are coordinates in this area, which led to the assumption a site was present when it was first documented in the UTM coordinates, however, the GPS coordinates may not always be accurate because of the margin of error.

After documenting all images into a folder, typing all the information into the spreadsheet, a Geographic Information Systems program, ArcGIS (ArcMAP, Fig. 23), was used to generate a document of all the area dimensions of each looted pit. First, I established the UTM zone (WGS 1984 UTM Zone 18S) to enable the basemap feature. After approving the specific zone, adding the basemap data is needed, and I selected the world imagery template, then added an excel spreadsheet file with the UTM coordinates and the KML files from Google Earth into the ArcMAP program.

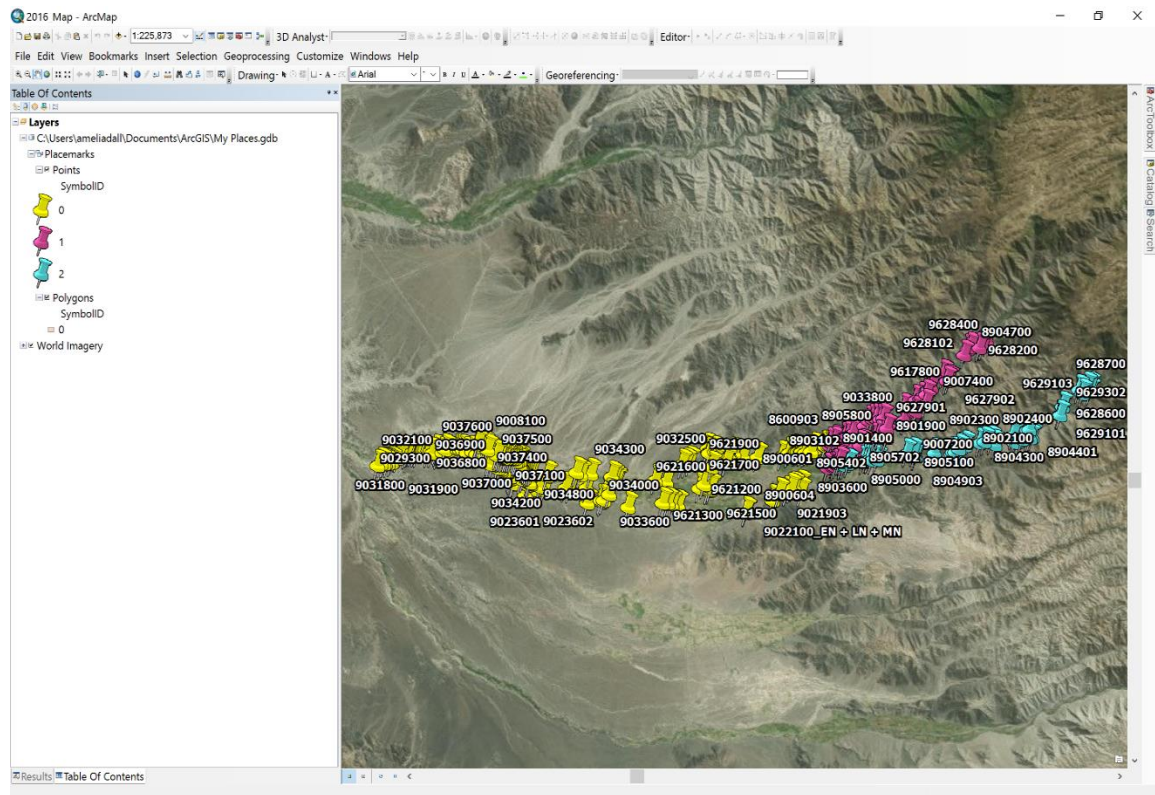


Figure 23: Nasca Map in ArcGIS

An outline of my progress in ArcMAP is defined below

(as written by Dr. Todd Ahlman 2017):

I. ArcGIS Toolbox: Conversion tools

a. Right click on “KML to Layer”

i. Choose “batch”

1. Double click in box under “input KML file” to navigate to KMZ files
2. Press + button to add more rows
3. Click “ok” when you have all the ones you want added to the list

b. The tool will create individual geodatabases for each polygon

II. ArcGIS Toolbox: Data Management Tools

a. General

b. Double click on “merge”

c. Click on the “arrow” next to the box below “input datasets” and choose the polygon under each geodatabase, keep doing this until you have them all selected

d. Choose an output location and then click OK

e. This creates a shapefile with all of the polygons

III. Go to the “Table of Contents”

a. Right click on the shapefile name you created

i. Click on “Open Attribute Table”

ii. Click on “Table Options”

1. Choose “Add Field”

a. In the pop up, in the new field, put “Area”

- b. Change Type to “double”
 - c. Click OK (a new field will pop up in the table)
- b. In the new field, right click and choose “calculate geometry”
 - i. Click “yes” on the error pop up
 - ii. Choose “area” in the Property Box
 - iii. Choose coordinate system of the data frame (WGS 1984)
 - iv. Choose the units you want then click OK

IV. Export Data

- a. ArcMAP Options
 - i. Convert file to excel

With all the area measurements in hand, of those fourteen selected Nasca sites, I proceeded to analyze the patterns in order to identify the most common denominator in looting for artifacts. Using excel’s built-in program where I could crunch the numbers of total looted pits in a category, and calculate them all together to find the total looted pits for that year (2002 or 2016). For example, if one site had 300 looted pits, and another did too, in the chart it would say # Looted Pits = 300, (and in the year of) 2002 = 2, which means the total comes to 600 looted pits for both sites. Now, doing that, for all sites, in that year (2002 or 2016). In the graphs below, I have clearly outlined the data for each category (patterns: as outlined in the next paragraph) and identified which pattern is more common, and which is the least. However, they are all an estimation since one cannot completely rely on satellite imagery to verify accuracy in the data. There must be a physical surface survey, ground-proofing, to confirm my analyses too.

Throughout my research, nine sites (#8600104/8600105, #9032300, #9022301/9022302, #9621800, #9023701/9023702, #8900901, #8900801, #8901300, #8903000) have had increased looting activities from 2002 to 2016. The remaining five sites (#8600102, #8600204, #9023601, #9023200, #9032400) have had decreased looting activities from 2002 to 2016. The most common denominator of all sites were the clustered, “moonscape”, hurried areas of looted pits. It did not seem like they were “thought-provoking” digs, but instead, an aggressive method for a quick profit. The most common pit size for both 2002 and 2010 were 2 square meters (7), 3 square meters (5) and 4 square meters (5). The smallest area measurement for 2002 was 0.9 square meters (site #9032400 and site #9023601). The largest area measurement for 2002 was 32.6 square meters (site #9023701). The smallest area measurement for 2016 was 0.07 (site #8600104/8600105). The largest area measurement for 2016 was 67.5 (site #9032400).

<i>Year</i>	<i>Most Common Pit Size</i>	<i>Smallest</i>	<i>Largest</i>
2002	3	0.9	32.6
2016	2	0.07	67.5

Table 3: Pit sizes of 2002 and 2016

The analysis of all of the remaining data on an excel spreadsheet (GRAPHS Chapter, p. 47) were from when I analyzed the google images of each years, 2002 and 2016. Using the Pivot Chart application, I was able to identify patterns of looting, patterns within the degree of looting, and total looted pits per year. In my results, I compared various of patterns between 2002 and 2016: total looted pits, total visible structures, degree of looting, total looted pits of time periods, total looted pits for site type, total looted pits for direction of the sites (North, South, Center), and finally, total looted pits for elevation. The table below clearly illustrates my estimated findings of total looted pits for each pattern and the numbers that are highlighted in yellow are the pattern that is the highest of its' category:

Category	Label	2002	2016
Total Amount	Looted Pits	42,608	40,367
	Degree of Looting	7, 10	1, 10
	Visible Structures	352	875
Time Period	Late Intermediate (LIP)	4,775	5,290
	Middle Nasca (MN)	4,920	6,060
	Early Nasca (EN)	15,610	13,920
	Late Nasca (LN)	5,420	5,300
	Middle Horizon (Mhl)	5,035	4,410
	Late Formative (LF)	1,053	477
	Loro (Loro)	830	690
	Mhe (Early Middle Horizon)	4,720	4,210
	Nasca (NA)	10	1
Site Type	Cemetery (C)	41,855	39,270
	Habitation (H)	743	1,087
Area	North (N)	11,608	8,697
	South (S)	30,785	31,475
	Center (C)	215	195
Elevation	250m – 400m	23,330	34,140
	401m – 650m	6,190	4,990

	651m – 900m	1,088	1,177
	901m – 1250m	0	60
	1251m – 1700m	0	0

Table 4: Total Looted Pits of 2002 and 2016

V. RESULTS AND DISCUSSION

When I originally started out doing this project, I had focused on three years: 2002, 2010, and 2016 and did the Google Earth KML data for all three years. I wanted to have three years so I could have 8 years span between the first comparison, and the 6 years span between the second comparison. I also wanted to see whether the looting has had increased from the first year to the last year, or whether they had decreased. From my initial observation, it seemed like 2010 was the year that the sites were looted the most (Fig. 24 + 25 + 26: site #8600102, left: 2002, 27 looted pits; center: 2010, 33 looted pits; right: 2016, 25). Throughout the process, I had saved each of the data repeatedly, after each KML drawing of each site. When I completed the data, I was going to transfer the



Figure 24: 2002
Image of Site
#8600102



Figure 25: 2010
Image of Site
#8600102



Figure 26: 2016
Image of Site
#8600102

files to the ArcMAP program until I realized that all but two sites of data for 2010 were missing and all but seven sites of data for 2002 were missing. This might have had happened by overwriting data, accidentally. I was really disappointed, and

understandably frustrated and discussed with Dr. Conlee of what I could do next with my project. The idea came up that since I had seven remaining sites of data for 2002, I could repeat the other seven sites of data so my data would amount to fourteen sites of data. It was an unfortunate mistake, but is a lesson, learned.

Analyzing images of the site from Google Earth exhibited obvious looted pits and archaeological structures. However, some of the sites had modern structures built, been bulldozed and paved, or degraded. Looting activities were present at nearly every site in the Nasca region (Valley 10), with some degree of low damage to high, few to multiple pits, and differences in selected years. I am not sure if looting was not present at most of the sites in the Aja and the Tierras Blancas region because the satellite imagery quality is not excellent for me to make a review and then a conclusion. However, I am curious whether elevation played an important part in having the sites looted. Would we assume that the higher the elevation is for the site and the further away from the populated city center, the less likely it is to be looted? As the results presented, for the lower the elevation is for the site, the more likely it is to be looted due to the convenient access to the sites by the nearest populated city center. However, sites in higher elevation had obvious archaeological structures and are not well protected or preserved, which is a concern because if a looter were to use Google Earth satellite imagery to look for sites, they can easily find them. The sites in the lower elevation are not well preserved, as well, or in any states of preservation, and were already damaged beyond repair by looters. Also, since the sites in the lower elevation zones (the Nasca region, Valley 10) are closer to the populated city center (some of the sites were even in the “backyard” of Nasca farmers, which enabled them an easy access to loot grave goods), they would enable a

higher risk of getting incarcerated for looting if the government were to force any type of penalization towards those looters. There are also some sites that are entirely covered up (for example, by a football field, or farming lands, or modern structures), and are incapable of getting looted unless one were to know the exact coordinates.

Due to convenience, I selected only fourteen sites out of four hundred thirty-one sites because I felt that those fourteen sites were significant in my research, and were able to exhibit a broader, and also sharper, picture of the data for the entire region. I felt that doing the area measurements for 431 archaeological sites would require extra hands, and extra years of work, which was time that I did not have. Even though fourteen sites may not be enough to give a confident conclusion, a lot of the sites were very similar, which would cause repetition variances within the analyses and might be more confusing. I thought that since this kind of research should take longer than two or three years, therefore it would be best at this moment to rely the fourteen sites to give us an interpreted idea of the area measurement data. In few paragraphs ahead, I will elaborate on the analyzed data of all sites, without the area measurements.

What I have had found was interesting. Again, all of my thesis research and results are merely an estimation, which is basically guessing, analyses of all the satellite imagery for my data. The total looted pits for all of the sites in 2002 was 42,608 and the total looted pits for all of the sites in 2016 was 40,367; which was a close comparison and since the data are fifteen years apart, it goes to show that looting is still severe in the area (Table 3). It seemed like in 2002, the degree of looting for all of the sites was more severe, and the scale shown that the degree of looting from 2002 (most common numbers in the scale for degree of looting: 7, 10), which had reduced in 2016 (most common

numbers in the scale for degree of looting: 1, 10) (Table 3). However, the total visible structures from 2002 (352) to 2016 (875) had greatly increased (Table 3). This may be because the geology of the area might have changed in the past fifteen years, and that the soil is more fine than ever? It seems like that the weather is also a factor. The wind might have had blew dirt off the structures, and made them more visible. This is a concern.



Figure 27: North, South, Center areas of Nasca Map

The total looted pits for six out of eight time periods shown that the year 2002 had more looting activity than 2016, however, their numbers were either close enough or had a lot of similarities (Table 3). As for site type (Habitation and Cemetery) the results were different. For Cemetery, the total looted pits in 2002 came to 41,855 and the total looted pits in 2016 came to 39,270. The degree of looting in 2002 was more severe but the scale did not dramatically decrease by much. For Habitation, the total looted pits in 2002 came to 743 and 1,087 in 2016. The results show that looters favored Cemetery sites over Habitation. However, it appears that the looters found something within some of the

Habitation sites because the looted pits were greater, and the degree of looting were high. It might have been just one site that the looters had happened to find in the recent years. The validity of the data is, again, an estimation thus my analyses might not be entirely accurate.

The differences of total looted pits between the North and the South areas were obvious, but both 2002 and 2016 had data that were similar. In 2002, the North area had 11,608 looted pits, and in 2016, it was 8,697. In 2002, the South area had 30,785, while 2016 had 31,475. It also seemed like the looters had favored the South area of Nasca (this is the part where it gets confusing but bear with me and look at Figure 27 image above this paragraph: the south area of Nasca means both areas on the right for the Aja and Tierras Blancas regions of the map (Figure 27, blue arrows), and the north area (Figure 27, orange arrows) means both areas are on the left). The Center area did not come in strong, with 2002 at 215 and 2016 at 195, which I suspect is because most of the archaeological sites have been buried with modern structures all over and made them incapable of being looted. The Elevation aspect of my research was interesting. The total looted pits between 250m to 400m for 2002 came in at 29,330 and then, the numbers increased in 2016, to 34,140. But when it came to the total looted pits between 401m to 650m, it decreased massively, from 6,190 in 2002 and 4,990 in 2016. The total looted pits in 2002 was also now greater than 2016. However, the change came in 651m to 900m, and even though the total looted pits had decreased between 2002 and 2016 but 2016 (1,177) had increased numbers comparing to 2002 (1,088). The total looted pits continued to decrease as the elevation went higher at 901m to 1250m, but 2016 (60) also had an increased number of looted pits comparing to 2002 (0). The degree of elevation in

901m to 1250m had also increased on a scale of 2. In elevation 1251m to 1700m, there were no looted pits seen for both 2002 and 2016 data.

I did not just compare 2002 and 2016, but I also compared 2002 with its' own data (Table 5), and 2016 with its' own data (Table 6), as well. There were a lot of similarity between the data with both 2002 and 2016, with the results of the 2002 and 2016 comparisons. The data outlined in the color yellow represents the most looted archaeological site out of its' category (Table 5 and 6) for that year. For example, the total looted pits from Cemetery archaeological sites in 2002 (41,855), were greater than the total looted pits from Habitation archaeological sites in 2002 (743), which had a similar result with 2002/2016 total looted pits at each cemetery site. Another example can be seen between the results of the 2016 data for sides (North, South, Center), which is similar to the results for overall site data (2002/2016)(Table 19). As we can see from the results (Table 5 and 6), that both years, 2002 and 2016, are similar. Their highest number in each category for total looted pits are from the same pattern, even though the numbers from 2002 to 2016 has had decreased. I would assume that the dry climate of the area (The southern, lower part of elevation zones) is fragile, and basked in such archaeological goods, which means the sites require attentive care and proper preservation.

The total looted pits for each Time Periods between the 2002 and 2016 years were similar. They both had the highest amount of looted pits in Early Nasca (EN)(2002: 15,610; 2016: 13,920), and the lowest amount of looted pits in Nasca (NA)(2002: 10; 2016: 1). The pattern of the site type (Cemetery, Habitation) is the part where it gets

interesting. The total looted pits for Cemetery sites in 2002 (41,855) and 2016 (39,270) were similar in regards to the amount looted for that particular category, and the total looted pits for Habitation sites between 2002 (743) and 2016 (1,087) were similar, too. Also, the fact that the number between the total looted pits of Cemetery and Habitation sites created such a gap, that is also similar. South in 2002 had highest amount of looted pits in the category, Area, with the results coming in at 30,785 compared to North (11,608) and Center (215). The same kind of results can be seen in 2016, with South being the highest at 31,475, overcoming North (8,697) and Center (195). Pattern is recognized when I looked at the Elevation analysis, with the highest amount of looted pits in 2002 from 250m to 400m (23,330) and in 2016 of the same elevation zone (34,140). Except, in this elevation zone, the total looted pits in 2016 increased from 2002. In the following elevation zones (2002: 401m to 650m, 6,190; 651m – 900m, 1,088; 901m – 1250m: 0; 1251m – 1700m: 0 and 2016: 401m – 650m: 4,990; 651m – 900m: 1,177; 901m – 1250m: 0; 1251m – 1700m: 0) it became clear that the pattern was also similar. The looting pits had greatly decreased from the first elevation zone, and continued to decrease. However, the total looted pits between the years 2002 and 2016 were similar too, and some decreased (from 2002 to 2016) by a thousand or a hundred. I came across this kind of pattern throughout all of the categories (Site Type, Side, and Elevation) in both years, 2002 and 2016, and then recognized that it was all almost similar. The data had the similarness in common.

The similarness in common is not random because Early Nasca (75 B.C.E. to 175 C.E.), typically situated on the southern part of the Valleys, was a time period of treasured glory. The people had made elaborate textiles, grand pottery works, and most

importantly, gold. Known for their Monumental style, the looters collected many of their antiquities. It is also possible that there were a lot of Early Nasca time period artifacts due to Cahuachi (1 C.E. to 500 C.E.) operations. However, I am preying upon assumption. The samples I have had presented is merely circumstantial at best, and my estimation based on eyeballing guesswork.

Category	2002	# Looted Pits	Category	2016	# Looted Pits
Time Period	Late Intermediate (LIP)	4,775	Time Period	Late Intermediate (LIP)	5,290
	Middle Nasca (MN)	4,920		Middle Nasca (MN)	6,060
	Early Nasca (EN)	15,610		Early Nasca (EN)	13,920
	Late Nasca (LN)	5,420		Late Nasca (LN)	5,300
	Middle Horizon (Mhl)	5,035		Middle Horizon (Mhl)	4,410
	Late Formative (LF)	1,053		Late Formative (LF)	477
	Loro (Loro)	830		Loro (Loro)	690
	Mhe (Early Middle Horizon)	4,720		Mhe (Early Middle Horizon)	4,210
	Nasca (NA)	10		Nasca (NA)	1
Site Type	Cemetery (C)	41,855	Site Type	Cemetery (C)	39,270

	Habitation (H)	743		Habitation (H)	1,087
Side	North (N)	11,608	Side	North (N)	8,697
	South (S)	30,785		South (S)	31,475
	Center (C)	215		Center (C)	195
Elevation	250m – 400m	23,330	Elevation	250m – 400m	34,140
	401m – 650m	6,190		401m – 650m	4,990
	651m – 900m	1,088		651m – 900m	1,177
	901m – 1250m	0		901m – 1250m	60
	1251m – 1700m	0		1251m – 1700m	0

Table 5: Total Looting Pits in 2002

Table 6: Total Looting Pits in 2016

However, what is noticeable in my graphs (next page) is the amount of “0” there are, within the patterns of looted pits, degree of looting, and visible structures. My using the “0” does not mean that the results are flawed and biased, nor does it mean that it is a “good thing because it means that there are no looted sites in that area”, it means that I was not able to analyze the satellite imagery as accurately as possible. It would be because of vegetation, modern structures, farming lands as well. Although, my results are clear. The patterns of looting are more common at the nearest populated city center. There are lots of looted sites in the lower elevation zones (250m to 400m) compared to the rest of the zones. The total looted pits were around two thousand more in 2002, comparing to 2016. I also have had noticed that the most common amount of total looted pits of each archaeological sites, for both years: 2002 and 2016, were fifty.

Looters in the year of 2002 were much more harried, and probably did not know how to look for specifications in a site that would enable them to find artifacts. It seems like the year 2002 was a time for looters to learn and cultivate their “profession” because the area measurements in 2016 were sharper, and as it seems, more focused. The looters in 2016 “followed” the archaeology method of digging 2x2 square meters, had the guts to dig so small (0.07 square meters) and so large (67.5 square



Figure 28: Image of a possible Looter’s Marker

meters). As mentioned above, the amount of pits increased from 2002 to 2016, which confirms my suspicions that the looters had “improved” their approaches in order to successfully “dig”, and finding artifacts to gather profit. One of my theory that looting has had greatly increased since 2002 is because the looters might have had “marked” their looted site (Figure 28) in order to go back to the site, and loot some more. There are no evidence to support my theory, though. Based on my analyses and the possibilities that might have had arisen from the increase in looting is that there needs to be further conservation efforts in the area.

The graphs I made may be confusing to most, but when you read and think about the estimation carefully, you would be able to recognize my analyzation method. For example, one archaeological site could have an estimation of 500 looted pits, which is what I would record for that particular site. Another nearby site could have 10, which is what I would also record. Therefore, the graphs in the next page are estimations when I recorded the numbers on an excel document when I analyzed each site.

KEY:

“Scoring Chart of Estimation” = How I selected the estimated number by analyzing the estimation of looted pits for each site

“# of Estimated Looted Pits” = Total looted pits for each estimation I had recorded

“Recorded # of Destruction” = How I selected the estimated number by analyzing the estimation of destruction for each site

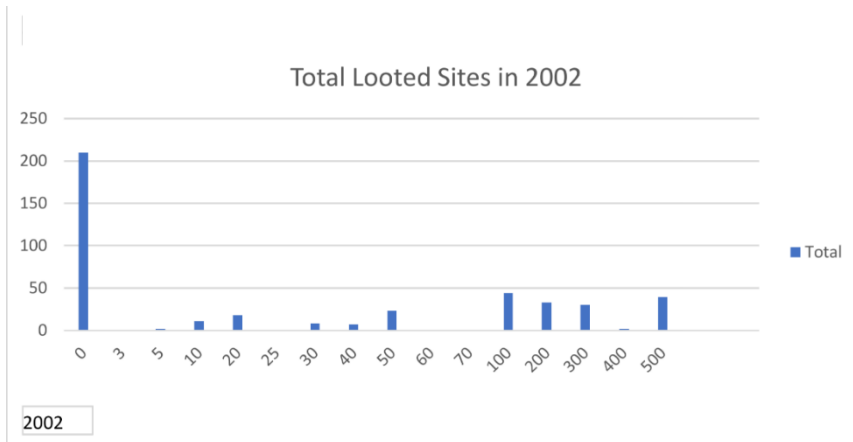
“Scale of Destruction” = Total scale of destruction for each estimation I had recorded

“Recorded # of Structures” = How I selected the estimated number by analyzing the estimation of structures for each site

“Scale of Structures” = Total scale of structures for each estimation I had recorded

Number of Looted Pits for each site: 2002 vs. 2016

Scoring Chart of Estimation

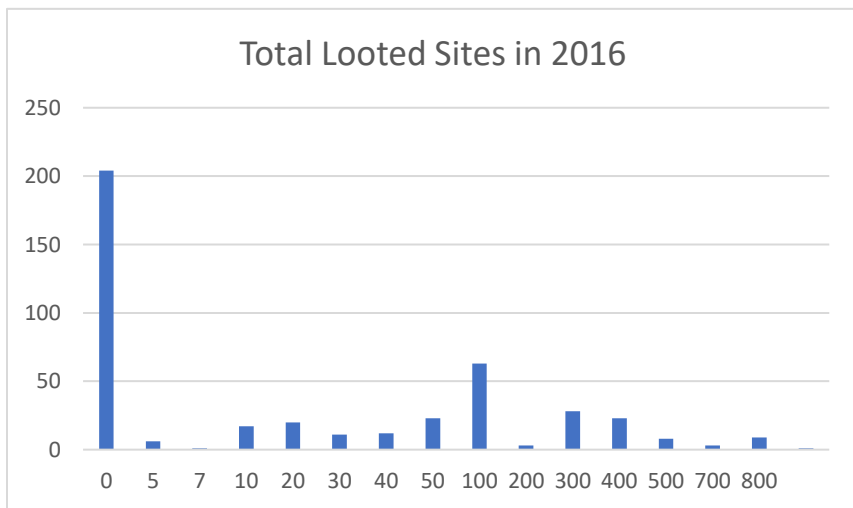


of Estimated Looted Pits

#	2002
0	210
3	1
5	2
10	11
20	18
25	1
30	8
40	7
50	23
60	1
70	1
100	44
200	33
300	30
400	2
500	39

Total 42,608

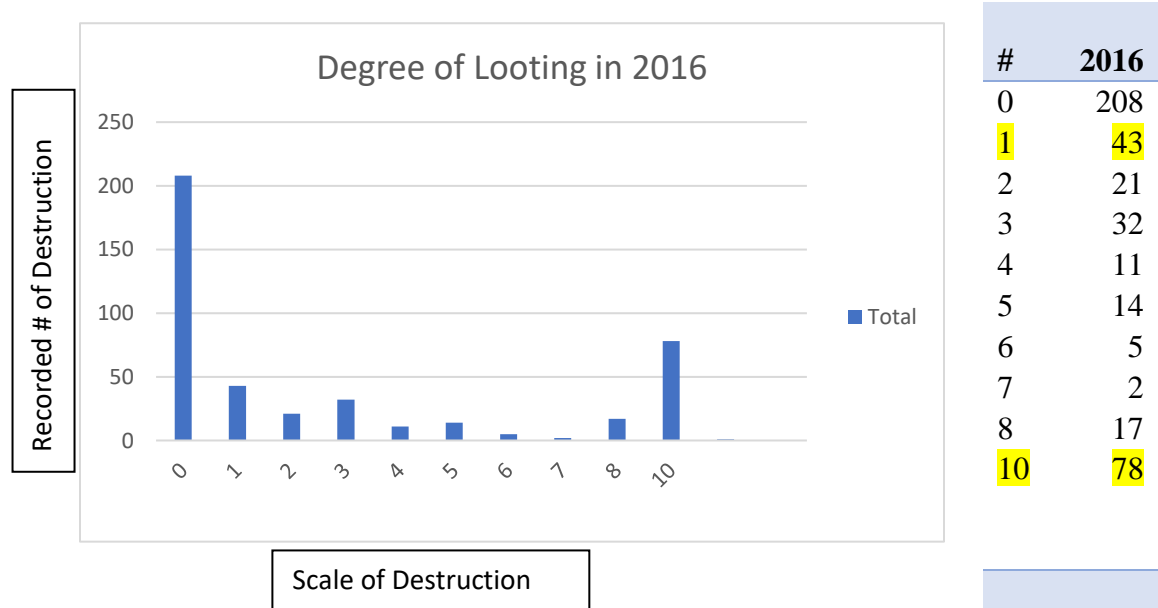
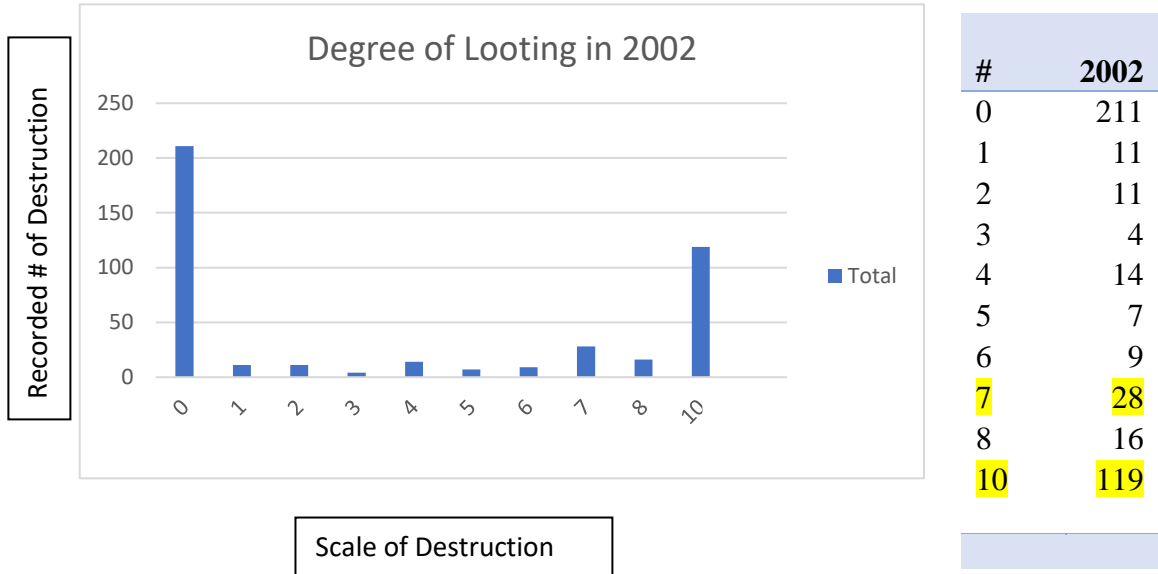
Scoring Chart of Estimation



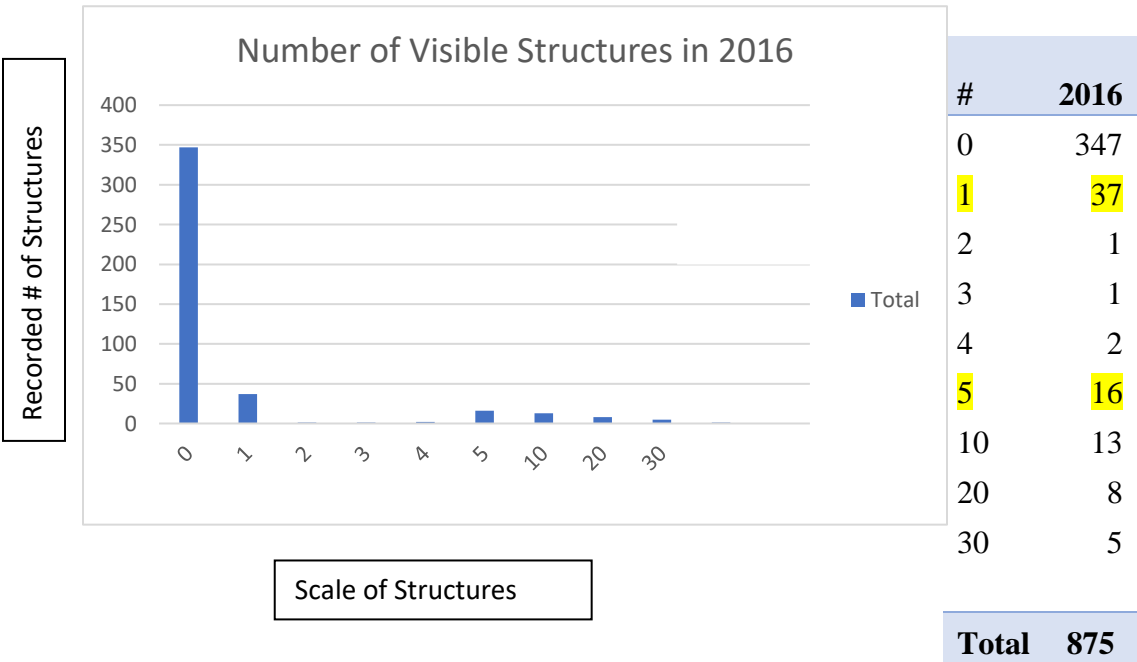
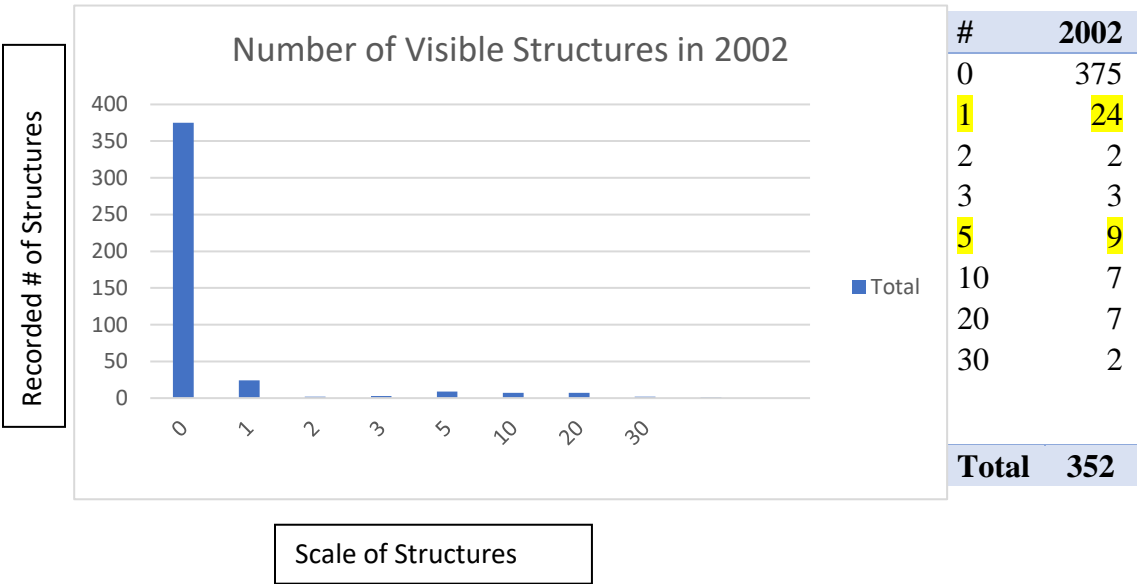
of Estimated Looted Pits

#	2016
0	204
5	6
7	1
10	17
20	20
30	11
40	12
50	23
100	63
200	3
300	28
400	23
500	8
700	3
800	9
Total	40,367

Degree of Looting for each site: 2002 vs. 2016

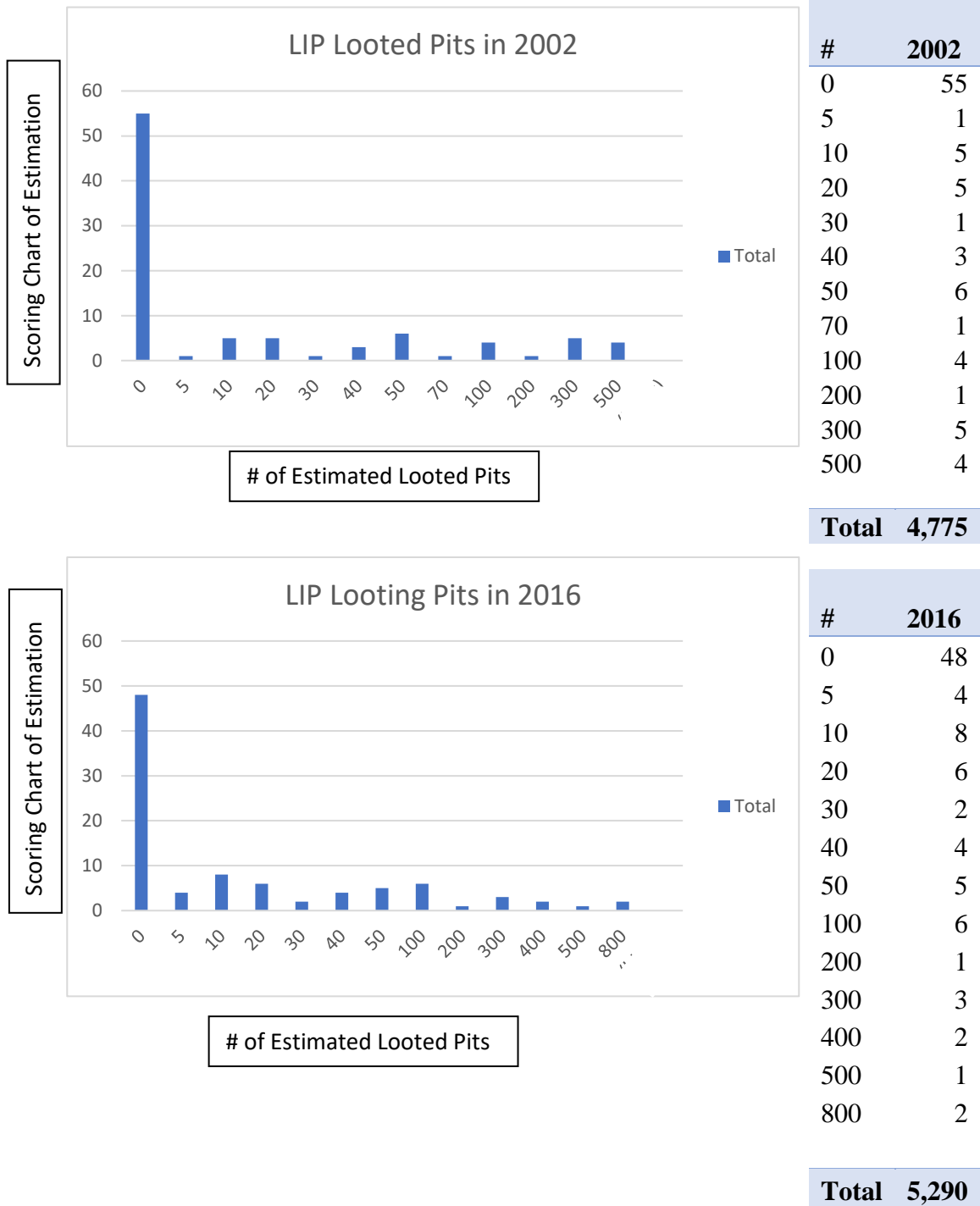


Number of Visible Structures: 2002 vs. 2016



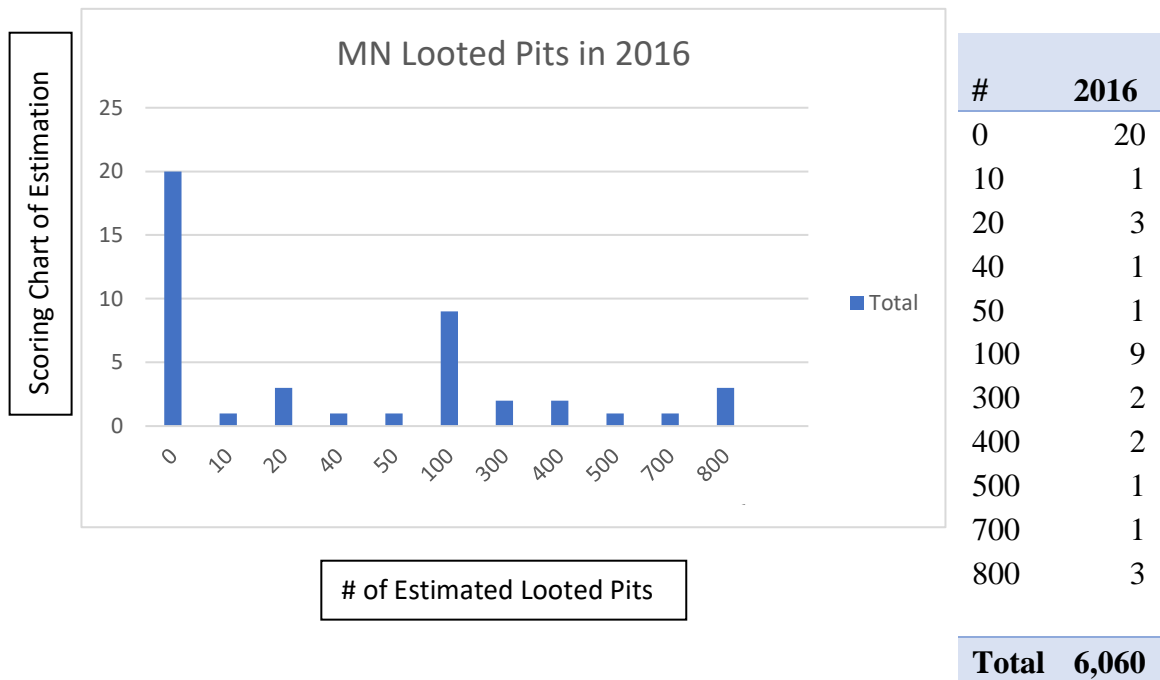
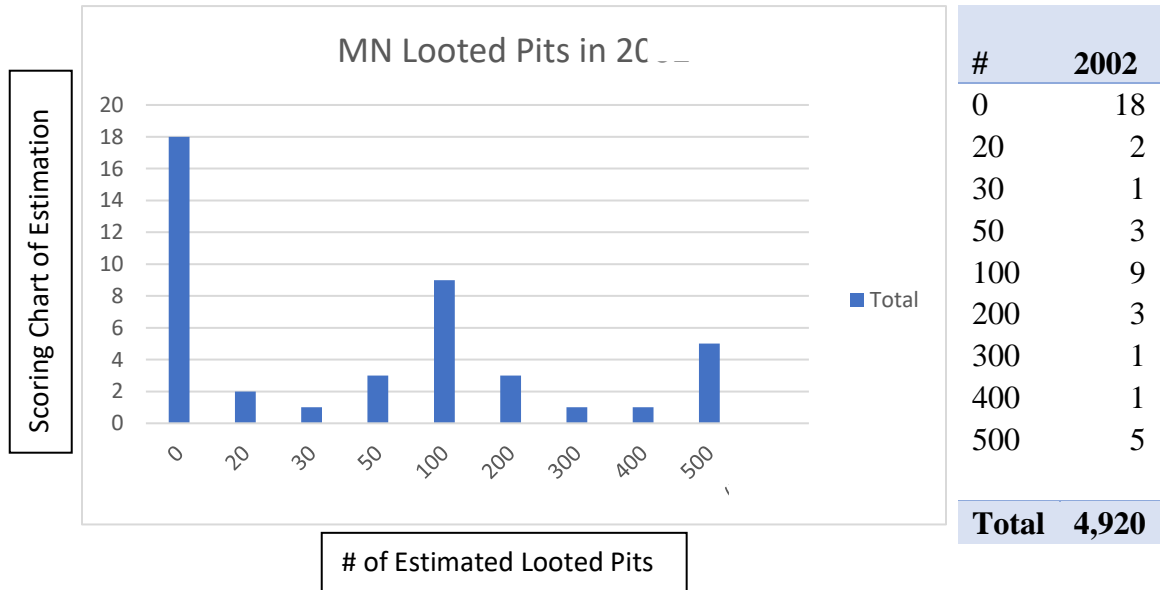
Time Period

Number of Looted Pits per site during LIP: 2002 vs. 2016



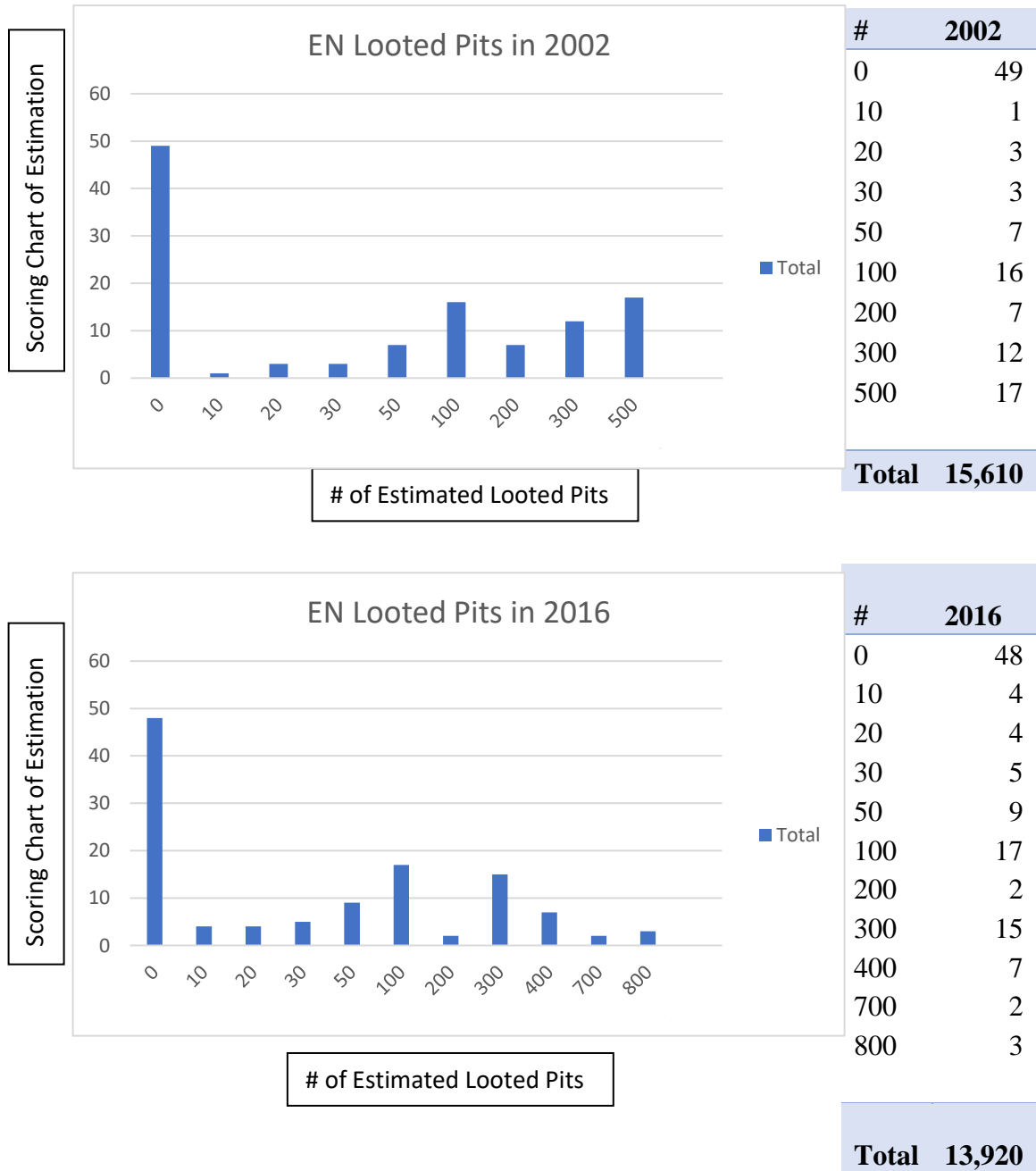
Time Period

Number of Looted Pits per site during MN: 2002 vs. 2016



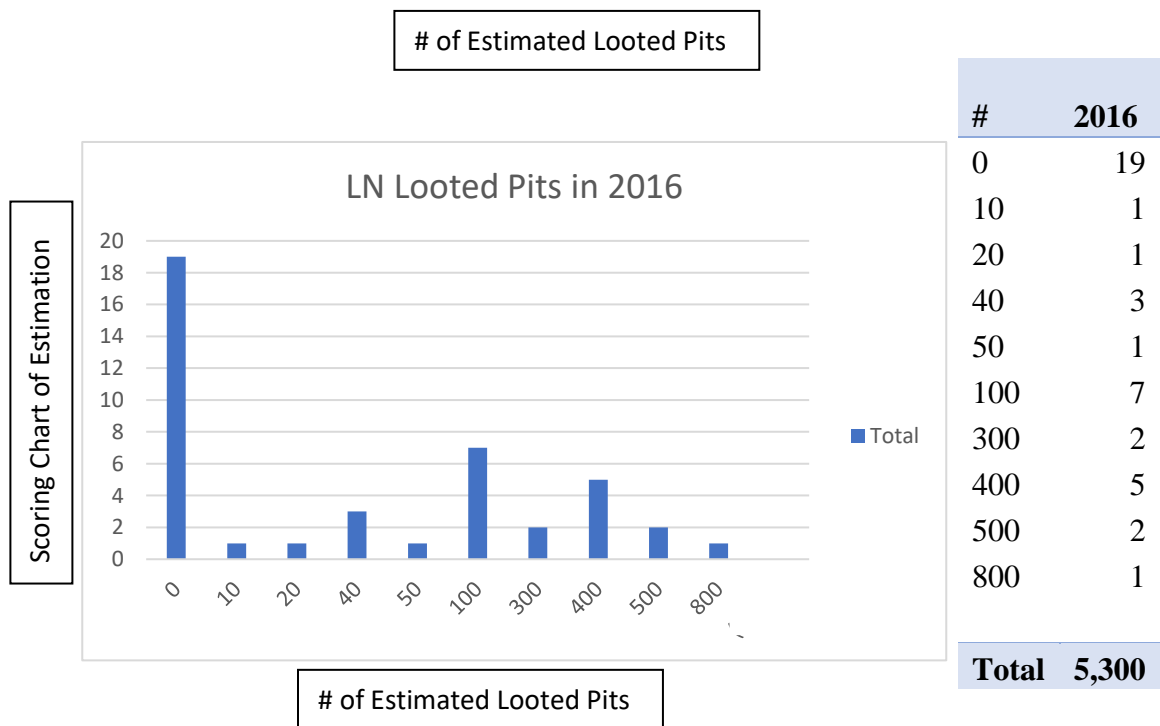
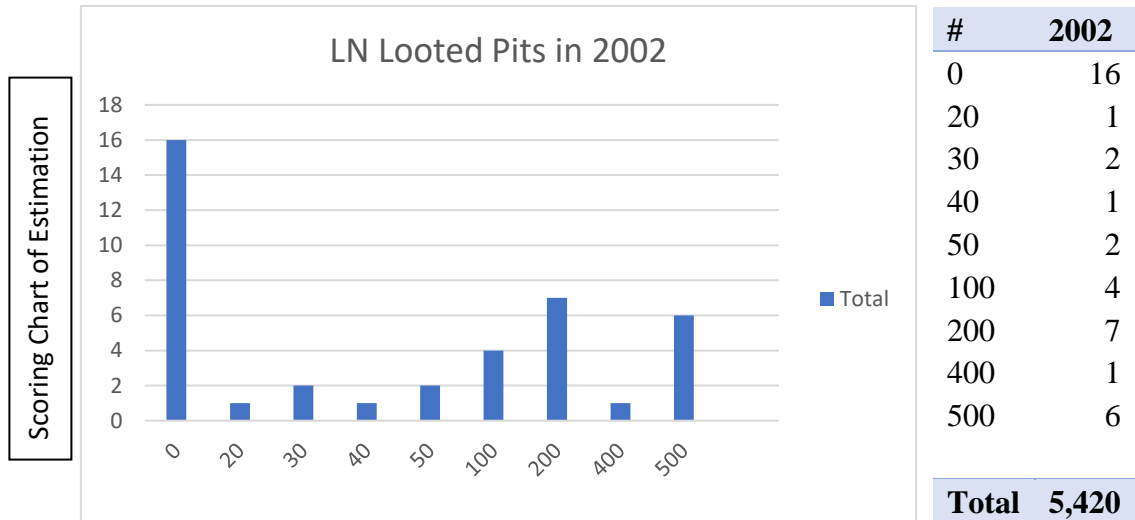
Time Period

Number of Looted Pits per site during EN: 2002 vs. 2016



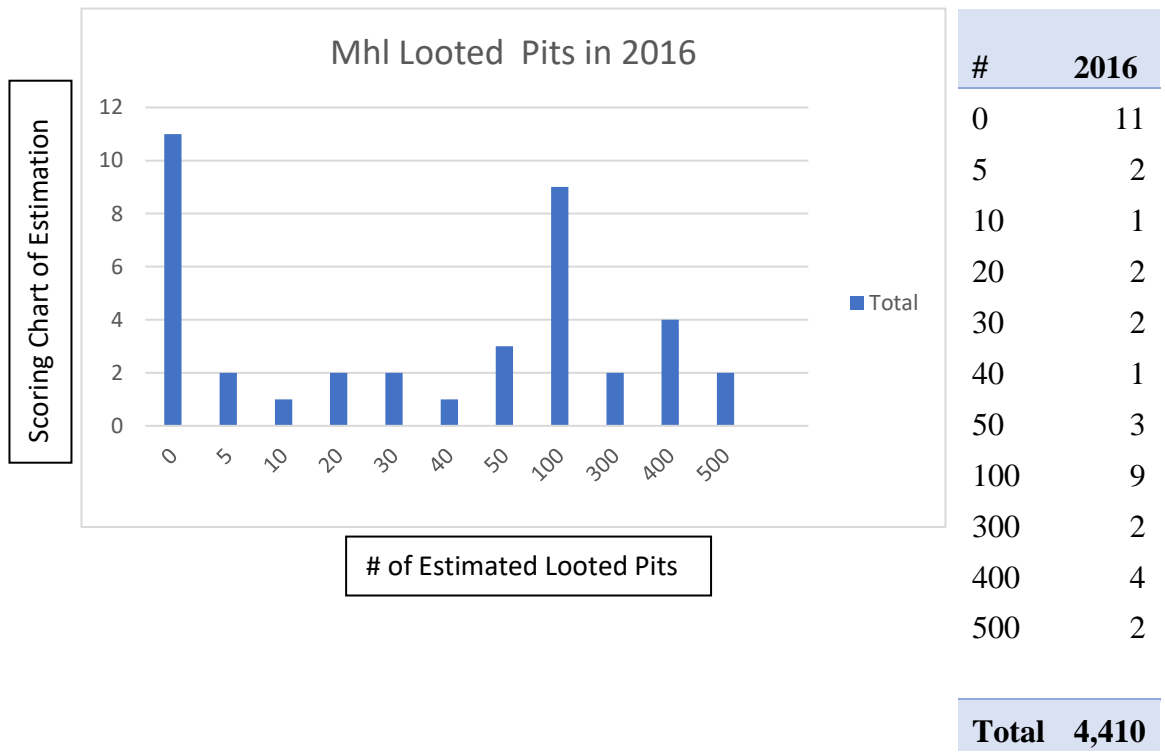
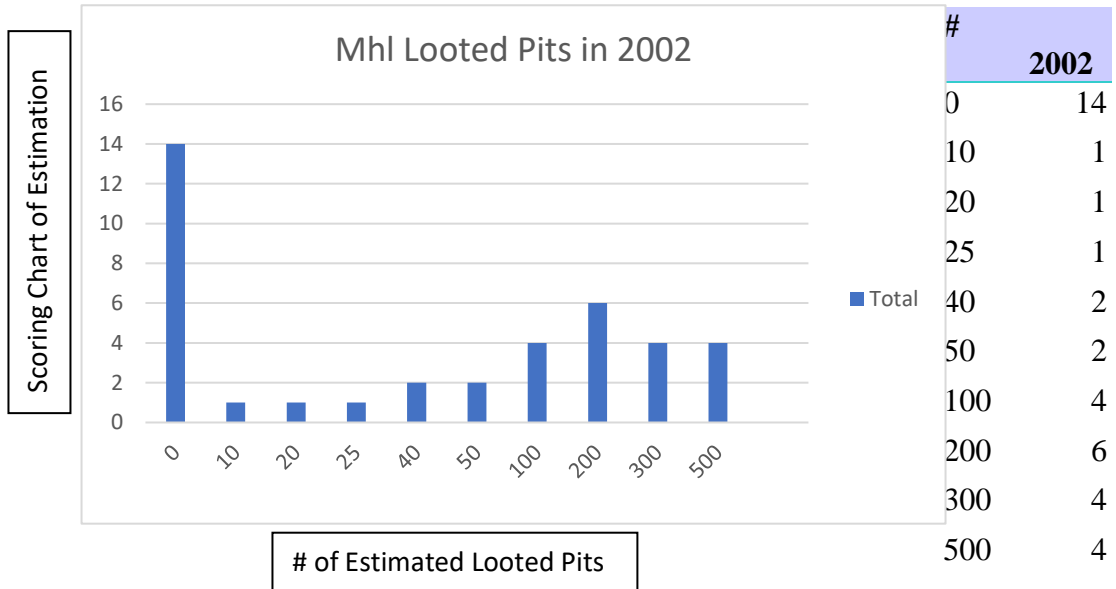
Time Period

Number of Looted Pits per site during LN: 2002 vs. 2016



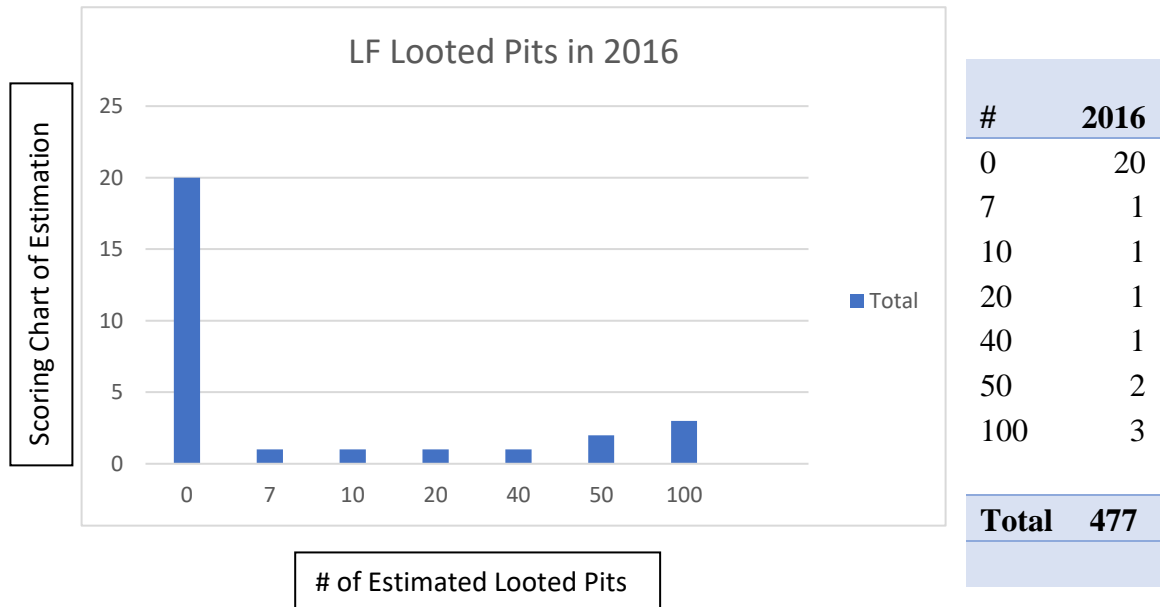
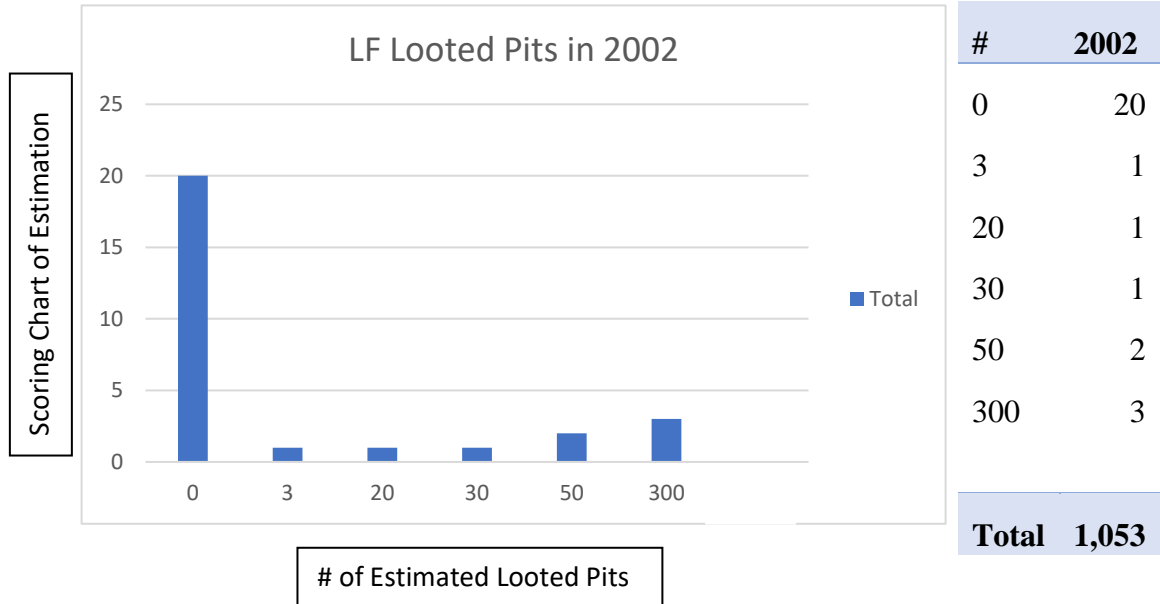
Time Period

Number of Looted Pits during MhL: 2002 vs. 2016



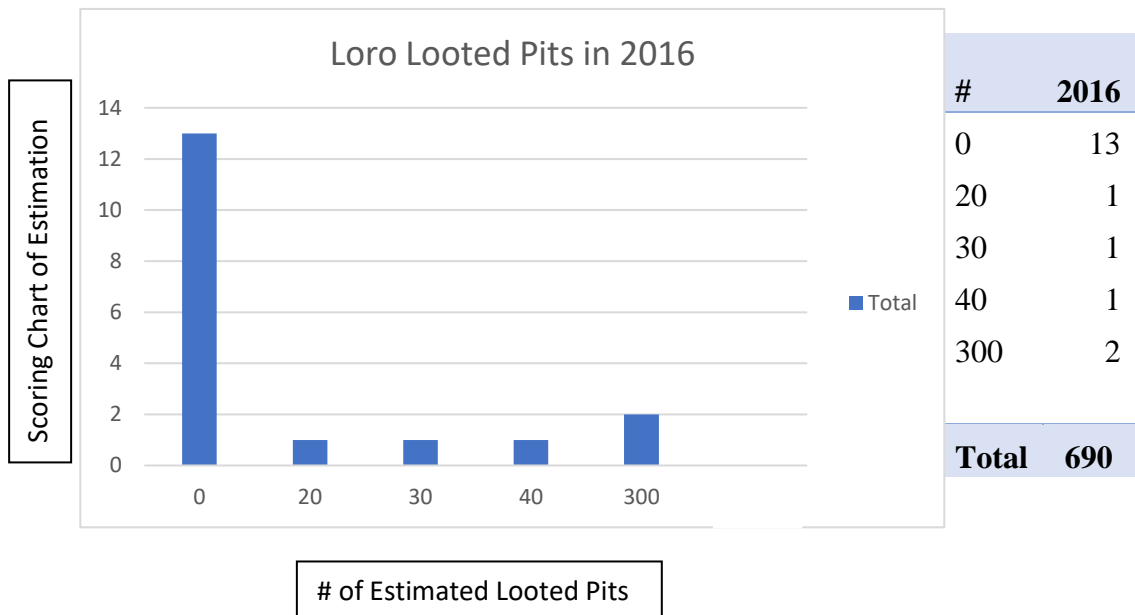
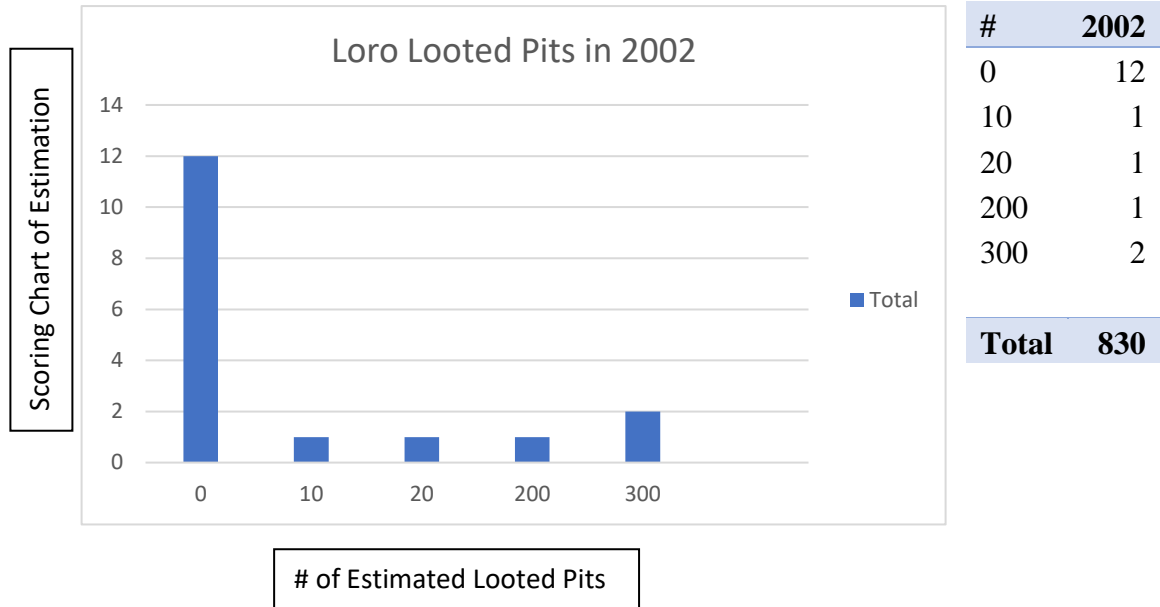
Time Period

Number of Looted Pits during LF: 2002 vs. 2016



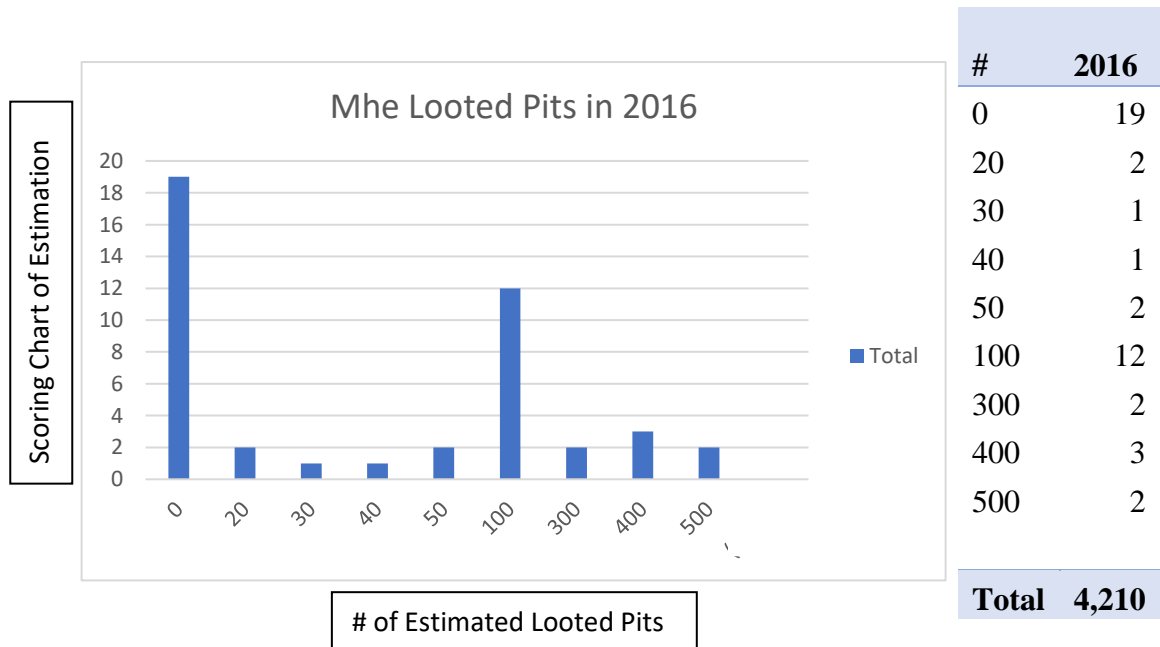
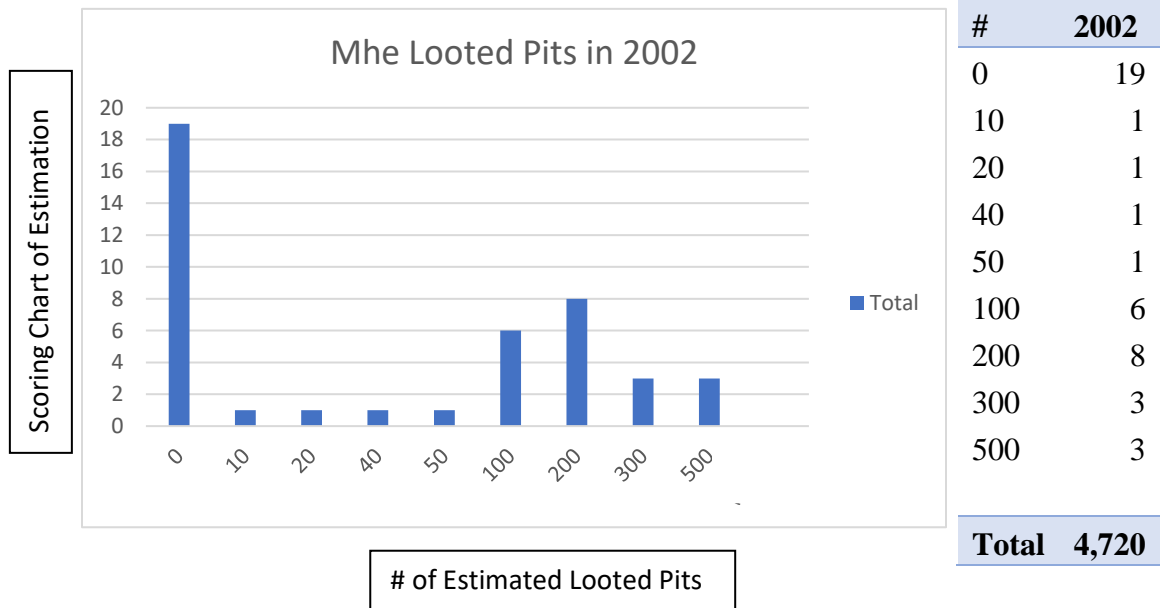
Time Period

Number of Looted Pits during Loro: 2002 vs. 2016



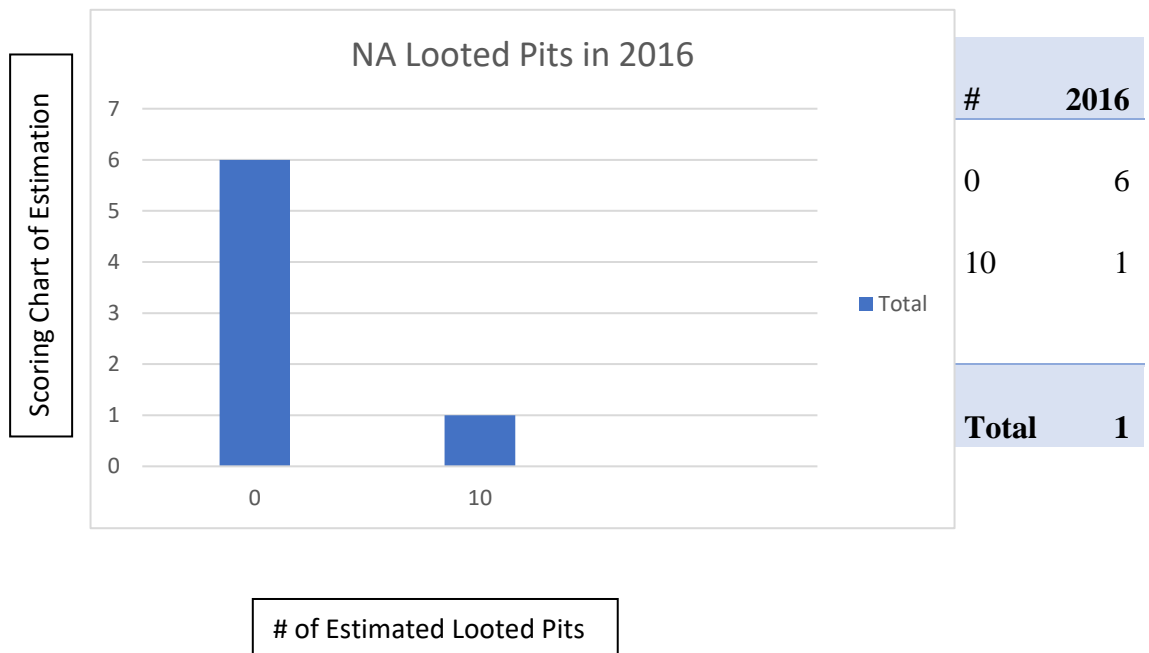
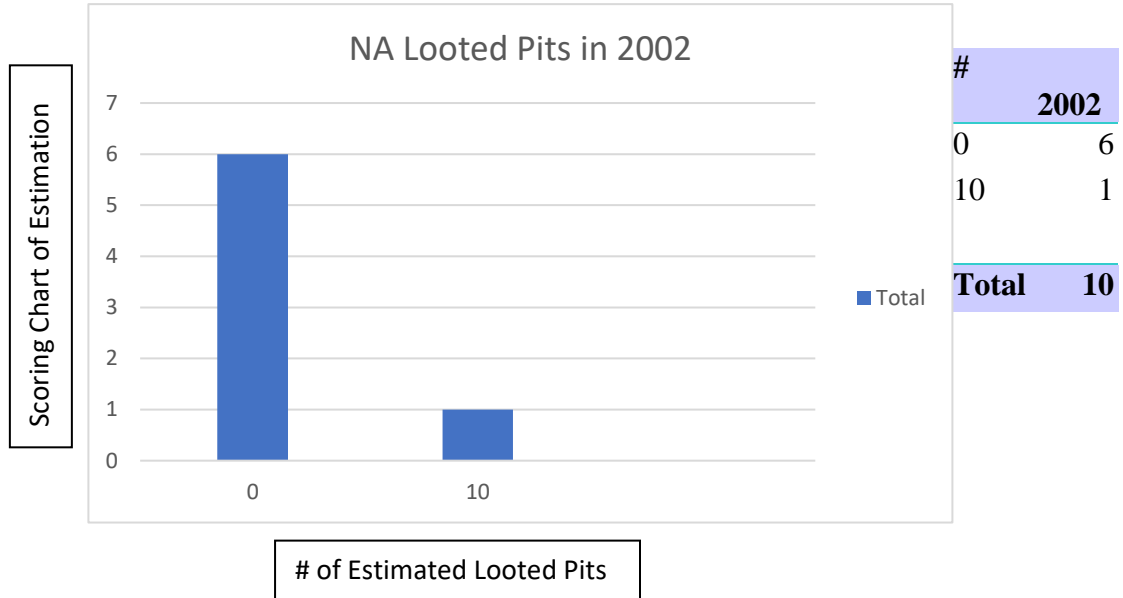
Time Period

Number of Looted Pits each site during Mhe: 2002 vs. 2016



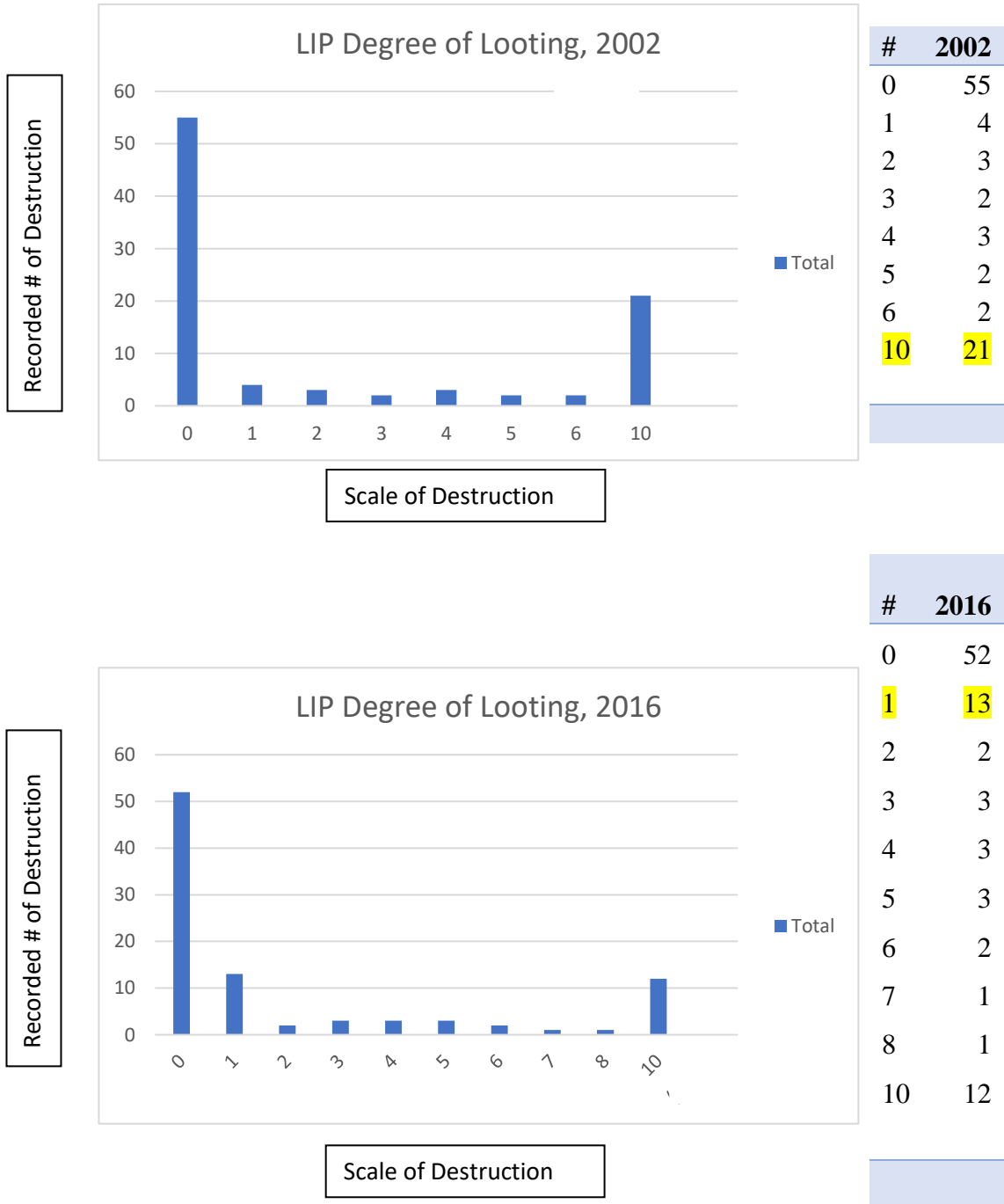
Time Period

Number of Looted Pits each site during NA: 2002 vs. 2016



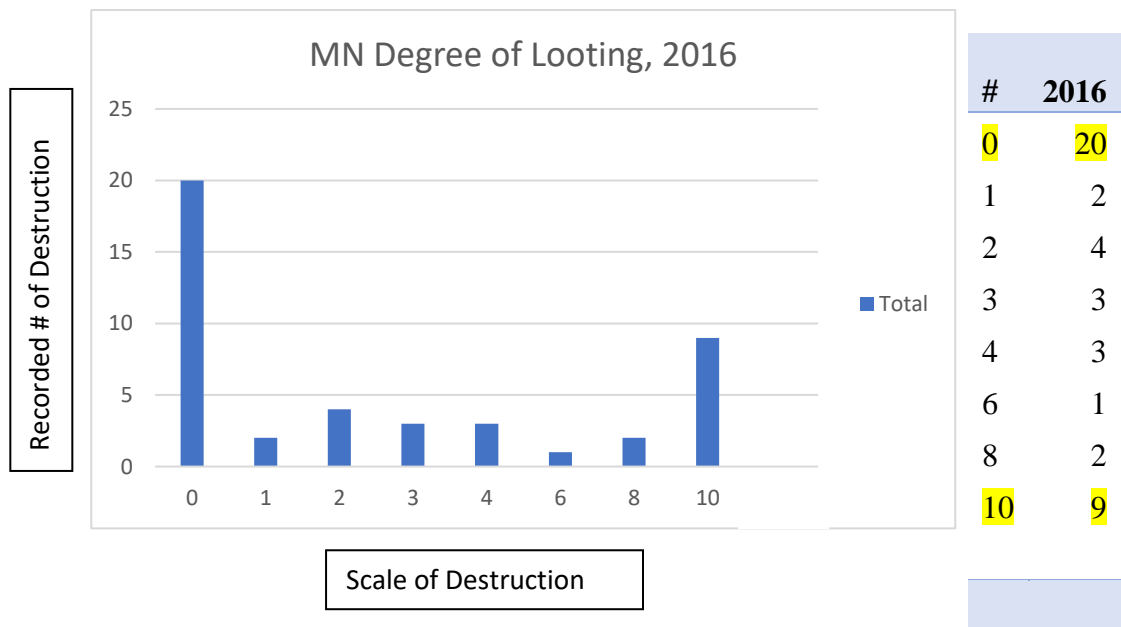
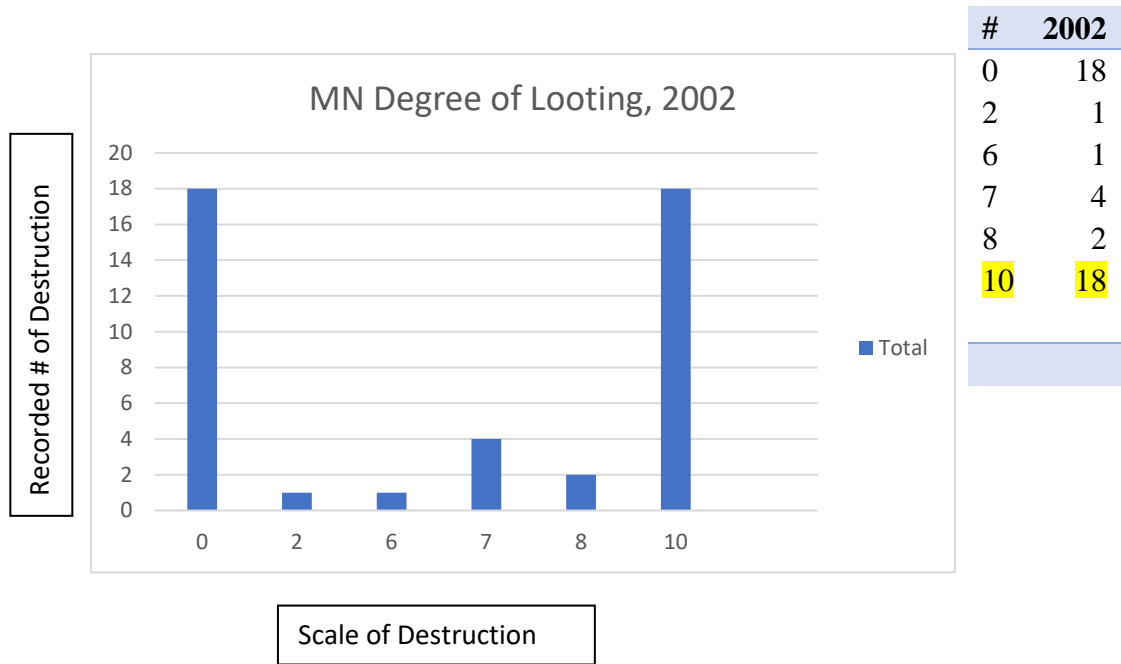
Time Period

Degree of Looting for each site during LIP, 2002 vs. 2016



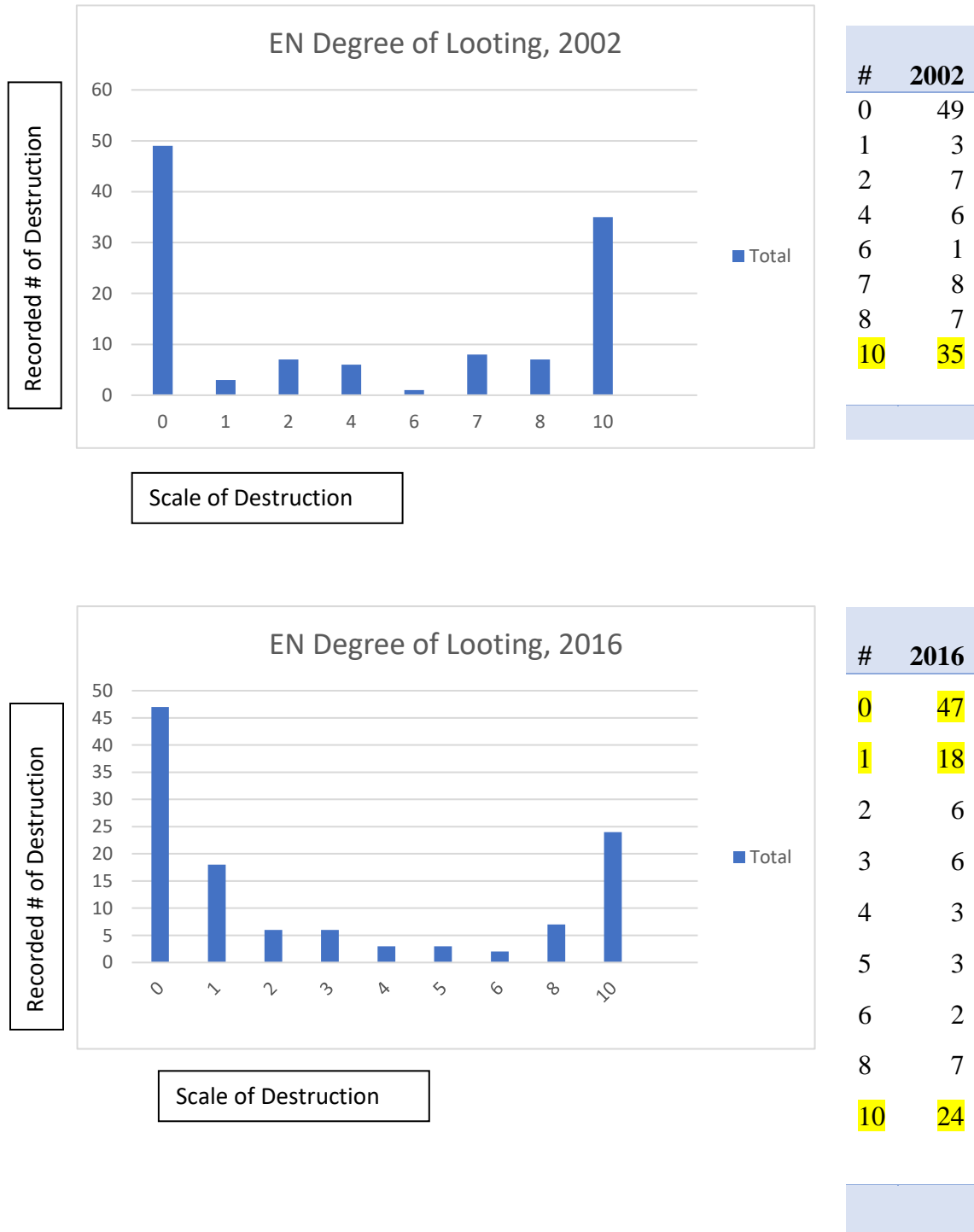
Time Period

Degree of Looting for each site during MN, 2002 vs. 2016



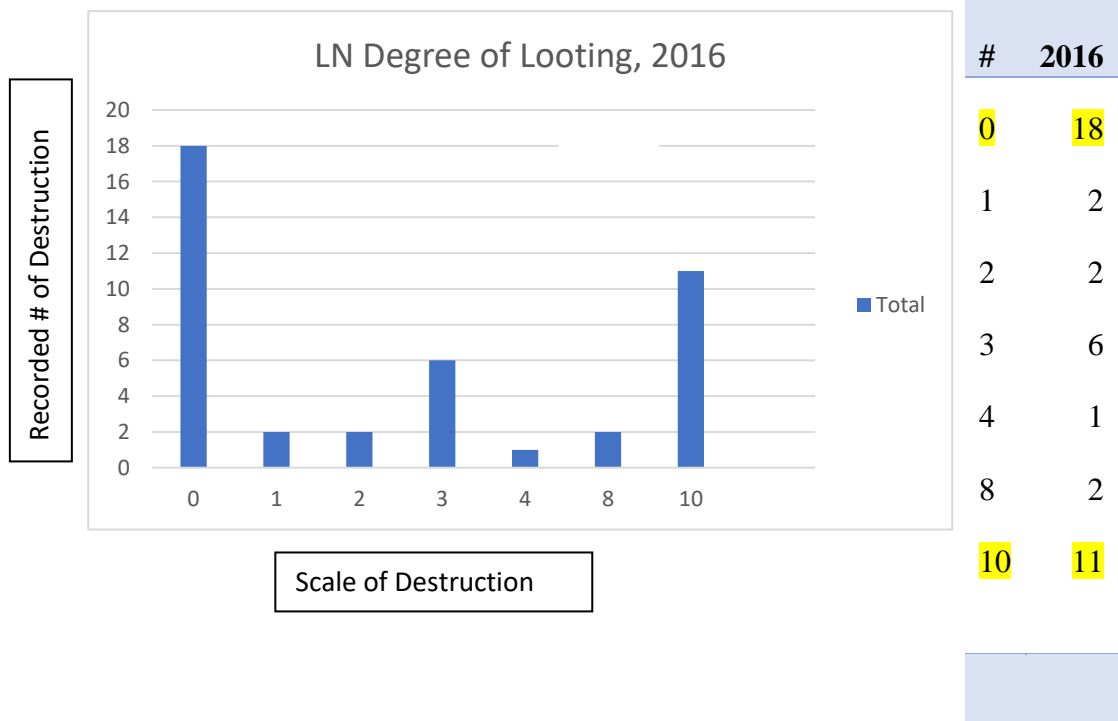
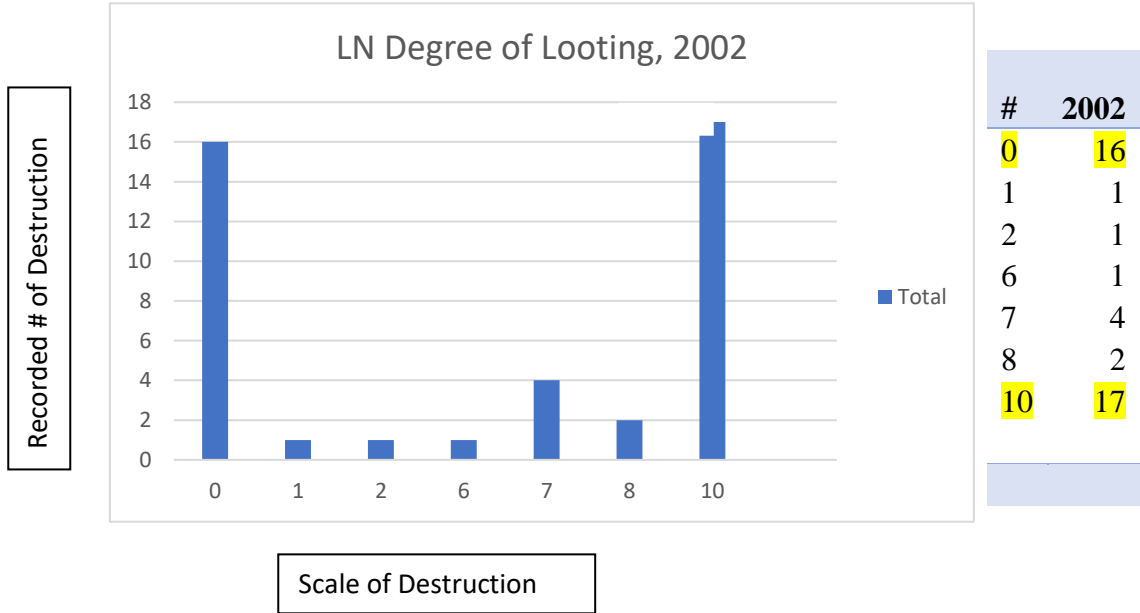
Time Period

Degree of Looting for each site during EN, 2002 vs. 2016



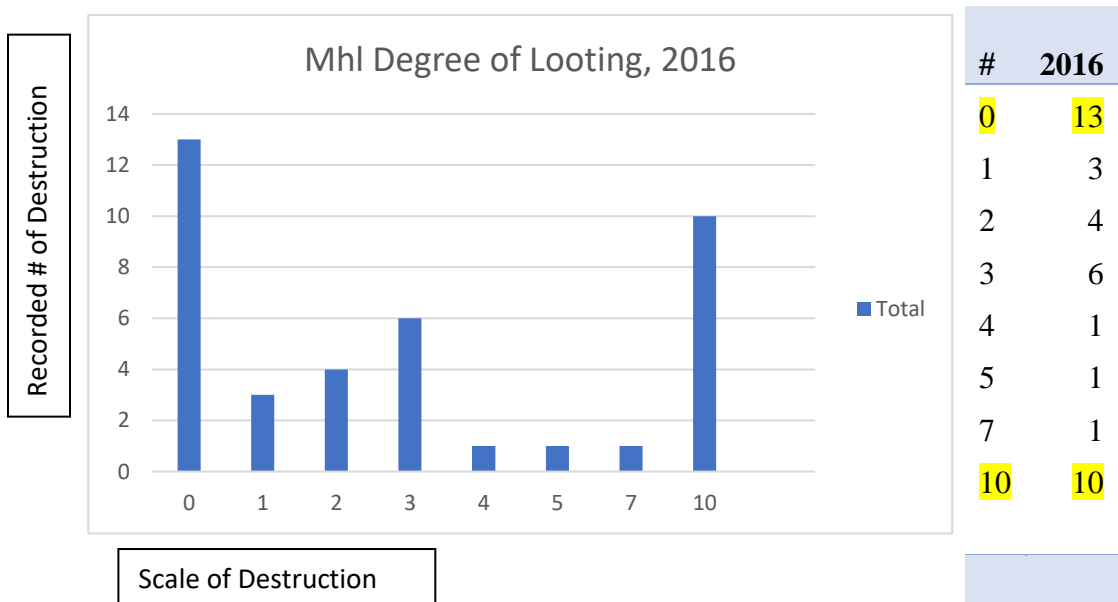
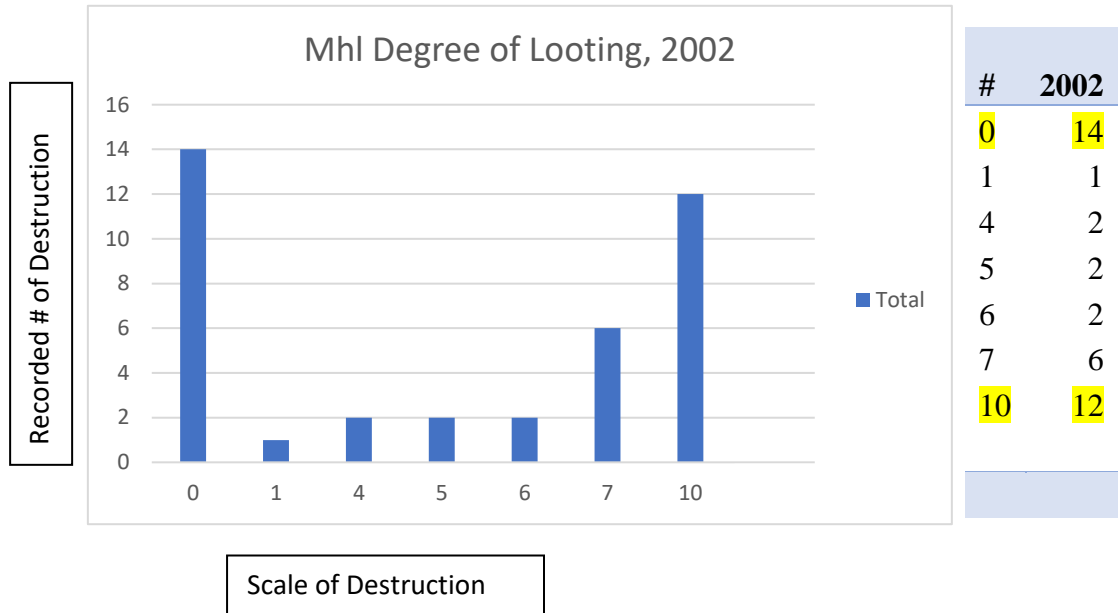
Time Period

Degree of Looting for each site during LN, 2002 vs. 2016



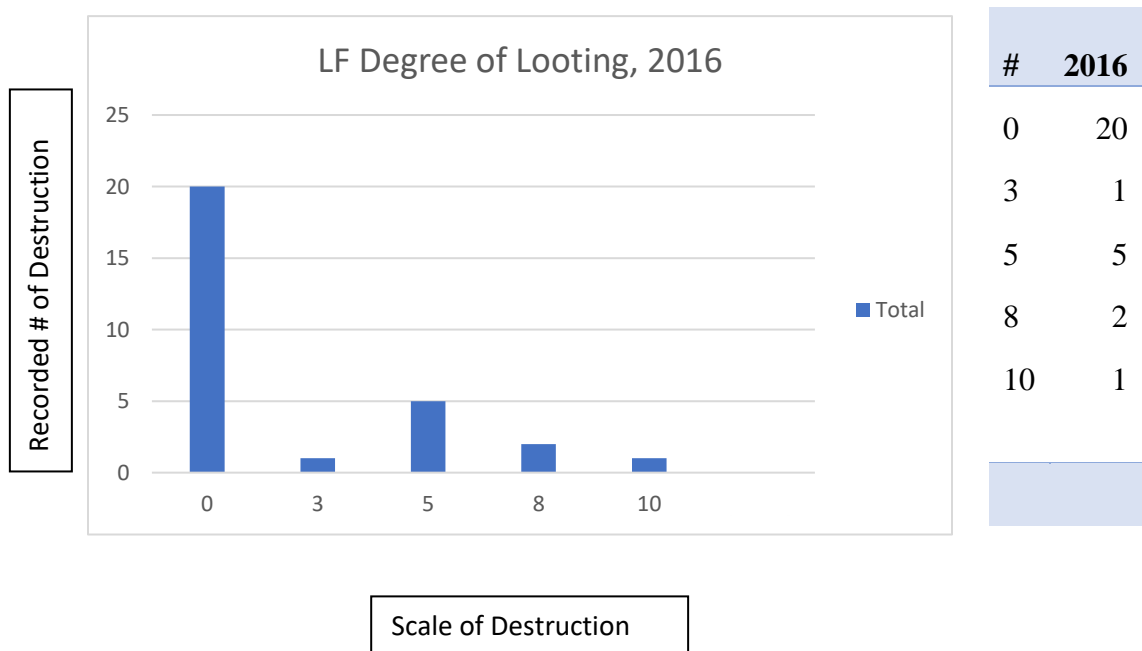
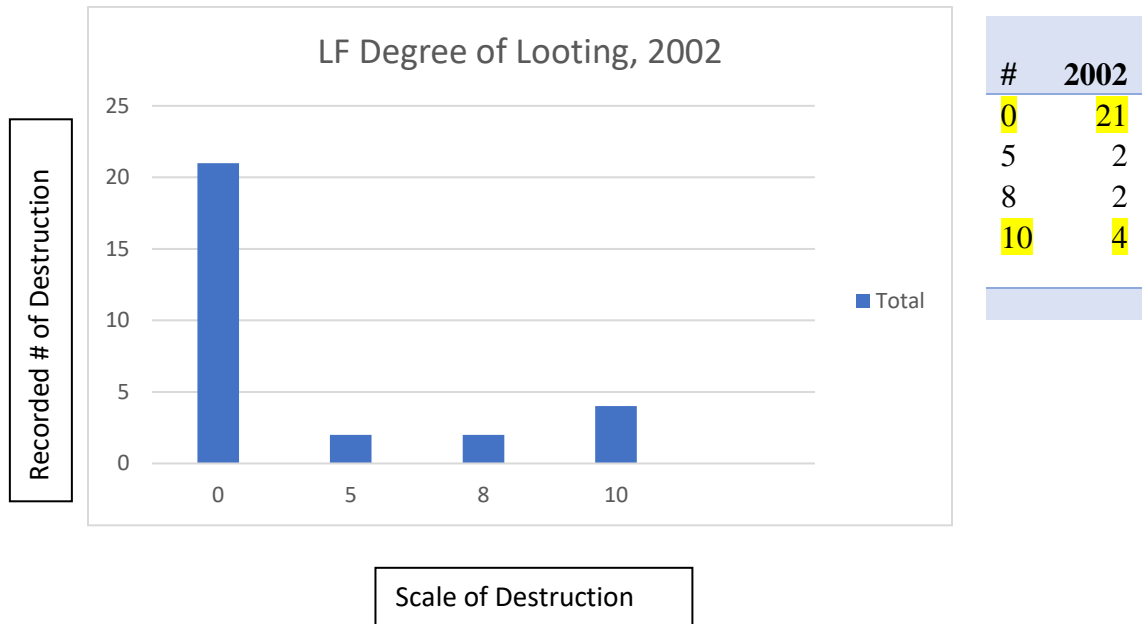
Time Period

Degree of Looting for each site during Mhl, 2002 vs. 2016



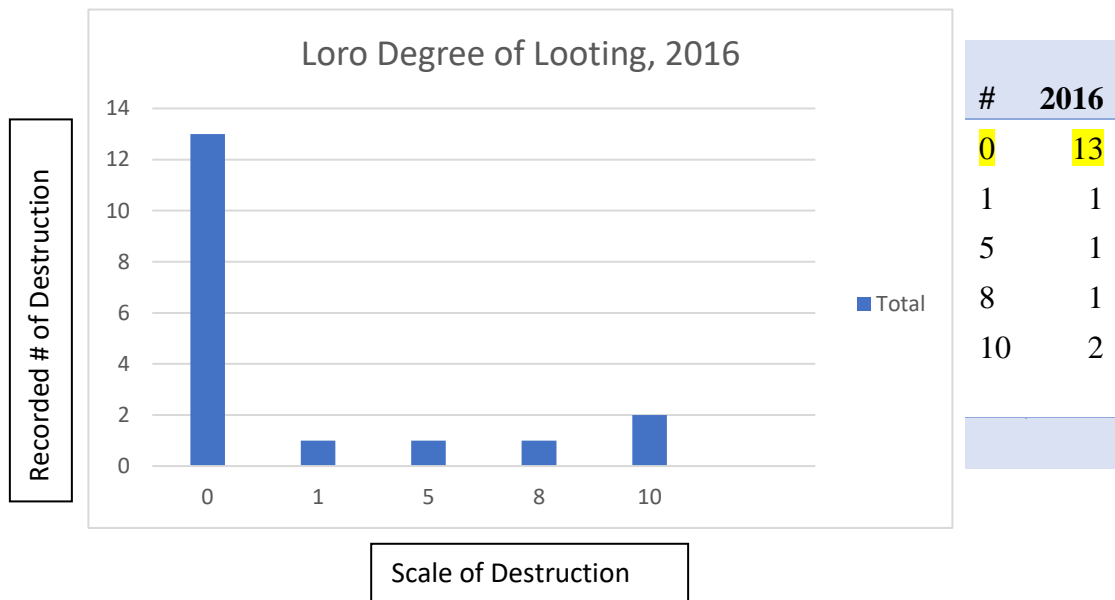
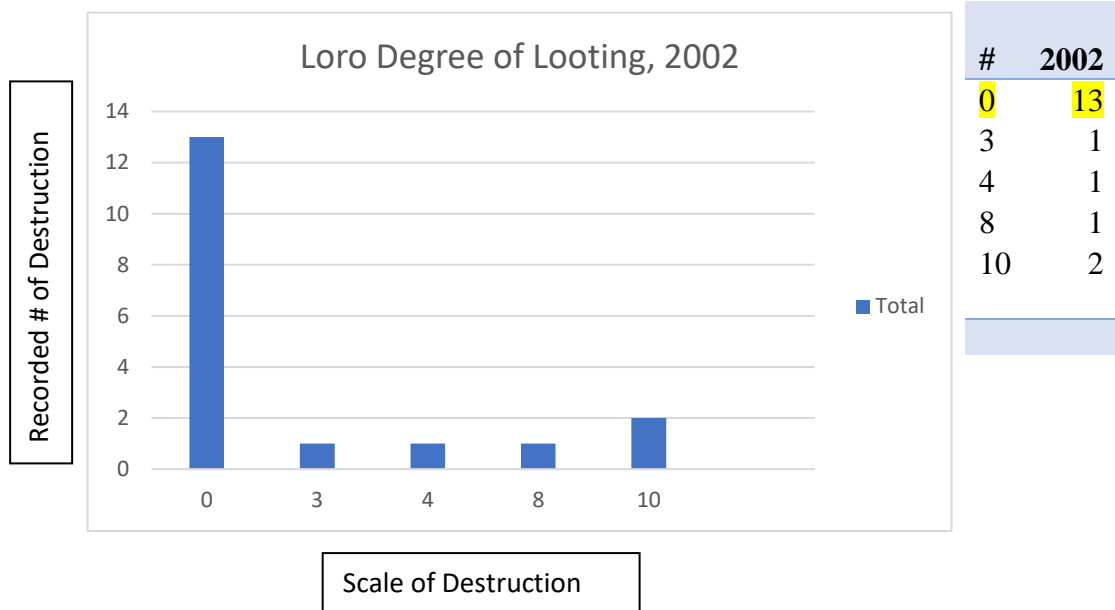
Time Period

Degree of Looting for each site during LF, 2002 vs. 2016



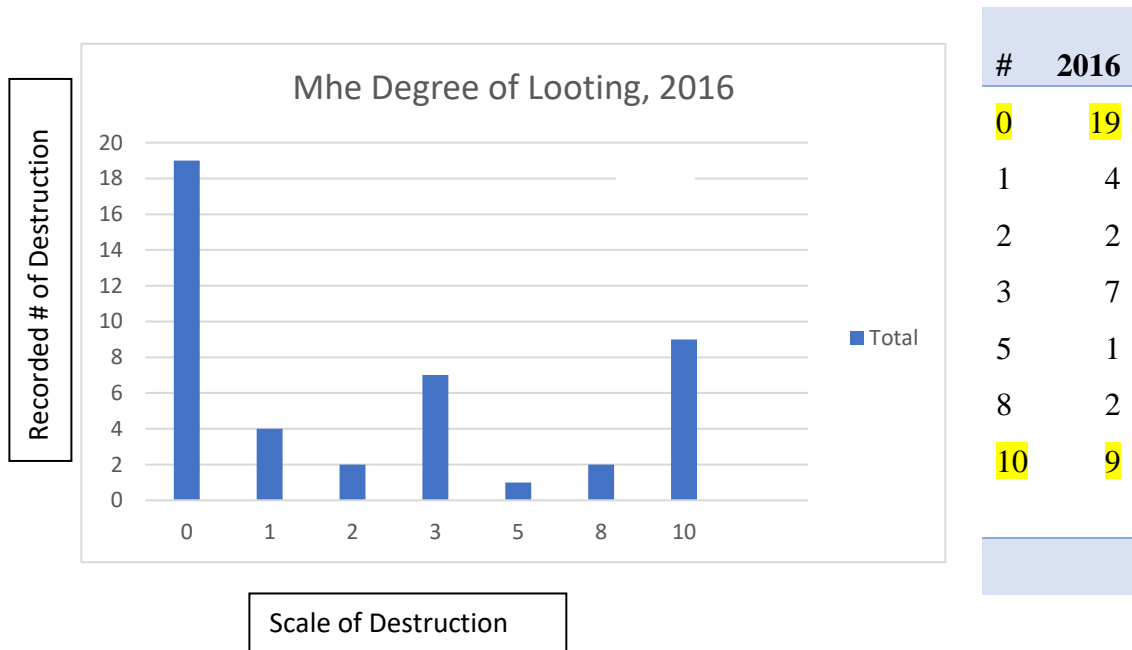
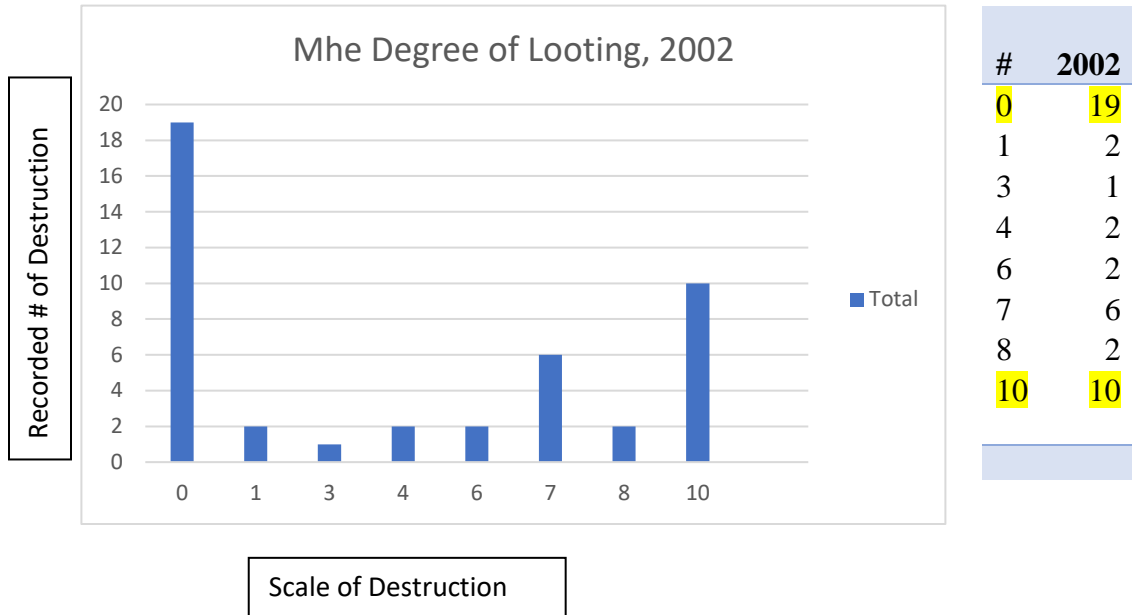
Time Period

Degree of Looting for each site during Loro, 2002 vs. 2016



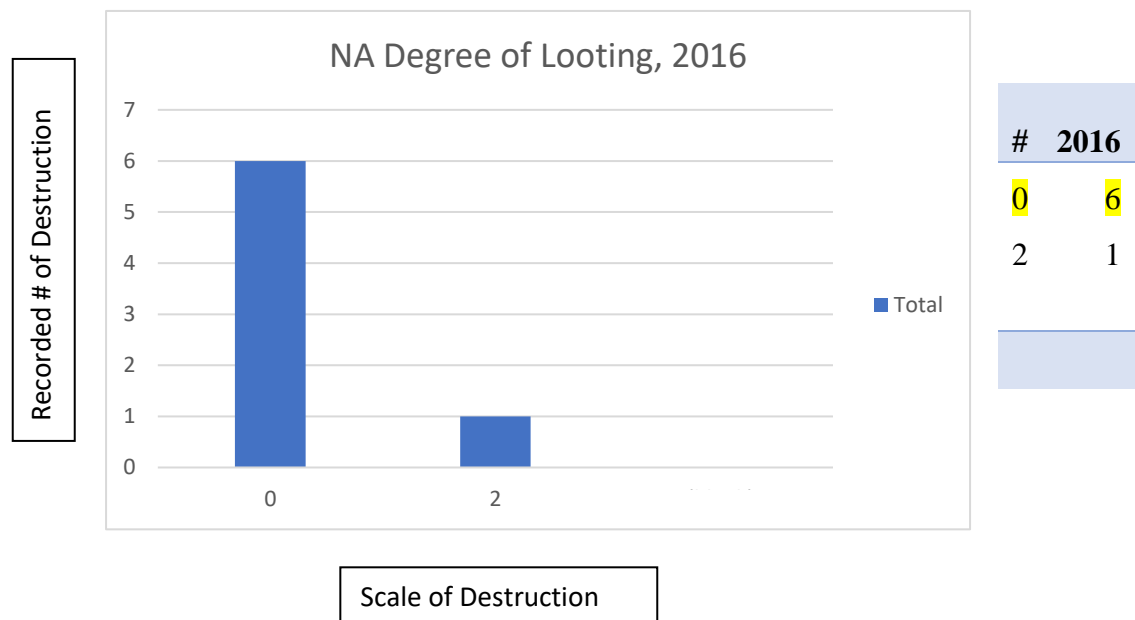
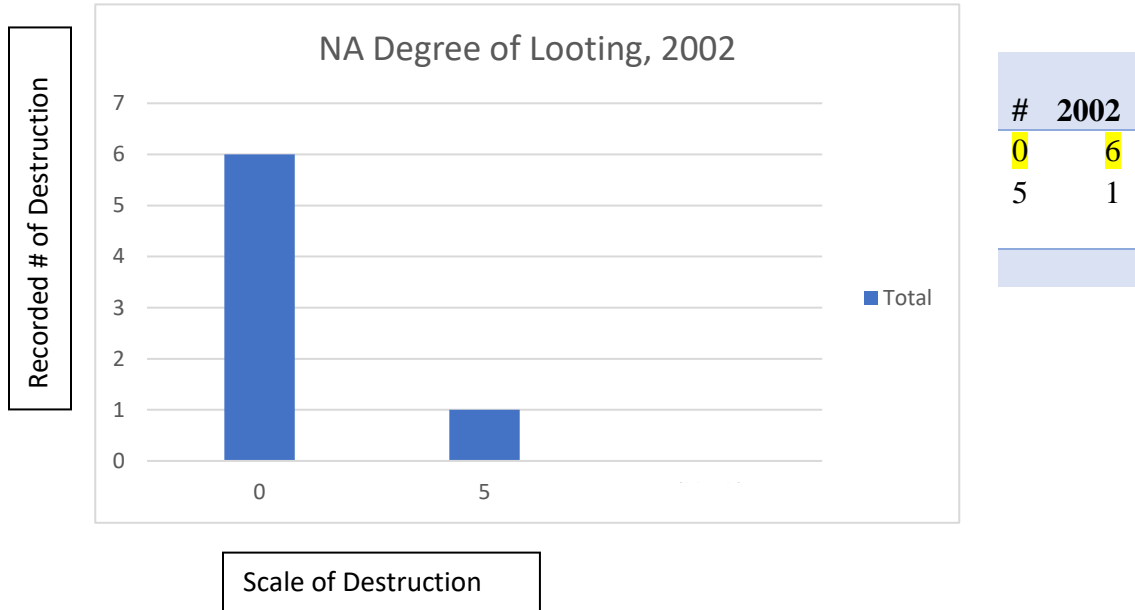
Time Period

Degree of Looting for each site during Mhe, 2002 vs. 2016



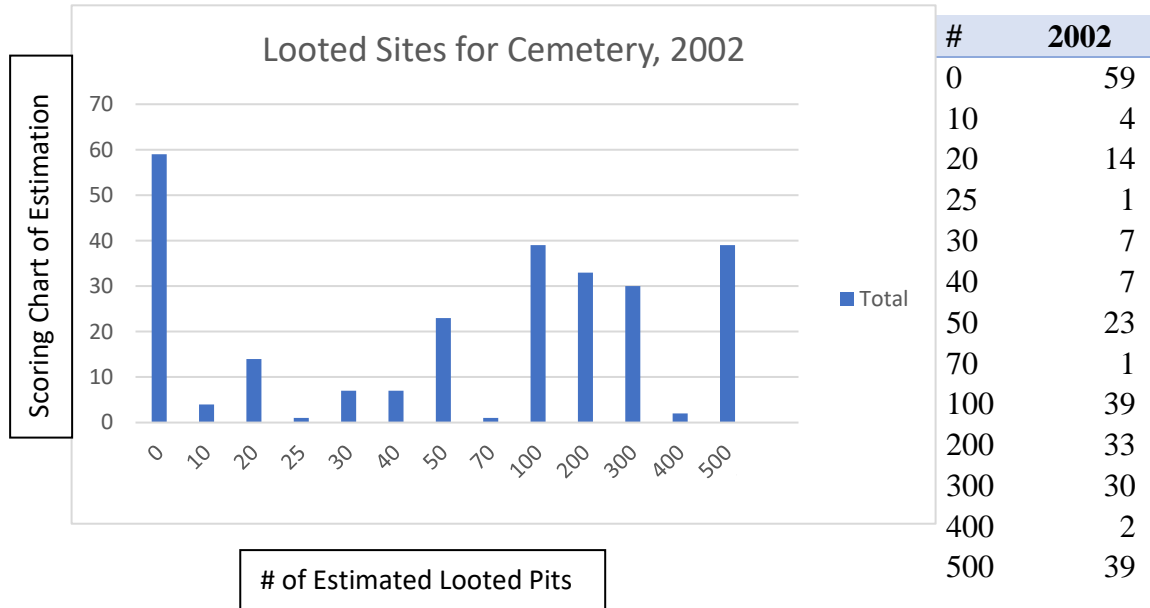
Time Period

Degree of Looting for each site during NA, 2002 vs. 2016

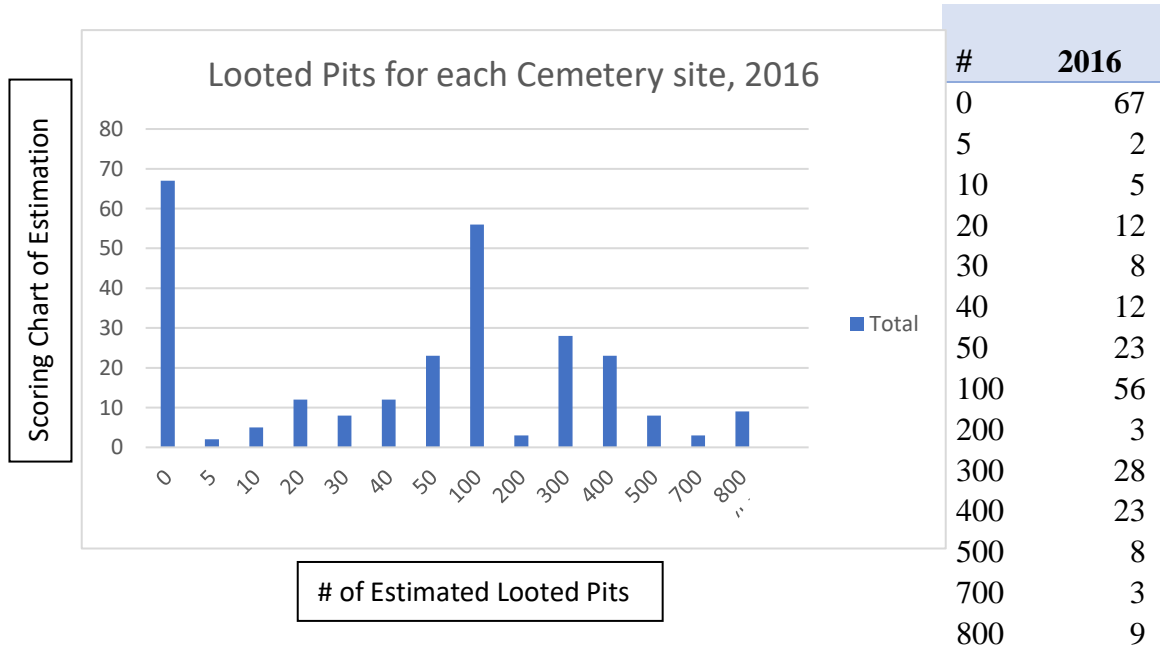


Site Type

Number of Looted Pits at each Cemetery site, 2002 vs. 2016



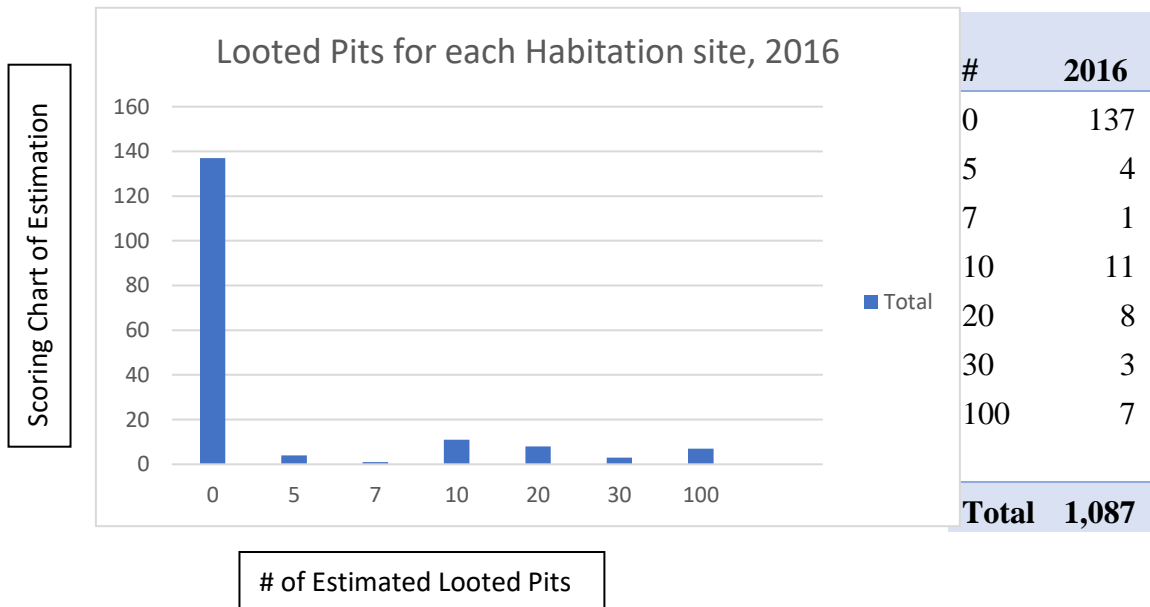
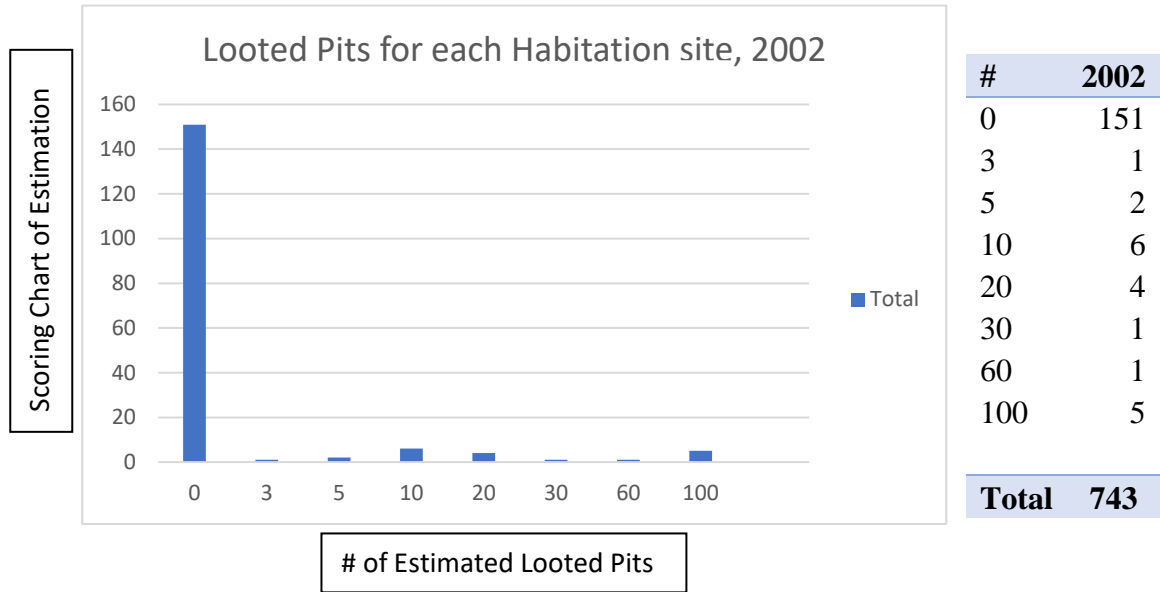
Total 41,855



Total 39,270

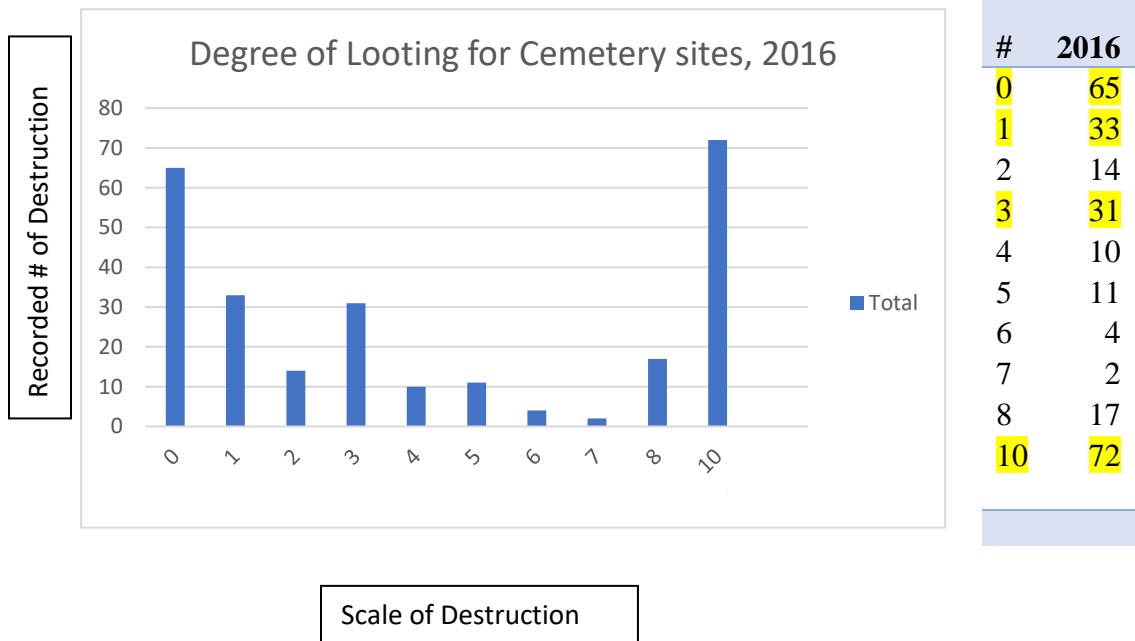
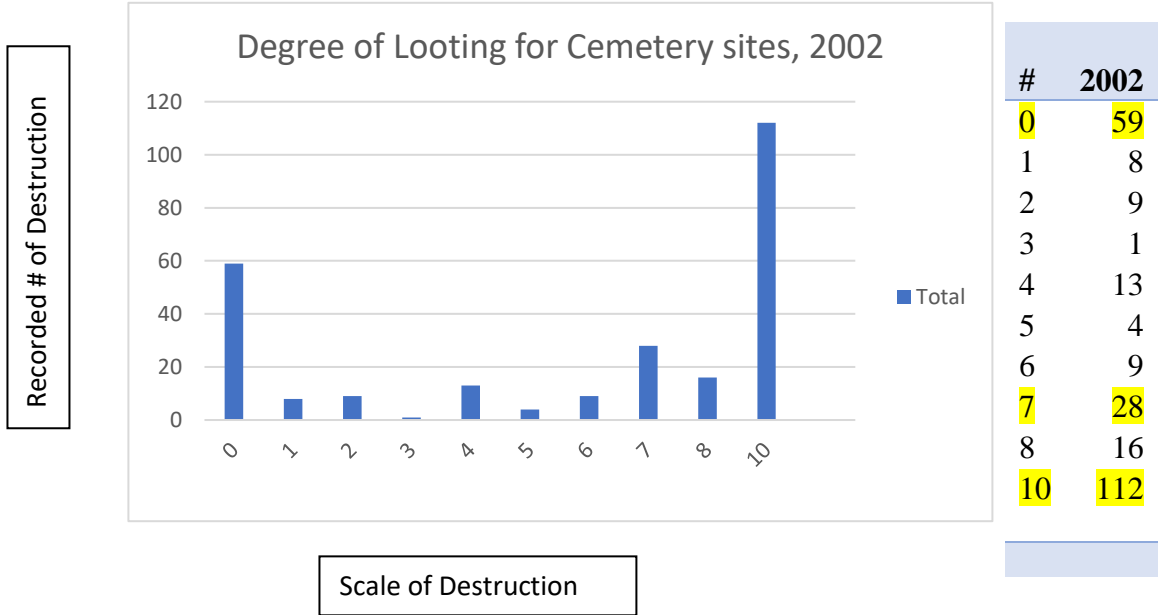
Site Type

Number of Looted Pits at each Habitation site, 2002 vs. 2016



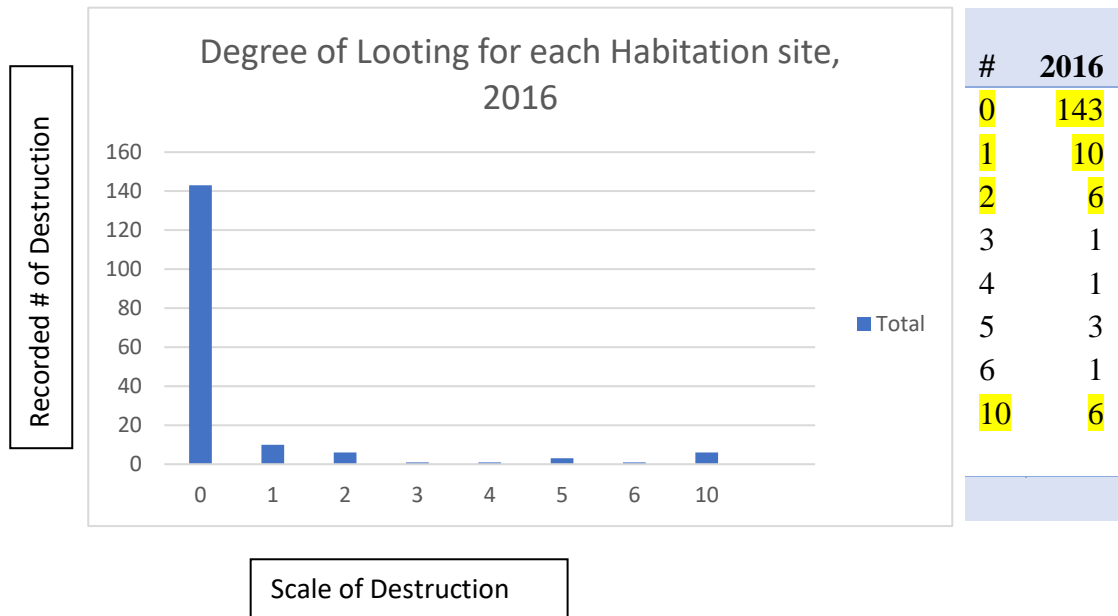
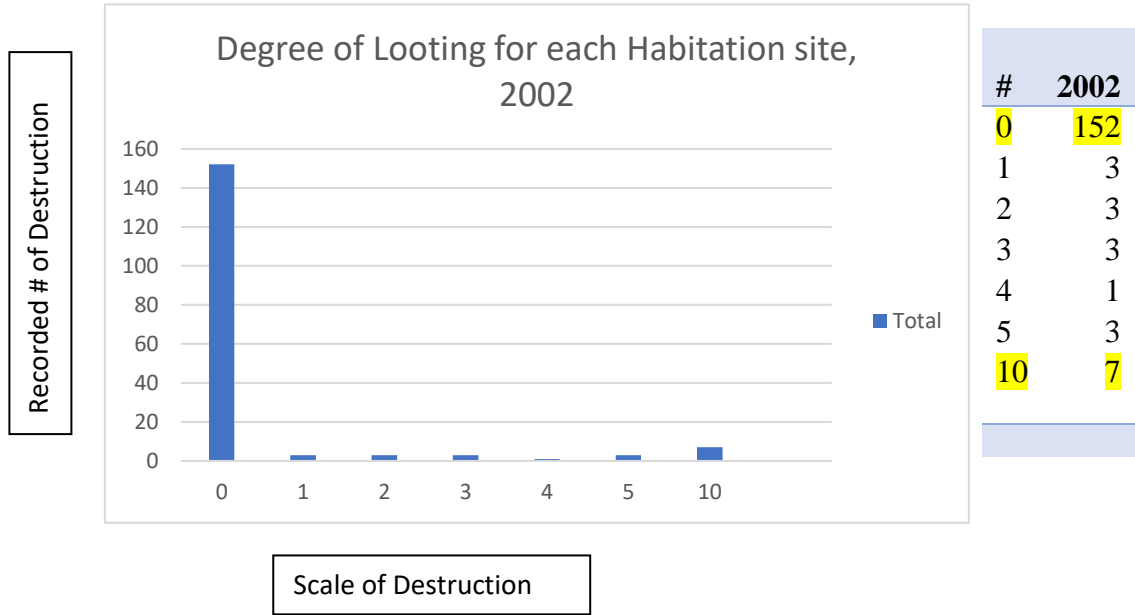
Site Type

Degree of Looting at each Cemetery site, 2002 vs. 2016



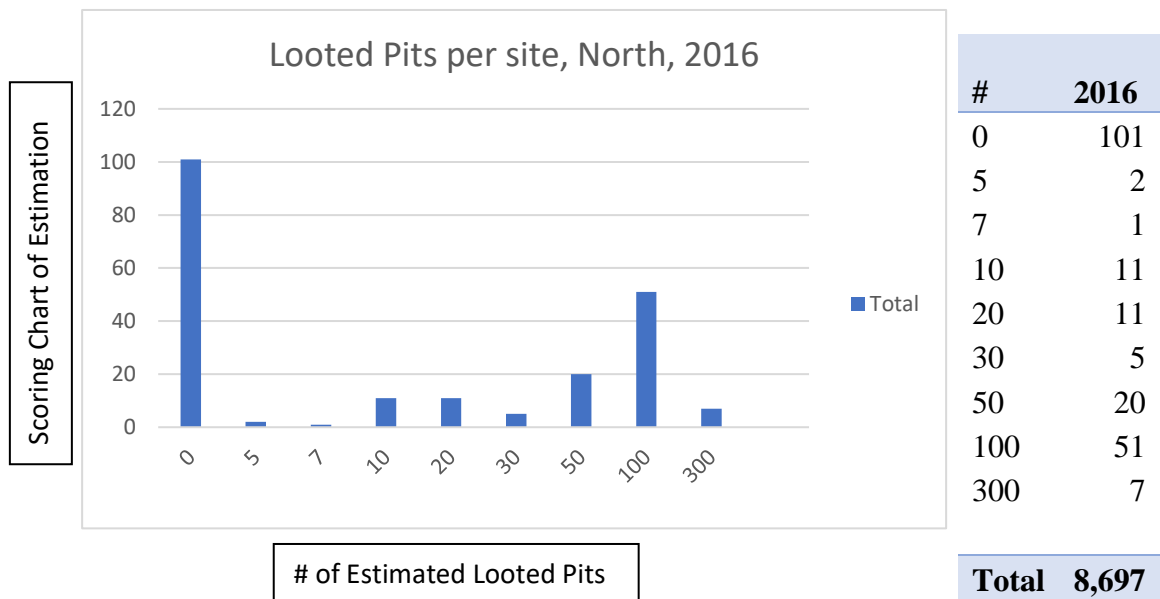
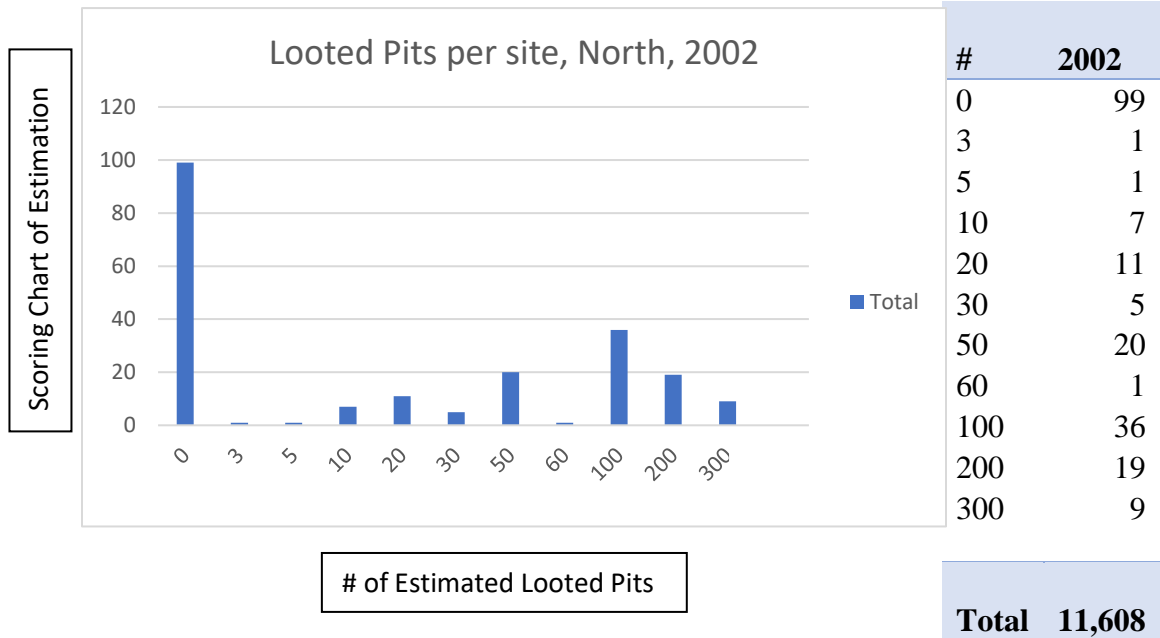
Site Type

Degree of Looting at each Habitation site, 2002 vs. 2016



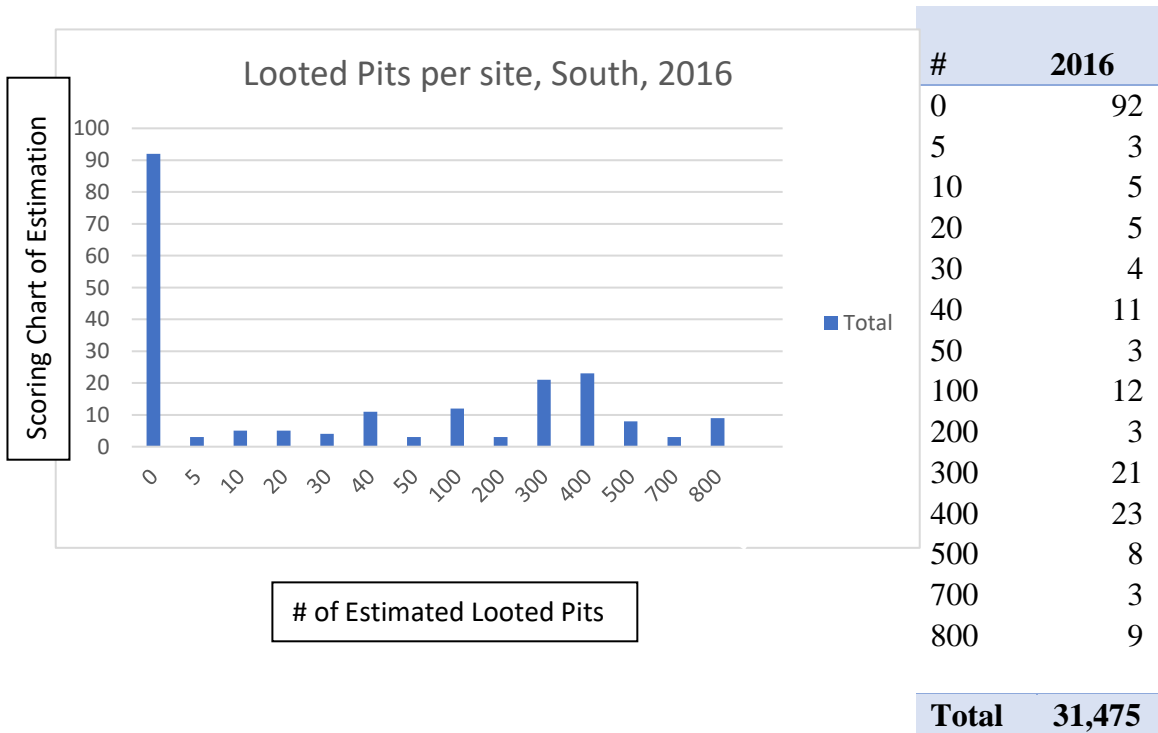
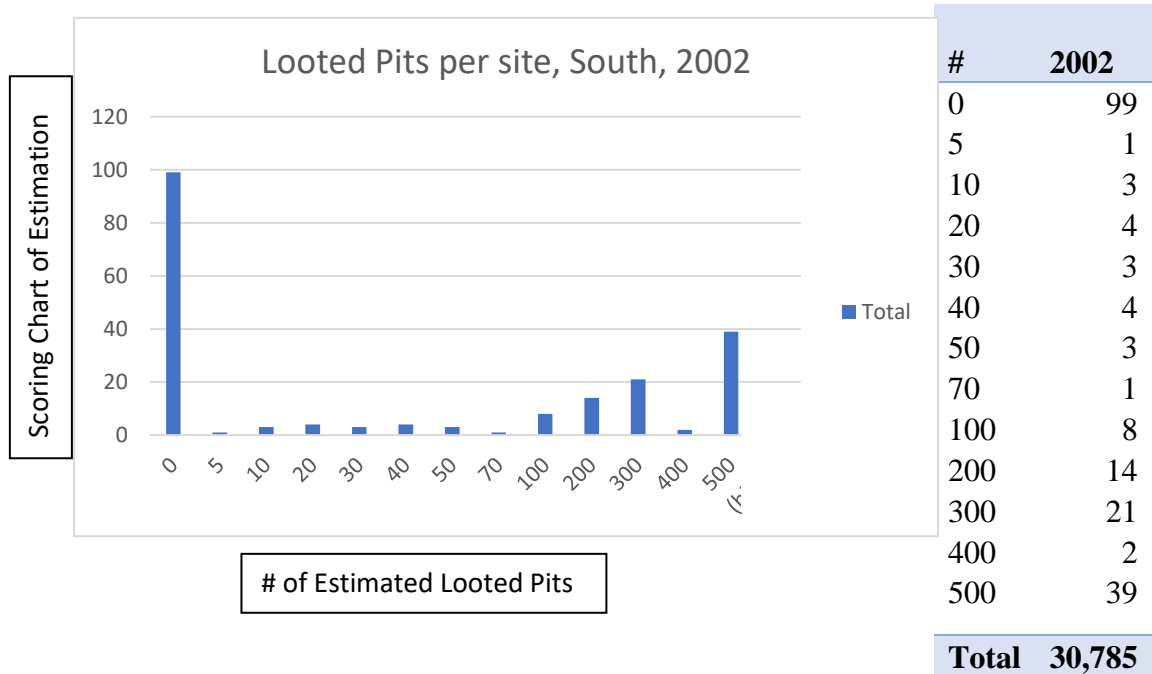
Area

Number of Looted Pits, North: 2002 vs. 2016



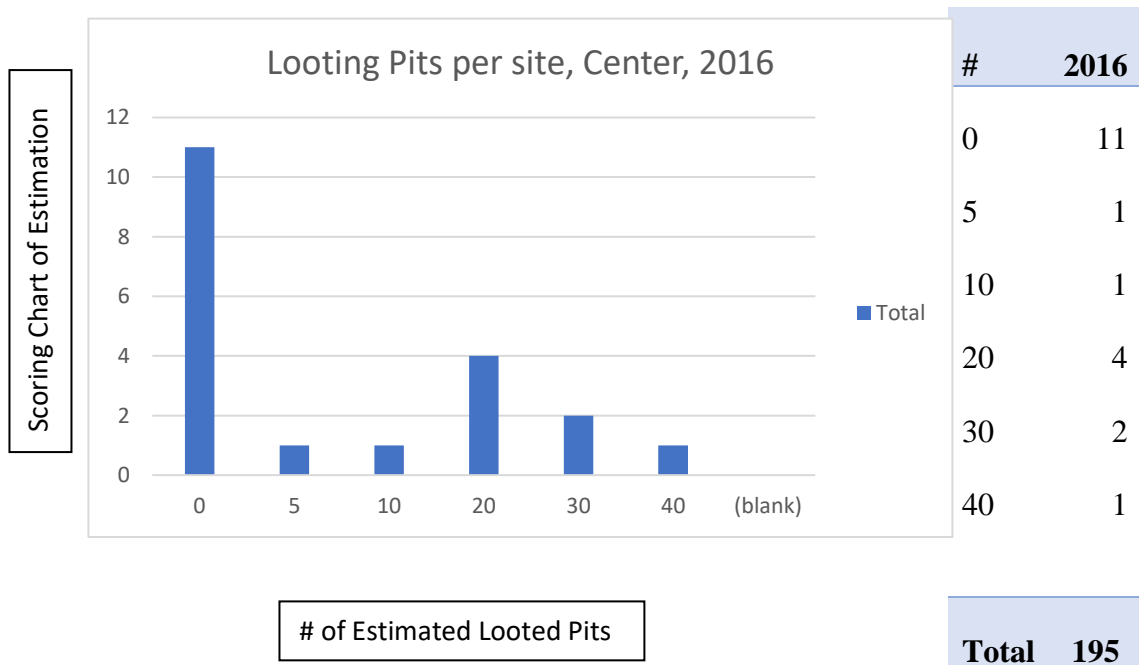
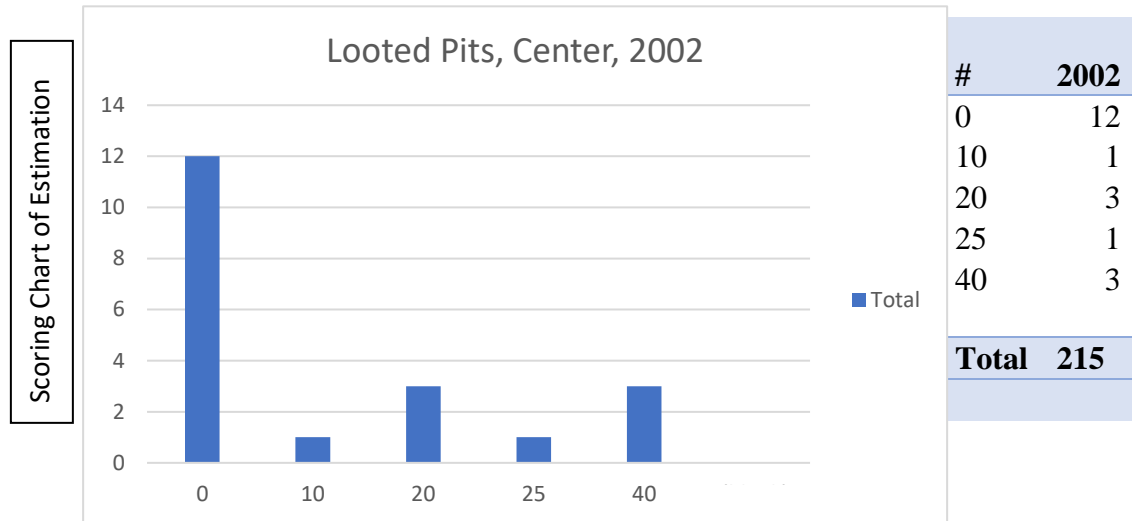
Area

Number of Looted Pits, South: 2002 vs. 2016



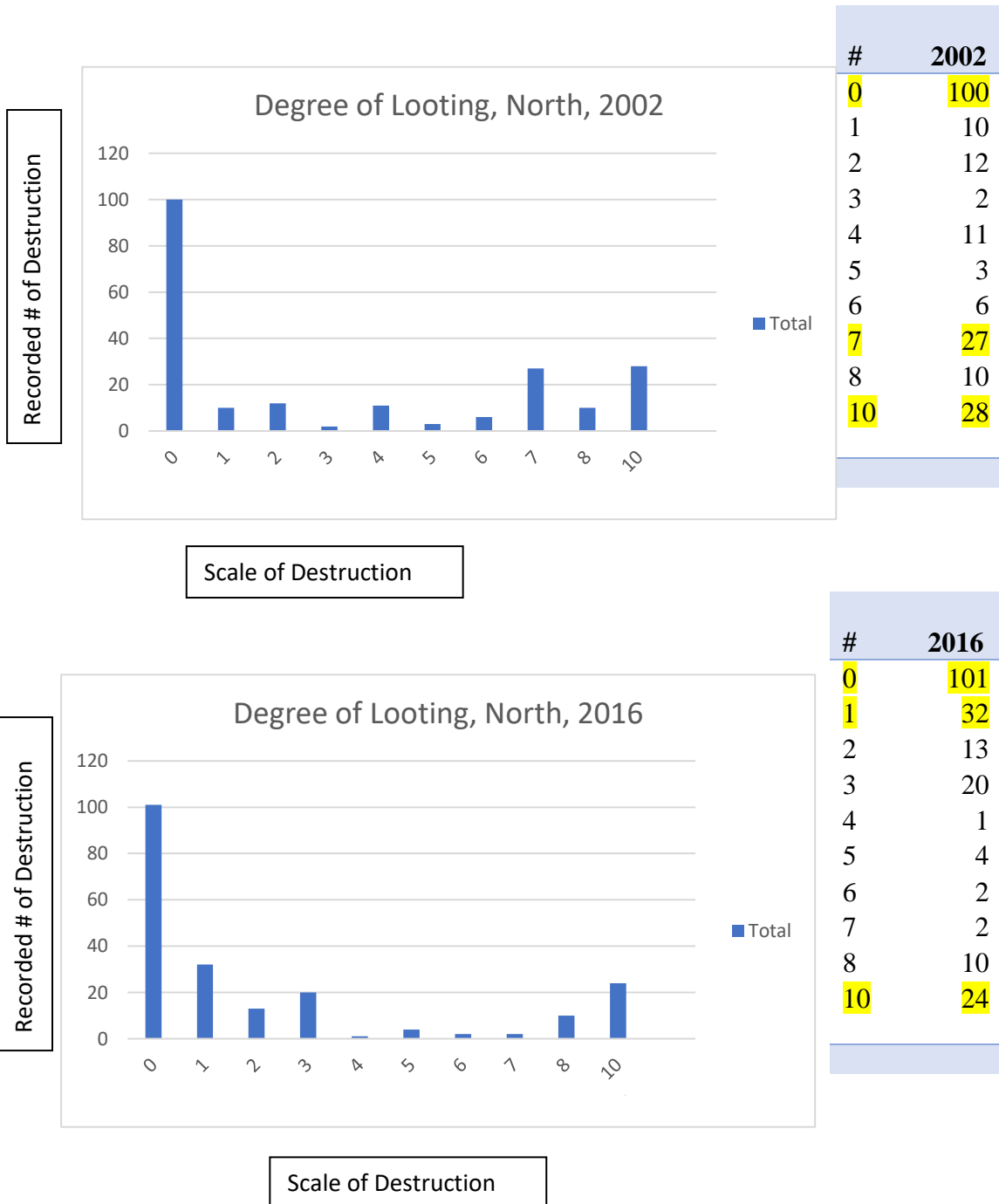
Area

Number of Looted Pits, Center: 2002 vs. 2016



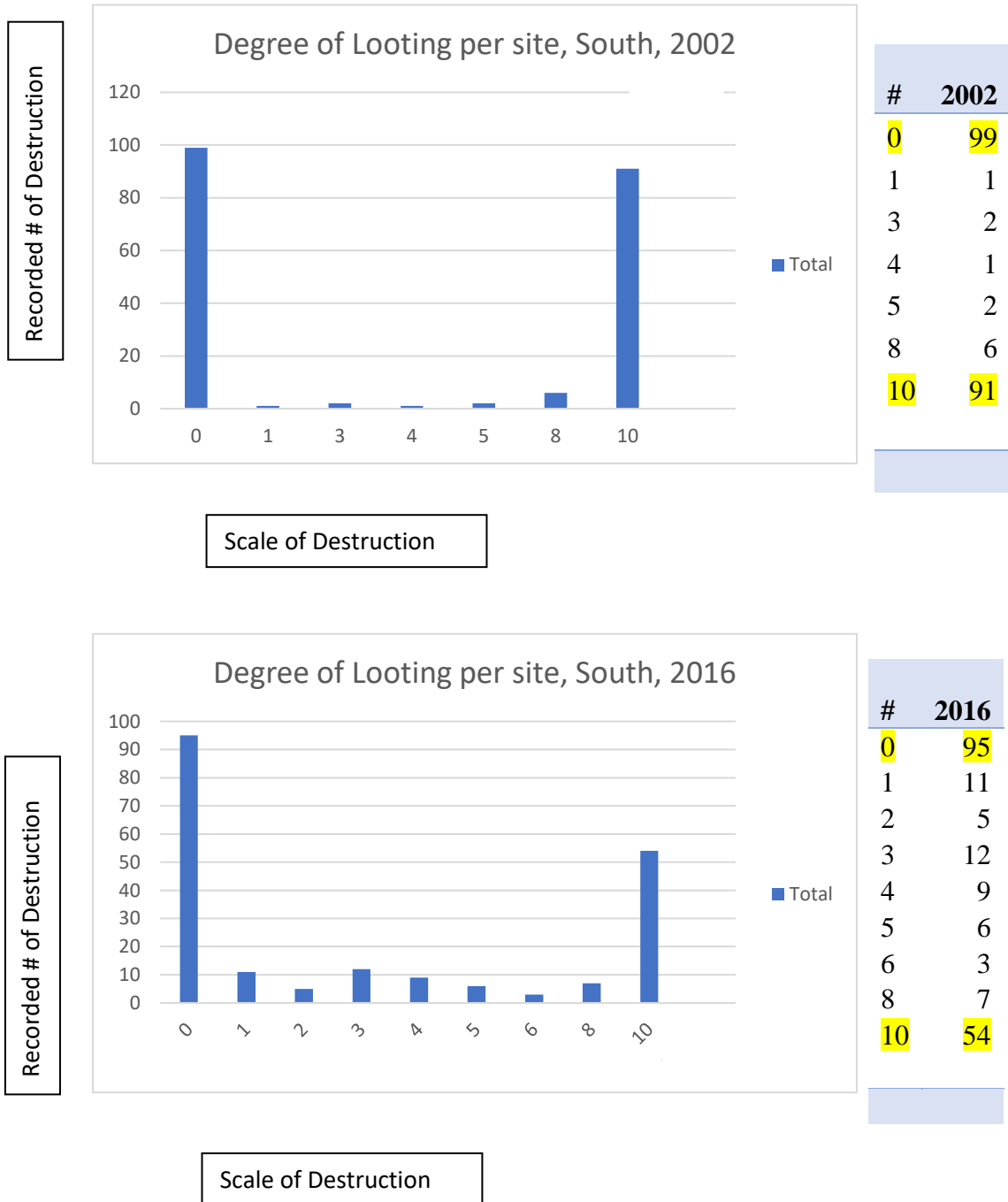
Area

Degree of Looting for each site, North: 2002 vs. 2016



Area

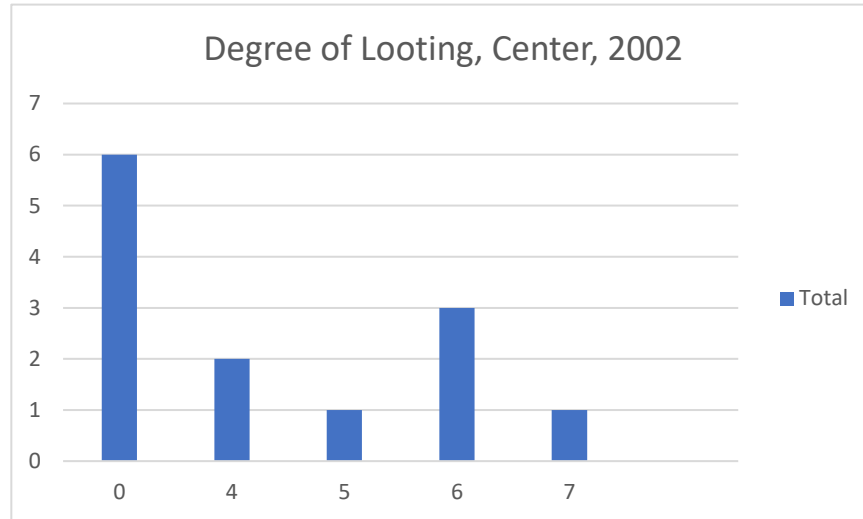
Degree of Looting for each site, South: 2002 vs. 2016



Area

Degree of Looting for each site, Center: 2002 vs. 2016

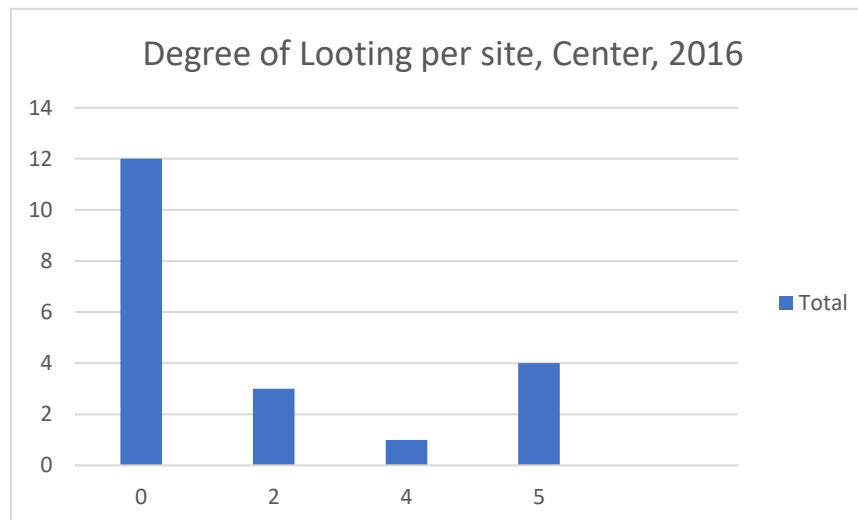
Recorded # of Destruction



#	2002
0	6
4	2
5	1
6	3
7	1

Scale of Destruction

Recorded # of Destruction

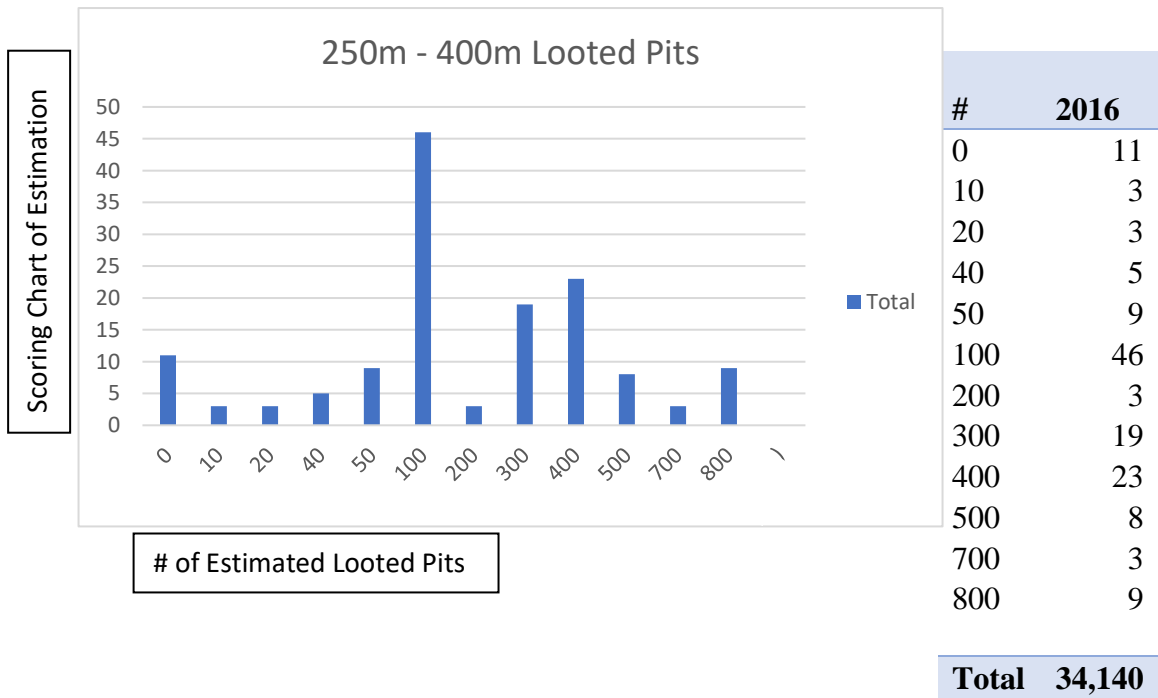
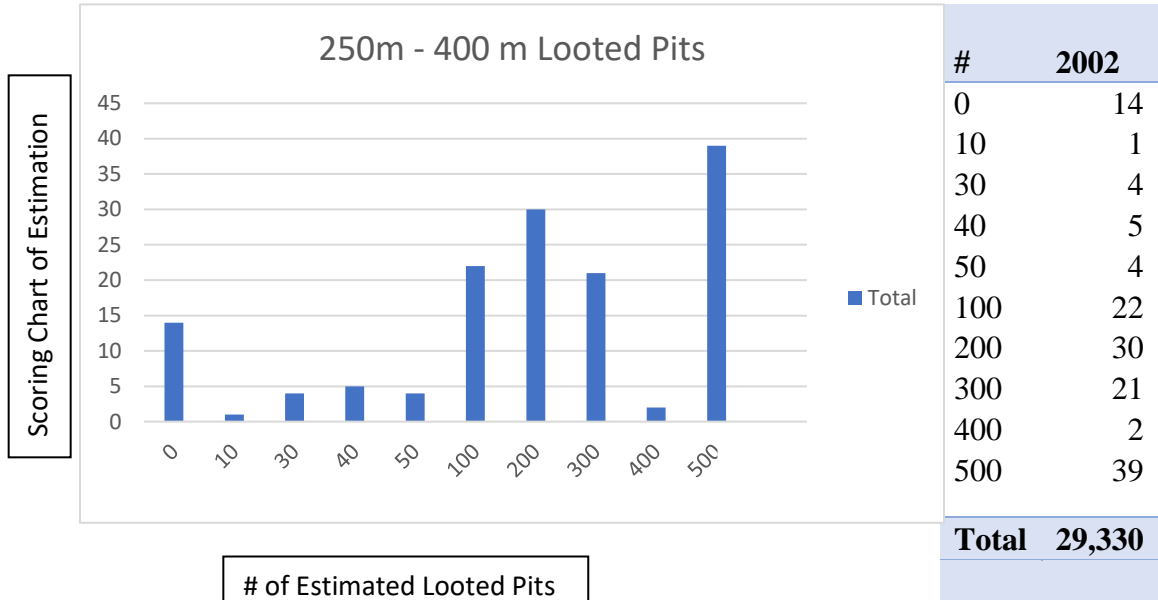


#	2016
0	12
2	3
4	1
5	4

Scale of Destruction

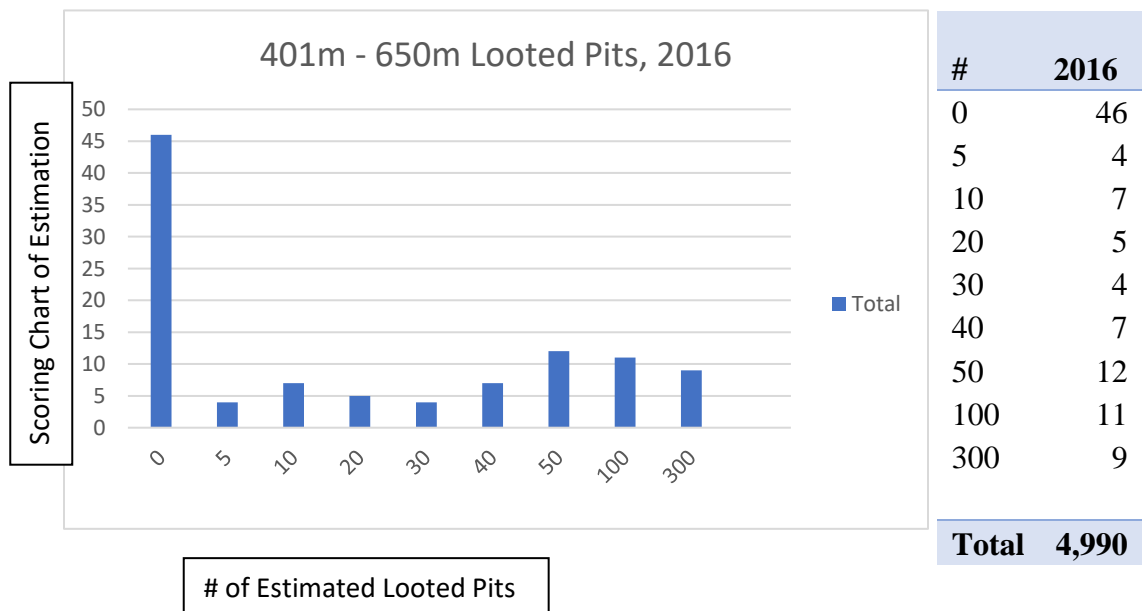
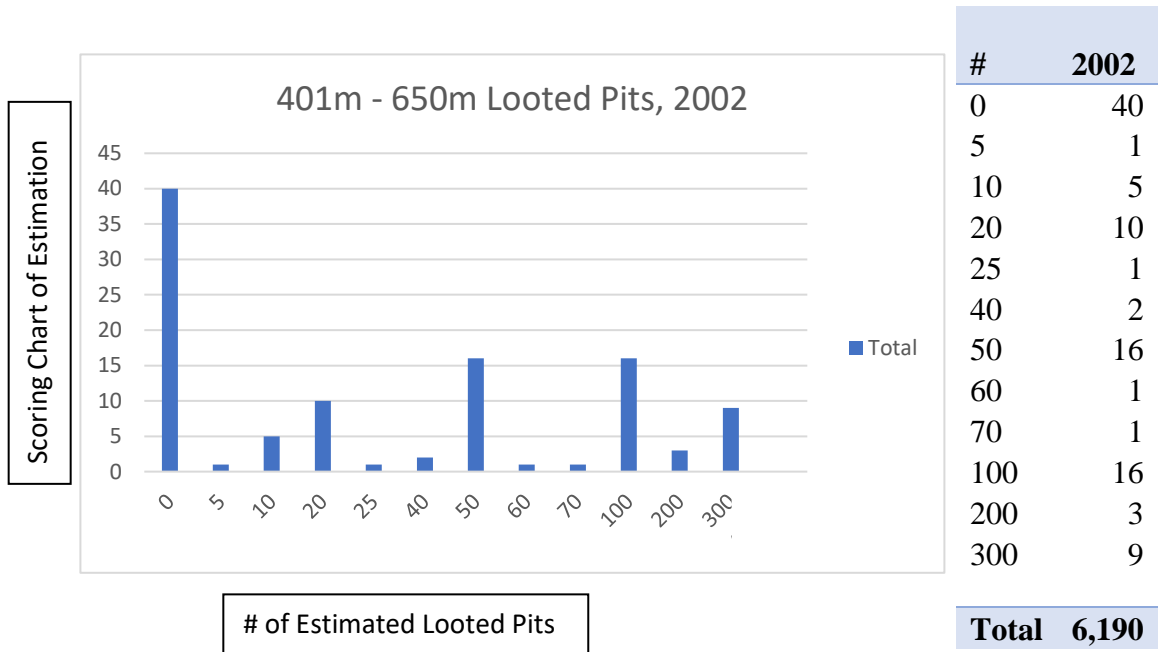
Elevation

Number of Looted Pits, 250m – 400m: 2002 vs. 2016



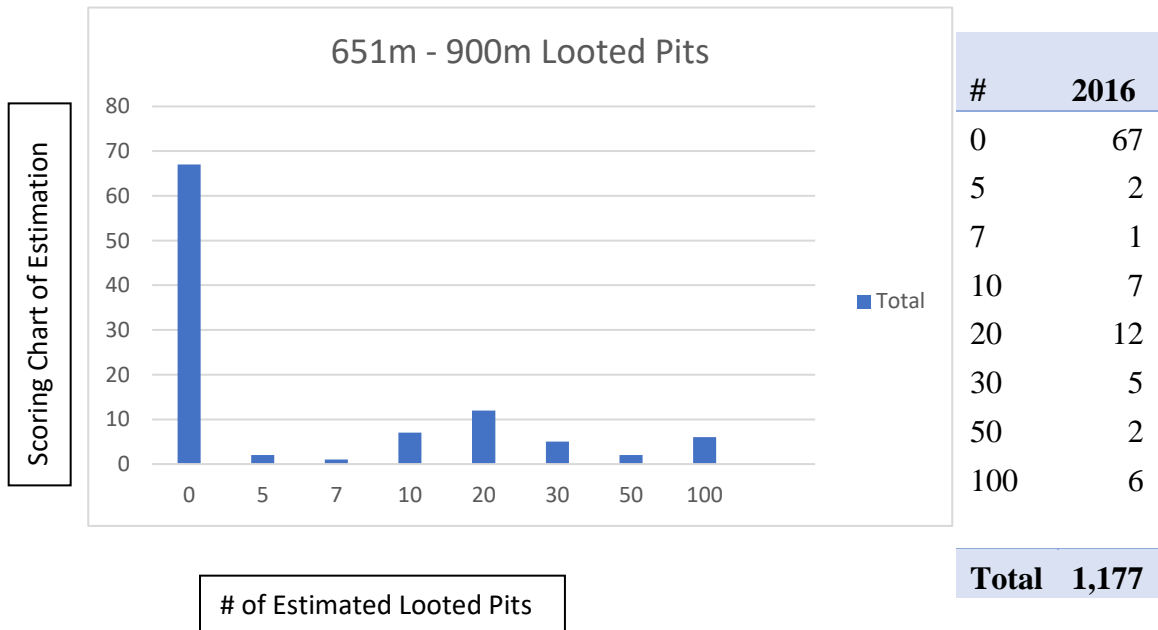
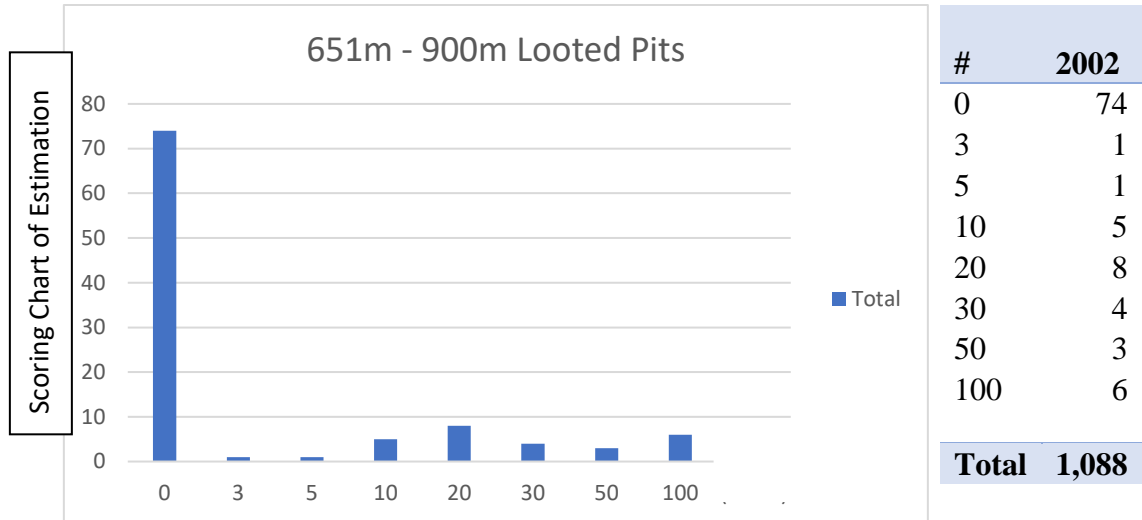
Elevation

Number of Looted Pits, 401m – 650 m: 2002 vs. 2016



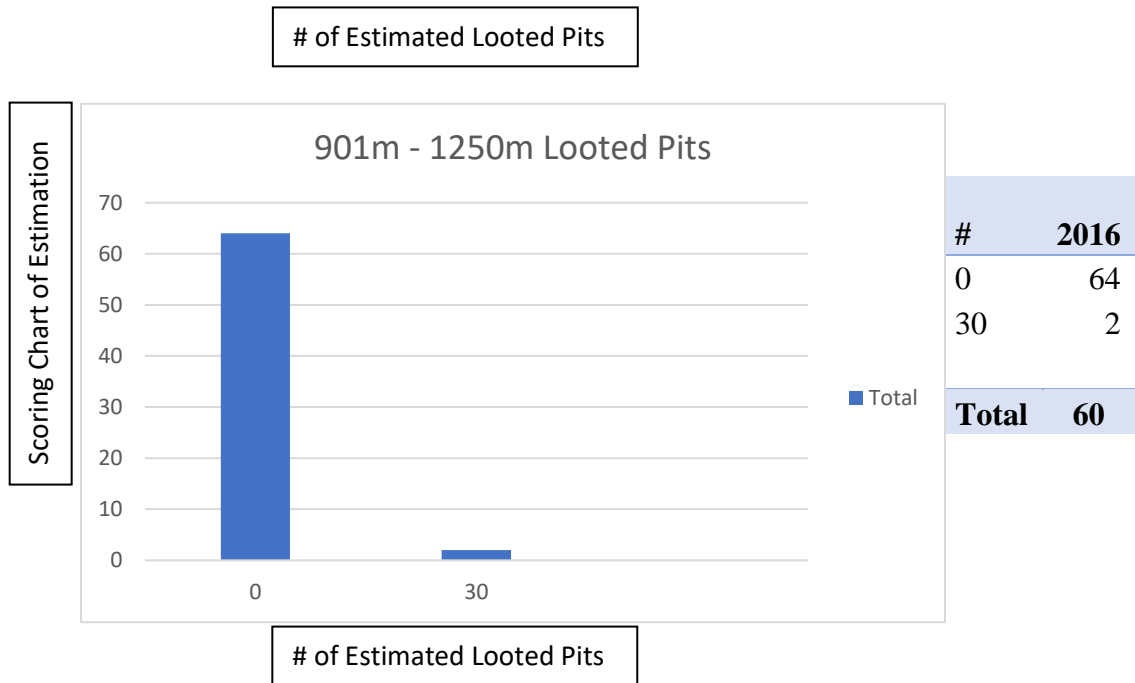
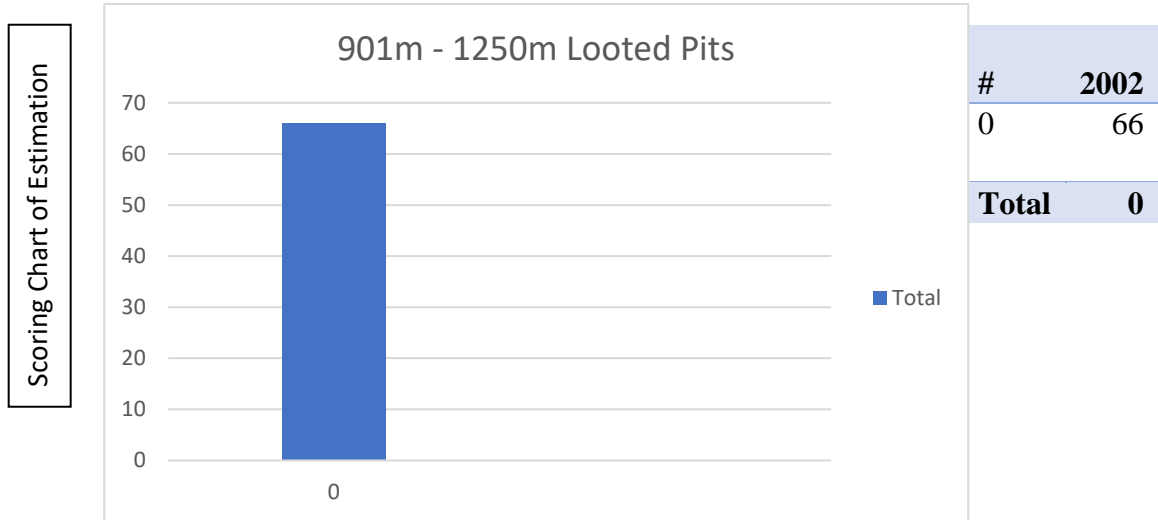
Elevation

Number of Looting Pits, 651m – 900m: 2002 vs. 2016



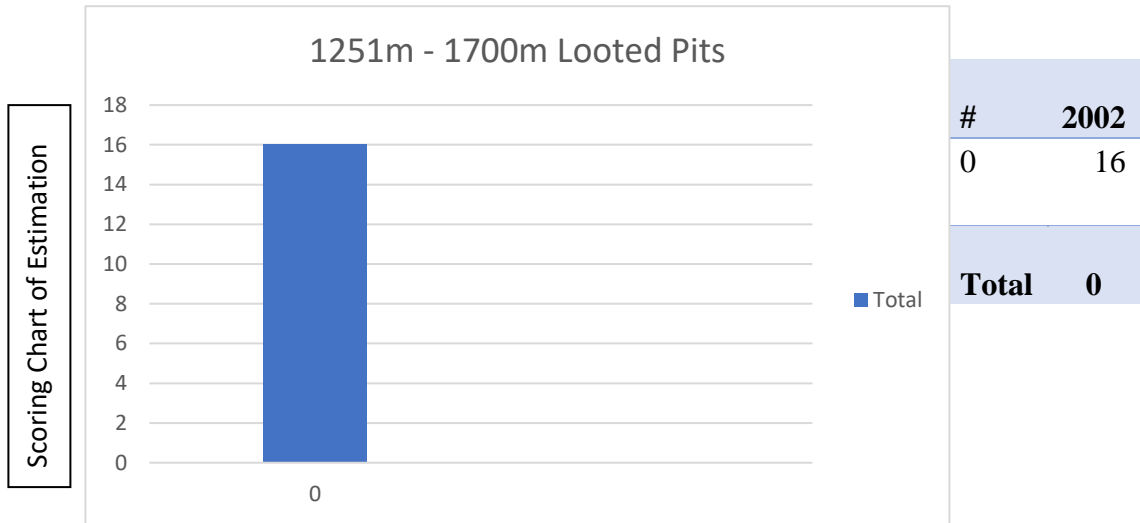
Elevation

Number of Looted Pits, 901m – 1250m: 2002 vs. 2016

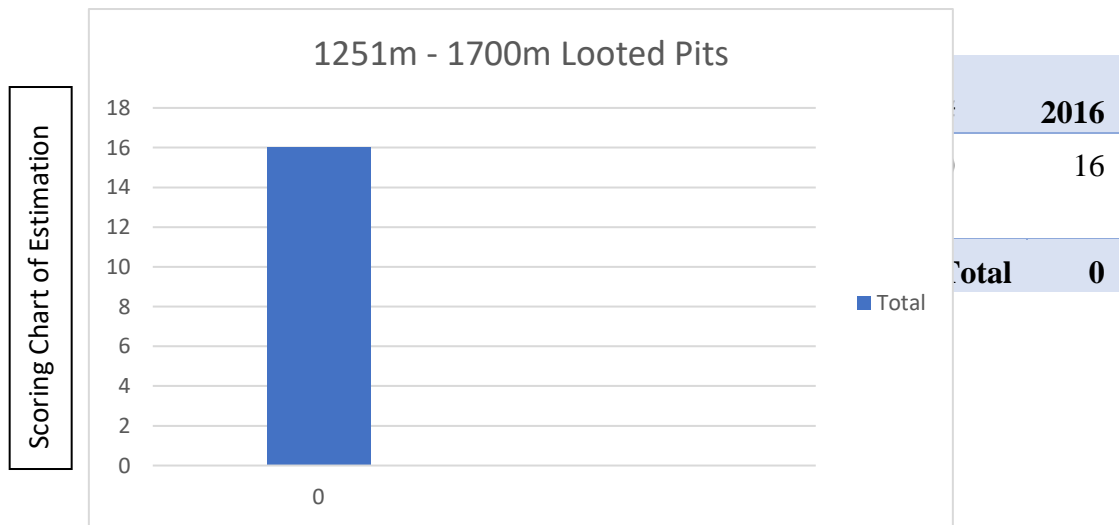


Elevation

Number of Looted Pits, 1251m – 1700m: 2002 vs. 2016



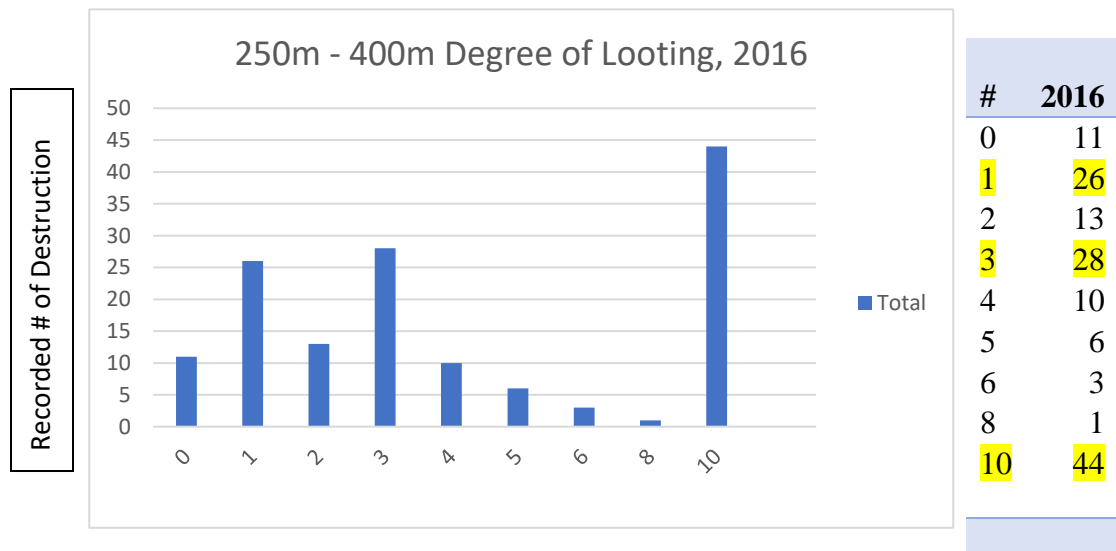
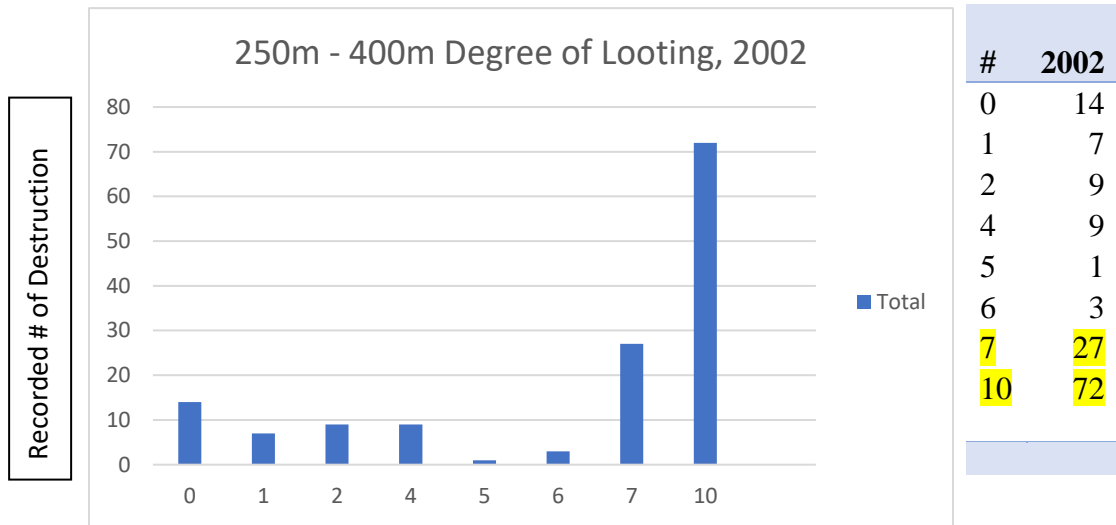
of Estimated Looted Pits



of Estimated Looted Pits

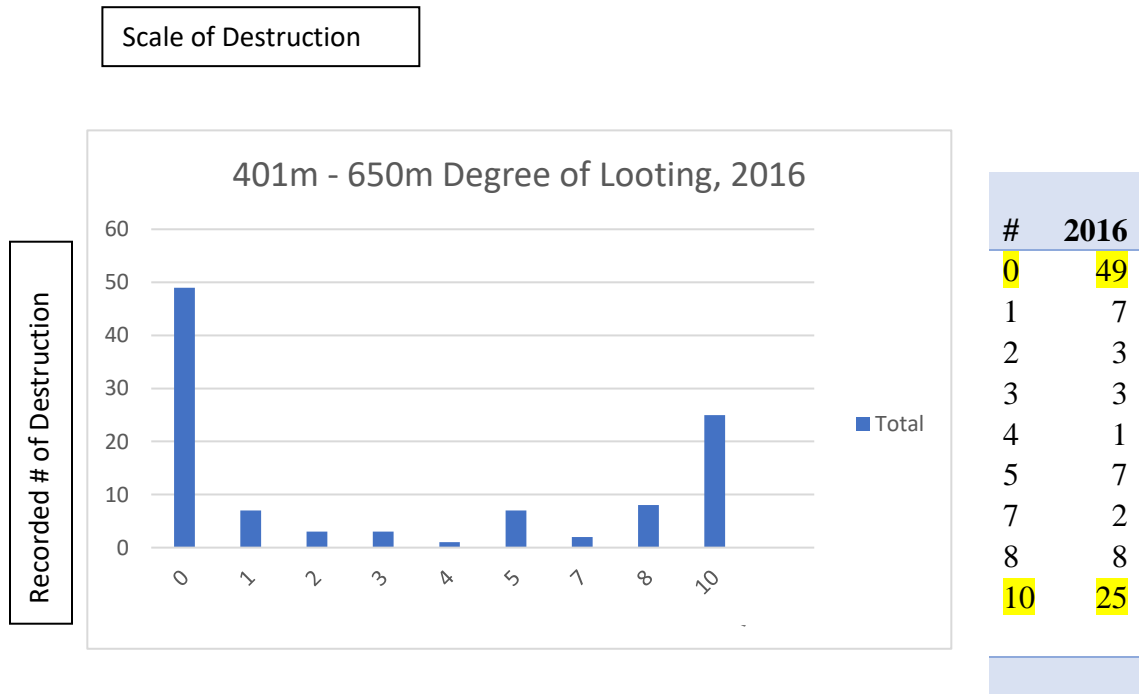
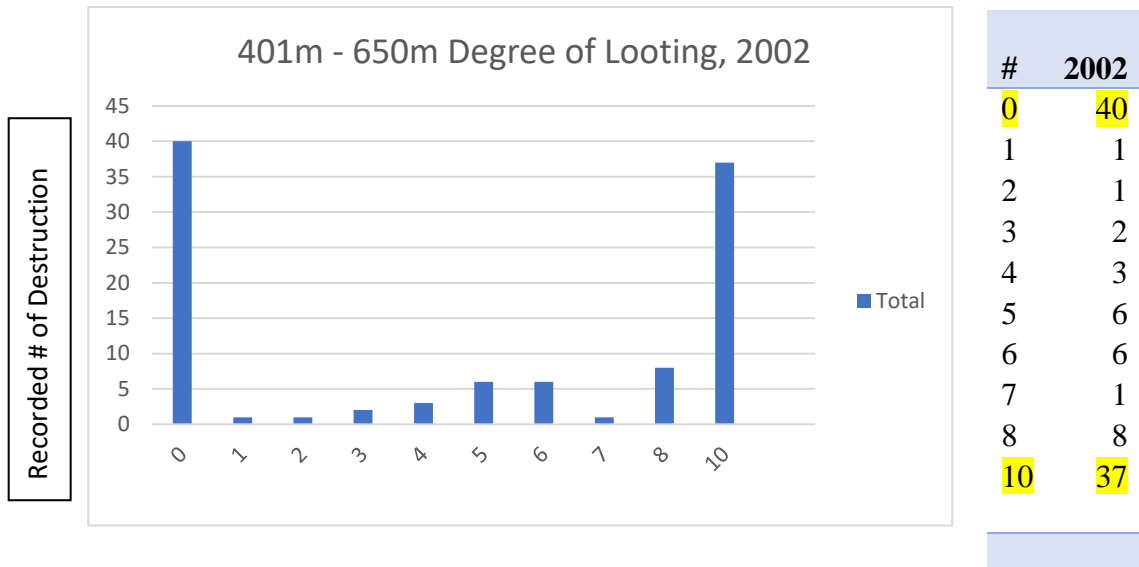
Elevation

Degree of Looting, 250m – 400m: 2002 vs. 2016



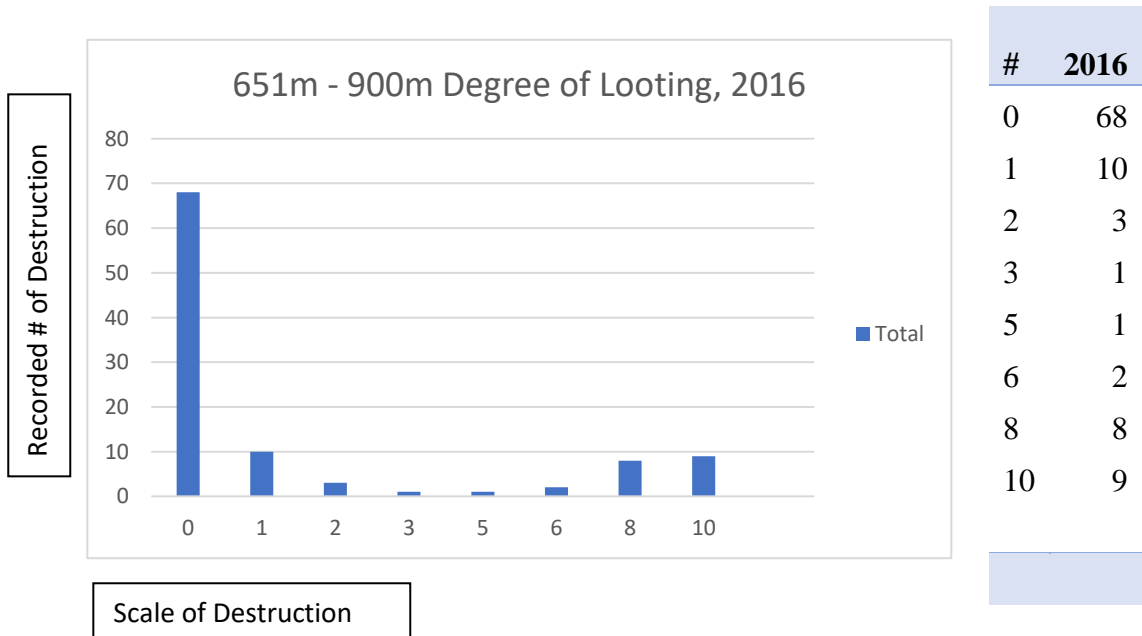
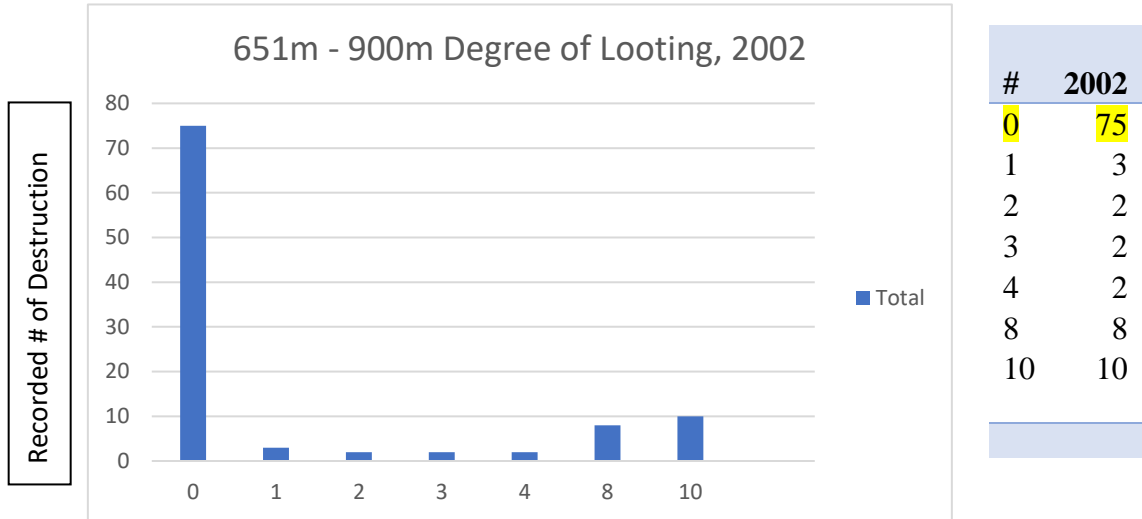
Elevation

Degree of Looting, 401m – 650m: 2002 vs. 2016



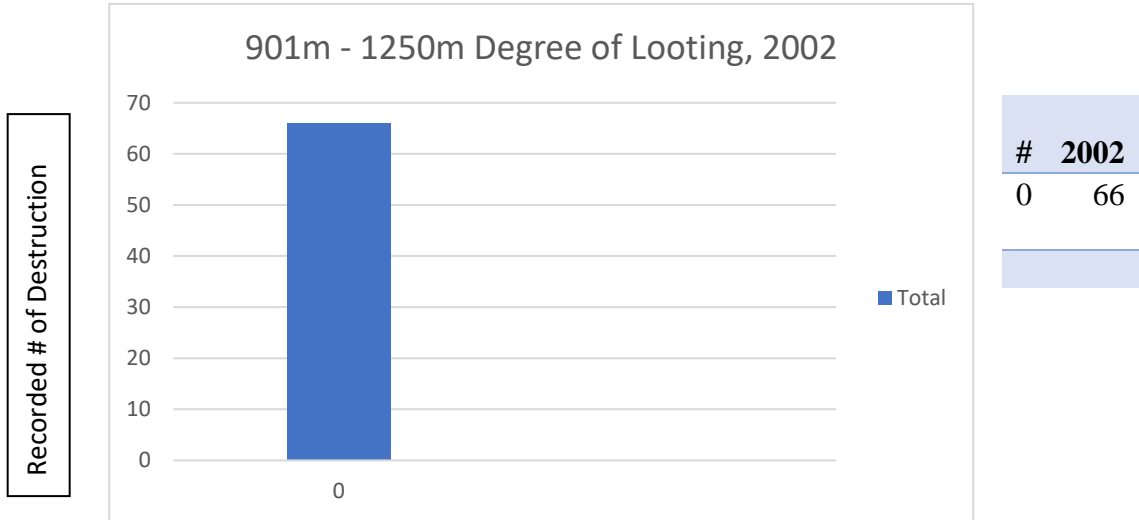
Elevation

Degree of Looting, 651m – 900m: 2002 vs. 2016

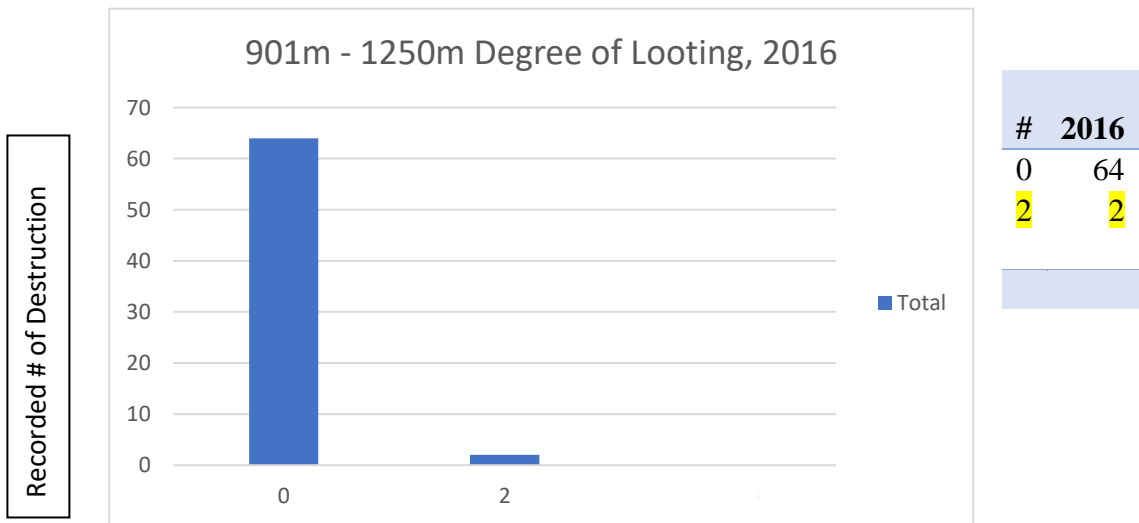


Elevation

Degree of Looting, 901m – 1250m: 2002 vs. 2016



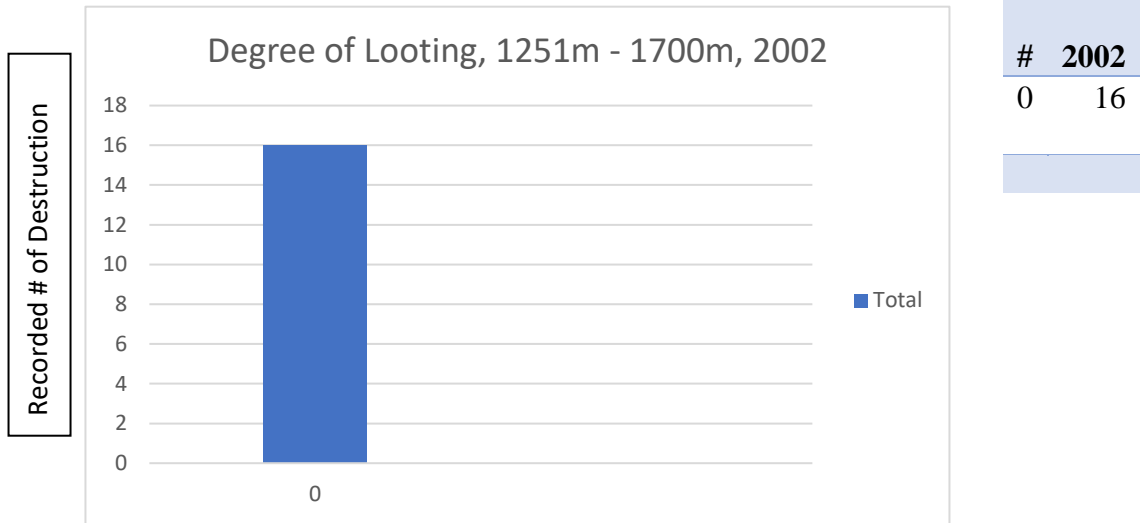
Scale of Destruction



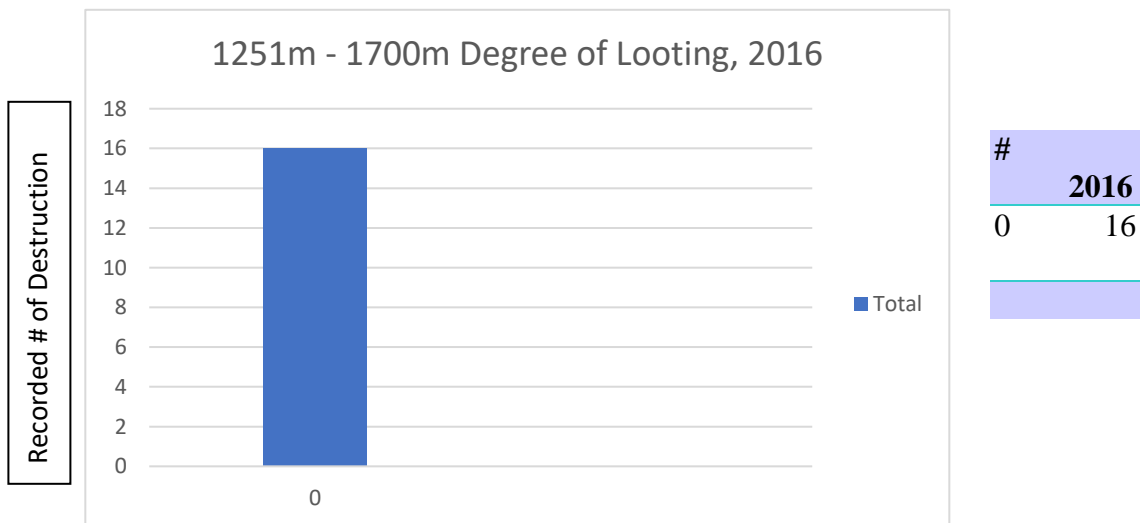
Scale of Destruction

Elevation

Degree of Looting, 1251m – 1700m: 2002 vs. 2016



Scale of Destruction



Scale of Destruction

VI. SELECTED LOOTED SITES

In this chapter I present the findings for the project. These findings are separate from previous data because these findings focus on the “most common pit size” of each site that I have had selected. On the next page, I have described a KEY for the reader to understand my methods of processing this project. Each KEY has been used in every step of the analysis progress. Also, I will elaborate on selected sites that I have found, with specific comparisons to elevation change, the year, and the time period in the pages after the KEY page. All the other remaining sites of this project are in the appendix for your further review. It was figured that what would be best for the reader to focus on several specific sites to see the comparisons, rather than making the reader look through all the sites at once, then finally, reading the results and conclusion chapters of this thesis. It is also crucial to note that all of the photos for each site are not oriented the same.

It is important to note that my results does not consist of all 431 sites, and that I have only selected 14 of 431 to analyze in depth and compare the most common pit size for each looted site in two years: 2002 and 2016. In this chapter, I include a SITE ID, the VALLEY where the site is located, the SIDE where the site was recorded, the UTM X and Y coordinates of the site, the TYPE of the site, the TIME PERIOD of the site, the estimation of the LOOTED PITS of the site, the estimation of the DEGREE OF LOOTING of the site, the estimation of STRUCTURES at the site, and the YEAR that the imagery was obtained.

I also included how many looted pits (LS) there are per site, the degree of looting per site (DoL), and the structures (#S) there are per site, and any notes I may have for the

site (whether the year had decreased looting, or increased, and what they looked like and whether they had affected the site itself). The area measurements for each site (smallest, largest, and most common pit size) are per square meters.

- Degree of Looting = the scale of damage of the site itself, and whether there were new looting pits
- Total looted pits = the amount of looted pits that I have had drawn on Google Earth for area measurements
- Visible structures = ancient structures that were made by people of that time period

KEY

Site ID	Recorded number of the site
Valley	Nasca = 10 Aja = 11 Tierras Blancas = 12
Side	North (N) or South (S)
UTM_X	Easting coordinate
UTM_Y	Northing coordinate
Elevation	elevation above sea level of the site in meters
Site Type	Habitation (H) or Cemetery (C)
Time Period	Late Intermediate (LIP) Middle Nasca (MN) Late Nasca (LN) Early Nasca (EN) Late Formative (LF) Early Middle Horizon (Mhe) Late Middle Horizon (Mhl) Loro
Looted Sites (LS)	Estimation of pits by 10's
Degree of Looting (DoL)	Scale of damage from 1 to 10
Structures (#S)	Estimation of sites by 10's

Table 7: Legend

SITE ID: 8600102

VALLEY: 10
SIDE: N
UTM_X: 502956.3
UTM_Y: 8362620.1
ELEVATION: 559 M
SITE TYPE: H
TIME PERIOD: LIP



2002

LS: 20 DoL: 10 #S: 5

Notes: Damage from looting is visible, lots of clustered area

Smallest measurement: 1.2

Largest measurement: 10.3

Most common pit size: 3



2016

LS: 20 DoL: 7 #S: 10

Note: Looting has had “decreased” in this area because there are no new looted pits

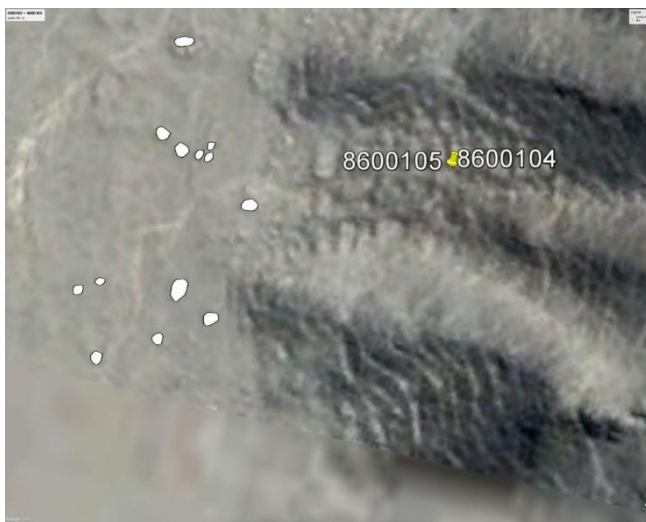
Smallest measurement: 1.3

Largest measurement: 6.0

Most common pit size: 2

SITE ID: 8600104 + 8600105

VALLEY: 10
SIDE: N
UTM_X: 503039.33
UTM_Y: 8362338.01
ELEVATION: 551 M
SITE TYPE: H
TIME PERIOD: LIP



2002

LS: 10 DoL: 3 #S: 3

Note: Looted pits are visible but do not seem to be severe

Smallest measurement: 2.1
Largest measurement: 12.6
Most common pit size: 2



2016

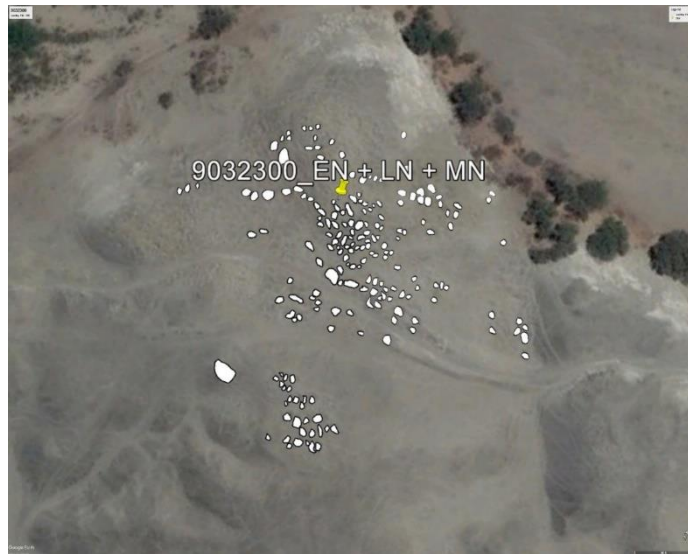
LS: 10 DoL: 3 #S: 3

Note: Looted pits has increased in this area because there are new, visible pits

Smallest measurement: 0.07
Largest measurement: 4.5
Most common pit size: 2

SITE ID: 9032300

VALLEY: 10
SIDE: S
UTM_X: 480414.66
UTM_Y: 8361670.99
ELEVATION: 301 M
SITE TYPE: C
TIME PERIOD: EN, LN, MN



2002

LS: 200 DoL: 10 #S: 0

Notes: Looting is severe, a “road” is visible

Smallest measurement: 2.2

Largest measurement: 18.1

Most common pit size: 4



2016

LS: 300 DoL: 10 #S: 0

Notes: Looting has severely increased in this area, “road” is also obvious

Smallest measurement: 0.4

Largest measurement: 19.5

Most common pit size: 1

SITE ID: 9022301 + 9022302

VALLEY: 10
SIDE: S
UTM_X: 500879.2
UTM_Y: 8358934.51
ELEVATION: 507 M
SITE TYPE: C
TIME PERIOD: LN, LORO, MHE



2002

LS: 200 DoL: 8 #S: 0

Notes: Lots of looted pits and mounds, they are next to a farm, also, bulldozer tracks are visible

Smallest measurement: 1.1
Largest measurement: 24.9
Most common pit size: 2



2016

LS: 400 DoL: 10 #S: 0

Notes: Looting has severely increased in this area, bulldozer tracks are obvious

Smallest measurement: 0.7
Largest measurement: 29.9
Most common pit size: 1

SITE ID: 9621800

VALLEY: 10
SIDE: C
UTM_X: 502678.52
UTM_Y: 8360271.92
ELEVATION: 527 M
SITE TYPE: C
TIME PERIOD: LORO, MHE



2002

LS: 20 DoL: 4 #S: 0

Notes: Clustered looted pits, and “big” in size

Smallest measurement: 1.3

Largest measurement: 10.9

Most common pit size: 3



2016

LS: 30 DoL: 4 #S: 0

Notes: The looted pits are clustered and they have increased, there are new looted pits

Smallest measurement: 0.08

Largest measurement: 6.8

Most common pit size: 2

SITE ID: 9032400

VALLEY: 10
SIDE: S
UTM_X: 480181.28
UTM_Y: 8361518.83
ELEVATION: 293 M
SITE TYPE: C
TIME PERIOD: EN, LN, MN



2002

LS: 500 DoL: 10 #S: 0

Notes: Looting is severe, and they are all clustered within each site and “roads” are obvious (green arrows)

Smallest measurement: 0.9

Largest measurement: 27.7

Most common pit size: 4



2016

LS: 30 DoL: 10 #S: 0

Notes: There were not any additional looters pits, and it may seem like the pits had decreased but they may have been windblown. However, the severity within degree of looting remains in this area

Smallest measurement: 0.1

Largest measurement: 67.5

Most common pit size: 3

SITE ID: 9023701 + 9023702

VALLEY: 10
SIDE: S
UTM_X: 489426.66
UTM_Y: 8360556.33
ELEVATION: 393 M
SITE TYPE: C
TIME PERIOD: LF, LN, MN



2002

LS: 30 DoL: 10 #S: 0

Notes: Looting mounds are scattered all over, seems like it was done in haste and without any thought to the process itself

Smallest measurement: 2.6

Largest measurement: 32.6

Most common pit size: 2



2016

LS: 40 DoL: 10 #S: 10

Notes: There are additional looted pits shown in this area, visible structures

Smallest measurement: 0.6

Largest measurement: 36.4

Most common pit size: 2

SITE ID: 8600204

VALLEY: 10
SIDE: N
UTM_X: 503947.21
UTM_Y: 8361875.84
ELEVATION: 580 M
SITE TYPE: C
TIME PERIOD: LIP



2002

LS: 10 DoL: 1 #S: 0

Notes: On the left of the placemark, visible "big" looting mounds, farm road

Smallest measurement: 1.9

Largest measurement: 14.1

Most common pit size: 5



2016

LS: 5 DoL: 1 #S: 0

Notes: There are no additional looting pits but many might have been windblown, by half, farm road is also visible

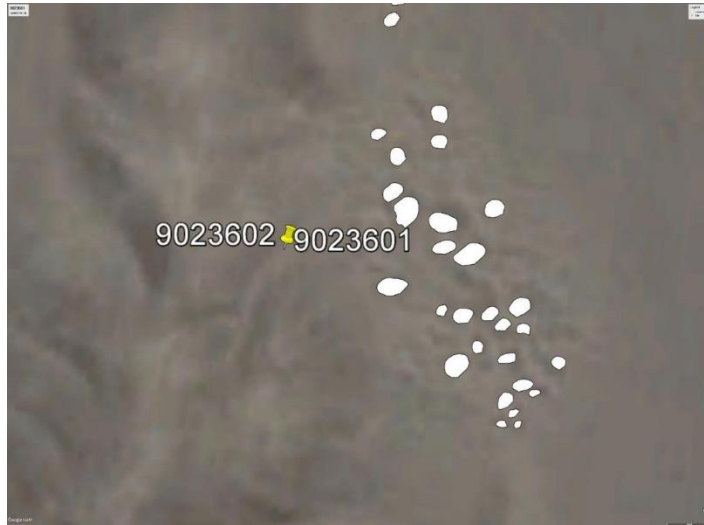
Smallest measurement: 3.8

Largest measurement: 9.2

Most common pit size: 8

SITE ID: 9023601 + 9023602

VALLEY: 10
SIDE: S
UTM_X: 490364.56
UTM_Y: 8359627.91
ELEVATION: 401 M
SITE TYPE: C
TIME PERIOD: MHL



2002

LS: 40 DoL: 4 #S: 0

Notes: Looted pits are obvious, in clustered areas, close to town/farming lands

Smallest measurement: 0.9

Largest measurement: 10.1

Most common pit size: 3



2016

LS: 30 DoL: 4 #S: 0

Notes: Fresh bulldozer tracks on the left side of site, however, most looting pits on the right seems to have been windblown

Smallest measurement: 1.2

Largest measurement: 19.4

Most common pit size: 6

SITE ID: 9023200

VALLEY: 10
SIDE: S
UTM_X: 494647.88
UTM_Y: 8359090.73
ELEVATION: 435 M
SITE TYPE: C
TIME PERIOD: LIP



2002

LS: 70 DoL: 10 #S: 0

Notes: Looted pits are all over this site, and there is one strange deep pit (with what looks like metal) in the right corner? No idea what it is (photo in appendix)

Smallest measurement: 1.3

Largest measurement: 16.4

Most common pit size: 3



2016

LS: 40 DoL: 1 #S: 0

Notes: Looting pits are still visible but it is obvious that it has had been windblown due to the lack of recent holes

Smallest measurement: 3.8

Largest measurement: 18.8

Most common pit size: 4

SITE ID: 8900901

VALLEY: 11
SIDE: S
UTM_X: 511789.08
UTM_Y: 8361597.05
ELEVATION: 730 M
SITE TYPE: H
TIME PERIOD: LIP



2002

LS: 0 DoL: 0#S: 0

Notes: I am not sure if I see any looting pits due to the quality of the imagery, and since there is a distance between this site and the nearest populated city center, there might not be any looted pits?

Smallest measurement: N/A

Largest measurement: N/A

Most common pit size: N/A



2016

LS: 10 DoL: 1#S: 0

Notes: Looting has increased in this area, but I am not sure if there are more looting pits on the north of the image because it is not clear whether they are vegetation

Smallest measurement: 3.5

Largest measurement: 6.4

Most common pit size: 4

SITE ID: 8900801

VALLEY: 11
SIDE: S
UTM_X: 511655.24
UTM_Y: 8361512.98
ELEVATION: 721 M
SITE TYPE: H
TIME PERIOD: EN



2002

LS: 0 DoL: 0 #S: 0

Notes: Do not see any looting pits, and wonder if it could possibly be due to the distance from nearest populated city center? No idea.

Smallest measurement: N/A

Largest measurement: N/A

Most common pit size: N/A



2016

LS: 10 DoL: 1 #S: 0

Notes: There has been additional looting pits in this area, but I am not sure if there are more looting pits on the north of the image because it is not clear whether they are vegetation

Smallest measurement: 1.9

Largest measurement: 5.1

Most common pit size: 4

SITE ID: 8901300

VALLEY: 11
SIDE: S
UTM_X: 512105.75
UTM_Y: 8361837.77
ELEVATION: 720 M
SITE TYPE: H
TIME PERIOD: MHL



2002

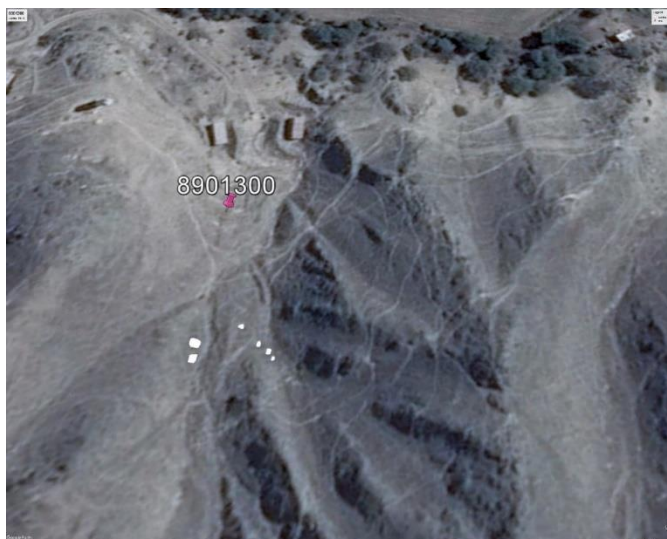
LS: 0 DoL: 0 #S: 0

Notes: No looting pits

Smallest measurement: N/A

Largest measurement: N/A

Most common pit size: N/A



2016

LS: 5 DoL: 1 #S: 0

Notes: Looting has increased in this area

Smallest measurement: 1.6

Largest measurement: 11.5

Most common pit size: 2

SITE ID: 8903000

VALLEY: 12
SIDE: N
UTM_X: 512308.93
UTM_Y: 8361498.23
ELEVATION: 735 M
SITE TYPE: H
TIME PERIOD: LF



2002

LS: 3 DoL:0 #S: 0

Notes: Few looting pits, also the site is in a higher elevation area and not close to populated city, so might not be as subjected to looting?

Smallest measurement: 5.2

Largest measurement: 6.7

Most common pit size: 5



2016

LS: 7 DoL: 2 #S: 0

Notes: Looting has increased in this area, but it does not seem to be severe and looters might not come back to this area again

Smallest measurement: 1.2

Largest measurement: 6.0

Most common pit size: 5

VII. CONCLUSION

If it was not for Captain Francois Joseph Amedee de Campe de Rosamel, would Fredrich Uhle make the same discovery he had made? The five Nasca vessels found in the possession of the Berlin Ethnographic Museum is what led Uhle to the Nasca culture, to a newfound branch in the archaeology discipline. Although my evidence seems weak since they are all based on eye-balling guesswork, it is still the way to the right direction of figuring out an appropriate approach to preservation methods for looted archaeological sites. My contribution in this research is the first step towards developing better analyses, and is suggestive, rather than definitive. After numerous research, from my own and others', I have shown that looting has destroyed the Nasca archaeological sites and that the looters are "improving" their methods to be more meticulous with the evidence that I have provided. The methodology I have had used, Google Earth satellite imagery, is a cost-effective way for government programs, archaeology consultants, or public archaeology organizations, etc., to look further into looting activities for their area, or if funding permits, any other areas. In my research, I have recovered images of Nasca archaeological sites that are in dire need of preservation and have been neglected (APPENDIX: NASCA GOOGLE EARTH IMAGES), with their structures exposed and basically, waiting for looters to raid the area. In Chapter Results and Discussion, the conclusion showed the higher the elevation of an archaeological site, the less likely it is for it to be looted, however this does not mean that the preservation of these sites should be ignored or that since looting is not present in the image of the site, there are no looting

there. I have also shown that the archaeological sites that are closer to the populated city center, and the ones that are in the “backyard” of Nasca farmers, are much more likely to be looted due to the convenient access.

As mentioned in my Abstract, preservation comes from recognizing patterns, and in looting, it is especially important to identify data and advance prevention measures. Google Earth is a method to further conservation efforts, largely in part because it is free, which means it should be utilized to the best possible prevention approach. A method so avant-garde, it should not be the only approach, because data require ground-proofing to confirm evidence. Which led to the revolutionary efforts of Dr. Sarah Parcak and the new, exciting tool in archaeology: spatial technology (GIS) using satellite imagery (Google Earth), thus defined as “space archaeology”. With wars going on, such as the destruction of mosques, shrines, churches, ancient and medieval sites by the ISIL, people are starting to pay attention to our archaeological sites and the cultural heritage that goes with them. The development of the GlobalXplorer program was an excellent, effective platform designed to combat looting and discover more archaeological sites by including the public audience to become participants. In return, we feel included and motivated to be culturally aware, it is an educational process for both individual and organization involved. The Andes mountains, tropical basins, and the Peruvian desert is what had long attracted the Nasca people. Technological innovation such as *puquios* need to always be preserved and protected, so the education of these marvels may continue. The same thing goes for archaeological sites that have had been looted, we do not know if there may be more artifacts in the area. The archaeological sites, from an aerial point of view, seems to be in such fragile state, and need to have better conservation efforts before it can be

analyzed any further. Again, looting is to intentionally steal, sell antiquities for profit thus damaging the understanding of cultural heritage further.

Even though 2002 seems so long ago (fifteen years ago, to be exact), our thoughts of whether looting has had slowly decreased in Nasca archaeological sites are incorrect and we should be maintaining accurate preservation. My total looted pits in my results are an estimation, and probably, a lowballed one since satellite imagery can instill scarce confidence. It is quite obvious, though, that looted pits have had not improved since then, which means that we are not doing enough to successfully combat looting. There are important questions we all need to address, such as: How do we change our approach? How do we improve utilizing technology to benefit in our favor? How do we create a technique to enhance satellite imagery? Our technology is advancing at a speed, are we doing all we can to take advantage of what we could do? The increased data in visible structures for both years 2002 and 2016 is a matter to be confronted. Structures enlarges the looters' ability to take grave goods, and with no methods in place to preserve them, we are essentially doing more harm.

However, Google Earth did prove to be difficult at times, with some data missing or being accidentally overwritten, it seems like that the program itself could use some improvement as well since this is an effective technique to find looted archaeological sites for countries that do not have enough funding put aside for their heritage preservations. One of the things that could be installed as a plug-in into the Google Earth program is an algorithm focused on identifying with area measurements of looted pits for each archaeological site. It would lessen the consumed time drawing each pit/mound and possibly would produce more data because the algorithm would not overlook any looted

pits, or misunderstand a pit/mound for footprints, vegetation, soil. Sometimes I thought that I had mistaken a pit or mound for footprints, vegetation, or soil. The sharpness of an imagery is crucial to this project and I believe I have succeeded to the best of my ability to recognize looted pits/mounds. Having an algorithm as a plug-in into the Google Earth program would reduce human mistake and further identify looted pits/mounds in an accurate manner.

Of course, all of the results I have had presented is an estimation and we cannot always rely on technology to give us the best answer possible but we can use it to hone our skills, and find possible archaeological sites. In my case, identifying as much looted pits as possible and recognizing the patterns within degrees of looting per site. Utilizing satellite imagery with a free, accessible program (Google Earth) is a technology that can help us understand the impact onto our cultural heritage in a cost-efficient way. We all also rely on one other thing, education, to help us understand and improve archaeological context for historical records, tourism, among other benefits.

The main question to address in every archaeological dig, in every research, is whether looting is a thing of the past. The answer is no, looting is very much alive and thriving in this economy. Antiquity dealers, museums that do not check the provenance of objects, people that do not care about their culture and need a way to feed their families, all contribute to the looting of artifacts. At this rate, looting is increasing at a heightened pace, and this is something we all should be afraid of: losing our cultural heritage, especially with all the current wars and famine going on in this world. Looting did not begin merely few years ago, or two hundred years ago, looting began before archaeology was even in its' infancy and the concern remains: where and when does it

end (Waxman 2008). Looting is a global problem, and in order to combat the issue, we should be making effort to transform our methods and to improve as a whole.

Archaeological sites are rapidly deteriorating and becoming increasingly hard to find, without any further commitment of preservation or protection of these sites, we all are losing our past.

I close my thesis with this quote that has had impacted me and furthered my passion in this project, and true to my goal to improve the preservation of our looted archaeological sites in this world, “The answers may not be simple but they are critical to the survival of the artifacts that represent our common human heritage” (Waxman 2008: 9).

APPENDIX SECTION

APPENDIX: NASCA AREA MEASUREMENTS

2002

Site ID	Folder Path	Shape Length	Shape Area
9621800_1	Pits_Mounds_2002	12.31579075	10.91425433
9621800_2	Pits_Mounds_2002	9.791863408	7.416862962
9621800_3	Pits_Mounds_2002	7.02614648	3.638372377
9621800_4	Pits_Mounds_2002	9.362814532	5.138355825
9621800_5	Pits_Mounds_2002	7.295857872	3.649909039
9621800_6	Pits_Mounds_2002	9.706295532	6.62379083
9621800_7	Pits_Mounds_2002	7.434917727	4.008979914
9621800_8	Pits_Mounds_2002	7.742454785	4.224857475
9621800_9	Pits_Mounds_2002	5.143664807	2.020139699
9621800_10	Pits_Mounds_2002	6.973574738	3.240027382
9621800_11	Pits_Mounds_2002	5.734782231	2.485360179
9621800_12	Pits_Mounds_2002	5.15740157	1.84828322
9621800_13	Pits_Mounds_2002	6.108422846	2.825475174
9621800_14	Pits_Mounds_2002	5.087590469	1.925681254
9621800_15	Pits_Mounds_2002	6.184501212	2.79615246
9621800_16	Pits_Mounds_2002	4.560322456	1.37040321
9621800_17	Pits_Mounds_2002	5.529093774	2.265247976
9621800_18	Pits_Mounds_2002	7.800917265	3.964861044
9621800_19	Pits_Mounds_2002	8.240607458	4.98184878
9032400_1	Pits_Mounds_2002	12.13538866	9.929774824
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9032400_3	Pits_Mounds_2002	9.818132793	6.796376895
9032400_4	Pits_Mounds_2002	9.021019519	5.666885306
9032400_5	Pits_Mounds_2002	6.730063268	3.079201962
9032400_6	Pits_Mounds_2002	6.97491797	3.299490305
9032400_7	Pits_Mounds_2002	7.032726619	3.527911341
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9032400_11	Pits_Mounds_2002	3.941268235	1.009522478
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9032400_13	Pits_Mounds_2002	6.993789849	3.376889989
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9032400_15	Pits_Mounds_2002	7.799921599	4.23190984
9032400_16	Pits_Mounds_2002	8.704209973	4.421442883
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9032400_167	Pits_Mounds_2002	9.543565089	6.239520146
9032400_168	Pits_Mounds_2002	7.699153477	3.789370799
9032400_169	Pits_Mounds_2002	13.92072038	13.98284762
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9032400_186	Pits_Mounds_2002	8.351604236	5.220674104
9032400_187	Pits_Mounds_2002	7.790732963	4.457780343
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9032400_201	Pits_Mounds_2002	9.894798612	6.689683087
9032400_202	Pits_Mounds_2002	6.973045835	3.262650417

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9032400_205	Pits_Mounds_2002	11.48778778	9.41259198
9032400_206	Pits_Mounds_2002	12.13264132	10.32569452
9032400_207	Pits_Mounds_2002	6.099072485	2.532601919
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9032400_209	Pits_Mounds_2002	6.559768032	3.055448959
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9032400_213	Pits_Mounds_2002	9.582101471	6.199492564
9032400_214	Pits_Mounds_2002	11.76968697	10.35971683
9032400_215	Pits_Mounds_2002	9.357594975	6.30023514
9032400_216	Pits_Mounds_2002	10.0904669	7.636817852
9032400_217	Pits_Mounds_2002	9.524818876	5.87112907
9032400_218	Pits_Mounds_2002	12.43441339	9.229363371
9032400_219	Pits_Mounds_2002	7.423610509	3.328498752
9032400_220	Pits_Mounds_2002	5.017672252	1.775715316
9032400_221	Pits_Mounds_2002	6.942962788	3.590352353
9032400_222	Pits_Mounds_2002	6.190042381	2.457929472
9032400_223	Pits_Mounds_2002	6.978491415	3.286451844
9032400_224	Pits_Mounds_2002	7.207283807	3.675016709
9032400_225	Pits_Mounds_2002	9.629685373	6.373966944
9032400_226	Pits_Mounds_2002	7.475983648	3.886244994
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9032400_228	Pits_Mounds_2002	9.733392882	6.274548102
9032400_229	Pits_Mounds_2002	9.220628923	4.865169884
9032400_230	Pits_Mounds_2002	12.41811315	10.7363655
9032400_231	Pits_Mounds_2002	11.72676046	7.807021524
9032400_232	Pits_Mounds_2002	6.511239747	3.059042034
9032400_234	Pits_Mounds_2002	10.62207881	8.487067358
9032400_235	Pits_Mounds_2002	11.2921737	6.64330732
9032400_236	Pits_Mounds_2002	5.373942021	2.15237696
9032400_237	Pits_Mounds_2002	6.029397305	2.737474175
9032400_238	Pits_Mounds_2002	7.541566486	4.179224394
9032400_239	Pits_Mounds_2002	5.74774851	2.172952195
9032400_240	Pits_Mounds_2002	6.523455023	3.03396253
9032400_241	Pits_Mounds_2002	6.62085352	2.939007406
9032400_242	Pits_Mounds_2002	8.387284661	4.381978648
9032400_243	Pits_Mounds_2002	6.098405402	2.465100863
9032400_244	Pits_Mounds_2002	4.753808695	1.575782221
9032400_245	Pits_Mounds_2002	7.91379094	4.000412568
9032400_246	Pits_Mounds_2002	6.252485876	2.750555161
9032400_247	Pits_Mounds_2002	7.850011949	4.489737773
9032400_248	Pits_Mounds_2002	8.458946519	5.2242848
9032400_249	Pits_Mounds_2002	7.637559827	3.993965544

9032400_250	Pits_Mounds_2002	8.917846973	5.796481689
9032400_251	Pits_Mounds_2002	7.550462697	3.976545264
9032400_252	Pits_Mounds_2002	7.066981384	3.130865416
9032400_253	Pits_Mounds_2002	9.077678426	5.075238816
9032400_254	Pits_Mounds_2002	5.834188263	2.567610321
9032400_255	Pits_Mounds_2002	7.332975494	4.123685599
9032400_256	Pits_Mounds_2002	8.307814207	5.001994674
9032400_257	Pits_Mounds_2002	7.601569219	3.962334708
9032400_258	Pits_Mounds_2002	10.07528968	6.1518337
9032400_259	Pits_Mounds_2002	7.787243432	4.25112792
9032400_260	Pits_Mounds_2002	9.231865828	6.345669941
9032400_261	Pits_Mounds_2002	6.563346939	2.985923426
9032400_262	Pits_Mounds_2002	7.36107125	3.324879619
9032400_263	Pits_Mounds_2002	6.059901809	2.706797115
9032400_264	Pits_Mounds_2002	14.30819396	10.82770899
9032400_265	Pits_Mounds_2002	17.97244349	20.50642561
9032400_266	Pits_Mounds_2002	10.82700256	7.986832216
9032400_267	Pits_Mounds_2002	8.245692376	5.058865405
9032400_268	Pits_Mounds_2002	12.89452931	11.957159
9032400_269	Pits_Mounds_2002	13.74271983	13.74894317
9032400_270	Pits_Mounds_2002	10.82131125	8.725526104
9032400_271	Pits_Mounds_2002	19.1951867	25.70010194
9032400_272	Pits_Mounds_2002	17.55693925	22.66271701
9032400_273	Pits_Mounds_2002	15.24597921	16.76956144
9032400_274	Pits_Mounds_2002	9.810493904	6.958892617
9032400_275	Pits_Mounds_2002	14.4468793	15.13557273
9032400_276	Pits_Mounds_2002	13.04565943	12.01846934
9032400_277	Pits_Mounds_2002	11.07784572	8.799844244
9032400_278	Pits_Mounds_2002	13.99040826	14.52700981
9032400_279	Pits_Mounds_2002	10.19669273	7.083582899
9032400_280	Pits_Mounds_2002	27.79438717	46.42159133
9032400_281	Pits_Mounds_2002	13.34416299	11.70152698
9032400_282	Pits_Mounds_2002	19.29753787	24.58570309
9032400_283	Pits_Mounds_2002	19.10720224	26.09791194
9032400_284	Pits_Mounds_2002	14.70077387	12.86168132
9032400_285	Pits_Mounds_2002	8.855591383	4.988419481
9032400_286	Pits_Mounds_2002	6.647461773	3.115724131
9032400_287	Pits_Mounds_2002	6.038104568	1.810301075
9032400_288	Pits_Mounds_2002	6.516840472	2.599471966
9032400_289	Pits_Mounds_2002	11.52672674	8.997460863
9032400_290	Pits_Mounds_2002	17.24597147	20.62946519
9032400_291	Pits_Mounds_2002	14.38102099	13.92046506
9032400_292	Pits_Mounds_2002	8.570927515	4.979916945
9032400_293	Pits_Mounds_2002	17.18287479	15.48581948
9032400_294	Pits_Mounds_2002	7.238287426	3.670254803
9032400_295	Pits_Mounds_2002	6.532003768	2.51985651

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9032400_297	Pits_Mounds_2002	7.58266267	3.475634409
9032400_298	Pits_Mounds_2002	14.27501621	9.710616137
9032400_299	Pits_Mounds_2002	11.29098853	9.354299416
9032400_300	Pits_Mounds_2002	8.202446183	4.468077636
9032400_301	Pits_Mounds_2002	8.294282825	4.588270456
9032400_302	Pits_Mounds_2002	11.62686174	6.819440433
9032400_303	Pits_Mounds_2002	10.87548706	7.839427084
9032400_304	Pits_Mounds_2002	9.056122167	5.981317543
9032400_305	Pits_Mounds_2002	7.432893434	4.091999477
9032400_306	Pits_Mounds_2002	13.28612206	12.56975053
9032400_307	Pits_Mounds_2002	14.17469165	14.4267908
9032400_308	Pits_Mounds_2002	13.90424687	12.63531194
9032400_309	Pits_Mounds_2002	11.48568987	9.351867058
9032400_310	Pits_Mounds_2002	7.160077898	3.482995938
9032400_311	Pits_Mounds_2002	15.50615175	12.23520008
9032400_312	Pits_Mounds_2002	9.733327562	6.377593882
9032400_313	Pits_Mounds_2002	8.049782362	4.543446783
9032400_314	Pits_Mounds_2002	9.572541679	5.90371326
9032400_315	Pits_Mounds_2002	11.56871766	9.53709272
9032400_316	Pits_Mounds_2002	9.386462019	6.140591247
9032400_317	Pits_Mounds_2002	10.75854418	7.236184574
9032400_318	Pits_Mounds_2002	8.460784837	4.993297282
9032400_319	Pits_Mounds_2002	10.71347821	7.860989156
9032400_320	Pits_Mounds_2002	10.99557749	8.509155109
9032400_321	Pits_Mounds_2002	9.968406966	6.591859541
9032400_322	Pits_Mounds_2002	8.993711335	5.238359916
9032400_323	Pits_Mounds_2002	5.660952588	2.261847875
9032400_324	Pits_Mounds_2002	10.42514163	7.56033366
9032400_325	Pits_Mounds_2002	14.57446447	9.484482058
9032400_326	Pits_Mounds_2002	10.11140402	6.064064609
9032400_327	Pits_Mounds_2002	7.003131029	3.155240451
9032400_328	Pits_Mounds_2002	12.42708996	7.665530601
9032400_329	Pits_Mounds_2002	9.70053941	5.900697105
9032400_330	Pits_Mounds_2002	9.46329943	6.247502111
9032400_331	Pits_Mounds_2002	8.024519612	4.629406689
9032400_332	Pits_Mounds_2002	7.216841375	3.595968241
9032400_333	Pits_Mounds_2002	9.246673096	5.657813327
9032400_334	Pits_Mounds_2002	9.794897427	6.747608631
9032400_335	Pits_Mounds_2002	8.857156689	5.144601833
9032400_336	Pits_Mounds_2002	12.24157625	9.397858995
9032400_337	Pits_Mounds_2002	10.53593434	6.955240042
9032400_338	Pits_Mounds_2002	13.91443471	9.612103042
9032400_339	Pits_Mounds_2002	8.873381664	4.48372369
9032400_340	Pits_Mounds_2002	4.861768737	1.639971161
9032400_341	Pits_Mounds_2002	6.34169872	2.590402936

9032400_342	Pits_Mounds_2002	4.852848975	1.539141046
9032400_343	Pits_Mounds_2002	10.9904072	8.179778676
9032400_344	Pits_Mounds_2002	6.800076221	3.49048445
9032400_345	Pits_Mounds_2002	8.024214034	4.747375545
9032400_346	Pits_Mounds_2002	10.34036971	6.323573623
9032400_347	Pits_Mounds_2002	17.3672546	13.19100982
9032400_348	Pits_Mounds_2002	6.285513239	2.892277974
9032400_349	Pits_Mounds_2002	7.520726535	4.129361913
9032400_350	Pits_Mounds_2002	8.917218941	5.523833394
9032400_351	Pits_Mounds_2002	7.034551769	3.32937792
9032400_352	Pits_Mounds_2002	11.13749003	8.1274325
9032400_353	Pits_Mounds_2002	9.686736671	6.30455917
9032400_354	Pits_Mounds_2002	7.834979379	4.153230596
9032400_355	Pits_Mounds_2002	8.378703889	4.428475899
9032400_356	Pits_Mounds_2002	6.616601573	3.093239582
9032400_357	Pits_Mounds_2002	14.25436023	12.41968235
9032400_358	Pits_Mounds_2002	10.1722145	6.99683493
9032400_359	Pits_Mounds_2002	8.449676026	4.646531523
9032400_360	Pits_Mounds_2002	9.537229811	5.044524451
9032400_361	Pits_Mounds_2002	5.216914153	1.541846482
9032400_362	Pits_Mounds_2002	6.92592451	2.362808635
9032400_363	Pits_Mounds_2002	9.35841653	5.33138022
9032400_364	Pits_Mounds_2002	12.92857015	9.179846665
9032400_365	Pits_Mounds_2002	10.17567775	7.339914884
9032400_366	Pits_Mounds_2002	7.620469706	3.995141266
9032400_367	Pits_Mounds_2002	8.753378838	5.578094596
9032400_368	Pits_Mounds_2002	11.66951577	8.568258077
9032400_369	Pits_Mounds_2002	7.606734868	4.02085699
9032400_370	Pits_Mounds_2002	9.258554811	5.514231746
9032400_371	Pits_Mounds_2002	4.07171972	0.986698221
9032400_372	Pits_Mounds_2002	4.71556385	1.443374902
9032400_373	Pits_Mounds_2002	5.635113891	2.320446506
9032400_374	Pits_Mounds_2002	8.23458238	4.050311158
9032400_375	Pits_Mounds_2002	8.92800693	4.764964818
9032400_376	Pits_Mounds_2002	11.8257865	10.17517781
9032400_378	Pits_Mounds_2002	8.211942693	4.927750039
9032400_379	Pits_Mounds_2002	10.69644341	7.846499561
9032400_380	Pits_Mounds_2002	9.445536968	6.053720989
9032400_381	Pits_Mounds_2002	8.535510242	5.231606424
9032400_382	Pits_Mounds_2002	8.784997282	4.791989422
9032400_383	Pits_Mounds_2002	7.886008438	4.062902612
9032400_384	Pits_Mounds_2002	6.374657909	2.657300597
9032400_385	Pits_Mounds_2002	6.540668354	3.143235873
9032400_386	Pits_Mounds_2002	8.562673897	4.235284842
9032400_387	Pits_Mounds_2002	8.557670849	3.636768174
9032400_388	Pits_Mounds_2002	9.82973062	6.466904461

9032400_389	Pits_Mounds_2002	7.586607328	3.956557006
9032400_390	Pits_Mounds_2002	11.87019809	10.67264199
9032400_391	Pits_Mounds_2002	9.702805226	6.970837855
9032400_392	Pits_Mounds_2002	11.44631578	9.226481721
9032400_393	Pits_Mounds_2002	6.179483412	2.80483909
9032400_394	Pits_Mounds_2002	9.065830031	6.229160215
9032400_395	Pits_Mounds_2002	7.273999525	3.77829998
9032400_396	Pits_Mounds_2002	10.23049453	7.443378732
9032400_397	Pits_Mounds_2002	6.953797549	3.191018801
9032400_398	Pits_Mounds_2002	10.51850696	7.865332374
9032400_399	Pits_Mounds_2002	11.06346	7.801902371
9032400_400	Pits_Mounds_2002	7.5935584	3.976248187
9032400_401	Pits_Mounds_2002	5.90944293	2.39944143
9032400_402	Pits_Mounds_2002	8.699342558	5.585293149
9032400_403	Pits_Mounds_2002	9.439814223	6.262531617
9032400_404	Pits_Mounds_2002	11.46023397	9.148734498
9032300_1	Pits_Mounds_2002	8.494566957	5.008927428
9032300_2	Pits_Mounds_2002	11.2747202	8.378505939
9032300_3	Pits_Mounds_2002	8.820030204	4.724977216
9032300_4	Pits_Mounds_2002	14.09446289	14.25257774
9032300_5	Pits_Mounds_2002	7.555749143	3.252997389
9032300_6	Pits_Mounds_2002	15.52208182	11.67032843
9032300_7	Pits_Mounds_2002	11.05075459	8.184826087
9032300_8	Pits_Mounds_2002	12.79276194	11.19275637
9032300_9	Pits_Mounds_2002	12.57507634	11.06354627
9032300_10	Pits_Mounds_2002	16.09156214	18.12527868
9032300_11	Pits_Mounds_2002	9.451958759	5.938421658
9032300_12	Pits_Mounds_2002	10.97858356	8.314012575
9032300_13	Pits_Mounds_2002	6.399235386	2.530240054
9032300_14	Pits_Mounds_2002	8.52056465	4.983215748
9032300_15	Pits_Mounds_2002	10.17714061	7.229342753
9032300_16	Pits_Mounds_2002	9.910575864	5.473752917
9032300_17	Pits_Mounds_2002	10.14738125	4.905561026
9032300_18	Pits_Mounds_2002	9.93958789	6.906873867
9032300_19	Pits_Mounds_2002	14.36217234	15.33685233
9032300_20	Pits_Mounds_2002	14.10655464	9.243597258
9032300_21	Pits_Mounds_2002	8.382528462	4.725083691
9032300_22	Pits_Mounds_2002	13.11659497	10.37947365
9032300_23	Pits_Mounds_2002	8.619275791	4.918625924
9032300_24	Pits_Mounds_2002	6.887307019	2.233345648
9032300_25	Pits_Mounds_2002	8.962783834	5.060649175
9032300_26	Pits_Mounds_2002	8.953120825	4.996161118
9032300_27	Pits_Mounds_2002	11.27963989	8.429759617
9032300_28	Pits_Mounds_2002	7.012714173	3.227789311
9032300_29	Pits_Mounds_2002	8.170922907	4.630039338
9032300_30	Pits_Mounds_2002	33.65374808	77.57555207

9032300_31	Pits_Mounds_2002	11.10210876	8.790198262
9032300_32	Pits_Mounds_2002	15.75481594	17.49768217
9032300_33	Pits_Mounds_2002	11.93126305	9.811214132
9032300_34	Pits_Mounds_2002	10.44396578	8.116094575
9032300_35	Pits_Mounds_2002	9.432178266	6.242304496
9032300_36	Pits_Mounds_2002	10.62034729	8.185394699
9032300_37	Pits_Mounds_2002	10.74041321	7.534616782
9032300_38	Pits_Mounds_2002	11.13188582	8.670992911
9032300_39	Pits_Mounds_2002	15.11543359	16.27179073
9032300_40	Pits_Mounds_2002	10.93529231	8.264629877
9032300_41	Pits_Mounds_2002	10.76135605	7.907916559
9032300_42	Pits_Mounds_2002	9.851394649	6.856952887
9032300_43	Pits_Mounds_2002	14.64365115	15.69015617
9032300_44	Pits_Mounds_2002	8.333154198	4.262884954
9032300_45	Pits_Mounds_2002	8.642633712	5.30725151
9032300_46	Pits_Mounds_2002	11.91434567	8.909119605
9032300_47	Pits_Mounds_2002	16.12527011	10.01964271
9032300_48	Pits_Mounds_2002	8.048311211	3.727441179
9032300_49	Pits_Mounds_2002	8.04543683	4.262837331
9032300_50	Pits_Mounds_2002	8.354357291	5.022929643
9032300_51	Pits_Mounds_2002	9.366502263	6.41071566
9032300_52	Pits_Mounds_2002	9.817917544	5.749818821
9032300_53	Pits_Mounds_2002	8.053112712	4.91379682
9032300_54	Pits_Mounds_2002	11.33208001	6.625712043
9032300_55	Pits_Mounds_2002	12.12879764	10.68370629
9032300_56	Pits_Mounds_2002	8.82554818	4.685891216
9032300_57	Pits_Mounds_2002	8.39380552	4.93704576
9032300_58	Pits_Mounds_2002	9.935883269	7.365934379
9032300_59	Pits_Mounds_2002	10.01878924	7.101643095
9032300_60	Pits_Mounds_2002	13.95230289	14.07746398
9032300_61	Pits_Mounds_2002	10.95465435	7.973683573
9032300_62	Pits_Mounds_2002	11.323102	7.157609988
9032300_63	Pits_Mounds_2002	11.85413883	7.431927366
9032300_64	Pits_Mounds_2002	18.5797155	20.26039719
9032300_65	Pits_Mounds_2002	8.959359948	5.558342972
9032300_66	Pits_Mounds_2002	7.814486497	4.19357869
9032300_67	Pits_Mounds_2002	9.040571027	5.934953335
9032300_68	Pits_Mounds_2002	11.7511283	10.20786145
9032300_69	Pits_Mounds_2002	8.35184952	4.732108186
9032300_70	Pits_Mounds_2002	10.17340304	7.379041774
9032300_71	Pits_Mounds_2002	9.361643881	6.080184589
9032300_72	Pits_Mounds_2002	7.833250379	4.414852102
9032300_73	Pits_Mounds_2002	10.72219826	7.901056383
9032300_74	Pits_Mounds_2002	13.2535319	12.94403362
9032300_75	Pits_Mounds_2002	13.40560543	12.2037976
9032300_76	Pits_Mounds_2002	11.92389881	10.5317418

9032300_77	Pits_Mounds_2002	12.32357149	10.71321503
9032300_78	Pits_Mounds_2002	9.556436117	6.552800107
9032300_79	Pits_Mounds_2002	8.790195198	5.743177664
9032300_80	Pits_Mounds_2002	9.208647932	5.753304446
9032300_81	Pits_Mounds_2002	9.234926644	6.493507751
9032300_82	Pits_Mounds_2002	10.71122782	8.053065909
9032300_83	Pits_Mounds_2002	9.045772359	4.844456263
9032300_84	Pits_Mounds_2002	10.68038767	7.752434586
9032300_85	Pits_Mounds_2002	11.44796952	8.320960819
9032300_86	Pits_Mounds_2002	8.92576163	5.505440024
9032300_87	Pits_Mounds_2002	8.23334919	4.62971344
9032300_88	Pits_Mounds_2002	9.123544196	5.508655479
9032300_89	Pits_Mounds_2002	6.086058579	2.623793742
9032300_90	Pits_Mounds_2002	9.080358148	5.369767172
9032300_91	Pits_Mounds_2002	9.086873097	4.963491405
9032300_92	Pits_Mounds_2002	12.41870321	10.82575573
9032300_93	Pits_Mounds_2002	8.976239538	5.706955542
9032300_94	Pits_Mounds_2002	10.22241537	7.074987237
9032300_95	Pits_Mounds_2002	22.81690619	36.04612013
9032300_96	Pits_Mounds_2002	12.18274819	11.30818605
9032300_97	Pits_Mounds_2002	13.29148873	10.00280855
9032300_98	Pits_Mounds_2002	12.63079084	10.42571569
9032300_99	Pits_Mounds_2002	9.000475965	5.528534171
9032300_100	Pits_Mounds_2002	10.84390951	8.509179929
9032300_101	Pits_Mounds_2002	13.91091378	14.24903595
9032300_102	Pits_Mounds_2002	5.436129525	2.174965514
9032300_103	Pits_Mounds_2002	9.140772107	6.02876343
9032300_104	Pits_Mounds_2002	5.911372924	2.56538086
9032300_105	Pits_Mounds_2002	11.67593151	8.692361421
9032300_106	Pits_Mounds_2002	8.99120172	5.659852815
9032300_107	Pits_Mounds_2002	7.357510157	3.831592622
9032300_108	Pits_Mounds_2002	7.91919066	4.38393058
9032300_109	Pits_Mounds_2002	7.06999976	3.725828843
9032300_110	Pits_Mounds_2002	7.488672212	4.227319921
9032300_111	Pits_Mounds_2002	7.986991739	4.741654734
9032300_112	Pits_Mounds_2002	8.844025856	5.937926103
9032300_113	Pits_Mounds_2002	7.100775086	3.388914655
9032300_114	Pits_Mounds_2002	7.511835563	4.138360439
9032300_115	Pits_Mounds_2002	8.71967212	5.684686797
9032300_116	Pits_Mounds_2002	7.069822235	3.5677181
9032300_117	Pits_Mounds_2002	7.690379692	4.07186826
9032300_118	Pits_Mounds_2002	8.210510665	4.838386305
9032300_119	Pits_Mounds_2002	8.911031863	5.947062135
9032300_120	Pits_Mounds_2002	7.037548778	3.330127247
9032300_121	Pits_Mounds_2002	7.961041284	4.361781216
9032300_122	Pits_Mounds_2002	10.4403162	6.596143463

9032300_123	Pits_Mounds_2002	9.805059969	6.907019882
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9032300_125	Pits_Mounds_2002	8.121017837	4.376076867
9032300_126	Pits_Mounds_2002	10.36732777	6.765860812
9032300_127	Pits_Mounds_2002	10.72497815	7.856262705
9032300_128	Pits_Mounds_2002	10.63850706	7.350867947
9032300_129	Pits_Mounds_2002	9.263210414	5.658505265
9032300_130	Pits_Mounds_2002	13.99789492	11.90009804
9032300_131	Pits_Mounds_2002	17.7153683	15.73477434
9032300_132	Pits_Mounds_2002	10.55974205	8.206594916
9032300_133	Pits_Mounds_2002	9.301256396	6.344677426
9032300_134	Pits_Mounds_2002	5.71836688	2.247807453
9032300_135	Pits_Mounds_2002	6.838198511	3.384616463
9032300_136	Pits_Mounds_2002	8.112100896	4.294233294
9032300_137	Pits_Mounds_2002	8.357171807	4.547304378
9032300_138	Pits_Mounds_2002	13.82907121	12.77903045
9032300_139	Pits_Mounds_2002	8.016917078	4.379877778
9032300_140	Pits_Mounds_2002	6.691624566	3.058748603
9032300_141	Pits_Mounds_2002	7.116645184	3.603379104
9032300_142	Pits_Mounds_2002	14.31637476	12.41046405
9032300_143	Pits_Mounds_2002	16.78301726	14.65817664
9032300_144	Pits_Mounds_2002	11.93997374	9.446193767
9032300_145	Pits_Mounds_2002	10.16729562	6.580519343
9032300_146	Pits_Mounds_2002	6.062948863	2.436556766
9032300_147	Pits_Mounds_2002	8.853242878	5.486524036
9032300_148	Pits_Mounds_2002	13.40977369	9.596282117
9032300_149	Pits_Mounds_2002	6.910127267	3.500440927
9032300_150	Pits_Mounds_2002	9.337873927	5.924068667
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9032300_152	Pits_Mounds_2002	8.284747298	5.01476565
9032300_153	Pits_Mounds_2002	11.89007812	10.11097628
9032300_154	Pits_Mounds_2002	9.995351874	6.421591517
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9032300_156	Pits_Mounds_2002	8.332497669	4.813238446
9032300_157	Pits_Mounds_2002	5.729106501	2.239393936
9032300_158	Pits_Mounds_2002	12.04395972	10.38573118
9032300_159	Pits_Mounds_2002	12.28531931	9.420181181
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9032300_161	Pits_Mounds_2002	7.787833191	4.276891885
9032300_162	Pits_Mounds_2002	7.982642733	4.542877311
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9032300_176	Pits_Mounds_2002	10.33042394	7.26253556
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9032300_179	Pits_Mounds_2002	8.969404304	5.79987215
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9032300_181	Pits_Mounds_2002	14.01403136	13.89175673
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9032300_186	Pits_Mounds_2002	14.73707618	15.19045492
9032300_187	Pits_Mounds_2002	7.450683115	3.982011514
9032300_188	Pits_Mounds_2002	7.04922655	3.54022119
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8600102_4	Pits_Mounds_2002	7.727989083	3.606679727
8600102_5	Pits_Mounds_2002	7.079046184	3.439332001
8600102_6	Pits_Mounds_2002	8.685765397	5.247338661
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8600102_8	Pits_Mounds_2002	7.531032707	4.013389236
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8600102_10	Pits_Mounds_2002	6.987005751	3.381885525
8600102_11	Pits_Mounds_2002	8.629603335	5.228301008
8600102_12	Pits_Mounds_2002	5.906623475	2.281777779
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9022302_26	Pits_Mounds_2002	15.94781097	11.07136534
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9022302_129	Pits_Mounds_2002	7.530480074	3.958368987
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9022302_130	Pits_Mounds_2002	7.80546291	4.132799306
9022301 +			
9022302_131	Pits_Mounds_2002	8.247169881	4.942353933
9022301 +			
9022302_132	Pits_Mounds_2002	8.563692058	5.320849813
9022301 +			
9022302_133	Pits_Mounds_2002	9.798327705	6.074268972
9022301 +			
9022302_134	Pits_Mounds_2002	8.834961367	5.19576478
9022301 +			
9022302_135	Pits_Mounds_2002	11.52569572	9.562348783
9022301 +			
9022302_136	Pits_Mounds_2002	5.48690664	2.049948151
9022301 +			
9022302_137	Pits_Mounds_2002	5.729048712	2.253909766
9022301 +			
9022302_138	Pits_Mounds_2002	9.376531578	5.343750553
9022301 +			
9022302_139	Pits_Mounds_2002	13.66180888	13.23752899
9022301 +			
9022302_140	Pits_Mounds_2002	13.77248426	13.21457088
9022301 +			
9022302_141	Pits_Mounds_2002	7.185735677	3.701740206
9022301 +			
9022302_142	Pits_Mounds_2002	6.288768153	2.648977764
9022301 +			
9022302_143	Pits_Mounds_2002	9.967581079	6.406592958

9022301 +			
9022302_144	Pits_Mounds_2002	6.326428794	2.691667925
9022301 +			
9022302_145	Pits_Mounds_2002	7.901226309	4.438878974
9022301 +			
9022302_146	Pits_Mounds_2002	7.44741853	4.004437313
9022301 +			
9022302_147	Pits_Mounds_2002	9.567495275	5.251558295
9022301 +			
9022302_148	Pits_Mounds_2002	6.167725594	2.579805341
9022301 +			
9022302_149	Pits_Mounds_2002	8.575243367	5.139737733
9022301 +			
9022302_150	Pits_Mounds_2002	8.564058073	5.09686972
9022301 +			
9022302_151	Pits_Mounds_2002	6.017024118	2.464518691
9022301 +			
9022302_152	Pits_Mounds_2002	8.759773001	5.468747962
9022301 +			
9022302_153	Pits_Mounds_2002	6.156206016	2.507411363
9022301 +			
9022302_154	Pits_Mounds_2002	9.748249852	6.525022204
9022301 +			
9022302_155	Pits_Mounds_2002	8.648183407	5.468913518
9022301 +			
9022302_156	Pits_Mounds_2002	6.48729671	3.112846089
9022301 +			
9022302_157	Pits_Mounds_2002	5.0302878	1.859236011
9022301 +			
9022302_158	Pits_Mounds_2002	8.138748689	4.817215539
9022301 +			
9022302_159	Pits_Mounds_2002	9.876947835	6.735574595
9022301 +			
9022302_160	Pits_Mounds_2002	9.500875346	6.261857502
9022301 +			
9022302_161	Pits_Mounds_2002	8.165670435	4.254449582
9022301 +			
9022302_162	Pits_Mounds_2002	12.02613388	10.04256585
9022301 +			
9022302_163	Pits_Mounds_2002	8.614791524	5.370019928
9022301 +			
9022302_164	Pits_Mounds_2002	12.99039499	12.5266726
9022301 +			
9022302_165	Pits_Mounds_2002	13.36994539	13.33953581
9022301 +			
9022302_166	Pits_Mounds_2002	6.037010038	2.559935874

9022301 +			
9022302_167	Pits_Mounds_2002	6.71696116	3.181969188
9022301 +			
9022302_168	Pits_Mounds_2002	8.898466221	5.419452772
9022301 +			
9022302_169	Pits_Mounds_2002	8.006332315	4.669132407
9022301 +			
9022302_170	Pits_Mounds_2002	7.547273061	4.076953062
9022301 +			
9022302_171	Pits_Mounds_2002	8.854597206	5.886621723
9022301 +			
9022302_172	Pits_Mounds_2002	7.110946718	3.593264589
9022301 +			
9022302_173	Pits_Mounds_2002	8.15236506	4.527731643
9022301 +			
9022302_174	Pits_Mounds_2002	9.097160774	5.92948881
9022301 +			
9022302_175	Pits_Mounds_2002	13.60035202	11.42485242
9022301 +			
9022302_176	Pits_Mounds_2002	15.9201	17.659966
9022301 +			
9022302_177	Pits_Mounds_2002	6.390544204	3.057777969
9022301 +			
9022302_178	Pits_Mounds_2002	6.506197905	2.988123929
9022301 +			
9022302_179	Pits_Mounds_2002	7.482960219	4.161529679
9022301 +			
9022302_180	Pits_Mounds_2002	5.910294663	2.512105934
9022301 +			
9022302_181	Pits_Mounds_2002	7.513523895	4.268057816
9022301 +			
9022302_182	Pits_Mounds_2002	6.334434657	2.921118134
9022301 +			
9022302_183	Pits_Mounds_2002	5.906956135	2.479728421
9022301 +			
9022302_184	Pits_Mounds_2002	5.720390258	2.256734722
9022301 +			
9022302_185	Pits_Mounds_2002	6.98849789	3.629715234
9022301 +			
9022302_186	Pits_Mounds_2002	6.573317166	3.138787863
9022301 +			
9022302_187	Pits_Mounds_2002	7.670747637	4.382931517
9022301 +			
9022302_188	Pits_Mounds_2002	4.459393522	1.33154636
9022301 +			
9022302_189	Pits_Mounds_2002	7.240591368	3.656896179

9022301 +			
9022302_190	Pits_Mounds_2002	7.257815854	3.596485092
9022301 +			
9022302_191	Pits_Mounds_2002	6.601320696	3.110965115
9022301 +			
9022302_192	Pits_Mounds_2002	8.56566828	5.303054286
9022301 +			
9022302_193	Pits_Mounds_2002	5.916945371	2.554157509
9022301 +			
9022302_194	Pits_Mounds_2002	5.424711102	2.064978303
9022301 +			
9022302_195	Pits_Mounds_2002	6.386587911	2.924241143
9022301 +			
9022302_196	Pits_Mounds_2002	14.16099431	14.98242296
9022301 +			
9022302_197	Pits_Mounds_2002	12.17215717	10.7163913
9022301 +			
9022302_198	Pits_Mounds_2002	16.70811192	18.20707648
9022301 +			
9022302_199	Pits_Mounds_2002	12.01827364	9.507993928
9022301 +			
9022302_200	Pits_Mounds_2002	14.98104429	15.54630083
9022301 +			
9022302_201	Pits_Mounds_2002	13.18676073	10.59365676
9022301 +			
9022302_202	Pits_Mounds_2002	11.80945896	6.723947035
9022301 +			
9022302_203	Pits_Mounds_2002	8.080102252	4.739490781
9022301 +			
9022302_204	Pits_Mounds_2002	5.573366972	2.27299618
9022301 +			
9022302_205	Pits_Mounds_2002	6.434851025	3.048555062
9023200_1	Pits_Mounds_2002	11.44013126	9.9549617
9023200_2	Pits_Mounds_2002	9.985914291	7.078595154
9023200_3	Pits_Mounds_2002	7.46634825	4.091489277
9023200_4	Pits_Mounds_2002	14.37466518	12.10554874
9023200_5	Pits_Mounds_2002	11.27926446	9.175119567
9023200_6	Pits_Mounds_2002	8.593684803	5.309096941
9023200_7	Pits_Mounds_2002	7.024029664	3.337115975
9023200_8	Pits_Mounds_2002	5.445808542	2.11663485
9023200_9	Pits_Mounds_2002	4.557921814	1.443577748
9023200_10	Pits_Mounds_2002	6.501317262	2.965661826
9023200_11	Pits_Mounds_2002	5.1126463	1.872076329
9023200_12	Pits_Mounds_2002	8.607444713	4.095315515
9023200_13	Pits_Mounds_2002	9.915229118	7.203077268
9023200_14	Pits_Mounds_2002	10.54054236	7.954245105

9023200_15	Pits_Mounds_2002	10.10838713	7.822308197
9023200_16	Pits_Mounds_2002	12.19318603	10.81647314
9023200_17	Pits_Mounds_2002	10.48445681	7.409381289
9023200_18	Pits_Mounds_2002	6.59656561	3.28646859
9023200_19	Pits_Mounds_2002	6.98077029	3.718017049
9023200_20	Pits_Mounds_2002	11.6614111	9.564841722
9023200_21	Pits_Mounds_2002	4.195681645	1.323284585
9023200_22	Pits_Mounds_2002	7.683463966	4.218072307
9023200_23	Pits_Mounds_2002	11.39302945	8.184466598
9023200_24	Pits_Mounds_2002	11.49673716	8.37970775
9023200_25	Pits_Mounds_2002	16.02553185	16.43685668
9023200_26	Pits_Mounds_2002	8.045472469	4.771712844
9023200_27	Pits_Mounds_2002	10.99097671	6.782859396
9023200_28	Pits_Mounds_2002	7.867495222	4.29446039
9023200_29	Pits_Mounds_2002	10.46660378	8.347810652
9023200_30	Pits_Mounds_2002	9.953907087	6.904417767
9023200_31	Pits_Mounds_2002	7.63093527	3.944331255
9023200_32	Pits_Mounds_2002	8.390873011	5.275419323
9023200_33	Pits_Mounds_2002	6.52889172	3.071105205
9023200_34	Pits_Mounds_2002	9.000740665	5.919095557
9023200_35	Pits_Mounds_2002	7.362427148	3.568682321
9023200_36	Pits_Mounds_2002	5.300311235	2.018825143
9023200_37	Pits_Mounds_2002	7.285928617	4.115986591
9023200_38	Pits_Mounds_2002	6.738815628	3.406567936
9023200_39	Pits_Mounds_2002	7.929164507	4.808210458
9023200_40	Pits_Mounds_2002	5.496941079	2.251218768
9023200_41	Pits_Mounds_2002	9.159270147	5.92255404
9023200_42	Pits_Mounds_2002	4.70560071	1.630583177
9023200_43	Pits_Mounds_2002	5.73214118	2.238405544
9023200_44	Pits_Mounds_2002	9.668833452	5.693889292
9023200_45	Pits_Mounds_2002	7.178798592	3.6506858
9023200_46	Pits_Mounds_2002	10.24899082	7.055094874
9023200_47	Pits_Mounds_2002	4.969379274	1.620579189
9023200_48	Pits_Mounds_2002	8.937935398	4.818375556
9023200_49	Pits_Mounds_2002	8.199035334	4.673868896
9023200_50	Pits_Mounds_2002	4.491960701	1.396932029
9023200_51	Pits_Mounds_2002	7.534142317	3.598053211
9023200_52	Pits_Mounds_2002	7.438401699	3.901573154
9023200_53	Pits_Mounds_2002	8.518838175	5.160750118
9023200_54	Pits_Mounds_2002	7.708989416	4.182641665
9023200_55	Pits_Mounds_2002	3.719607808	0.951667013
9023200_56	Pits_Mounds_2002	6.799653941	3.417048619
9023200_57	Pits_Mounds_2002	4.707076622	1.587711824
9023200_58	Pits_Mounds_2002	8.193055198	4.350443257
9023200_59	Pits_Mounds_2002	6.970928502	3.674527391
9023200_60	Pits_Mounds_2002	6.584381923	3.304991585

9023200_61	Pits_Mounds_2002	6.527800795	3.096144619
9023200_62	Pits_Mounds_2002	7.210320611	3.583808776
9023200_63	Pits_Mounds_2002	9.870833514	6.786562229
9023200_64	Pits_Mounds_2002	4.873002932	1.738314337
9023200_65	Pits_Mounds_2002	5.678513968	2.33843336
9023200_66	Pits_Mounds_2002	9.882440158	7.061206088
9023200_67	Pits_Mounds_2002	5.05389914	1.770142925
9023200_68	Pits_Mounds_2002	6.159212576	2.865337984
9023200_69	Pits_Mounds_2002	7.193067253	3.611609141
9023200_70	Pits_Mounds_2002	5.936425007	2.631815384
9023701 + 9023702_1	Pits_Mounds_2002	20.29848859	31.83142358
9023701 + 9023702_2	Pits_Mounds_2002	9.80304497	7.094771502
9023701 + 9023702_3	Pits_Mounds_2002	17.21547524	19.80358843
9023701 + 9023702_4	Pits_Mounds_2002	10.73955235	8.314380049
9023701 + 9023702_5	Pits_Mounds_2002	21.15612112	33.45014988
9023701 + 9023702_6	Pits_Mounds_2002	16.23587546	15.91964571
9023701 + 9023702_7	Pits_Mounds_2002	12.95223787	12.78960846
9023701 + 9023702_8	Pits_Mounds_2002	6.365558123	2.667812876
9023701 + 9023702_9	Pits_Mounds_2002	8.001967694	4.465249166
9023701 + 9023702_10	Pits_Mounds_2002	14.08083755	13.49151129
9023701 + 9023702_11	Pits_Mounds_2002	21.53200677	32.61107113
9023701 + 9023702_12	Pits_Mounds_2002	13.94526328	14.21652645
9023701 + 9023702_13	Pits_Mounds_2002	16.60236688	21.12613389
9023701 + 9023702_14	Pits_Mounds_2002	10.90469052	8.822191375
9023701 + 9023702_15	Pits_Mounds_2002	6.789212445	3.086285626
9023701 + 9023702_16	Pits_Mounds_2002	17.30240614	14.34696642
9023701 + 9023702_17	Pits_Mounds_2002	8.841030987	5.465302902
9023701 + 9023702_18	Pits_Mounds_2002	12.37626545	11.00325519

9023701 +			
9023702_19	Pits_Mounds_2002	17.39024696	22.2373942
9023701 +			
9023702_20	Pits_Mounds_2002	11.71716818	6.920208967
9023701 +			
9023702_21	Pits_Mounds_2002	19.8391289	24.09392259
9023701 +			
9023702_22	Pits_Mounds_2002	12.37369409	11.39976673
9023701 +			
9023702_23	Pits_Mounds_2002	6.67017987	2.970997289
9023701 +			
9023702_24	Pits_Mounds_2002	10.31031573	7.301914977
9023701 +			
9023702_25	Pits_Mounds_2002	13.1001289	9.585847033
9023701 +			
9023702_26	Pits_Mounds_2002	9.504040531	6.523091352
9023701 +			
9023702_27	Pits_Mounds_2002	12.73683856	12.0342691
9023701 +			
9023702_28	Pits_Mounds_2002	9.130352265	5.693272371
9023701 +			
9023702_29	Pits_Mounds_2002	14.52916018	14.61036269
9023701 +			
9023702_30	Pits_Mounds_2002	7.073426581	3.564083945
9023701 +			
9023702_31	Pits_Mounds_2002	8.614951832	5.07491357
9023701 +			
9023702_32	Pits_Mounds_2002	10.61127039	7.759237008
9023701 +			
9023702_33	Pits_Mounds_2002	9.997523956	6.268236477
8600204_1	Pits_Mounds_2002	15.13001992	14.15961275
8600204_2	Pits_Mounds_2002	8.194205176	4.777497406
8600204_3	Pits_Mounds_2002	9.0478507	5.423341374
8600204_4	Pits_Mounds_2002	10.3593183	7.693804702
8600204_5	Pits_Mounds_2002	10.05164501	7.527647603
8600204_6	Pits_Mounds_2002	9.596848114	6.753559434
8600204_7	Pits_Mounds_2002	5.666481947	1.982620966
8600204_8	Pits_Mounds_2002	7.550978042	4.00341563
8600204_9	Pits_Mounds_2002	6.880209714	3.581508468
8600204_10	Pits_Mounds_2002	9.559736792	6.420973809
8600204_11	Pits_Mounds_2002	8.134324888	5.001339611
9023601_1	Pits_Mounds_2002	6.336115807	3.037741606
9023601_2	Pits_Mounds_2002	5.435242389	1.929592365
9023601_3	Pits_Mounds_2002	9.578457275	6.502774547
9023601_4	Pits_Mounds_2002	7.382356132	4.164438826
9023601_5	Pits_Mounds_2002	6.459581511	2.896856249

9023601_6	Pits_Mounds_2002	7.389740468	3.966102725
9023601_7	Pits_Mounds_2002	6.784576752	3.388834706
9023601_8	Pits_Mounds_2002	4.635819366	1.43963562
9023601_9	Pits_Mounds_2002	5.154467309	1.870849497
9023601_10	Pits_Mounds_2002	4.022671604	0.98267267
9023601_11	Pits_Mounds_2002	4.812666065	1.581329106
9023601_12	Pits_Mounds_2002	5.541556653	2.264737368
9023601_13	Pits_Mounds_2002	8.095023124	4.889367217
9023601_14	Pits_Mounds_2002	7.698799727	4.523587029
9023601_15	Pits_Mounds_2002	8.562559858	5.308694167
9023601_16	Pits_Mounds_2002	8.69162806	5.768880976
9023601_17	Pits_Mounds_2002	12.71689862	11.38296128
9023601_18	Pits_Mounds_2002	7.140469138	3.817019865
9023601_19	Pits_Mounds_2002	6.180060639	2.735234329
9023601_20	Pits_Mounds_2002	11.37050215	9.210998947
9023601_21	Pits_Mounds_2002	8.673326657	5.10953264
9023601_22	Pits_Mounds_2002	11.11547833	8.465882325
9023601_23	Pits_Mounds_2002	12.09267811	10.13575016
9023601_24	Pits_Mounds_2002	8.304473232	5.063007373
9023601_25	Pits_Mounds_2002	10.7964286	8.853614881
9023601_26	Pits_Mounds_2002	7.169419152	3.687816956
9023601_27	Pits_Mounds_2002	6.577227664	3.029935622
9023601_28	Pits_Mounds_2002	6.908987428	3.109069309
9023601_29	Pits_Mounds_2002	6.18471871	2.896138944
9023601_30	Pits_Mounds_2002	6.162910499	2.506545818
9023601_31	Pits_Mounds_2002	4.281546693	1.242274621
9023601_32	Pits_Mounds_2002	3.64049988	0.939467473
9023601_33	Pits_Mounds_2002	5.602495618	2.358098272
9023601_34	Pits_Mounds_2002	7.441791166	3.973797017
9023601_35	Pits_Mounds_2002	4.516894489	1.386978704
9023601_36	Pits_Mounds_2002	7.551162898	3.859466329
9023601_37	Pits_Mounds_2002	4.40337217	1.307063241
9023601_38	Pits_Mounds_2002	5.183415549	1.954981841
9023601_39	Pits_Mounds_2002	9.161417284	6.203957244

APPENDIX: NASCA AREA MEASUREMENTS

2016

Site ID	Folder Path	Shape Length	Shape Area
9022301 + 9022302_1	Pits_Mounds_2016	15.14557727	8.654147583
9022301 + 9022302_2	Pits_Mounds_2016	9.879207906	2.944262965
9022301 + 9022302_3	Pits_Mounds_2016	8.705823333	2.015375665
9022301 + 9022302_4	Pits_Mounds_2016	14.20982641	8.267081932
9022301 + 9022302_5	Pits_Mounds_2016	17.8822661	14.03553898
9022301 + 9022302_6	Pits_Mounds_2016	14.46127549	7.608284424
9022301 + 9022302_7	Pits_Mounds_2016	11.60500396	4.649263461
9022301 + 9022302_8	Pits_Mounds_2016	10.83949521	2.738938173
9022301 + 9022302_9	Pits_Mounds_2016	6.944640979	3.080371101
9022301 + 9022302_10	Pits_Mounds_2016	5.916770578	2.259252503
9022301 + 9022302_11	Pits_Mounds_2016	8.699957096	1.946606781
9022301 + 9022302_12	Pits_Mounds_2016	8.041232454	1.953029277
9022301 + 9022302_13	Pits_Mounds_2016	8.152599689	1.580550619
9022301 + 9022302_14	Pits_Mounds_2016	9.10687381	3.169412692
9022301 + 9022302_15	Pits_Mounds_2016	11.38759098	9.092806587

9022301 + 9022302_16	Pits_Mounds_2016	9.347645668	3.807842711
9022301 + 9022302_17	Pits_Mounds_2016	7.835735228	2.618511466
9022301 + 9022302_18	Pits_Mounds_2016	8.370124485	2.857888457
9022301 + 9022302_19	Pits_Mounds_2016	6.739798997	1.48482411
9022301 + 9022302_20	Pits_Mounds_2016	7.61011208	2.29105273
9022301 + 9022302_21	Pits_Mounds_2016	10.20456979	3.676261559
9022301 + 9022302_22	Pits_Mounds_2016	6.913623259	1.456962271
9022301 + 9022302_23	Pits_Mounds_2016	11.7377712	4.131336723
9022301 + 9022302_24	Pits_Mounds_2016	6.287602903	1.169508399
9022301 + 9022302_25	Pits_Mounds_2016	16.58000318	12.856689
9022301 + 9022302_26	Pits_Mounds_2016	8.424200955	2.893999932
9022301 + 9022302_27	Pits_Mounds_2016	10.84375415	5.177048099
9022301 + 9022302_28	Pits_Mounds_2016	9.352580698	3.053578306
9022301 + 9022302_29	Pits_Mounds_2016	6.725326383	1.732282512
9022301 + 9022302_30	Pits_Mounds_2016	8.722623668	3.312870849
9022301 + 9022302_31	Pits_Mounds_2016	8.067259757	2.414882513
9022301 + 9022302_32	Pits_Mounds_2016	6.142536185	2.542524853
9022301 + 9022302_33	Pits_Mounds_2016	11.18384341	5.189054749
9022301 + 9022302_34	Pits_Mounds_2016	9.734795753	3.680284519
9022301 + 9022302_35	Pits_Mounds_2016	11.47526513	5.372520596
9022301 + 9022302_36	Pits_Mounds_2016	7.743234049	2.147644455
9022301 + 9022302_37	Pits_Mounds_2016	8.828600815	4.494353546
9022301 + 9022302_38	Pits_Mounds_2016	9.86005206	4.091453642

9022301 + 9022302_39	Pits_Mounds_2016	8.858211196	2.853910797
9022301 + 9022302_40	Pits_Mounds_2016	10.43377102	4.9177371
9022301 + 9022302_41	Pits_Mounds_2016	11.46827621	3.899625788
9022301 + 9022302_42	Pits_Mounds_2016	11.24416548	4.318824083
9022301 + 9022302_43	Pits_Mounds_2016	13.19419085	6.442371883
9022301 + 9022302_44	Pits_Mounds_2016	8.922225682	1.443805405
9022301 + 9022302_45	Pits_Mounds_2016	11.1556865	5.078585167
9022301 + 9022302_46	Pits_Mounds_2016	22.31269352	23.61163296
9022301 + 9022302_47	Pits_Mounds_2016	10.46218435	3.389221022
9022301 + 9022302_48	Pits_Mounds_2016	12.72673882	6.031001726
9022301 + 9022302_49	Pits_Mounds_2016	9.591553824	6.000329929
9022301 + 9022302_50	Pits_Mounds_2016	12.00780348	5.365327484
9022301 + 9022302_51	Pits_Mounds_2016	14.92753164	8.733997954
9022301 + 9022302_52	Pits_Mounds_2016	7.867364999	4.187845522
9022301 + 9022302_53	Pits_Mounds_2016	16.24860942	9.481381054
9022301 + 9022302_54	Pits_Mounds_2016	15.55102059	8.877269628
9022301 + 9022302_55	Pits_Mounds_2016	9.428002322	2.907911723
9022301 + 9022302_56	Pits_Mounds_2016	10.58029146	4.413253741
9022301 + 9022302_57	Pits_Mounds_2016	8.854205747	2.191094386
9022301 + 9022302_58	Pits_Mounds_2016	10.13697668	3.266414386
9022301 + 9022302_59	Pits_Mounds_2016	8.118625685	1.781681876
9022301 + 9022302_60	Pits_Mounds_2016	9.385946516	2.805478995
9022301 + 9022302_61	Pits_Mounds_2016	7.133341637	2.815846296

9022301 + 9022302_62	Pits_Mounds_2016	9.077244505	2.160273054
9022301 + 9022302_63	Pits_Mounds_2016	8.782795852	1.93528777
9022301 + 9022302_64	Pits_Mounds_2016	13.17909998	6.276725781
9022301 + 9022302_65	Pits_Mounds_2016	9.263769733	2.559723662
9022301 + 9022302_66	Pits_Mounds_2016	15.88863937	8.867204364
9022301 + 9022302_67	Pits_Mounds_2016	10.63114394	4.06515386
9022301 + 9022302_68	Pits_Mounds_2016	11.47729242	3.481412756
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9022301 + 9022302_70	Pits_Mounds_2016	10.99617015	3.255893082
9022301 + 9022302_71	Pits_Mounds_2016	11.67909718	4.454042948
9022301 + 9022302_72	Pits_Mounds_2016	11.35583135	3.92176571
9022301 + 9022302_73	Pits_Mounds_2016	9.237666915	2.416340293
9022301 + 9022302_74	Pits_Mounds_2016	11.55979569	3.471172325
9022301 + 9022302_75	Pits_Mounds_2016	11.59599028	3.614522028
9022301 + 9022302_76	Pits_Mounds_2016	11.22252564	3.471325739
9022301 + 9022302_77	Pits_Mounds_2016	15.45459083	9.307757215
9022301 + 9022302_78	Pits_Mounds_2016	11.20609226	3.706571658
9022301 + 9022302_79	Pits_Mounds_2016	8.22176113	1.57694658
9022301 + 9022302_80	Pits_Mounds_2016	10.66712238	2.774837587
9022301 + 9022302_81	Pits_Mounds_2016	16.27932943	10.03445217
9022301 + 9022302_82	Pits_Mounds_2016	14.06664969	7.259612795
9022301 + 9022302_83	Pits_Mounds_2016	8.836724211	3.051329361
9022301 + 9022302_84	Pits_Mounds_2016	13.93603863	6.481268659

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9022301 + 9022302_86	Pits_Mounds_2016	9.440794732	2.344666642
9022301 + 9022302_87	Pits_Mounds_2016	5.885771608	2.068301457
9022301 + 9022302_88	Pits_Mounds_2016	9.163380633	2.170660034
9022301 + 9022302_89	Pits_Mounds_2016	10.05792412	2.518675927
9022301 + 9022302_90	Pits_Mounds_2016	9.542746757	2.457375232
9022301 + 9022302_91	Pits_Mounds_2016	11.36220868	3.634878944
9022301 + 9022302_92	Pits_Mounds_2016	7.009030028	0.993189076
9022301 + 9022302_93	Pits_Mounds_2016	9.424214236	2.047962722
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9022301 + 9022302_95	Pits_Mounds_2016	11.58476306	3.52224659
9022301 + 9022302_96	Pits_Mounds_2016	6.306549102	2.51892555
9022301 + 9022302_97	Pits_Mounds_2016	11.14005276	3.215180446
9022301 + 9022302_98	Pits_Mounds_2016	8.480432306	3.276465954
9022301 + 9022302_99	Pits_Mounds_2016	10.66255787	3.542911229
9022301 + 9022302_100	Pits_Mounds_2016	16.14820339	10.07540816
9022301 + 9022302_101	Pits_Mounds_2016	8.671993513	2.303722254
9022301 + 9022302_102	Pits_Mounds_2016	33.94804286	14.8261166
9022301 + 9022302_103	Pits_Mounds_2016	4.110255674	0.767922611
9022301 + 9022302_104	Pits_Mounds_2016	8.725234528	1.433466995
9022301 + 9022302_105	Pits_Mounds_2016	7.761144849	3.286874972
9022301 + 9022302_106	Pits_Mounds_2016	9.212741469	2.334695496
9022301 + 9022302_107	Pits_Mounds_2016	8.865962681	4.771581257

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9022302_110	Pits_Mounds_2016	10.99559285	3.419902341
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9022302_111	Pits_Mounds_2016	10.51272468	3.501724365
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9022302_112	Pits_Mounds_2016	9.730221246	2.600689792
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9022302_113	Pits_Mounds_2016	10.96805405	2.672359582
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9022302_114	Pits_Mounds_2016	9.390027685	2.47793082
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9022302_115	Pits_Mounds_2016	10.72945538	3.112809967
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9022302_122	Pits_Mounds_2016	11.24491663	3.010057451
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9022302_123	Pits_Mounds_2016	11.9506224	5.136630346
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9022302_124	Pits_Mounds_2016	11.59547402	3.714129459
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9022302_125	Pits_Mounds_2016	9.304420366	1.86059091
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9022302_126	Pits_Mounds_2016	9.269779436	4.856321924
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9022302_128	Pits_Mounds_2016	12.3481758	5.014356672
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9022301 + 9022302_134	Pits_Mounds_2016	9.064783145	3.333291589
9022301 + 9022302_135	Pits_Mounds_2016	7.947517993	2.040141366
9022301 + 9022302_136	Pits_Mounds_2016	13.88904282	13.44816773
9022301 + 9022302_137	Pits_Mounds_2016	10.23714705	2.781637349
9022301 + 9022302_138	Pits_Mounds_2016	24.07041461	29.92644712
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9022301 + 9022302_142	Pits_Mounds_2016	9.841320352	3.331025356
9022301 + 9022302_143	Pits_Mounds_2016	9.475947958	3.359948701
9022301 + 9022302_144	Pits_Mounds_2016	15.78446006	11.2728891
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9022301 + 9022302_146	Pits_Mounds_2016	14.60294279	8.199006843
9022301 + 9022302_147	Pits_Mounds_2016	14.92966601	10.03984493
9022301 + 9022302_148	Pits_Mounds_2016	18.29264803	16.31653554
9022301 + 9022302_149	Pits_Mounds_2016	17.67441017	13.69792842
9022301 + 9022302_150	Pits_Mounds_2016	11.97930887	6.013435864
9022301 + 9022302_151	Pits_Mounds_2016	16.23897648	13.55782639
9022301 + 9022302_152	Pits_Mounds_2016	11.4563778	4.885485232
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9022301 + 9022302_155	Pits_Mounds_2016	12.26489108	6.054439031
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9022301 + 9022302_157	Pits_Mounds_2016	8.071194446	1.490062495
9022301 + 9022302_158	Pits_Mounds_2016	11.67886676	5.253564296
9022301 + 9022302_159	Pits_Mounds_2016	13.11726592	8.385854069
9022301 + 9022302_160	Pits_Mounds_2016	9.931666546	3.903804624
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9022301 + 9022302_162	Pits_Mounds_2016	10.40241038	3.512214065
9022301 + 9022302_163	Pits_Mounds_2016	10.49696715	3.138083568
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9022301 + 9022302_165	Pits_Mounds_2016	14.23766086	8.263249522
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9022301 + 9022302_167	Pits_Mounds_2016	9.316079428	3.389472864
9022301 + 9022302_168	Pits_Mounds_2016	11.62988552	4.423939641
9022301 + 9022302_169	Pits_Mounds_2016	14.62277059	8.432659687
9022301 + 9022302_170	Pits_Mounds_2016	9.553759412	4.353717265
9022301 + 9022302_171	Pits_Mounds_2016	6.419298343	2.407689622
9022301 + 9022302_172	Pits_Mounds_2016	11.1613003	5.756192979
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9022302_179	Pits_Mounds_2016	18.90538812	14.63325591	
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9022302_180	Pits_Mounds_2016	10.63605781	4.342064565	
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9022302_181	Pits_Mounds_2016	13.17353974	5.510907638	
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9022302_182	Pits_Mounds_2016	9.677342195	4.020676344	
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9022302_183	Pits_Mounds_2016	12.50609731	6.124397718	
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9022302_185	Pits_Mounds_2016	13.35016476	5.75625518	
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8900901_4	Pits_Mounds_2016	12.56635541	4.297265939	
8900901_5	Pits_Mounds_2016	9.390262226	3.552789114	
8900901_6	Pits_Mounds_2016	11.15440987	4.056327077	
8900901_7	Pits_Mounds_2016	11.17406224	4.361947489	
8900901_8	Pits_Mounds_2016	13.01200843	4.996125912	
8900901_9	Pits_Mounds_2016	9.299912532	4.67676456	
8900901_10	Pits_Mounds_2016	12.56039435	5.255704303	
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8900801_3	Pits_Mounds_2016	10.86229061	4.516159644	
8900801_4	Pits_Mounds_2016	8.65579366	1.957168915	
8900801_5	Pits_Mounds_2016	10.16163381	4.405427548	
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8900801_7	Pits_Mounds_2016	10.69460699	4.716569092	
8900801_8	Pits_Mounds_2016	5.607612022	1.91581049	
8900801_9	Pits_Mounds_2016	12.21632661	5.11765979	
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8900801_11	Pits_Mounds_2016	6.667034722	2.966891898	
8901300_1	Pits_Mounds_2016	12.76987737	11.56023205	
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8901300_4	Pits_Mounds_2016	6.248657288	2.622787801	
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8901300_6	Pits_Mounds_2016	4.902943962	1.630182431	
8903000_1	Pits_Mounds_2016	8.540877178	5.250592893	

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8903000_4	Pits_Mounds_2016	9.841423299	6.078044673
8903000_5	Pits_Mounds_2016	6.479695377	2.433752156
8903000_6	Pits_Mounds_2016	7.040452713	3.51214962
8903000_7	Pits_Mounds_2016	4.395354077	1.270134155
9621800_22	Pits_Mounds_2016	6.564229249	2.859691691
9621800_21	Pits_Mounds_2016	4.526545211	1.239939202
9621800_20	Pits_Mounds_2016	4.231908633	1.0995397
9621800_19	Pits_Mounds_2016	4.605041258	1.21493508
9621800_18	Pits_Mounds_2016	8.804359332	2.30014436
9621800_17	Pits_Mounds_2016	8.826133508	3.909537215
9621800_16	Pits_Mounds_2016	3.851145309	0.875429656
9621800_15	Pits_Mounds_2016	13.51136072	6.81648503
9621800_14	Pits_Mounds_2016	5.865520598	2.110051643
9621800_13	Pits_Mounds_2016	4.795016034	0.080623635
9621800_12	Pits_Mounds_2016	9.239223741	2.69865125
9621800_11	Pits_Mounds_2016	9.381640631	2.371209552
9621800_10	Pits_Mounds_2016	5.984992657	2.110077861
9621800_9	Pits_Mounds_2016	3.192761008	0.487180736
9621800_8	Pits_Mounds_2016	3.580371938	0.6088288
9621800_7	Pits_Mounds_2016	5.207177261	1.534521965
9621800_6	Pits_Mounds_2016	4.89444078	1.411172633
9621800_5	Pits_Mounds_2016	8.760800213	1.786833128
9621800_4	Pits_Mounds_2016	9.300314874	2.13017824
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9621800_1	Pits_Mounds_2016	8.611765204	1.935428554
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8600204_5	Pits_Mounds_2016	14.24442157	8.70144395
8600204_4	Pits_Mounds_2016	11.25097802	4.758344158
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8600204_2	Pits_Mounds_2016	10.85470391	3.811732782
8600204_1	Pits_Mounds_2016	14.09092228	8.94032278
9023601_1	Pits_Mounds_2016	18.68471026	19.41459374
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9023601_7	Pits_Mounds_2016	7.456730313	3.758999724
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9023601_9	Pits_Mounds_2016	12.28285512	6.201268419
9023601_10	Pits_Mounds_2016	11.80707413	6.011888557
9023601_11	Pits_Mounds_2016	7.969559188	1.858173734
9023601_12	Pits_Mounds_2016	8.766531598	2.315550555

9023601_13	Pits_Mounds_2016	9.092336627	3.526375546
9023601_14	Pits_Mounds_2016	9.298629681	4.411088656
9023601_15	Pits_Mounds_2016	11.98581569	6.500966264
9023601_16	Pits_Mounds_2016	8.207443858	3.028850025
9023601_17	Pits_Mounds_2016	7.814386623	2.88196101
9023601_18	Pits_Mounds_2016	8.005230439	2.572061526
9023601_19	Pits_Mounds_2016	6.711816543	2.183533727
9023601_20	Pits_Mounds_2016	12.10761098	7.247612414
9023601_21	Pits_Mounds_2016	9.315156994	3.379855446
9023601_22	Pits_Mounds_2016	6.822541689	2.215785624
9023601_23	Pits_Mounds_2016	11.83965355	6.252133265
9023601_24	Pits_Mounds_2016	9.381485391	3.287717567
9023601_25	Pits_Mounds_2016	16.3304946	11.90581172
9023601_26	Pits_Mounds_2016	9.176808348	3.691391779
9023601_27	Pits_Mounds_2016	5.305319345	1.520312175
9023601_28	Pits_Mounds_2016	5.957599298	1.251253099
9023601_29	Pits_Mounds_2016	9.022267545	2.53887202
9023601_30	Pits_Mounds_2016	7.800877862	2.204800241
9023601_31	Pits_Mounds_2016	8.714244543	3.891679697
9023200_1	Pits_Mounds_2016	19.76737762	18.88705299
9023200_2	Pits_Mounds_2016	17.26532366	13.67630613
9023200_3	Pits_Mounds_2016	19.06807433	18.73642413
9023200_4	Pits_Mounds_2016	16.87946693	14.81492095
9023200_5	Pits_Mounds_2016	16.0006218	12.55380422
9023200_6	Pits_Mounds_2016	20.17234681	17.2612793
9023200_7	Pits_Mounds_2016	19.06160141	16.78777138
9023200_8	Pits_Mounds_2016	9.053462215	4.39608762
9023200_9	Pits_Mounds_2016	13.6643122	6.379963195
9023200_10	Pits_Mounds_2016	10.66730812	4.089080486
9023200_11	Pits_Mounds_2016	8.27797151	4.081901123
9023200_12	Pits_Mounds_2016	12.27463251	6.726270775
9023200_13	Pits_Mounds_2016	10.40687341	4.78784783
9023200_14	Pits_Mounds_2016	14.84669741	8.746487393
9023200_15	Pits_Mounds_2016	13.4305539	6.947852031
9023200_16	Pits_Mounds_2016	10.78274684	3.831214626
9023200_17	Pits_Mounds_2016	21.15548382	18.05003471
9023200_18	Pits_Mounds_2016	12.00445067	5.339752798
9023200_19	Pits_Mounds_2016	14.99189479	7.809738623
9023200_20	Pits_Mounds_2016	20.27158143	13.64880412
9023200_21	Pits_Mounds_2016	18.51356982	16.43479312
9023200_22	Pits_Mounds_2016	16.80758993	9.719439537
9023200_23	Pits_Mounds_2016	14.67397876	8.426257901
9023200_24	Pits_Mounds_2016	16.66050331	8.238687633
9023200_25	Pits_Mounds_2016	19.9223856	17.08561318
9023200_26	Pits_Mounds_2016	12.51236013	6.394018333
9023200_27	Pits_Mounds_2016	11.63055083	5.944149558

9023200_28	Pits_Mounds_2016	15.19654224	9.752191818
9023200_29	Pits_Mounds_2016	12.32497751	6.578679243
9023200_30	Pits_Mounds_2016	16.63395039	9.305173429
9032400_1	Pits_Mounds_2016	38.050476	67.51921346
9032400_2	Pits_Mounds_2016	24.12997745	26.34933759
9032400_3	Pits_Mounds_2016	29.76746882	37.80061411
9032400_4	Pits_Mounds_2016	22.95426985	18.81837149
9032400_5	Pits_Mounds_2016	20.75416542	19.24631029
9032400_6	Pits_Mounds_2016	15.99955029	9.869009465
9032400_7	Pits_Mounds_2016	12.99896967	8.099506353
9032400_8	Pits_Mounds_2016	17.57973937	14.18712407
9032400_9	Pits_Mounds_2016	20.62692414	15.96328465
9032400_10	Pits_Mounds_2016	12.5849038	4.447950995
9032400_11	Pits_Mounds_2016	16.02236249	8.311531829
9032400_12	Pits_Mounds_2016	10.3612073	5.242881657
9032400_13	Pits_Mounds_2016	15.79540692	12.24564359
9032400_14	Pits_Mounds_2016	11.39495779	5.521932462
9032400_15	Pits_Mounds_2016	7.816860819	3.048802689
9032400_16	Pits_Mounds_2016	17.87277125	10.19605141
9032400_17	Pits_Mounds_2016	16.09485483	10.34862561
9032400_18	Pits_Mounds_2016	21.98737143	22.52836338
9032400_19	Pits_Mounds_2016	12.3338499	5.016608519
9032400_20	Pits_Mounds_2016	6.06605748	2.279374545
9032400_21	Pits_Mounds_2016	20.63150264	18.13266053
9032400_22	Pits_Mounds_2016	10.08100906	3.190125006
9032400_23	Pits_Mounds_2016	10.26329966	3.698856999
9032400_24	Pits_Mounds_2016	8.032488209	2.637626889
9032400_25	Pits_Mounds_2016	10.39318135	7.28418728
9032400_26	Pits_Mounds_2016	8.295990845	2.742746915
9032400_27	Pits_Mounds_2016	7.245007785	1.542775145
9032400_28	Pits_Mounds_2016	7.560115761	2.507202266
9032400_29	Pits_Mounds_2016	7.246264054	1.484963783
9032400_30	Pits_Mounds_2016	7.281158874	1.374543027
9032400_31	Pits_Mounds_2016	15.9356575	8.071801173
9032400_32	Pits_Mounds_2016	11.33616217	6.737793237
9032400_33	Pits_Mounds_2016	20.88515522	25.78384415
9032400_34	Pits_Mounds_2016	12.91526816	8.945686906
9032400_35	Pits_Mounds_2016	9.907244196	3.762401791
9032400_36	Pits_Mounds_2016	16.75871957	13.3346823
9032400_37	Pits_Mounds_2016	13.27240564	12.33259235
9032400_38	Pits_Mounds_2016	7.941501322	2.959278478
9032400_39	Pits_Mounds_2016	8.888028185	3.239474255
9032400_40	Pits_Mounds_2016	7.069805157	2.102880865
9032400_41	Pits_Mounds_2016	10.65322599	4.35387223
9032400_42	Pits_Mounds_2016	9.307767147	3.532191699
9032400_43	Pits_Mounds_2016	8.073383465	2.764416309

9032400_44	Pits_Mounds_2016	8.411245593	2.449934046
9032400_45	Pits_Mounds_2016	7.231322112	1.838407146
9032400_46	Pits_Mounds_2016	7.009732743	1.557021364
9032400_47	Pits_Mounds_2016	12.71778766	5.287568797
9032400_48	Pits_Mounds_2016	26.46627212	30.21179168
9032400_49	Pits_Mounds_2016	29.75045809	43.36856695
9032400_50	Pits_Mounds_2016	14.36106553	9.234492779
9032400_51	Pits_Mounds_2016	13.10326389	8.64556491
9032400_52	Pits_Mounds_2016	18.68518092	14.88090322
9032400_53	Pits_Mounds_2016	17.33797797	12.04088445
9032400_54	Pits_Mounds_2016	17.40963556	15.28666173
9032400_55	Pits_Mounds_2016	12.62202879	6.65680392
9032400_56	Pits_Mounds_2016	16.35647372	12.37678751
9032400_57	Pits_Mounds_2016	16.85673122	11.7430401
9032400_58	Pits_Mounds_2016	9.053069722	2.912525508
9032400_59	Pits_Mounds_2016	9.788784574	3.267229241
9032400_60	Pits_Mounds_2016	13.23661514	7.716998424
9032400_61	Pits_Mounds_2016	15.28838698	10.5598574
9032400_62	Pits_Mounds_2016	19.27944585	16.430641
9032400_63	Pits_Mounds_2016	6.609311333	1.702739137
9032400_64	Pits_Mounds_2016	9.471572185	3.680285135
9032400_65	Pits_Mounds_2016	8.002141236	2.631032223
9032400_66	Pits_Mounds_2016	13.47882639	7.429090209
9032400_67	Pits_Mounds_2016	10.79456682	3.841081745
9032400_68	Pits_Mounds_2016	8.725975446	3.018030996
9032400_69	Pits_Mounds_2016	11.21677444	4.500738647
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9032400_71	Pits_Mounds_2016	9.21937781	2.500485417
9032400_72	Pits_Mounds_2016	20.03447275	20.31452038
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9032400_74	Pits_Mounds_2016	9.714929914	4.110835345
9032400_75	Pits_Mounds_2016	15.07741618	9.293752343
9032400_76	Pits_Mounds_2016	11.39067993	4.228920822
9032400_77	Pits_Mounds_2016	12.66258497	4.849505622
9032400_78	Pits_Mounds_2016	15.87260921	10.52371216
9032400_79	Pits_Mounds_2016	12.80606373	7.923136522
9032400_80	Pits_Mounds_2016	8.257177312	1.743536347
9032400_81	Pits_Mounds_2016	14.42338858	12.6786013
9032400_82	Pits_Mounds_2016	10.38816616	3.696557086
9032400_83	Pits_Mounds_2016	11.02214395	5.481385564
9032400_84	Pits_Mounds_2016	12.31944161	6.715359774
9032400_85	Pits_Mounds_2016	11.97532467	6.166921626
9032400_86	Pits_Mounds_2016	11.88603606	5.340017329
9032400_87	Pits_Mounds_2016	9.13276093	2.408725178
9032400_88	Pits_Mounds_2016	10.26651385	4.62597291
9032400_89	Pits_Mounds_2016	8.143155346	2.652376644

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9032400_93	Pits_Mounds_2016	6.904412494	1.591870833
9032400_94	Pits_Mounds_2016	7.996180536	2.363143355
9032400_95	Pits_Mounds_2016	7.778353734	2.05040339
9032400_96	Pits_Mounds_2016	9.503874177	3.509616368
9032400_97	Pits_Mounds_2016	13.05429571	6.203389189
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9032400_113	Pits_Mounds_2016	9.134091462	2.830931012
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9032400_115	Pits_Mounds_2016	8.961127894	2.944442876
9032400_116	Pits_Mounds_2016	13.74836702	7.938078727
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9032400_131	Pits_Mounds_2016	7.380430072	1.928020439
9032400_132	Pits_Mounds_2016	6.525623498	1.331207146
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9032400_138	Pits_Mounds_2016	14.61971156	8.66686577
9032400_139	Pits_Mounds_2016	15.95124185	12.07121342
9032400_140	Pits_Mounds_2016	26.16220852	35.83216506
9032400_141	Pits_Mounds_2016	9.790507668	3.682899815
9032400_142	Pits_Mounds_2016	8.681561007	2.598019281
9032400_143	Pits_Mounds_2016	10.45787026	3.115747609
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9032400_152	Pits_Mounds_2016	7.004746375	1.330821023
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9032400_154	Pits_Mounds_2016	8.358284115	2.186437043
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9032400_161	Pits_Mounds_2016	6.295550028	1.162374153
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9032400_245	Pits_Mounds_2016	10.22200128	3.859179409
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9032400_247	Pits_Mounds_2016	10.56480884	5.016193441
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9032400_250	Pits_Mounds_2016	8.458570571	2.595035145
9032400_251	Pits_Mounds_2016	7.376580598	0.992354473
9032400_252	Pits_Mounds_2016	6.206922018	1.149069686
9032400_253	Pits_Mounds_2016	6.446921003	1.569547988
9032400_254	Pits_Mounds_2016	6.225402562	1.266610142
9032400_255	Pits_Mounds_2016	4.077736083	0.65763653
9032400_256	Pits_Mounds_2016	5.995244262	1.114337261
9032400_257	Pits_Mounds_2016	5.623099747	0.901366646
9032400_258	Pits_Mounds_2016	5.625694741	1.172189453
9032400_259	Pits_Mounds_2016	7.181735241	2.098795145
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9032400_261	Pits_Mounds_2016	11.96974373	7.339150275
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9032400_264	Pits_Mounds_2016	7.769847241	2.91588581
9032400_265	Pits_Mounds_2016	5.18863446	0.965147374
9032400_266	Pits_Mounds_2016	8.740226503	3.370618587
9032400_267	Pits_Mounds_2016	11.75340884	5.098886311
9032400_268	Pits_Mounds_2016	18.30721246	16.53699418
9032400_269	Pits_Mounds_2016	10.56587724	3.95064643
9032400_270	Pits_Mounds_2016	13.9214093	7.741109164
9032400_271	Pits_Mounds_2016	15.85439016	8.333850646
9032400_272	Pits_Mounds_2016	13.06308182	6.848684908
9032400_273	Pits_Mounds_2016	8.294034342	2.50898633

9032400_274	Pits_Mounds_2016	8.527087545	2.877803191
9032400_275	Pits_Mounds_2016	20.16966	18.91373242
9032400_276	Pits_Mounds_2016	10.47558925	3.798422122
9032400_278	Pits_Mounds_2016	25.41393925	29.20406131
9032400_279	Pits_Mounds_2016	14.41116166	10.81139405
9032400_280	Pits_Mounds_2016	13.01308909	5.986613001
9032400_281	Pits_Mounds_2016	9.121857997	3.936667129
9032400_282	Pits_Mounds_2016	15.10515723	9.27882585
9032400_283	Pits_Mounds_2016	19.49173416	12.32170157
9032400_284	Pits_Mounds_2016	14.15787683	8.624551216
9032400_285	Pits_Mounds_2016	9.55261974	3.223320872
9032400_286	Pits_Mounds_2016	21.28070957	21.33519106
9032400_287	Pits_Mounds_2016	13.80798257	6.316846453
9032400_288	Pits_Mounds_2016	17.89080302	17.19571058
9032400_289	Pits_Mounds_2016	18.06951638	13.38591185
9032400_290	Pits_Mounds_2016	11.82251702	5.447009289
9032400_291	Pits_Mounds_2016	10.0550965	4.439939544
9032400_292	Pits_Mounds_2016	13.12185812	8.316593924
9032400_293	Pits_Mounds_2016	10.32648488	4.287846122
9032400_294	Pits_Mounds_2016	12.19403102	6.839190374
9032400_295	Pits_Mounds_2016	6.495895573	1.686008132
9032400_296	Pits_Mounds_2016	11.12760766	6.081115947
9032400_297	Pits_Mounds_2016	13.20159278	6.71414544
9032400_298	Pits_Mounds_2016	9.399286975	3.828647179
9032400_299	Pits_Mounds_2016	10.02621077	4.409307017
9032400_300	Pits_Mounds_2016	13.30264005	7.301878266
9032400_301	Pits_Mounds_2016	7.408606629	2.107980516
9032400_302	Pits_Mounds_2016	10.12325542	3.220161446
9032400_303	Pits_Mounds_2016	12.01585109	5.355748094
9032400_304	Pits_Mounds_2016	12.38622879	6.386930563
9032400_305	Pits_Mounds_2016	8.366704191	3.244907635
9032400_306	Pits_Mounds_2016	5.691852377	0.589587
9032400_307	Pits_Mounds_2016	3.409515168	0.10147578
9032400_308	Pits_Mounds_2016	6.140461028	0.75086465
9032400_309	Pits_Mounds_2016	6.558536387	1.843297446
9032400_310	Pits_Mounds_2016	7.765981239	1.604735591
9032400_311	Pits_Mounds_2016	5.497819054	1.237674725
9032400_312	Pits_Mounds_2016	6.437104873	0.894013649
9032400_313	Pits_Mounds_2016	6.545330241	0.783079598
9032400_314	Pits_Mounds_2016	6.409042726	1.468174727
8600102_1	Pits_Mounds_2016	6.351402469	2.829152051
8600102_2	Pits_Mounds_2016	4.901378481	1.379664094
8600102_3	Pits_Mounds_2016	5.585737638	2.043292417
8600102_4	Pits_Mounds_2016	8.935791123	2.67205277
8600102_5	Pits_Mounds_2016	8.689333751	2.410117188
8600102_6	Pits_Mounds_2016	7.876745393	1.606686271

8600102_7	Pits_Mounds_2016	5.653657871	2.183075235
8600102_8	Pits_Mounds_2016	5.899998084	1.685386219
8600102_9	Pits_Mounds_2016	7.033919027	3.021420343
8600102_10	Pits_Mounds_2016	9.338322376	3.501586329
8600102_11	Pits_Mounds_2016	10.89656848	4.191471637
8600102_12	Pits_Mounds_2016	8.589488279	1.641557607
8600102_13	Pits_Mounds_2016	9.756525089	2.619684137
8600102_14	Pits_Mounds_2016	10.0705058	3.370465445
8600102_15	Pits_Mounds_2016	9.882142318	2.986402455
8600102_16	Pits_Mounds_2016	12.78777223	6.06002905
8600102_17	Pits_Mounds_2016	6.992047829	1.379714299
8600102_18	Pits_Mounds_2016	12.58258527	5.073486899
8600102_19	Pits_Mounds_2016	7.795071817	1.833771541
8600102_20	Pits_Mounds_2016	8.989207471	1.85113253
8600102_21	Pits_Mounds_2016	9.387224083	3.405534708
8600102_22	Pits_Mounds_2016	10.27830046	2.855452853
8600102_23	Pits_Mounds_2016	9.869442737	3.650074968
8600102_24	Pits_Mounds_2016	10.5665772	5.737051063
8600102_25	Pits_Mounds_2016	7.845542944	1.545544762
8600105+8600104_1	Pits_Mounds_2016	9.758141222	2.401390962
8600105+8600104_2	Pits_Mounds_2016	10.89021665	1.135189708
8600105+8600104_3	Pits_Mounds_2016	9.887089789	3.60645069
8600105+8600104_4	Pits_Mounds_2016	10.10372628	2.890277232
8600105+8600104_5	Pits_Mounds_2016	10.17958394	4.191295147
8600105+8600104_6	Pits_Mounds_2016	8.965805285	2.541015088
8600105+8600104_7	Pits_Mounds_2016	10.27775381	3.658992843
8600105+8600104_8	Pits_Mounds_2016	8.801550677	2.532448335
8600105+8600104_9	Pits_Mounds_2016	10.13883377	2.863946417
8600105+8600104_10	Pits_Mounds_2016	11.11869091	4.418695914
8600105+8600104_11	Pits_Mounds_2016	10.78426311	4.505695263
8600105+8600104_12	Pits_Mounds_2016	10.10465765	2.759390599
8600105+8600104_13	Pits_Mounds_2016	11.47769103	4.034102253
8600105+8600104_14	Pits_Mounds_2016	9.647659421	2.768058782
8600105+8600104_15	Pits_Mounds_2016	8.315050055	2.820501231
8600105+8600104_16	Pits_Mounds_2016	4.882380811	1.327297049
8600105+8600104_17	Pits_Mounds_2016	8.696992603	2.558563265
8600105+8600104_18	Pits_Mounds_2016	5.695360451	0.07863012
8600105+8600104_19	Pits_Mounds_2016	8.248324712	2.506203782
8600105+8600104_20	Pits_Mounds_2016	10.70678984	4.4009391
8600105+8600104_21	Pits_Mounds_2016	9.74209999	2.916693487
8600105+8600104_22	Pits_Mounds_2016	12.46447654	4.584569155
8600105+8600104_23	Pits_Mounds_2016	8.555589553	2.392486105
8600105+8600104_24	Pits_Mounds_2016	9.733234049	2.907991448
8600105+8600104_25	Pits_Mounds_2016	9.520177084	2.506173991
8600105+8600104_26	Pits_Mounds_2016	7.743998957	2.017195595
8600105+8600104_27	Pits_Mounds_2016	9.915713843	3.073647334

9023701 + 9023702_1	Pits_Mounds_2016	15.33603621	17.23917495
9023701 + 9023702_2	Pits_Mounds_2016	14.66364859	14.35101426
9023701 + 9023702_3	Pits_Mounds_2016	6.39690451	2.703244866
9023701 + 9023702_4	Pits_Mounds_2016	6.775259775	2.991488291
9023701 + 9023702_5	Pits_Mounds_2016	6.761612355	3.168678635
9023701 + 9023702_6	Pits_Mounds_2016	20.73716872	32.73548476
9023701 + 9023702_7	Pits_Mounds_2016	8.948681051	5.568863029
9023701 + 9023702_8	Pits_Mounds_2016	21.87800859	36.46119698
9023701 + 9023702_9	Pits_Mounds_2016	11.86479069	10.3963761
9023701 + 9023702_10	Pits_Mounds_2016	9.162798534	5.728570347
9023701 + 9023702_11	Pits_Mounds_2016	15.42695795	17.49314548
9023701 + 9023702_12	Pits_Mounds_2016	12.83448753	12.32043826
9023701 + 9023702_13	Pits_Mounds_2016	10.39773643	7.367044415
9023701 + 9023702_14	Pits_Mounds_2016	11.15041121	8.980077624
9023701 + 9023702_15	Pits_Mounds_2016	17.42841829	20.95593677
9023701 + 9023702_16	Pits_Mounds_2016	5.684064101	2.019481946
9023701 + 9023702_17	Pits_Mounds_2016	13.34230373	13.39172822
9023701 + 9023702_18	Pits_Mounds_2016	14.57981171	15.61709641
9023701 + 9023702_19	Pits_Mounds_2016	13.17925454	13.08326982
9023701 + 9023702_20	Pits_Mounds_2016	13.95456658	13.7728552
9023701 + 9023702_21	Pits_Mounds_2016	12.75628751	11.64205305
9023701 + 9023702_22	Pits_Mounds_2016	8.436082624	4.957570127
9023701 + 9023702_23	Pits_Mounds_2016	11.36520706	9.457357889
9023701 + 9023702_24	Pits_Mounds_2016	8.903893014	5.351190105
9023701 + 9023702_25	Pits_Mounds_2016	6.229010264	2.560685055
9023701 + 9023702_26	Pits_Mounds_2016	6.072705034	2.577153089
9023701 + 9023702_27	Pits_Mounds_2016	17.09871647	21.79564761

9023701 + 9023702_28	Pits_Mounds_2016	15.13500199	16.90970238
9023701 + 9023702_29	Pits_Mounds_2016	3.835709294	1.010855724
9023701 + 9023702_30	Pits_Mounds_2016	4.534540807	1.531195595
9023701 + 9023702_31	Pits_Mounds_2016	3.235374358	0.674870326
9023701 + 9023702_32	Pits_Mounds_2016	3.443872303	0.814499924
9023701 + 9023702_33	Pits_Mounds_2016	13.06888806	12.56307207
9023701 + 9023702_34	Pits_Mounds_2016	13.0962216	12.96004304
9023701 + 9023702_35	Pits_Mounds_2016	13.15873426	13.03909444
9023701 + 9023702_36	Pits_Mounds_2016	3.152463396	0.658696568
9023701 + 9023702_37	Pits_Mounds_2016	3.852522045	0.965374411
9023701 + 9023702_38	Pits_Mounds_2016	3.518735965	0.78205597
9023701 + 9023702_39	Pits_Mounds_2016	4.501941564	1.186795225
9023701 + 9023702_40	Pits_Mounds_2016	5.096610519	1.86270874
9023701 + 9023702_41	Pits_Mounds_2016	12.22711914	11.17823884
9023701 + 9023702_42	Pits_Mounds_2016	19.67407631	28.59833534
9023701 + 9023702_43	Pits_Mounds_2016	18.17813182	24.27237733
9023701 + 9023702_44	Pits_Mounds_2016	10.55508488	8.56555094
9023701 + 9023702_45	Pits_Mounds_2016	11.26657947	9.021487614
9023701 + 9023702_46	Pits_Mounds_2016	10.60622637	7.985887565
9023701 + 9023702_47	Pits_Mounds_2016	7.199202404	3.588134665
9023701 + 9023702_48	Pits_Mounds_2016	6.153934425	2.729274564
9032300_EN + LN + MN_1	Pits_Mounds_2016	7.156113777	3.612109624
9032300_EN + LN + MN_2	Pits_Mounds_2016	6.998280803	3.648723204

9032300_EN + LN + MN_3	Pits_Mounds_2016	8.164383228	5.111138668
9032300_EN + LN + MN_4	Pits_Mounds_2016	8.971387458	6.050594533
9032300_EN + LN + MN_5	Pits_Mounds_2016	9.000902891	6.196569396
9032300_EN + LN + MN_6	Pits_Mounds_2016	5.102548802	1.840974034
9032300_EN + LN + MN_7	Pits_Mounds_2016	3.998356483	1.133639355
9032300_EN + LN + MN_8	Pits_Mounds_2016	5.532748922	2.207424563
9032300_EN + LN + MN_9	Pits_Mounds_2016	5.233477777	1.764522354
9032300_EN + LN + MN_10	Pits_Mounds_2016	4.212024821	1.230175646
9032300_EN + LN + MN_11	Pits_Mounds_2016	8.776713782	5.86435568
9032300_EN + LN + MN_12	Pits_Mounds_2016	8.580183352	5.720178325
9032300_EN + LN + MN_13	Pits_Mounds_2016	9.368405874	6.707046729
9032300_EN + LN + MN_14	Pits_Mounds_2016	3.666865669	0.84908931
9032300_EN + LN + MN_15	Pits_Mounds_2016	5.821929565	2.458087986
9032300_EN + LN + MN_16	Pits_Mounds_2016	8.799878347	5.130632949
9032300_EN + LN + MN_17	Pits_Mounds_2016	9.485456489	6.688262541
9032300_EN + LN + MN_18	Pits_Mounds_2016	12.0054439	10.82230024
9032300_EN + LN + MN_19	Pits_Mounds_2016	14.54925063	15.82787241
9032300_EN + LN + MN_20	Pits_Mounds_2016	5.365580207	2.137758651
9032300_EN + LN + MN_21	Pits_Mounds_2016	10.33096346	7.696740203
9032300_EN + LN + MN_22	Pits_Mounds_2016	4.755734356	1.625278296
9032300_EN + LN + MN_23	Pits_Mounds_2016	5.068480501	1.948305765
9032300_EN + LN + MN_24	Pits_Mounds_2016	4.012538604	1.146688829
9032300_EN + LN + MN_25	Pits_Mounds_2016	4.332217856	1.34964195

9032300_EN + LN + MN_26	Pits_Mounds_2016	5.965941183	2.499437075
9032300_EN + LN + MN_27	Pits_Mounds_2016	3.692710236	0.927373705
9032300_EN + LN + MN_28	Pits_Mounds_2016	5.584757731	2.232536629
9032300_EN + LN + MN_29	Pits_Mounds_2016	3.646745491	0.844846045
9032300_EN + LN + MN_30	Pits_Mounds_2016	3.31777153	0.758922351
9032300_EN + LN + MN_31	Pits_Mounds_2016	4.978830971	1.63554233
9032300_EN + LN + MN_32	Pits_Mounds_2016	4.856966276	1.577458188
9032300_EN + LN + MN_33	Pits_Mounds_2016	13.90304863	14.57114137
9032300_EN + LN + MN_34	Pits_Mounds_2016	9.66978844	6.682318188
9032300_EN + LN + MN_35	Pits_Mounds_2016	3.60724707	0.814943035
9032300_EN + LN + MN_36	Pits_Mounds_2016	4.09987286	1.208852149
9032300_EN + LN + MN_37	Pits_Mounds_2016	5.551122608	1.999220469
9032300_EN + LN + MN_38	Pits_Mounds_2016	19.24953914	27.70703492
9032300_EN + LN + MN_39	Pits_Mounds_2016	14.13035427	15.0100555
9032300_EN + LN + MN_40	Pits_Mounds_2016	6.601628879	3.203228035
9032300_EN + LN + MN_41	Pits_Mounds_2016	6.035168238	2.581219925
9032300_EN + LN + MN_42	Pits_Mounds_2016	4.397036075	1.119803871
9032300_EN + LN + MN_43	Pits_Mounds_2016	9.91883882	7.142272045
9032300_EN + LN + MN_44	Pits_Mounds_2016	6.064734572	2.595000623
9032300_EN + LN + MN_45	Pits_Mounds_2016	4.641020537	1.468780162
9032300_EN + LN + MN_46	Pits_Mounds_2016	4.832648466	1.446709597
9032300_EN + LN + MN_47	Pits_Mounds_2016	5.57627141	2.264343551
9032300_EN + LN + MN_48	Pits_Mounds_2016	15.36272989	18.28192961

9032300_EN + LN + MN_49	Pits_Mounds_2016	5.765108299	2.41332691
9032300_EN + LN + MN_50	Pits_Mounds_2016	10.72500658	7.614221601
9032300_EN + LN + MN_51	Pits_Mounds_2016	8.132547793	4.690841655
9032300_EN + LN + MN_52	Pits_Mounds_2016	9.633756623	6.778986866
9032300_EN + LN + MN_53	Pits_Mounds_2016	6.159697305	2.678566493
9032300_EN + LN + MN_54	Pits_Mounds_2016	8.745186982	4.628271319
9032300_EN + LN + MN_55	Pits_Mounds_2016	11.78640901	9.515706549
9032300_EN + LN + MN_56	Pits_Mounds_2016	9.265992237	6.088967002
9032300_EN + LN + MN_57	Pits_Mounds_2016	4.062069512	1.091033444
9032300_EN + LN + MN_58	Pits_Mounds_2016	6.494139715	2.93845758
9032300_EN + LN + MN_59	Pits_Mounds_2016	7.192978476	3.823914622
9032300_EN + LN + MN_60	Pits_Mounds_2016	9.535882102	6.505135926
9032300_EN + LN + MN_61	Pits_Mounds_2016	10.64260095	8.220554305
9032300_EN + LN + MN_62	Pits_Mounds_2016	7.36226123	4.012287769
9032300_EN + LN + MN_63	Pits_Mounds_2016	7.332019925	3.85144633
9032300_EN + LN + MN_64	Pits_Mounds_2016	4.368798697	1.339690679
9032300_EN + LN + MN_65	Pits_Mounds_2016	3.461738881	0.812812688
9032300_EN + LN + MN_66	Pits_Mounds_2016	2.965131837	0.561081469
9032300_EN + LN + MN_67	Pits_Mounds_2016	4.087591122	1.10670151
9032300_EN + LN + MN_68	Pits_Mounds_2016	6.712946967	3.389279251
9032300_EN + LN + MN_69	Pits_Mounds_2016	4.458545713	1.258426801
9032300_EN + LN + MN_70	Pits_Mounds_2016	6.014533211	2.60376473
9032300_EN + LN + MN_71	Pits_Mounds_2016	3.015122648	0.559701813

9032300_EN + LN + MN_72	Pits_Mounds_2016	2.966277732	0.562441689
9032300_EN + LN + MN_73	Pits_Mounds_2016	3.282908101	0.632916969
9032300_EN + LN + MN_74	Pits_Mounds_2016	3.395654592	0.77489196
9032300_EN + LN + MN_75	Pits_Mounds_2016	6.76292458	3.157541269
9032300_EN + LN + MN_76	Pits_Mounds_2016	11.31248486	8.97325322
9032300_EN + LN + MN_77	Pits_Mounds_2016	16.46442588	17.79523994
9032300_EN + LN + MN_78	Pits_Mounds_2016	15.92226171	13.25215751
9032300_EN + LN + MN_79	Pits_Mounds_2016	11.53607237	8.69285908
9032300_EN + LN + MN_80	Pits_Mounds_2016	10.02775257	5.273479259
9032300_EN + LN + MN_81	Pits_Mounds_2016	5.051896669	1.86518576
9032300_EN + LN + MN_82	Pits_Mounds_2016	11.92071207	9.678560398
9032300_EN + LN + MN_83	Pits_Mounds_2016	6.329144883	2.856388599
9032300_EN + LN + MN_84	Pits_Mounds_2016	6.793039708	3.353649512
9032300_EN + LN + MN_85	Pits_Mounds_2016	4.568808907	1.342341904
9032300_EN + LN + MN_86	Pits_Mounds_2016	4.553762256	1.400773315
9032300_EN + LN + MN_87	Pits_Mounds_2016	6.803645021	3.472909861
9032300_EN + LN + MN_88	Pits_Mounds_2016	5.556117685	2.190118696
9032300_EN + LN + MN_89	Pits_Mounds_2016	6.804973227	3.19746119
9032300_EN + LN + MN_90	Pits_Mounds_2016	6.924111711	3.202153535
9032300_EN + LN + MN_91	Pits_Mounds_2016	9.237330284	6.268728752
9032300_EN + LN + MN_92	Pits_Mounds_2016	3.817724031	0.912861795
9032300_EN + LN + MN_93	Pits_Mounds_2016	4.520895336	1.33210126
9032300_EN + LN + MN_94	Pits_Mounds_2016	8.67285519	5.336056585

9032300_EN + LN + MN_95	Pits_Mounds_2016	7.516695711	4.308951051
9032300_EN + LN + MN_96	Pits_Mounds_2016	6.835856971	3.209814519
9032300_EN + LN + MN_97	Pits_Mounds_2016	6.596531479	2.789425315
9032300_EN + LN + MN_98	Pits_Mounds_2016	5.331096551	1.645638699
9032300_EN + LN + MN_99	Pits_Mounds_2016	5.007730143	1.585861145
9032300_EN + LN + MN_100	Pits_Mounds_2016	4.175983384	1.046296516
9032300_EN + LN + MN_101	Pits_Mounds_2016	4.107969653	1.067601714
9032300_EN + LN + MN_102	Pits_Mounds_2016	8.187222611	5.061703719
9032300_EN + LN + MN_103	Pits_Mounds_2016	17.60633277	21.91835665
9032300_EN + LN + MN_104	Pits_Mounds_2016	16.53432475	16.42032665
9032300_EN + LN + MN_105	Pits_Mounds_2016	12.47762965	8.458707571
9032300_EN + LN + MN_106	Pits_Mounds_2016	10.86069907	8.908709798
9032300_EN + LN + MN_107	Pits_Mounds_2016	3.75472379	0.934774075
9032300_EN + LN + MN_108	Pits_Mounds_2016	2.396839723	0.319403265
9032300_EN + LN + MN_109	Pits_Mounds_2016	2.753857313	0.397359795
9032300_EN + LN + MN_110	Pits_Mounds_2016	3.120185406	0.54536564
9032300_EN + LN + MN_111	Pits_Mounds_2016	6.106387498	2.57487711
9032300_EN + LN + MN_112	Pits_Mounds_2016	5.253309967	1.811252441
9032300_EN + LN + MN_113	Pits_Mounds_2016	6.219306146	2.699291981
9032300_EN + LN + MN_114	Pits_Mounds_2016	5.427768751	2.138670611
9032300_EN + LN + MN_115	Pits_Mounds_2016	5.553430593	2.25151012
9032300_EN + LN + MN_116	Pits_Mounds_2016	6.422333311	3.026566275
9032300_EN + LN + MN_117	Pits_Mounds_2016	5.534235484	1.990579155

9032300_EN + LN + MN_118	Pits_Mounds_2016	5.40290689	2.087907862
9032300_EN + LN + MN_119	Pits_Mounds_2016	3.129061869	0.533695017
9032300_EN + LN + MN_120	Pits_Mounds_2016	10.70508341	8.406122259
9032300_EN + LN + MN_121	Pits_Mounds_2016	8.001871182	4.662761168
9032300_EN + LN + MN_122	Pits_Mounds_2016	12.5024811	10.28371006
9032300_EN + LN + MN_123	Pits_Mounds_2016	4.906326799	1.550291441
9032300_EN + LN + MN_124	Pits_Mounds_2016	4.56966851	1.378952295
9032300_EN + LN + MN_125	Pits_Mounds_2016	4.162039394	1.160874176
9032300_EN + LN + MN_126	Pits_Mounds_2016	5.887570422	2.391638793
9032300_EN + LN + MN_127	Pits_Mounds_2016	5.338885926	1.972210505
9032300_EN + LN + MN_128	Pits_Mounds_2016	4.263540535	1.271140346
9032300_EN + LN + MN_129	Pits_Mounds_2016	4.374813974	1.234268483
9032300_EN + LN + MN_130	Pits_Mounds_2016	5.466307267	1.784356285
9032300_EN + LN + MN_131	Pits_Mounds_2016	4.829184835	1.388598245
9032300_EN + LN + MN_132	Pits_Mounds_2016	3.295094878	0.63054445
9032300_EN + LN + MN_133	Pits_Mounds_2016	4.421280493	1.31489623
9032300_EN + LN + MN_134	Pits_Mounds_2016	2.597624839	0.395768177
9032300_EN + LN + MN_135	Pits_Mounds_2016	4.983851003	1.697188784
9032300_EN + LN + MN_136	Pits_Mounds_2016	3.904313214	1.063225447
9032300_EN + LN + MN_137	Pits_Mounds_2016	4.130058965	1.04640529
9032300_EN + LN + MN_138	Pits_Mounds_2016	2.847377997	0.509774916
9032300_EN + LN + MN_139	Pits_Mounds_2016	4.404297472	1.318036361
9032300_EN + LN + MN_140	Pits_Mounds_2016	4.314648147	0.975913265

9032300_EN + LN + MN _141	Pits_Mounds_2016	2.700021386	0.3454353
9032300_EN + LN + MN _142	Pits_Mounds_2016	3.407746085	0.690978164
9032300_EN + LN + MN _143	Pits_Mounds_2016	6.386410903	3.041963564
9032300_EN + LN + MN _144	Pits_Mounds_2016	6.014890735	2.525586017
9032300_EN + LN + MN _145	Pits_Mounds_2016	6.014306357	2.29075299
9032300_EN + LN + MN _146	Pits_Mounds_2016	3.357698576	0.674064729
9032300_EN + LN + MN _147	Pits_Mounds_2016	6.384059841	2.844159944
9032300_EN + LN + MN _148	Pits_Mounds_2016	5.204664997	1.529351679
9032300_EN + LN + MN _149	Pits_Mounds_2016	11.00465821	8.981432283
9032300_EN + LN + MN _150	Pits_Mounds_2016	11.04095344	8.219934708
9032300_EN + LN + MN _151	Pits_Mounds_2016	11.35078296	9.276691309
9032300_EN + LN + MN _152	Pits_Mounds_2016	13.42235049	11.6735814
9032300_EN + LN + MN _153	Pits_Mounds_2016	7.545432018	3.864983242
9032300_EN + LN + MN _154	Pits_Mounds_2016	13.522078	10.97640444
9032300_EN + LN + MN _155	Pits_Mounds_2016	9.974750246	6.969530756
9032300_EN + LN + MN _156	Pits_Mounds_2016	10.14248984	7.339596558
9032300_EN + LN + MN _157	Pits_Mounds_2016	7.037115909	3.411147073
9032300_EN + LN + MN _158	Pits_Mounds_2016	11.16498705	8.302401208
9032300_EN + LN + MN _159	Pits_Mounds_2016	8.408280302	5.118777906
9032300_EN + LN + MN _160	Pits_Mounds_2016	4.441523068	0.485292965
9032300_EN + LN + MN _161	Pits_Mounds_2016	4.337995522	1.112784501
9032300_EN + LN + MN _162	Pits_Mounds_2016	9.889673497	6.696933646
9032300_EN + LN + MN _163	Pits_Mounds_2016	10.81303747	8.044700051

9032300_EN + LN + MN_164	Pits_Mounds_2016	10.383056	8.035618577
9032300_EN + LN + MN_165	Pits_Mounds_2016	8.214275408	4.714381924
9032300_EN + LN + MN_166	Pits_Mounds_2016	10.42857681	6.610667925
9032300_EN + LN + MN_167	Pits_Mounds_2016	8.36110176	4.679574863
9032300_EN + LN + MN_168	Pits_Mounds_2016	11.00902726	8.985423763
9032300_EN + LN + MN_169	Pits_Mounds_2016	6.169561585	2.250441913
9032300_EN + LN + MN_170	Pits_Mounds_2016	8.365189071	4.217091728
9032300_EN + LN + MN_171	Pits_Mounds_2016	3.003571047	0.423936722
9032300_EN + LN + MN_172	Pits_Mounds_2016	5.216070689	1.61188172
9032300_EN + LN + MN_173	Pits_Mounds_2016	7.859413731	4.320754423
9032300_EN + LN + MN_174	Pits_Mounds_2016	7.444540517	3.747748008
9032300_EN + LN + MN_175	Pits_Mounds_2016	8.627706766	5.195262903
9032300_EN + LN + MN_176	Pits_Mounds_2016	6.065112194	1.966355191
9032300_EN + LN + MN_177	Pits_Mounds_2016	9.612774459	4.904979069
9032300_EN + LN + MN_178	Pits_Mounds_2016	9.623551502	6.368934906
9032300_EN + LN + MN_179	Pits_Mounds_2016	14.86758041	16.03581733
9032300_EN + LN + MN_180	Pits_Mounds_2016	16.96855469	19.59879991
9032300_EN + LN + MN_181	Pits_Mounds_2016	11.79275785	9.271861455
9032300_EN + LN + MN_182	Pits_Mounds_2016	11.82655236	9.56870991
9032300_EN + LN + MN_183	Pits_Mounds_2016	12.80390248	9.986472762
9032300_EN + LN + MN_184	Pits_Mounds_2016	7.043321017	3.48891369
9032300_EN + LN + MN_185	Pits_Mounds_2016	10.29909517	6.738830437
9032300_EN + LN + MN_186	Pits_Mounds_2016	9.098707083	5.554429791

9032300_EN + LN + MN_187	Pits_Mounds_2016	12.32838272	10.8666941
9032300_EN + LN + MN_188	Pits_Mounds_2016	13.31013135	13.26493166
9032300_EN + LN + MN_189	Pits_Mounds_2016	13.28707342	11.6012352
9032300_EN + LN + MN_190	Pits_Mounds_2016	16.10838814	10.60589986
9032300_EN + LN + MN_191	Pits_Mounds_2016	12.35730063	9.536700106
9032300_EN + LN + MN_192	Pits_Mounds_2016	6.833566305	3.158925096
9032300_EN + LN + MN_193	Pits_Mounds_2016	5.579033419	1.820786075
9032300_EN + LN + MN_194	Pits_Mounds_2016	5.938607855	2.26278385
9032300_EN + LN + MN_195	Pits_Mounds_2016	4.850225243	1.452458819
9032300_EN + LN + MN_196	Pits_Mounds_2016	6.21958967	2.421689465
9032300_EN + LN + MN_197	Pits_Mounds_2016	11.78890731	10.03808711
9032300_EN + LN + MN_198	Pits_Mounds_2016	7.039889231	3.568480343
9032300_EN + LN + MN_199	Pits_Mounds_2016	5.37893005	2.063543407
9032300_EN + LN + MN_200	Pits_Mounds_2016	4.823407439	1.421222748
9032300_EN + LN + MN_201	Pits_Mounds_2016	7.346828627	3.763767626
9032300_EN + LN + MN_202	Pits_Mounds_2016	7.531560131	3.364642789
9032300_EN + LN + MN_203	Pits_Mounds_2016	3.011862659	0.40206316
9032300_EN + LN + MN_204	Pits_Mounds_2016	7.477334325	4.073225157
9032300_EN + LN + MN_205	Pits_Mounds_2016	13.20474375	13.05775
9032300_EN + LN + MN_206	Pits_Mounds_2016	10.30637834	6.706377361
9032300_EN + LN + MN_207	Pits_Mounds_2016	12.59479352	11.35912243
9032300_EN + LN + MN_208	Pits_Mounds_2016	10.41563839	7.723573919
9032300_EN + LN + MN_209	Pits_Mounds_2016	7.566564825	3.972193949

9032300_EN + LN + MN_210	Pits_Mounds_2016	5.991040502	2.361767246
9032300_EN + LN + MN_211	Pits_Mounds_2016	6.29479237	2.65655536
9032300_EN + LN + MN_212	Pits_Mounds_2016	4.573378796	0.983054897
9032300_EN + LN + MN_213	Pits_Mounds_2016	4.11543395	1.045910765
9032300_EN + LN + MN_214	Pits_Mounds_2016	5.843703755	2.112232219
9032300_EN + LN + MN_215	Pits_Mounds_2016	5.264398454	1.01968776
9032300_EN + LN + MN_216	Pits_Mounds_2016	4.440918659	1.189631361
9032300_EN + LN + MN_217	Pits_Mounds_2016	4.061136039	0.896042516
9032300_EN + LN + MN_218	Pits_Mounds_2016	4.372749751	0.939295715
9032300_EN + LN + MN_219	Pits_Mounds_2016	7.624400102	3.894404019
9032300_EN + LN + MN_220	Pits_Mounds_2016	9.282496948	4.617460627
9032300_EN + LN + MN_221	Pits_Mounds_2016	8.398705424	4.148865725
9032300_EN + LN + MN_223	Pits_Mounds_2016	4.568584434	1.260520252
9032300_EN + LN + MN_224	Pits_Mounds_2016	4.5070488	1.345245496
9032300_EN + LN + MN_225	Pits_Mounds_2016	2.958054633	0.39594808
9032300_EN + LN + MN_226	Pits_Mounds_2016	4.049162611	0.9169336
9032300_EN + LN + MN_227	Pits_Mounds_2016	4.129897942	0.799895565
9032300_EN + LN + MN_228	Pits_Mounds_2016	6.985612118	3.324685355
9032300_EN + LN + MN_229	Pits_Mounds_2016	6.663223955	3.231904254
9032300_EN + LN + MN_230	Pits_Mounds_2016	6.045916706	2.51678795
9032300_EN + LN + MN_231	Pits_Mounds_2016	7.035967758	3.142821016
9032300_EN + LN + MN_232	Pits_Mounds_2016	4.668886532	1.321056166
9032300_EN + LN + MN_233	Pits_Mounds_2016	3.926253803	0.969661041

9032300_EN + LN + MN_234	Pits_Mounds_2016	5.192697053	1.769424636
9032300_EN + LN + MN_235	Pits_Mounds_2016	7.67509586	3.667939511
9032300_EN + LN + MN_236	Pits_Mounds_2016	4.227721514	1.232111465
9032300_EN + LN + MN_237	Pits_Mounds_2016	3.727370208	0.941232744
9032300_EN + LN + MN_238	Pits_Mounds_2016	4.964814918	1.607855871
9032300_EN + LN + MN_239	Pits_Mounds_2016	6.721353961	2.860060389
9032300_EN + LN + MN_240	Pits_Mounds_2016	7.361184214	3.684280813
9032300_EN + LN + MN_241	Pits_Mounds_2016	4.335365132	1.2564026
9032300_EN + LN + MN_242	Pits_Mounds_2016	8.319690107	4.920790329
9032300_EN + LN + MN_243	Pits_Mounds_2016	6.626307247	2.989443462
9032300_EN + LN + MN_244	Pits_Mounds_2016	5.131905412	1.240176346
9032300_EN + LN + MN_245	Pits_Mounds_2016	3.882778534	0.86452878
9032300_EN + LN + MN_246	Pits_Mounds_2016	8.05936321	4.387135716
9032300_EN + LN + MN_247	Pits_Mounds_2016	5.047010157	1.660277529
9032300_EN + LN + MN_248	Pits_Mounds_2016	7.378821767	3.558961532
9032300_EN + LN + MN_249	Pits_Mounds_2016	10.20916953	5.615396921
9032300_EN + LN + MN_250	Pits_Mounds_2016	7.738635197	4.24573178
9032300_EN + LN + MN_251	Pits_Mounds_2016	11.65326194	10.11133485
9032300_EN + LN + MN_252	Pits_Mounds_2016	7.203341885	3.615570617
9032300_EN + LN + MN_253	Pits_Mounds_2016	6.26224491	2.553308188
9032300_EN + LN + MN_254	Pits_Mounds_2016	7.583572205	4.120475926
9032300_EN + LN + MN_255	Pits_Mounds_2016	8.38973556	3.849896077
9032300_EN + LN + MN_256	Pits_Mounds_2016	6.632199963	3.029710613

9032300_EN + LN + MN_257	Pits_Mounds_2016	9.464373196	6.403287753
9032300_EN + LN + MN_258	Pits_Mounds_2016	3.405025221	0.670620939
9032300_EN + LN + MN_259	Pits_Mounds_2016	4.539767063	1.349300314
9032300_EN + LN + MN_260	Pits_Mounds_2016	3.992883105	1.042306865
9032300_EN + LN + MN_261	Pits_Mounds_2016	3.993032683	1.026074007
9032300_EN + LN + MN_262	Pits_Mounds_2016	8.088807442	4.916625781
9032300_EN + LN + MN_263	Pits_Mounds_2016	5.327100677	2.036014885
9032300_EN + LN + MN_264	Pits_Mounds_2016	7.828527535	3.466184793
9032300_EN + LN + MN_265	Pits_Mounds_2016	6.999095099	3.361211022
9032300_EN + LN + MN_266	Pits_Mounds_2016	6.126749517	2.448107385
9032300_EN + LN + MN_267	Pits_Mounds_2016	6.604357477	3.054057572
9032300_EN + LN + MN_268	Pits_Mounds_2016	6.246850972	2.528913884
9032300_EN + LN + MN_269	Pits_Mounds_2016	5.436467113	2.044076019
9032300_EN + LN + MN_270	Pits_Mounds_2016	4.306311108	1.248317319
9032300_EN + LN + MN_271	Pits_Mounds_2016	6.333175759	2.706681436
9032300_EN + LN + MN_272	Pits_Mounds_2016	6.152350008	2.706689856
9032300_EN + LN + MN_273	Pits_Mounds_2016	5.878300952	2.01989082
9032300_EN + LN + MN_274	Pits_Mounds_2016	5.303260951	1.813839069
9032300_EN + LN + MN_275	Pits_Mounds_2016	4.668159898	1.329097661
9032300_EN + LN + MN_276	Pits_Mounds_2016	5.155984717	1.773362336
9032300_EN + LN + MN_277	Pits_Mounds_2016	4.214748937	1.139293463
9032300_EN + LN + MN_278	Pits_Mounds_2016	4.050223748	0.900849309
9032300_EN + LN + MN_279	Pits_Mounds_2016	3.39669224	0.52933176

9032300_EN + LN + MN_280	Pits_Mounds_2016	4.733950728	1.324983073
9032300_EN + LN + MN_281	Pits_Mounds_2016	5.168577668	1.809858433
9032300_EN + LN + MN_282	Pits_Mounds_2016	8.512819237	4.956711322
9032300_EN + LN + MN_283	Pits_Mounds_2016	5.152630331	1.65230437
9032300_EN + LN + MN_284	Pits_Mounds_2016	4.238854055	1.264510605
9032300_EN + LN + MN_285	Pits_Mounds_2016	4.571375957	1.341206121
9032300_EN + LN + MN_286	Pits_Mounds_2016	7.571785268	4.108344738
9032300_EN + LN + MN_287	Pits_Mounds_2016	4.135625801	1.034196688
9032300_EN + LN + MN_288	Pits_Mounds_2016	3.900155341	0.985735921
9032300_EN + LN + MN_289	Pits_Mounds_2016	8.55395283	5.061884397
9032300_EN + LN + MN_290	Pits_Mounds_2016	4.175205107	1.001853878
9032300_EN + LN + MN_291	Pits_Mounds_2016	4.603994139	1.203963664
9032300_EN + LN + MN_292	Pits_Mounds_2016	3.799879307	0.791771737
9032300_EN + LN + MN_293	Pits_Mounds_2016	6.214021634	1.971434534
9032300_EN + LN + MN_294	Pits_Mounds_2016	7.231522937	3.510605131
9032300_EN + LN + MN_295	Pits_Mounds_2016	5.152304072	1.833937915
9032300_EN + LN + MN_296	Pits_Mounds_2016	4.471415619	1.288695169
9032300_EN + LN + MN_297	Pits_Mounds_2016	4.744608365	1.61996121
9032300_EN + LN + MN_298	Pits_Mounds_2016	4.297883134	1.268423709
9032300_EN + LN + MN_299	Pits_Mounds_2016	5.83601378	2.439966162
9032300_EN + LN + MN_300	Pits_Mounds_2016	4.247762212	1.005930359
9032300_EN + LN + MN_301	Pits_Mounds_2016	4.981284687	1.603794457
9032300_EN + LN + MN_302	Pits_Mounds_2016	3.891849079	0.888790285

9032300_EN + LN + MN_303	Pits_Mounds_2016	3.494285606	0.569615466
9032300_EN + LN + MN_304	Pits_Mounds_2016	4.641091518	0.908974394
9032300_EN + LN + MN_305	Pits_Mounds_2016	4.550364417	1.321089475
9032300_EN + LN + MN_306	Pits_Mounds_2016	3.598696319	0.787678574
9032300_EN + LN + MN_307	Pits_Mounds_2016	6.865482448	3.207582465
9032300_EN + LN + MN_308	Pits_Mounds_2016	5.930235649	2.411821276
9032300_EN + LN + MN_309	Pits_Mounds_2016	5.473739348	2.165262404
9032300_EN + LN + MN_310	Pits_Mounds_2016	3.534607589	0.844421786
9032300_EN + LN + MN_311	Pits_Mounds_2016	4.037313639	1.143248849
9032300_EN + LN + MN_312	Pits_Mounds_2016	3.467743017	0.626217046
9032300_EN + LN + MN_312	Pits_Mounds_2016	3.319521569	0.55349139
9032300_EN + LN + MN_313	Pits_Mounds_2016	3.687142914	0.840254383
9032300_EN + LN + MN_314	Pits_Mounds_2016	5.704715857	2.153169224
9032300_EN + LN + MN_315	Pits_Mounds_2016	3.522553866	0.848447019
9032300_EN + LN + MN_316	Pits_Mounds_2016	2.893223474	0.460594899
9032300_EN + LN + MN_317	Pits_Mounds_2016	3.132343934	0.593857009
9032300_EN + LN + MN_318	Pits_Mounds_2016	3.923999682	0.949350382
9032300_EN + LN + MN_319	Pits_Mounds_2016	2.946326194	0.45643919
9032300_EN + LN + MN_320	Pits_Mounds_2016	3.829245452	0.747392288
9032300_EN + LN + MN_321	Pits_Mounds_2016	5.219491969	1.745260694
9032300_EN + LN + MN_322	Pits_Mounds_2016	4.317217341	1.228133759
9032300_EN + LN + MN_323	Pits_Mounds_2016	5.566071356	2.181441339
9032300_EN + LN + MN_324	Pits_Mounds_2016	4.113015016	1.058450019

9032300_EN + LN + MN_325	Pits_Mounds_2016	4.984579001	1.656239249
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APPENDIX: NASCA UTMS SPREADSHEET

2002

Site ID	Valley	Side	Elevation	Site Type	Time Period	LS	DoL	#S
8600601	10	N	684	H	EN	20	2	0
9002400	10	S	391	H	EN	0	0	0
9020100	10	N	628	C	EN	100	10	5
9020202	10	N	637	C	EN	50	8	0
9020302	10	N	653	C	EN	50	8	0
9020400	10	N	659	C	EN	30	8	0
9020500	10	N	657	C	EN	20	8	0
9020600	10	N	658	C	EN	10	8	0
9020700	10	N	660	C	EN	20	8	0
9020800	10	N	667	C	EN	100	10	3
9020900	10	N	678	C	EN	30	10	0
9021000	10	N	704	C	EN	50	10	20
9021100	10	N	707	C	EN	30	10	1
9021201	10	S	603	C	EN	20	8	1
9021301	10	S	628	C	EN	0	0	0
9021701	10	S	637	C	EN	100	10	0

9022100	10	S	567	C	EN	0	0	0
9024600	10	S	931	C	EN	0	0	0
9024701	10	S	931	C	EN	0	0	0
9025300	10	S	382	C	EN	500	10	0
9025400	10	S	381	C	EN	500	10	0
9026200	10	S	341	C	EN	500	10	0
9027800	10	S	318	C	EN	300	10	0
9028000	10	S	315	C	EN	300	10	0
9028500	10	S	383	C	EN	500	10	0
9028600	10	S	380	C	EN	500	10	0
9028700	10	S	379	C	EN	500	10	0
9028900	10	S	368	C	EN	300	10	0
9029000	10	S	374	C	EN	300	10	0
9029100	10	S	344	C	EN	500	10	0
9029200	10	S	348	C	EN	500	10	0
9029300	10	S	337	C	EN	500	10	0
9030700	10	S	351	C	EN	500	10	0
9030800	10	S	354	C	EN	500	10	0
9030900	10	S	359	C	EN	500	10	0
9031000	10	S	354	C	EN	500	10	0
9031100	10	S	353	C	EN	300	10	0
9031200	10	S	355	C	EN	300	10	0
9031400	10	S	321	C	EN	500	10	0
9031500	10	S	312	C	EN	500	10	0
9031600	10	S	313	C	EN	500	10	0
9032300	10	S	301	C	EN	200	10	0
9032400	10	S	293	C	EN	500	10	0
9032600	10	N	524	C	EN	50	6	0

9032800	10	N	453	C	EN	100	10	0
9033000	10	N	451	C	EN	100	10	0
9033100	10	N	448	C	EN	100	10	0
9034100	10	N	427	C	EN	50	10	0
9034300	10	N	423	C	EN	50	10	0
9034500	10	N	398	C	EN	200	7	0
9034600	10	N	392	C	EN	200	7	0
9034700	10	N	390	C	EN	200	7	0
9034900	10	N	391	C	EN	200	7	0
9035000	10	N	388	C	EN	200	7	0
9035100	10	N	388	C	EN	200	7	0
9035300	10	N	387	C	EN	100	7	0
9035400	10	N	385	C	EN	100	7	0
9035700	10	N	383	C	EN	50	2	0
9036000	10	N	379	C	EN	300	4	0
9036100	10	N	374	C	EN	300	4	0
9036200	10	N	383	C	EN	300	4	0
9036400	10	N	374	C	EN	300	4	0
9036500	10	N	382	C	EN	300	4	0
9036600	10	N	376	C	EN	300	4	0
9036700	10	N	372	C	EN	100	2	0
9036800	10	N	379	C	EN	100	2	0
9036900	10	N	379	C	EN	100	2	0
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9037100	10	N	370	C	EN	100	2	0
9037400	10	N	356	C	EN	100	1	1
9037500	10	N	366	C	EN	100	1	0
9037600	10	N	363	C	EN	100	1	0
9620800	10	N	573	C	EN	0	0	1
9620901	10	N	571	C	EN	0	0	0
9621500	10	C	528	C	EN	0	0	0

9006500	10	C	495	H	LF	10	5	0
9006600	10	C	484	C	LF	20	5	0
9020201	10	N	637	C	LF	50	8	0
9020301	10	N	653	C	LF	50	8	0
9023701	10	S	393	C	LF	30	10	0
9027600	10	S	323	C	LF	300	10	0
9027700	10	S	325	C	LF	300	10	0
9027900	10	S	317	C	LF	300	10	0
8600101	10	N	559	H	LIP	5	2	10
8600102	10	N	548	C	LIP	20	10	5
8600104	10	N	551	H	LIP	10	3	3
8600105	10	N	551	C	LIP	10	3	3
8600106	10	N	568	H	LIP	0	0	0
8600201	10	N	565	H	LIP	0	0	?
8600204	10	N	580	C	LIP	10	1	0
8600205	10	N	579	H	LIP	20	5	0
8600207	10	N	566	H	LIP	0	0	0
8600208	10	N	565	C	LIP	0	0	5
8600301	10	N	778	H	LIP	20	4	1
8600302	10	N	778	C	LIP	20	4	1
8600603	10	N	684	H	LIP	100	10	2

8600701	10	N	728	H	LIP	10	1	0
8600702	10	N	728	H	LIP	10	1	0
8905200	10	S	665	H	LIP	100	10	10
9000700	10	S	798	H	LIP	5	1	0
9002100	10	S	394	H	LIP	0	0	0
9002500	10	S	381	H	LIP	0	0	1
9006000	10	N	307	H	LIP	30	10	0
9006900	10	C	443	H	LIP	0	0	0
9007000	10	C	427	H	LIP	0	0	0
9007100	10	C	427	H	LIP	0	0	0
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9007700	10	N	387	H	LIP	0	0	0
9008200	10	N	368	H	LIP	0	0	0
9021702	10	S	637	C	LIP	100	10	0
9021800	10	S	632	C	LIP	100	10	0
9021903	10	S	609	C	LIP	0	0	0
9022402	10	S	502	C	LIP	300	10	0
9022502	10	S	496	C	LIP	300	10	0
9022602	10	S	495	C	LIP	300	10	0
9022700	10	S	467	C	LIP	40	5	0

9022800	10	S	451	C	LIP	50	10	0
9022900	10	S	445	C	LIP	50	10	0
9023000	10	S	449	C	LIP	50	10	0
9023200	10	S	435	C	LIP	70	10	0
9023402	10	C	396	C	LIP	40	6	0
9023502	10	C	397	C	LIP	0	0	0
9023602	10	S	401	C	LIP	20	10	0
9023900	10	S	389	C	LIP	40	10	0
9026100	10	S	340	C	LIP	500	10	0
9028100	10	S	378	C	LIP	500	10	0
9028800	10	S	369	C	LIP	300	10	0
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9031800	10	S	324	C	LIP	500	10	0
9031900	10	S	315	C	LIP	200	10	0
9032500	10	N	523	C	LIP	50	6	0
9035500	10	N	386	C	LIP	50	2	0
9035600	10	N	385	C	LIP	50	2	0
9035800	10	N	386	C	LIP	300	4	0
9621000	10	N	572	H	LIP	0	0	0
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9621200	10	N	562	C	LIP	0	0	0
9621300	10	C	521	C	LIP	0	0	0
9621600	10	C	532	C	LIP	0	0	0
9621700	10	C	533	H	LIP	0	0	0

9621900	10	N	540	H	LIP	0	0	0
8600500	10	N	668	H	LN	20	2	0
8600800	10	N	706	H	LN	100	10	10
9020100	10	N	628	C	LN	100	10	5
9020900	10	N	678	C	LN	30	10	0
9021201	10	S	603	C	LN	20	8	1
9021301	10	S	628	C	LN	0	0	0
9021701	10	S	637	C	LN	100	10	0
9021901	10	S	609	C	LN	0	0	0
9022100	10	S	567	C	LN	0	0	0
9022301	10	S	507	C	LN	200	8	0
9023702	10	S	393	C	LN	30	10	0
9023800	10	S	395	C	LN	40	10	0
9024501	10	S	393	C	LN	0	0	0
9024600	10	S	931	C	LN	0	0	0
9024701	10	S	931	C	LN	0	0	0
9026000	10	S	336	C	LN	500	10	0
9026300	10	S	335	C	LN	500	10	0
9026400	10	S	333	C	LN	500	10	0
9028200	10	S	379	C	LN	500	10	0
9028400	10	S	382	C	LN	500	10	0
9031500	10	S	312	C	LN	500	10	0
9032000	10	S	312	C	LN	200	10	0
9032200	10	S	307	C	LN	200	10	0
9032300	10	S	301	C	LN	200	10	0
9032400	10	S	293	C	LN	400	10	0
9032600	10	N	524	C	LN	50	6	0
9033700	10	S	429	C	LN	0	0	0
9034100	10	N	427	C	LN	50	10	0
9034500	10	N	398	C	LN	200	7	0
9034600	10	N	392	C	LN	200	7	0
9034900	10	N	391	C	LN	200	7	0

9035200	10	N	388	C	LN	100	7	0
9037200	10	N	363	C	LN	100	1	1
9620700	10	N	578	H	LN	0	0	0
9620901	10	N	571	C	LN	0	0	0
9021902	10	S	609	C	Loro	0	0	0
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9022302	10	S	507	C	Loro	200	8	0
9022501	10	S	496	C	Loro	300	10	0
9022601	10	S	495	C	Loro	300	10	0
9024702	10	S	931	C	Loro	0	0	0
9621800	10	C	527	C	Loro	20	4	0
9021202	10	S	603	C	Mhe	20	8	1
9021302	10	S	628	C	Mhe	0	0	0
9021902	10	S	609	C	Mhe	0	0	0
9022000	10	S	568	C	Mhe	0	0	0
9022302	10	S	507	C	Mhe	200	8	0
9022501	10	S	496	C	Mhe	300	10	0
9022601	10	S	495	C	Mhe	300	10	0
9023401	10	C	396	C	Mhe	40	6	0
9023501	10	C	397	C	Mhe	0	0	0
9024702	10	S	931	C	Mhe	0	0	0
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9026000	10	S	336	C	Mhe	500	10	0
9026300	10	S	335	C	Mhe	500	10	0
9026400	10	S	333	C	Mhe	500	10	0
9027300	10	S	322	C	Mhe	100	10	0
9032000	10	S	312	C	Mhe	200	10	0
9032200	10	S	307	C	Mhe	200	10	0
9032700	10	N	526	C	Mhe	50	6	0
9032900	10	N	453	C	Mhe	100	10	0
9033100	10	N	448	C	Mhe	100	10	0
9033700	10	S	429	C	Mhe	0	0	0

9034400	10	N	399	C	Mhe	200	7	0
9034600	10	N	392	C	Mhe	200	7	0
9034800	10	N	392	C	Mhe	200	7	0
9034900	10	N	391	C	Mhe	200	7	0
9035000	10	N	388	C	Mhe	200	7	0
9035300	10	N	387	C	Mhe	100	7	0
9035900	10	N	383	C	Mhe	300	4	0
9037200	10	N	363	C	Mhe	100	1	1
9037300	10	N	359	C	Mhe	100	1	1
9620902	10	N	571	C	Mhe	0	0	0
9621800	10	C	527	C	Mhe	20	4	0
9022000	10	S	568	C	Mhl	0	0	0
9022401	10	S	502	C	Mhl	300	10	0
9022601	10	S	495	C	Mhl	300	10	0
9023300	10	C	401	C	Mhl	25	7	0
9023401	10	C	396	C	Mhl	40	6	0
9023501	10	C	397	C	Mhl	0	0	0
9023601	10	S	401	C	Mhl	40	4	0
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9025100	10	S	385	C	Mhl	0	0	0
9025200	10	S	382	C	Mhl	500	10	0
9026400	10	S	333	C	Mhl	500	10	0
9027300	10	S	322	C	Mhl	100	10	0
9027400	10	S	326	C	Mhl	500	10	0
9027500	10	S	324	C	Mhl	300	10	0
9028300	10	S	383	C	Mhl	500	10	0
9032000	10	S	312	C	Mhl	200	10	0
9032100	10	S	301	C	Mhl	200	10	0

9032700	10	N	526	C	Mhl	50	6	0
9033100	10	N	448	C	Mhl	100	10	0
9033600	10	S	444	C	Mhl	10	5	0
9034000	10	N	434	C	Mhl	50	10	20
9034200	10	N	404	C	Mhl	20	5	0
9034400	10	N	399	C	Mhl	200	7	0
9034600	10	N	392	C	Mhl	200	7	0
9034900	10	N	391	C	Mhl	200	7	0
9035000	10	N	388	C	Mhl	200	7	0
9035300	10	N	387	C	Mhl	100	7	0
9035900	10	N	383	C	Mhl	300	4	0
9037300	10	N	359	C	Mhl	100	1	1
8600400	10	N	650	H	MN	60	10	0
8600602	10	N	684	H	MN	100	10	2
8600800	10	N	706	H	MN	100	10	10
9020100	10	N	628	C	MN	100	10	5
9020500	10	N	657	C	MN	20	8	0
9020700	10	N	660	C	MN	20	8	0
9021301	10	S	628	C	MN	0	0	0
9021701	10	S	637	C	MN	100	10	0
9021901	10	S	609	C	MN	0	0	0
9022100	10	S	567	C	MN	0	0	0
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9025000	10	S	387	C	MN	0	0	0
9025400	10	S	381	C	MN	500	10	0
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9031200	10	S	355	C	MN	300	10	0
9031400	10	S	321	C	MN	500	10	0
9031500	10	S	312	C	MN	500	10	0
9031600	10	S	313	C	MN	500	10	0
9032200	10	S	307	C	MN	200	10	0
9032300	10	S	301	C	MN	200	10	0
9032400	10	S	293	C	MN	400	10	0

9032600	10	N	524	C	MN	50	6	0
9032800	10	N	453	C	MN	100	10	0
9033000	10	N	451	C	MN	100	10	0
9034100	10	N	427	C	MN	50	10	0
9034600	10	N	392	C	MN	200	7	0
9035200	10	N	388	C	MN	100	7	0
9035300	10	N	387	C	MN	100	7	0
9035400	10	N	385	C	MN	100	7	0
9035700	10	N	383	C	MN	50	2	0
9620901	10	N	571	C	MN	0	0	0
9008100	10	N	361	NA	NA	10	5	0
8600903	11	N	733	H	EN	0	0	0
8601001	11	N	729	H	EN	0	0	0
8601002	11	N	724	H	EN	0	0	0
8601101	11	N	748	H	EN	0	0	0
8601201	11	N	750	H	EN	0	0	0
8601300	11	N	752	H	EN	0	0	10
8900103	11	N	771	C	EN	0	0	0
8900200	11	N	815	H	EN	0	0	10
8900501	11	N	831	H	EN	0	0	0
8900801	11	S	721	H	EN	0	0	0
8902502	11	S	766	H	EN	0	0	1
8902703	11	S	746	H	EN	0	0	0
8902800	11	S	760	H	EN	0	0	0
8904601	11	S	1233	H	EN	0	0	1
8904802	11	N	1030	H	EN	0	0	0
8905300	11	S	783	C	EN	0	0	0
8905402	11	S	796	C	EN	0	0	0
9000201	11	N	945	H	EN	0	0	0
9000300	11	N	964	H	EN	0	0	0
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9617402	11	S	940	H	EN	0	0	0
9617600	11	N	986	H	EN	0	0	0
9617800	11	N	960	H	EN	0	0	0
9627902	11	S	1022	H	EN	0	0	0
9628400	11	S	1189	H	EN	0	0	0

8600901	11	N	720	H	LF	0	0	1
8900601	11	S	695	H	LF	0	0	0
8901001	11	S	792	H	LF	0	0	0
8901101	11	S	807	H	LF	0	0	0
8902501	11	S	766	H	LF	0	0	1
8902701	11	S	742	H	LF	0	0	0
8904501	11	S	1227	H	LF	0	0	1
8904801	11	N	1030	H	LF	0	0	0
8905401	11	S	797	H	LF	0	0	0
8905800	11	S	851	H	LF	0	0	0
9617502	11	N	987	H	LF	0	0	0
9627901	11	S	1060	H	LF	0	0	0
8601102	11	N	741	H	LIP	0	0	0
8900402	11	N	825	H	LIP	0	0	0
8900604	11	S	700	C	LIP	0	0	0
8900700	11	S	727	H	LIP	0	0	0
8900804	11	S	737	C	LIP	0	0	0
8900901	11	S	730	H	LIP	0	0	0
8902702	11	S	746	H	LIP	0	0	0
8904502	11	S	1227	H	LIP	0	0	1
8904603	11	S	1233	C	LIP	0	0	1
8905502	11	S	801	H	LIP	0	0	30
8905602	11	S	822	C	LIP	0	0	0
8905603	11	S	822	H	LIP	0	0	0
8905702	11	S	835	H	LIP	0	0	0
9000202	11	N	945	C	LIP	0	0	0
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9628200	11	N	1139	H	LIP	0	0	0
8900401	11	N	825	H	LN	0	0	0
9000100	11	N	887	H	LN	0	0	0
9617501	11	N	987	H	LN	0	0	0
9617600	11	N	986	H	LN	0	0	0
8601202	11	N	750	H	Loro	0	0	0
8900300	11	N	816	H	Loro	0	0	0
8900502	11	N	834	H	Loro	0	0	0

8900901	11	S	730	H	Loro	0	0	0
8901002	11	S	792	H	Loro	0	0	0
8901102	11	S	807	H	Loro	0	0	0
8901200	11	S	722	H	Loro	10	3	0
8902600	11	S	1017	H	Loro	0	0	0
8900300	11	N	816	H	Mhe	0	0	0
8900502	11	N	834	H	Mhe	0	0	0
8900901	11	S	730	H	Mhe	0	0	0
8901002	11	S	792	H	Mhe	0	0	0
8901102	11	S	807	H	Mhe	0	0	0
8901200	11	S	722	H	Mhe	10	3	0
8902600	11	S	1017	H	Mhe	0	0	0
8900901	11	S	730	H	Mhl	0	0	0
8901002	11	S	792	H	Mhl	0	0	0
8901300	11	S	720	H	Mhl	0	0	0
8904503	11	S	1227	H	Mhl	0	0	1
8905501	11	S	801	H	Mhl	0	0	30
8905701	11	S	835	H	Mhl	0	0	0
8601001	11	N	729	H	MN	0	0	0
8601101	11	N	748	H	MN	0	0	0
8900200	11	N	815	H	MN	0	0	0
8904602	11	S	1208	H	MN	0	0	1
9000100	11	N	887	H	MN	0	0	0
9000201	11	N	945	H	MN	0	0	0
9617501	11	N	987	H	MN	0	0	0
9617600	11	N	986	H	MN	0	0	0
8901400	11	S	716	C	NA	0	0	0
8904700	11	N	1106	H	NA	0	0	0
9007400	11	S	936	H	NA	0	0	1
8901703	12	N	1043	H	EN	0	0	0
8902000	12	N	1013	H	EN	0	0	0
8902100	12	N	1015	H	EN	0	0	0
8902901	12	N	752	H	EN	0	0	0
8903102	12	N	746	H	EN	0	0	0
8903401	12	N	770	H	EN	0	0	0
8903501	12	N	776	H	EN	0	0	0
8903600	12	N	796	H	EN	0	0	0

8903700	12	N	1083	H	EN	0	0	0
8903901	12	S	1160	H	EN	0	0	0
8904101	12	S	1188	H	EN	0	0	0
8904401	12	N	1208	H	EN	0	0	0
9628500	12	N	1557	H	EN	0	0	0
9628700	12	N	1597	H	EN	0	0	10
9628800	12	N	1624	H	EN	0	0	10
9629101	12	N	1383	H	EN	0	0	5
8901702	12	N	1043	H	LF	0	0	0
8902902	12	N	752	H	LF	0	0	0
8903000	12	N	735	H	LF	3	0	0
8903101	12	N	746	H	LF	0	0	0
8903903	12	S	1160	H	LF	0	0	0
8904200	12	N	1162	H	LF	0	0	0
8904902	12	N	877	H	LF	0	0	0
8905000	12	N	945	H	LF	0	0	0
8905100	12	N	873	H	LF	0	0	0
8901602	12	N	945	H	LIP	0	0	20
8903200	12	N	774	H	LIP	0	0	0
8903300	12	N	773	H	LIP	0	0	0
8903402	12	N	770	H	LIP	0	0	0
8903502	12	N	776	H	LIP	0	0	0
8903801	12	S	1103	H	LIP	0	0	0
8903802	12	S	1103	C	LIP	0	0	0
8903902	12	S	1174	H	LIP	0	0	0
8904102	12	S	1188	H	LIP	0	0	0
8904300	12	N	1209	H	LIP	0	0	0
8904903	12	N	881	H	LIP	0	0	0
9628600	12	N	1602	H	LIP	0	0	1
9629103	12	N	1383	H	LIP	0	0	5
8601602	12	S	1251	H	LN	0	0	0
8901800	12	N	1015	H	LN	0	0	0

9628500	12	N	1557	H	LN	0	0	0
8601601	12	S	1234	H	Loro	0	0	0
9629000	12	N	1511	C	Loro	0	0	0
9629301	12	S	1332	H	Loro	0	0	20
8601601	12	S	1234	H	Mhe	0	0	0
9629000	12	N	1511	C	Mhe	0	0	0
9629102	12	N	1383	H	Mhe	0	0	5
9629301	12	S	1332	H	Mhe	0	0	20
9629302	12	S	1337	H	Mhe	0	0	20
8901601	12	N	945	H	Mhl	0	0	20
8901701	12	N	1006	H	Mhl	0	0	0
8904901	12	N	877	H	Mhl	0	0	0
9629102	12	N	1383	H	Mhl	0	0	5
8601500	12	S	1249	H	MN	0	0	0
8901703	12	N	1043	H	MN	0	0	0
9628500	12	N	1557	H	MN	0	0	0
8901900	12	N	1022	H	NA	0	0	0
8902300	12	N	1061	H	NA	0	0	0
8902400	12	N	1069	H	NA	0	0	0

APPENDIX: NASCA UTMS SPREADSHEET

2016

Site ID	Valley	Side	Elevation	Site Type	Time Period	LS	DoL	#S
8600101	10	N	559	H	LIP	10	0	20
8600102	10	N	548	C	LIP	20	7	10
8600104	10	N	551	H	LIP	20	5	5
8600105	10	N	551	C	LIP	20	5	5
8600106	10	N	568	H	LIP	5	0	0
8600201	10	N	565	H	LIP	0	0	5
8600204	10	N	580	C	LIP	5	1	0
8600205	10	N	579	H	LIP	0	0	0
8600207	10	N	566	H	LIP	0	0	5
8600208	10	N	565	C	LIP	0	0	5
8600301	10	N	778	H	LIP	30	6	1
8600302	10	N	778	C	LIP	30	6	1
8600400	10	N	650	H	MN	20	2	0
8600500	10	N	668	H	LN	20	2	0
8600601	10	N	684	H	EN	20	2	0
8600602	10	N	684	H	MN	100	10	2
8600603	10	N	684	H	LIP	100	10	5
8600701	10	N	728	H	LIP	10	1	0
8600702	10	N	728	H	LIP	10	1	0
8600800	10	N	706	H	LN	100	10	10
8600800	10	N	706	H	MN	100	10	10
8905200	10	S	665	H	LIP	100	10	10
9000700	10	S	798	H	LIP	5	1	0
9002100	10	S	394	H	LIP	10	1	0
9002400	10	S	391	H	EN	0	0	0
9002500	10	S	381	H	LIP	0	0	1
9006000	10	N	307	H	LIP	10	2	0

9006500	10	C	495	H	LF	10	5	0
9006600	10	C	484	C	LF	20	5	0
9006900	10	C	443	H	LIP	5	0	0
9007000	10	C	427	H	LIP	0	0	0
9007100	10	C	427	H	LIP	0	0	0
9007500	10	C	419	H	LIP	0	0	0
9007600	10	C	415	H	LIP	0	0	?
9007700	10	N	387	H	LIP	100	10	0
9008100	10	N	361	NA	NA	10	2	0
9008200	10	N	368	H	LIP	100	4	0
9020100	10	N	628	C	EN	0	0	5
9020100	10	N	628	C	LN	0	0	5
9020100	10	N	628	C	MN	0	0	5
9020201	10	N	637	C	LF	50	8	0
9020202	10	N	637	C	EN	50	8	0
9020301	10	N	653	C	LF	50	8	0
9020302	10	N	653	C	EN	50	8	0
9020400	10	N	659	C	EN	30	8	0
9020500	10	N	657	C	EN	20	8	0
9020500	10	N	657	C	MN	20	8	0
9020600	10	N	658	C	EN	10	8	0
9020700	10	N	660	C	EN	20	8	0
9020700	10	N	660	C	MN	20	8	0
9020800	10	N	667	C	EN	100	10	3
9020900	10	N	678	C	EN	0	10	0
9020900	10	N	678	C	LN	0	10	0
9021000	10	N	704	C	EN	30	10	20
9021100	10	N	707	C	EN	20	5	1
9021201	10	S	603	C	EN	100	8	5
9021201	10	S	603	C	LN	100	8	5
9021202	10	S	603	C	Mhe	100	8	5
9021301	10	S	628	C	EN	0	0	0
9021301	10	S	628	C	LN	0	0	0

9021301	10	S	628	C	MN	0	0	0
9021302	10	S	628	C	Mhe	0	0	0
9021701	10	S	637	C	EN	0	0	0
9021701	10	S	637	C	LN	0	0	0
9021701	10	S	637	C	MN	0	0	0
9021702	10	S	637	C	LIP	0	0	0
9021800	10	S	632	C	LIP	0	0	0
9021901	10	S	609	C	LN	0	0	0
9021901	10	S	609	C	MN	0	0	0
9021902	10	S	609	C	Loro	0	0	0
9021902	10	S	609	C	Mhe	0	0	0
9021903	10	S	609	C	LIP	0	0	0
9022000	10	S	568	C	Loro	0	0	0
9022000	10	S	568	C	Mhe	0	0	0
9022000	10	S	568	C	Mhl	0	0	0
9022100	10	S	567	C	EN	0	0	0
9022100	10	S	567	C	LN	0	0	0
9022100	10	S	567	C	MN	0	0	0
9022301	10	S	507	C	LN	40	8	0
9022302	10	S	507	C	Loro	40	8	0
9022302	10	S	507	C	Mhe	40	8	0
9022401	10	S	502	C	Mhl	300	10	0
9022402	10	S	502	C	LIP	300	10	0
9022501	10	S	496	C	Loro	300	10	0
9022501	10	S	496	C	Mhe	300	10	0
9022502	10	S	496	C	LIP	300	10	0
9022601	10	S	495	C	Loro	300	10	0
9022601	10	S	495	C	Mhe	300	10	0
9022601	10	S	495	C	Mhl	300	10	0
9022602	10	S	495	C	LIP	300	10	0
9022700	10	S	467	C	LIP	40	1	0
9022800	10	S	451	C	LIP	50	3	0
9022900	10	S	445	C	LIP	50	3	0
9023000	10	S	449	C	LIP	50	3	0
9023200	10	S	435	C	LIP	40	1	0

9023300	10	C	401	C	Mhl	40	4	0
9023401	10	C	396	C	Mhe	20	2	0
9023401	10	C	396	C	Mhl	20	2	0
9023402	10	C	396	C	LIP	20	2	0
9023501	10	C	397	C	Mhe	0	0	0
9023501	10	C	397	C	Mhl	0	0	0
9023502	10	C	397	C	LIP	0	0	0
9023601	10	S	401	C	Mhl	30	2	0
9023602	10	S	401	C	LIP	40	10	0
9023701	10	S	393	C	LF	40	10	0
9023702	10	S	393	C	LN	40	10	0
9023702	10	S	393	C	MN	40	10	0
9023800	10	S	395	C	LN	40	10	0
9023900	10	S	389	C	LIP	40	10	0
9024501	10	S	393	C	LN	0	0	0
9024501	10	S	393	C	MN	0	0	0
9024502	10	S	393	C	Mhl	0	0	0
9024600	10	S	931	C	EN	0	0	0
9024600	10	S	931	C	LN	0	0	0
9024600	10	S	931	C	MN	0	0	0
9024701	10	S	931	C	EN	0	0	0
9024701	10	S	931	C	LN	0	0	0
9024702	10	S	931	C	Loro	0	0	0
9024702	10	S	931	C	Mhe	0	0	0
9024800	10	S	386	C	Mhe	0	0	0
9025000	10	S	387	C	MN	0	0	0
9025100	10	S	385	C	Mhl	0	0	0
9025200	10	S	382	C	Mhl	400	10	0
9025300	10	S	382	C	EN	400	10	0
9025400	10	S	381	C	EN	400	10	0
9025400	10	S	381	C	MN	400	10	0
9025500	10	S	381	C	MN	400	10	0
9026000	10	S	336	C	LN	400	10	0
9026000	10	S	336	C	Mhe	400	10	0
9026100	10	S	340	C	LIP	400	10	0
9026200	10	S	341	C	EN	400	10	0

9026300	10	S	335	C	LN	400	10	0
9026300	10	S	335	C	Mhe	400	10	0
9026400	10	S	333	C	LN	400	10	0
9026400	10	S	333	C	Mhe	400	10	0
9026400	10	S	333	C	Mhl	400	10	0
9027300	10	S	322	C	Mhe	100	10	0
9027300	10	S	322	C	Mhl	100	10	0
9027400	10	S	326	C	Mhl	400	10	0
9027500	10	S	324	C	Mhl	100	5	0
9027600	10	S	323	C	LF	100	5	0
9027700	10	S	325	C	LF	100	5	0
9027800	10	S	318	C	EN	100	5	0
9027900	10	S	317	C	LF	100	5	0
9028000	10	S	315	C	EN	100	5	0
9028100	10	S	378	C	LIP	400	10	0
9028200	10	S	379	C	LN	400	10	0
9028300	10	S	383	C	Mhl	400	10	0
9028400	10	S	382	C	LN	400	10	0
9028500	10	S	383	C	EN	400	10	0
9028600	10	S	380	C	EN	400	10	0
9028700	10	S	379	C	EN	400	10	0
9028800	10	S	369	C	LIP	200	10	0
9028900	10	S	368	C	EN	200	10	0
9029000	10	S	374	C	EN	200	10	0
9029100	10	S	344	C	EN	400	10	0
9029200	10	S	348	C	EN	300	10	0
9029300	10	S	337	C	EN	300	10	0
9030700	10	S	351	C	EN	300	10	0
9030800	10	S	354	C	EN	300	10	0
9030900	10	S	359	C	EN	300	10	0
9031000	10	S	354	C	EN	300	10	0
9031100	10	S	353	C	EN	700	6	0
9031200	10	S	355	C	EN	700	6	0
9031200	10	S	355	C	MN	700	6	0

9031400	10	S	321	C	EN	800	4	0
9031400	10	S	321	C	MN	800	4	0
9031500	10	S	312	C	EN	800	4	0
9031500	10	S	312	C	LN	800	4	0
9031500	10	S	312	C	MN	800	4	0
9031600	10	S	313	C	EN	800	4	0
9031600	10	S	313	C	MN	800	4	0
9031700	10	S	312	C	LIP	800	4	0
9031800	10	S	324	C	LIP	800	4	0
9031900	10	S	315	C	LIP	500	8	0
9032000	10	S	312	C	LN	500	3	0
9032000	10	S	312	C	Mhe	500	3	0
9032000	10	S	312	C	Mhl	500	3	0
9032100	10	S	301	C	Mhl	500	3	0
9032200	10	S	307	C	LN	500	3	0
9032200	10	S	307	C	Mhe	500	3	0
9032200	10	S	307	C	MN	500	3	0
9032300	10	S	301	C	EN	300	10	0
9032300	10	S	301	C	LN	300	3	0
9032300	10	S	301	C	MN	300	3	0
9032400	10	S	293	C	EN	300	10	0
9032400	10	S	293	C	LN	300	10	0
9032400	10	S	293	C	MN	300	10	0
9032500	10	N	523	C	LIP	50	10	0
9032600	10	N	524	C	EN	50	10	0
9032600	10	N	524	C	LN	50	10	0
9032600	10	N	524	C	MN	50	10	0
9032700	10	N	526	C	Mhe	50	10	0
9032700	10	N	526	C	Mhl	50	10	0
9032800	10	N	453	C	EN	100	10	0
9032800	10	N	453	C	MN	100	10	0
9032900	10	N	453	C	Mhe	100	10	0
9033000	10	N	451	C	EN	100	10	0
9033000	10	N	451	C	MN	100	10	0
9033100	10	N	448	C	EN	100	10	0
9033100	10	N	448	C	Mhe	100	10	0
9033100	10	N	448	C	Mhl	100	10	0

9033600	10	S	444	C	Mhl	5	2	0
9033700	10	S	429	C	LN	0	0	0
9033700	10	S	429	C	Mhe	0	0	0
9034000	10	N	434	C	Mhl	50	10	20
9034100	10	N	427	C	EN	10	1	0
9034100	10	N	427	C	LN	10	1	0
9034100	10	N	427	C	MN	10	1	0
9034200	10	N	404	C	Mhl	30	7	0
9034300	10	N	423	C	EN	10	1	0
9034400	10	N	399	C	Mhe	100	3	1
9034400	10	N	399	C	Mhl	100	3	1
9034500	10	N	398	C	EN	100	3	1
9034500	10	N	398	C	LN	100	3	1
9034600	10	N	392	C	EN	100	3	1
9034600	10	N	392	C	LN	100	3	1
9034600	10	N	392	C	Mhe	100	3	1
9034600	10	N	392	C	Mhl	100	3	1
9034600	10	N	392	C	MN	100	3	1
9034700	10	N	390	C	EN	100	3	1
9034800	10	N	392	C	Mhe	100	3	1
9034900	10	N	391	C	EN	100	3	1
9034900	10	N	391	C	LN	100	3	1
9034900	10	N	391	C	Mhe	100	3	1
9034900	10	N	391	C	Mhl	100	3	1
9035000	10	N	388	C	EN	100	3	1
9035000	10	N	388	C	Mhe	100	3	1
9035000	10	N	388	C	Mhl	100	3	1
9035100	10	N	388	C	EN	100	3	1
9035200	10	N	388	C	LN	100	2	0
9035200	10	N	388	C	MN	100	2	0
9035300	10	N	387	C	EN	100	2	0
9035300	10	N	387	C	Mhe	100	2	0
9035300	10	N	387	C	Mhl	100	2	0
9035300	10	N	387	C	MN	100	2	0
9035400	10	N	385	C	EN	100	2	0
9035400	10	N	385	C	MN	100	2	0
9035500	10	N	386	C	LIP	100	1	0
9035600	10	N	385	C	LIP	100	1	0

9035700	10	N	383	C	EN	100	1	0
9035700	10	N	383	C	MN	100	1	0
9035800	10	N	386	C	LIP	50	1	0
9035900	10	N	383	C	Mhe	50	1	0
9035900	10	N	383	C	Mhl	50	1	0
9036000	10	N	379	C	EN	50	1	0
9036100	10	N	374	C	EN	50	1	0
9036200	10	N	383	C	EN	50	1	0
9036400	10	N	374	C	EN	50	1	0
9036500	10	N	382	C	EN	50	1	0
9036600	10	N	376	C	EN	50	1	0
9036700	10	N	372	C	EN	300	1	0
9036800	10	N	379	C	EN	300	1	0
9036900	10	N	379	C	EN	300	1	0
9037000	10	N	376	C	EN	300	1	0
9037100	10	N	370	C	EN	300	1	0
9037200	10	N	363	C	LN	100	1	0
9037200	10	N	363	C	Mhe	100	1	0
9037300	10	N	359	C	Mhe	100	1	0
9037300	10	N	359	C	Mhl	100	1	0
9037400	10	N	356	C	EN	100	1	0
9037500	10	N	366	C	EN	300	1	0
9037600	10	N	363	C	EN	300	1	0
9620700	10	N	578	H	LN	0	0	0
9620800	10	N	573	C	EN	0	0	1
9620901	10	N	571	C	EN	0	0	0
9620901	10	N	571	C	LN	0	0	0
9620901	10	N	571	C	MN	0	0	0
9620902	10	N	571	C	Mhe	0	0	0
9621000	10	N	572	H	LIP	0	0	0
9621100	10	N	577	C	LIP	0	0	0
9621200	10	N	562	C	LIP	0	0	0
9621300	10	C	521	C	LIP	0	0	0
9621500	10	C	528	C	EN	0	0	0
9621600	10	C	532	C	LIP	0	0	0
9621700	10	C	533	H	LIP	0	0	0

9621800	10	C	527	C	Loro	30	5	0
9621800	10	C	527	C	Mhe	30	5	0
9621900	10	N	540	H	LIP	10	5	0
8600901	11	N	720	H	LF	0	0	1
8600903	11	N	733	H	EN	0	0	0
8601001	11	N	729	H	EN	0	0	0
8601001	11	N	729	H	MN	0	0	0
8601002	11	N	724	H	EN	0	0	0
8601101	11	N	748	H	EN	0	0	0
8601101	11	N	748	H	MN	0	0	0
8601102	11	N	741	H	LIP	0	0	0
8601201	11	N	750	H	EN	0	0	0
8601202	11	N	750	H	Loro	0	0	0
8601300	11	N	752	H	EN	0	0	10
8900103	11	N	771	C	EN	0	0	0
8900200	11	N	815	H	EN	0	0	10
8900200	11	N	815	H	MN	0	0	0
8900300	11	N	816	H	Loro	0	0	10
8900300	11	N	816	H	Mhe	0	0	10
8900401	11	N	825	H	LN	0	0	10
8900402	11	N	825	H	LIP	0	0	10
8900501	11	N	831	H	EN	0	0	0
8900502	11	N	834	H	Loro	0	0	0
8900502	11	N	834	H	Mhe	0	0	0
8900601	11	S	695	H	LF	0	0	0
8900604	11	S	700	C	LIP	0	0	0
8900700	11	S	727	H	LIP	20	1	0
8900801	11	S	721	H	EN	10	1	0
8900804	11	S	737	C	LIP	20	1	0
8900901	11	S	730	H	LIP	10	1	0
8900901	11	S	730	H	Loro	20	1	0
8900901	11	S	730	H	Mhe	20	1	0
8900901	11	S	730	H	Mhl	20	1	0
8901001	11	S	792	H	LF	0	0	0
8901002	11	S	792	H	Loro	0	0	0

8901002	11	S	792	H	Mhe	0	0	0
8901002	11	S	792	H	Mhl	0	0	0
8901101	11	S	807	H	LF	0	0	0
8901102	11	S	807	H	Loro	0	0	0
8901102	11	S	807	H	Mhe	0	0	0
8901200	11	S	722	H	Loro	0	0	0
8901200	11	S	722	H	Mhe	0	0	0
8901300	11	S	720	H	Mhl	5	0	0
8901400	11	S	716	C	NA	0	0	0
8902501	11	S	766	H	LF	0	0	1
8902502	11	S	766	H	EN	0	0	1
8902600	11	S	1017	H	Loro	0	0	0
8902600	11	S	1017	H	Mhe	0	0	0
8902701	11	S	742	H	LF	0	0	0
8902702	11	S	746	H	LIP	0	0	0
8902703	11	S	746	H	EN	0	0	0
8902800	11	S	760	H	EN	0	0	0
8904501	11	S	1227	H	LF	0	0	0
8904502	11	S	1227	H	LIP	0	0	1
8904503	11	S	1227	H	Mhl	0	0	1
8904601	11	S	1233	H	EN	0	0	1
8904602	11	S	1208	H	MN	0	0	1
8904603	11	S	1233	C	LIP	0	0	1
8904700	11	N	1106	H	NA	0	0	0
8904801	11	N	1030	H	LF	0	0	4
8904802	11	N	1030	H	EN	0	0	4
8905300	11	S	783	C	EN	30	2	0
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APPENDIX: NASCA GOOGLE EARTH IMAGES

2002





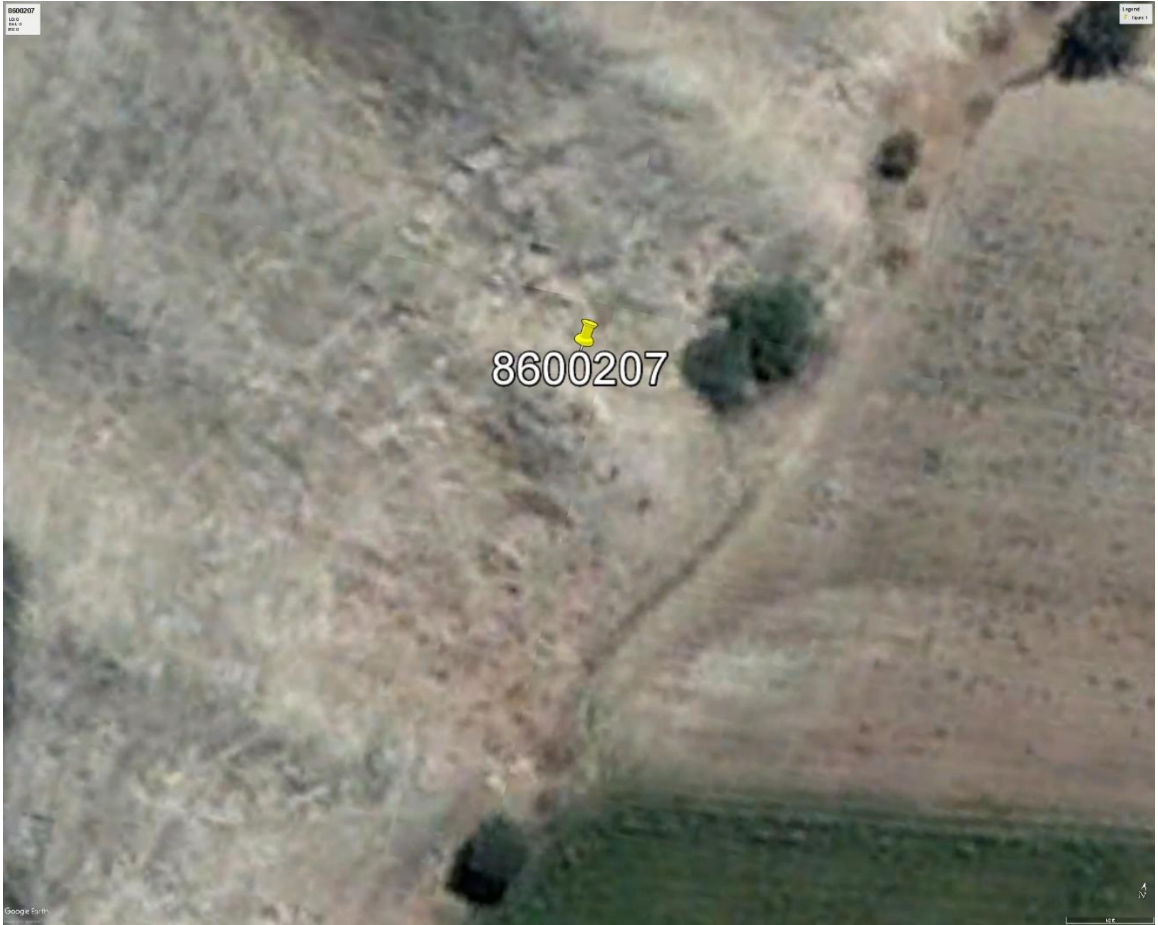




































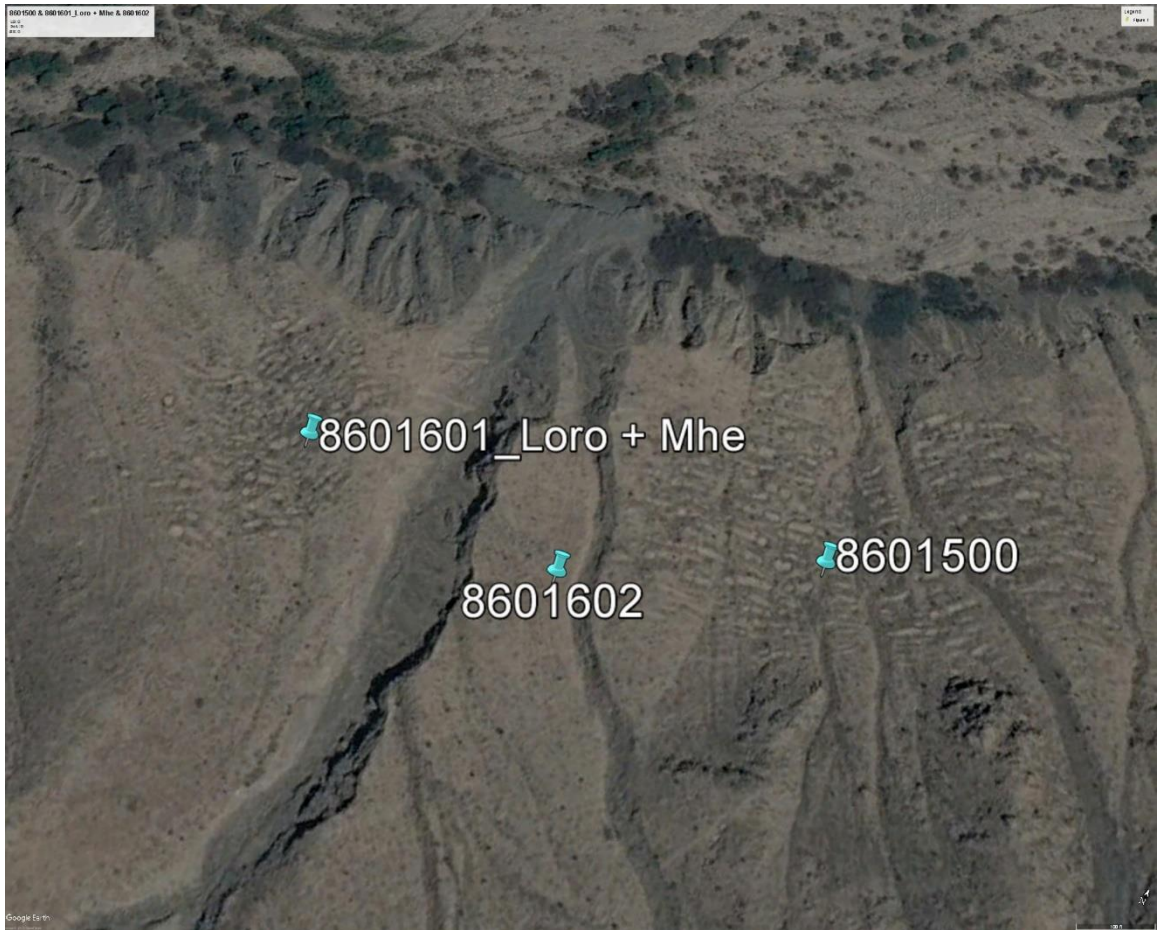






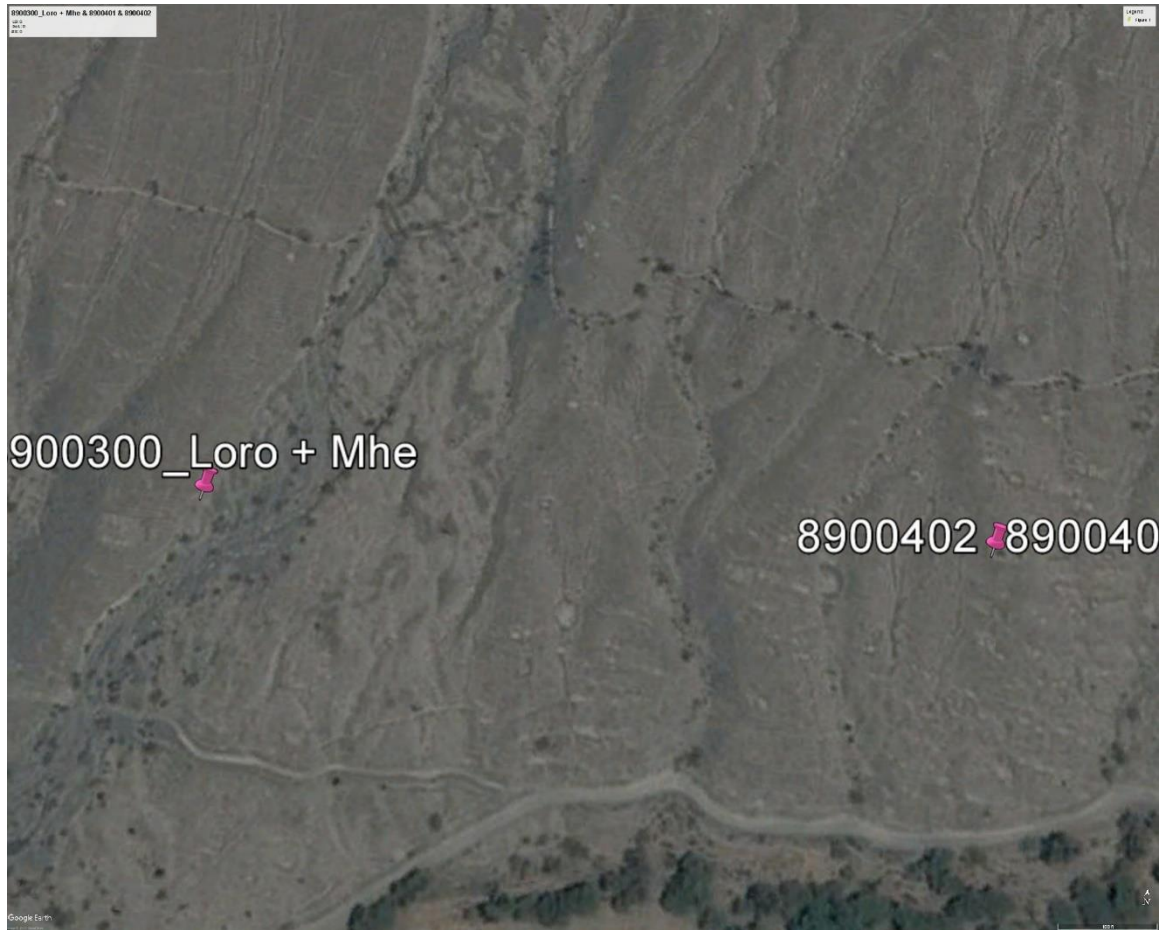


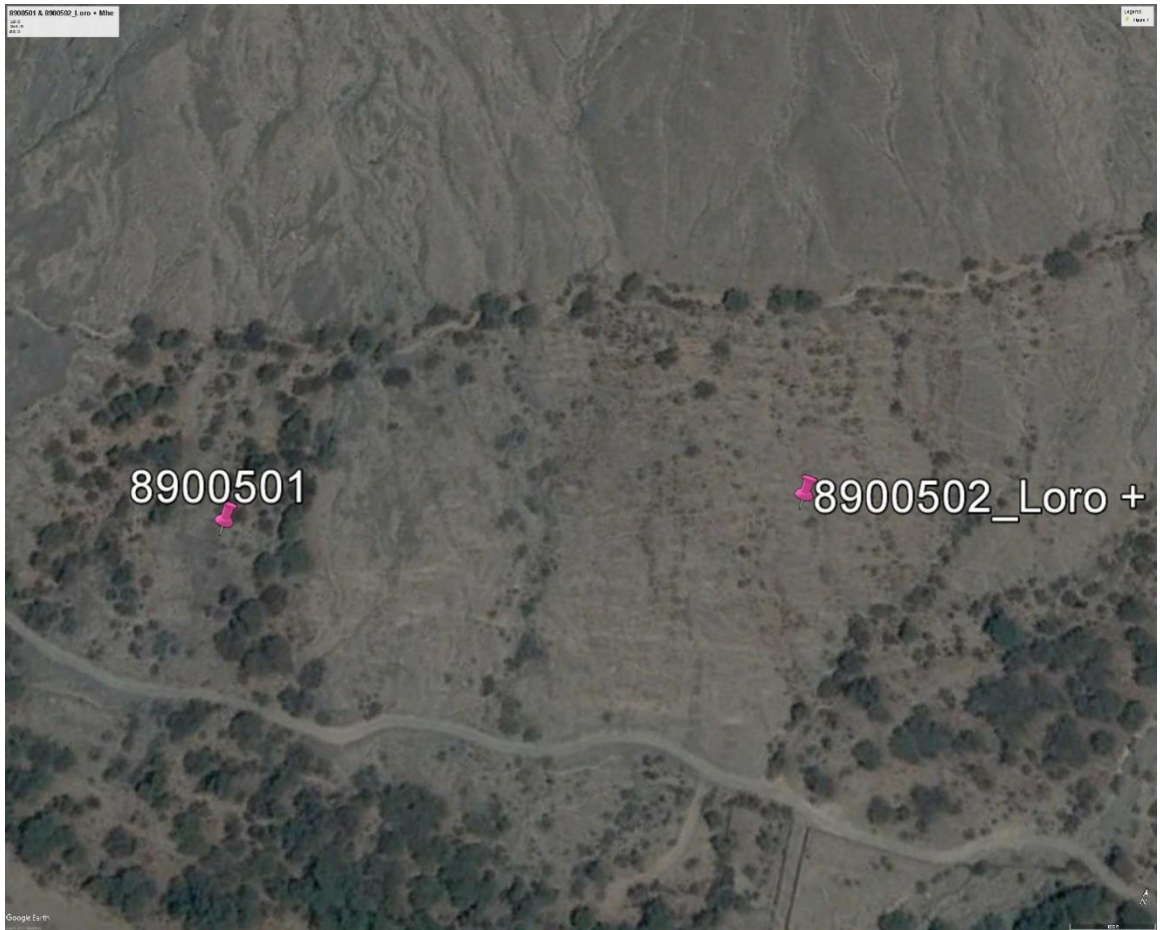




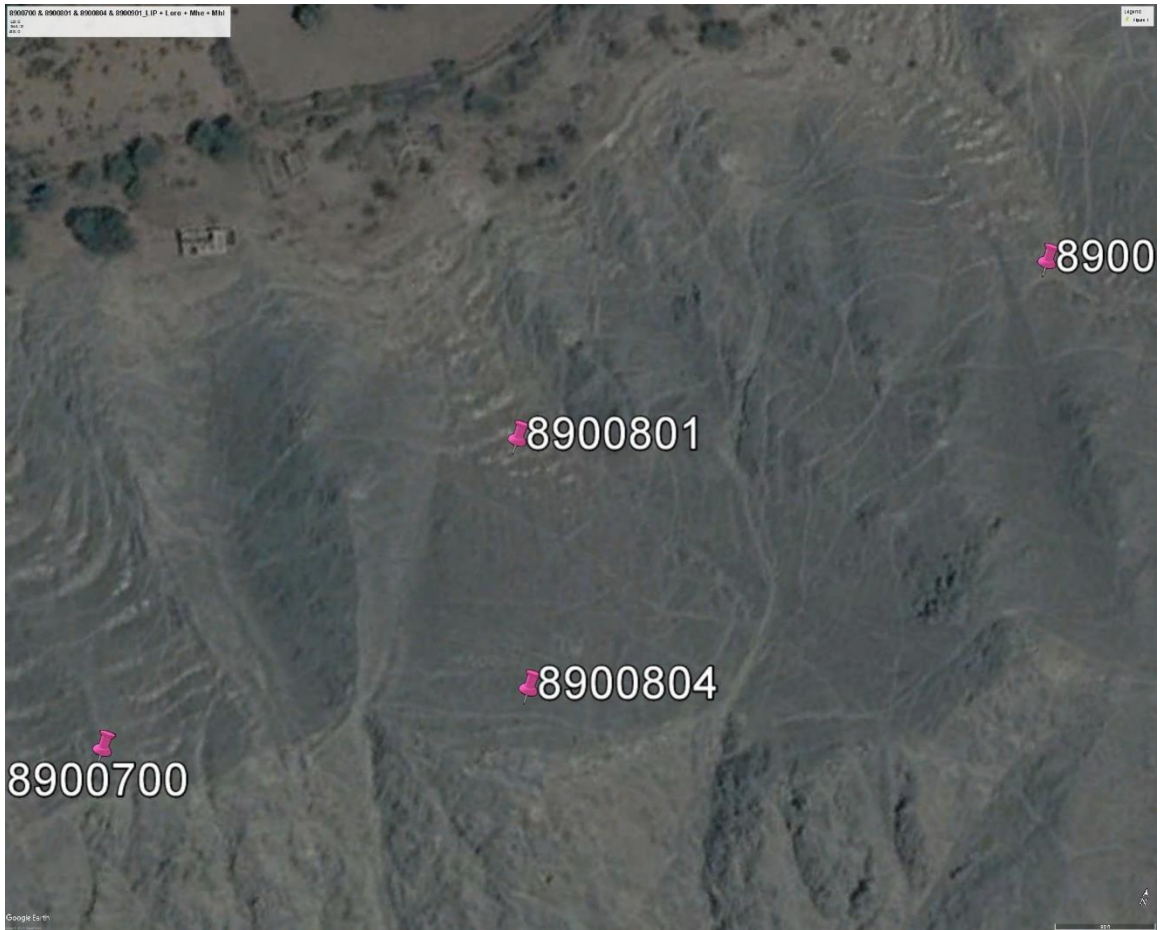




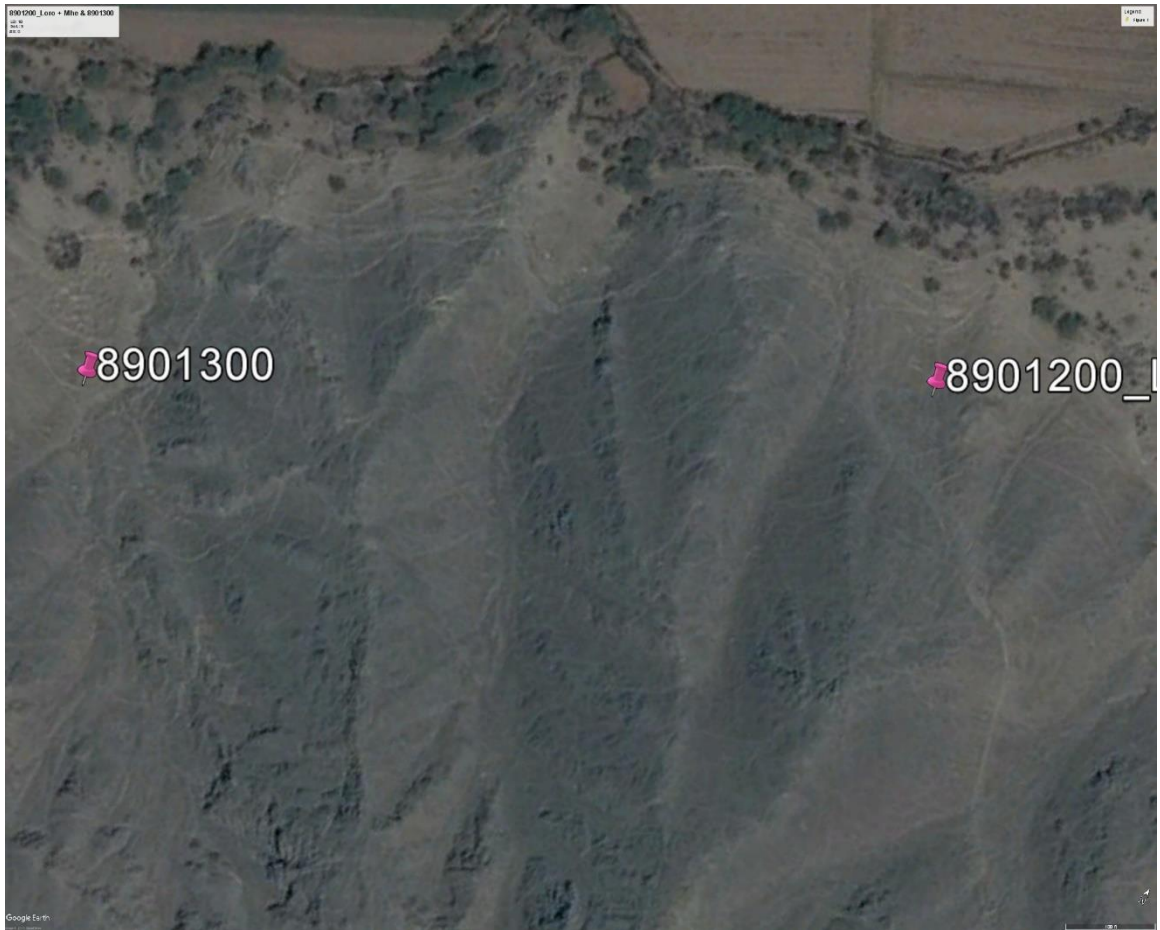






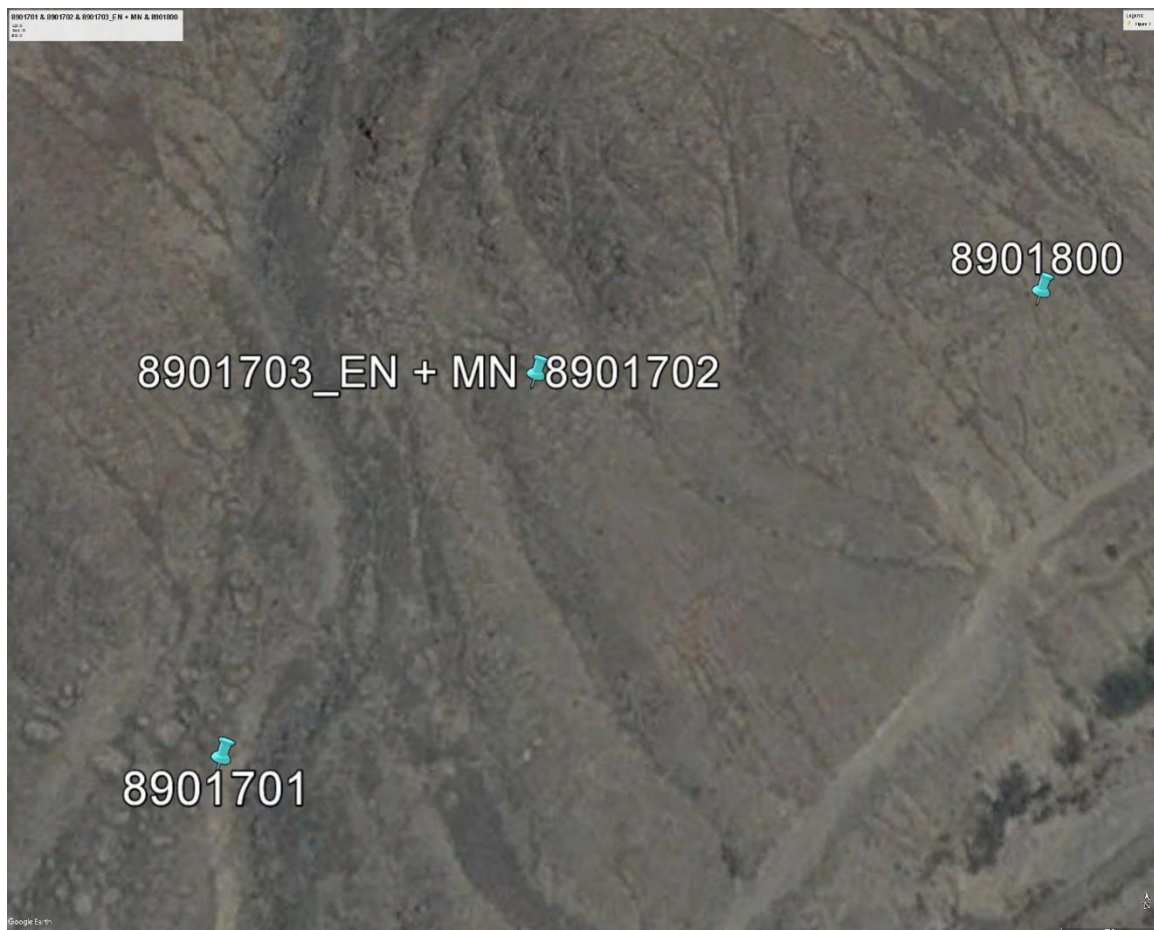




















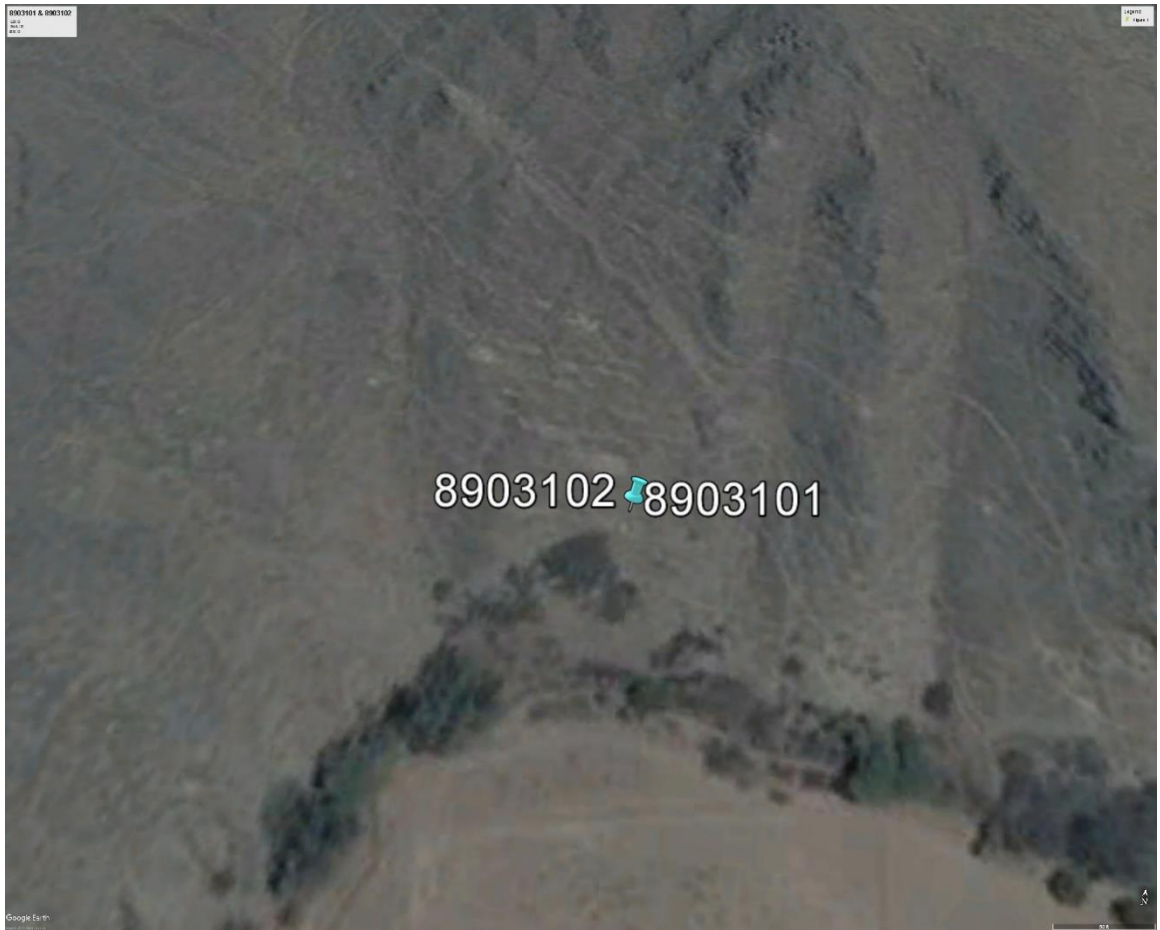








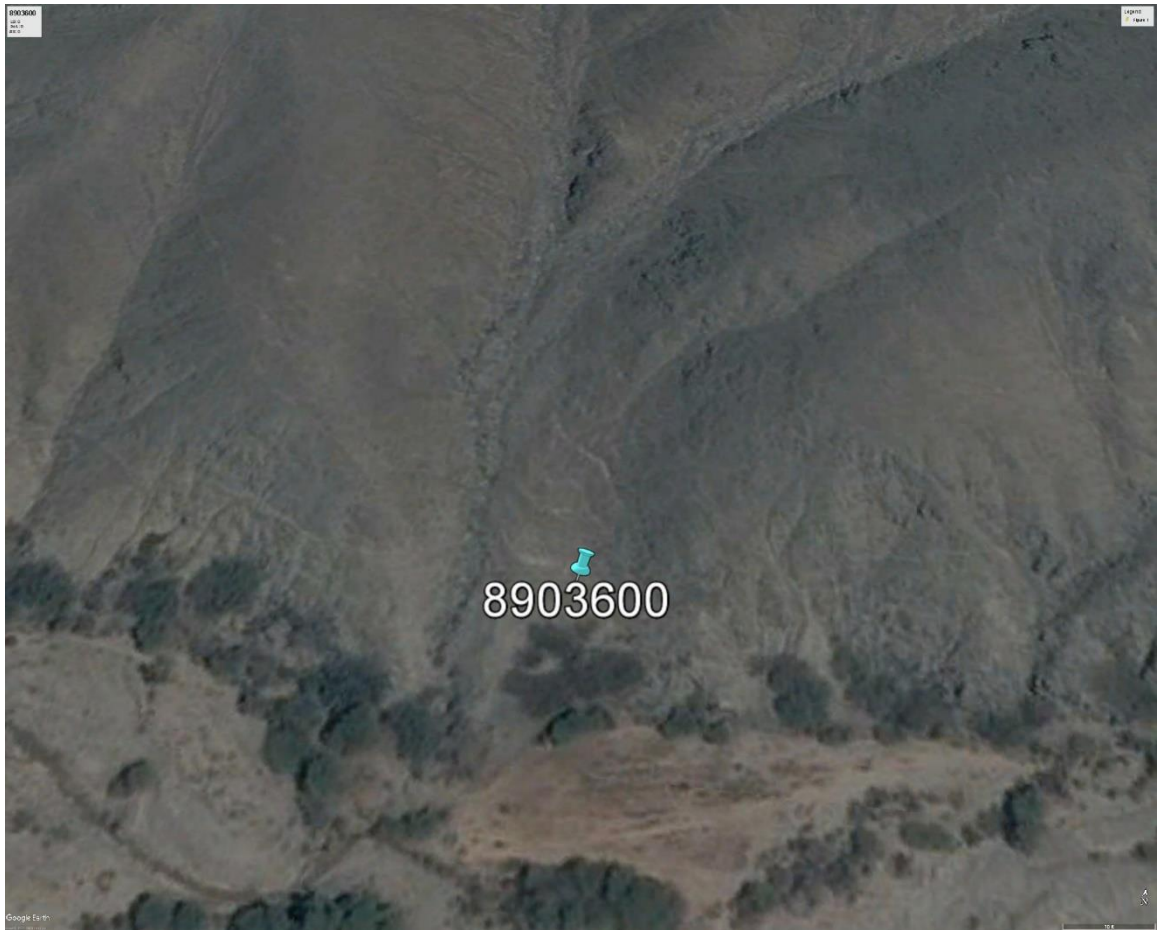


























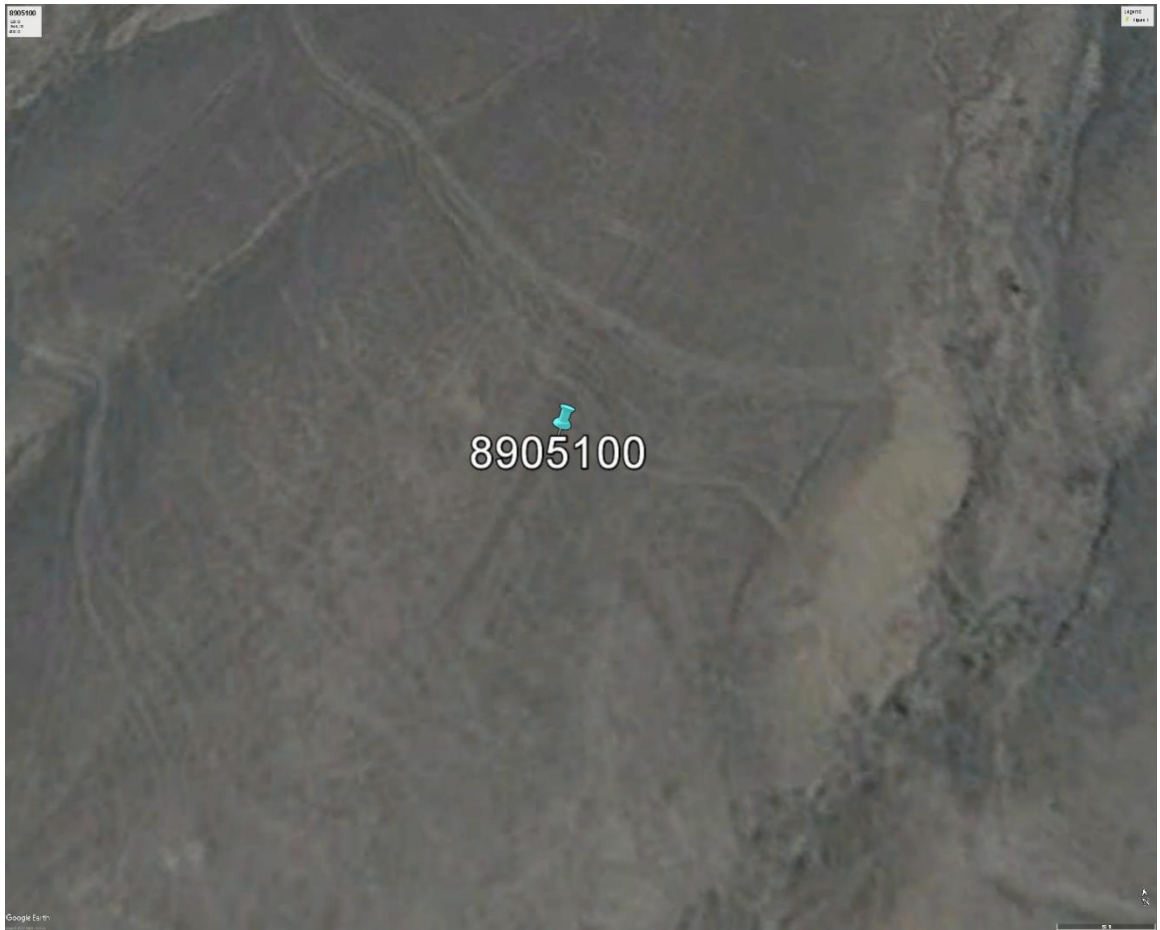








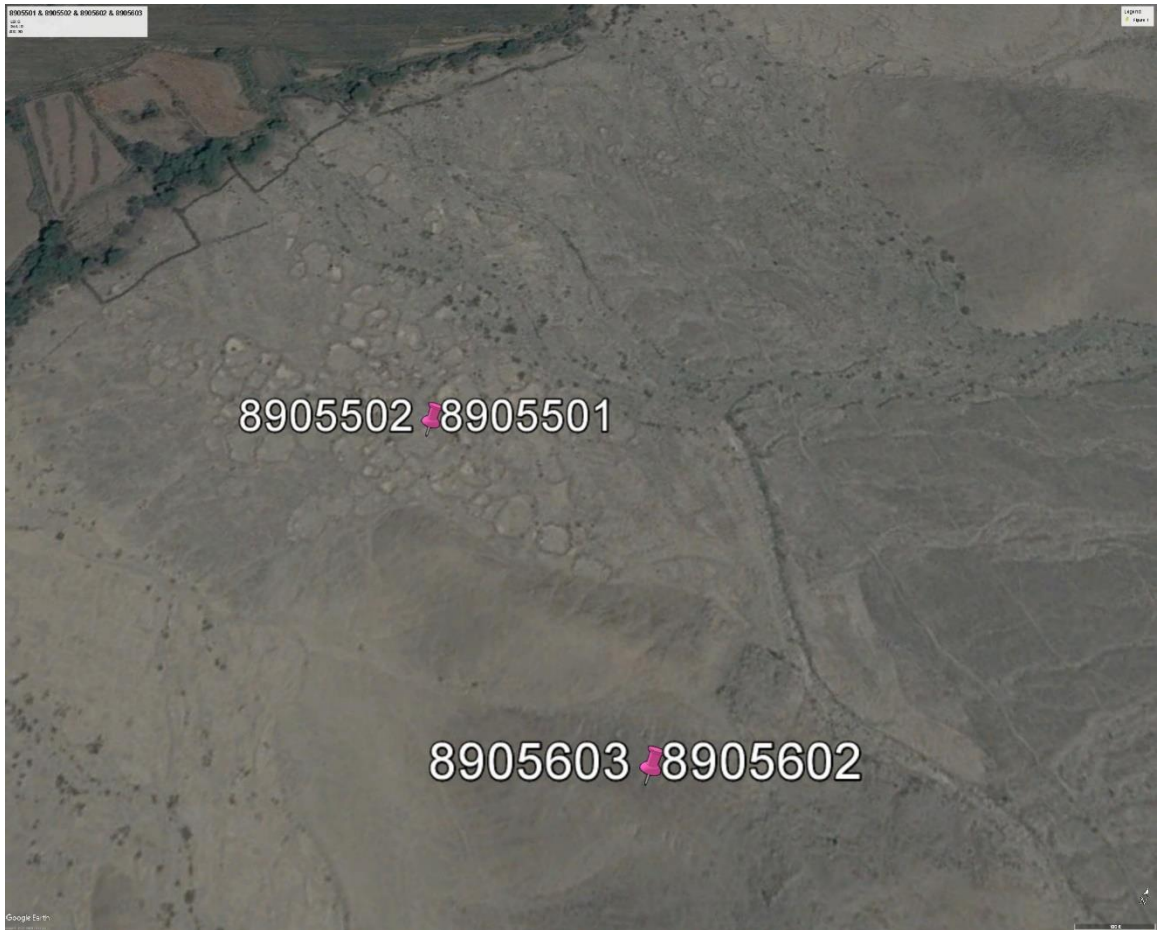


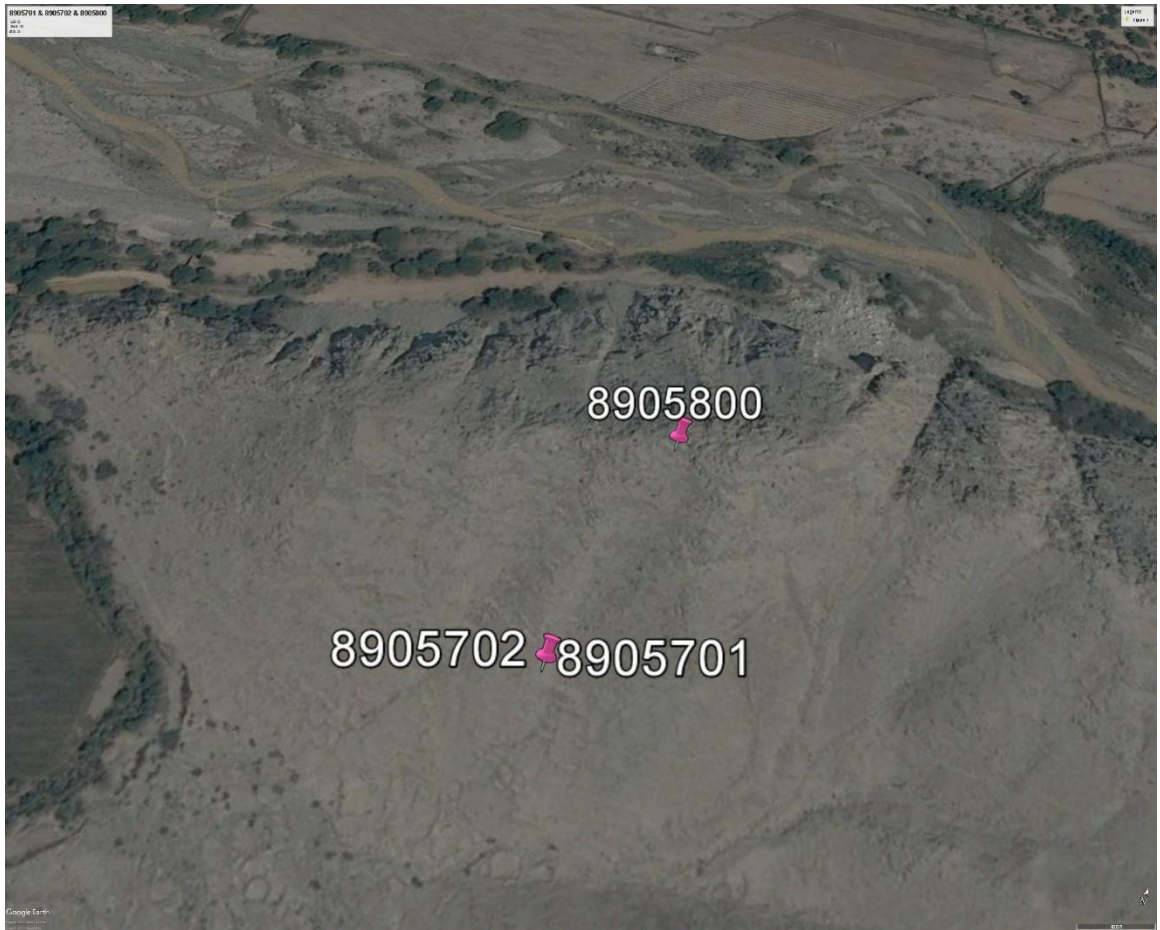














































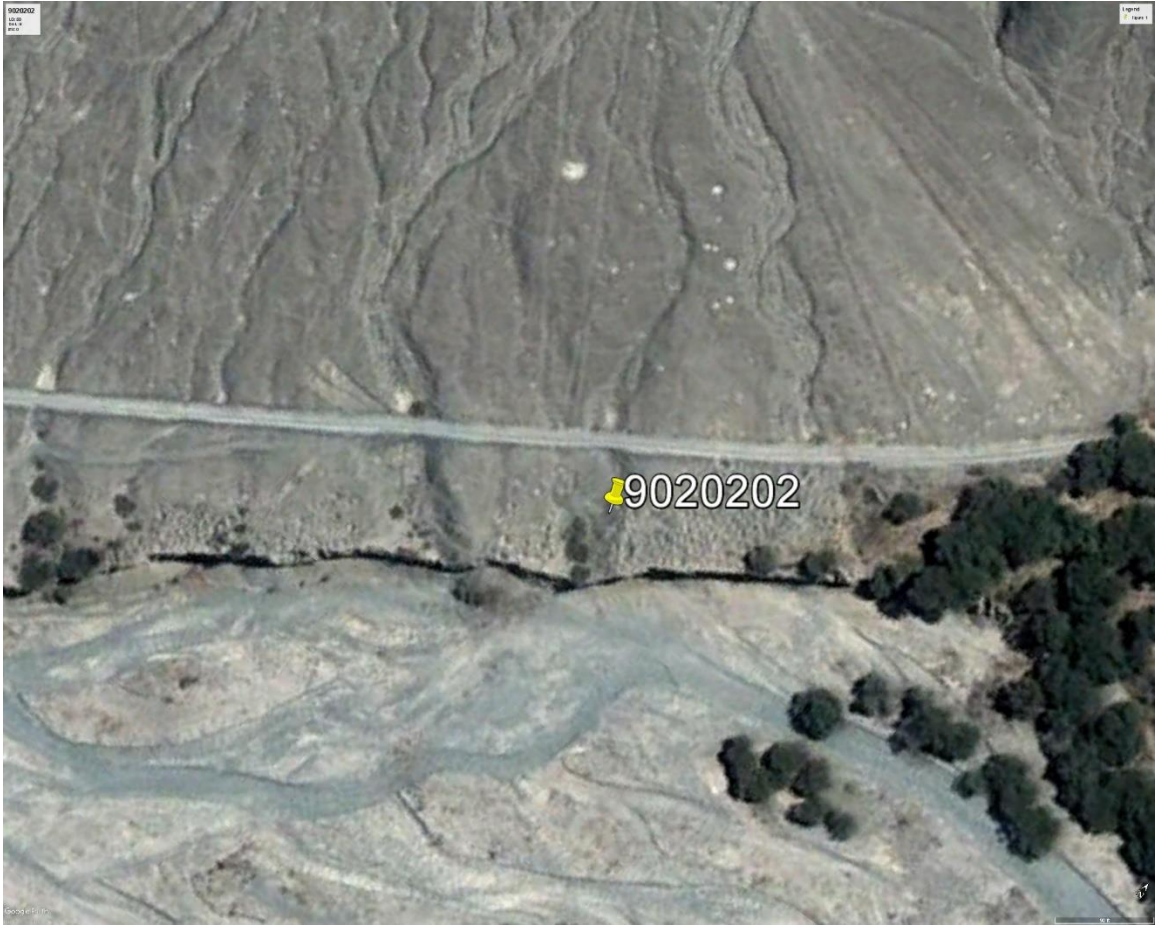








































9021902_Loro + Mhe 📌 9021901_LN + MN























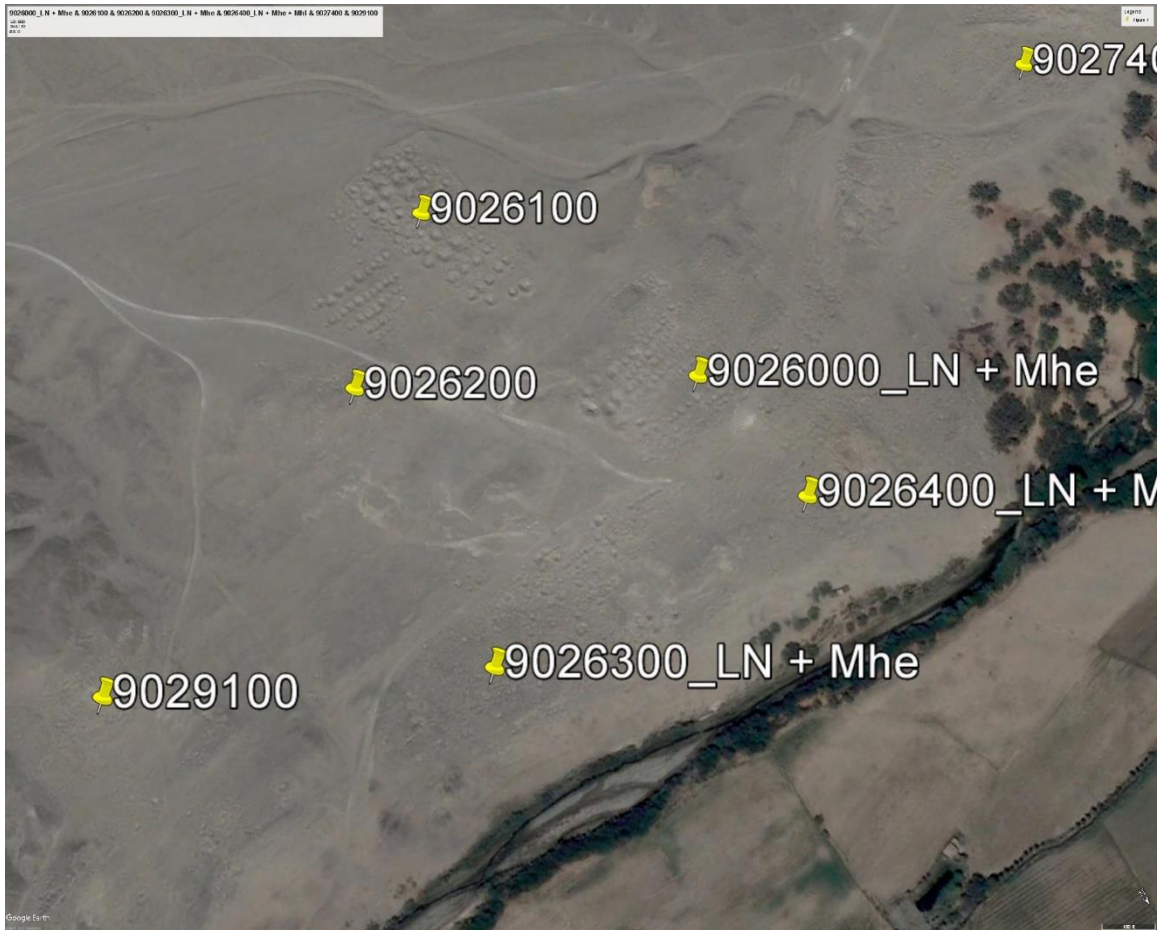






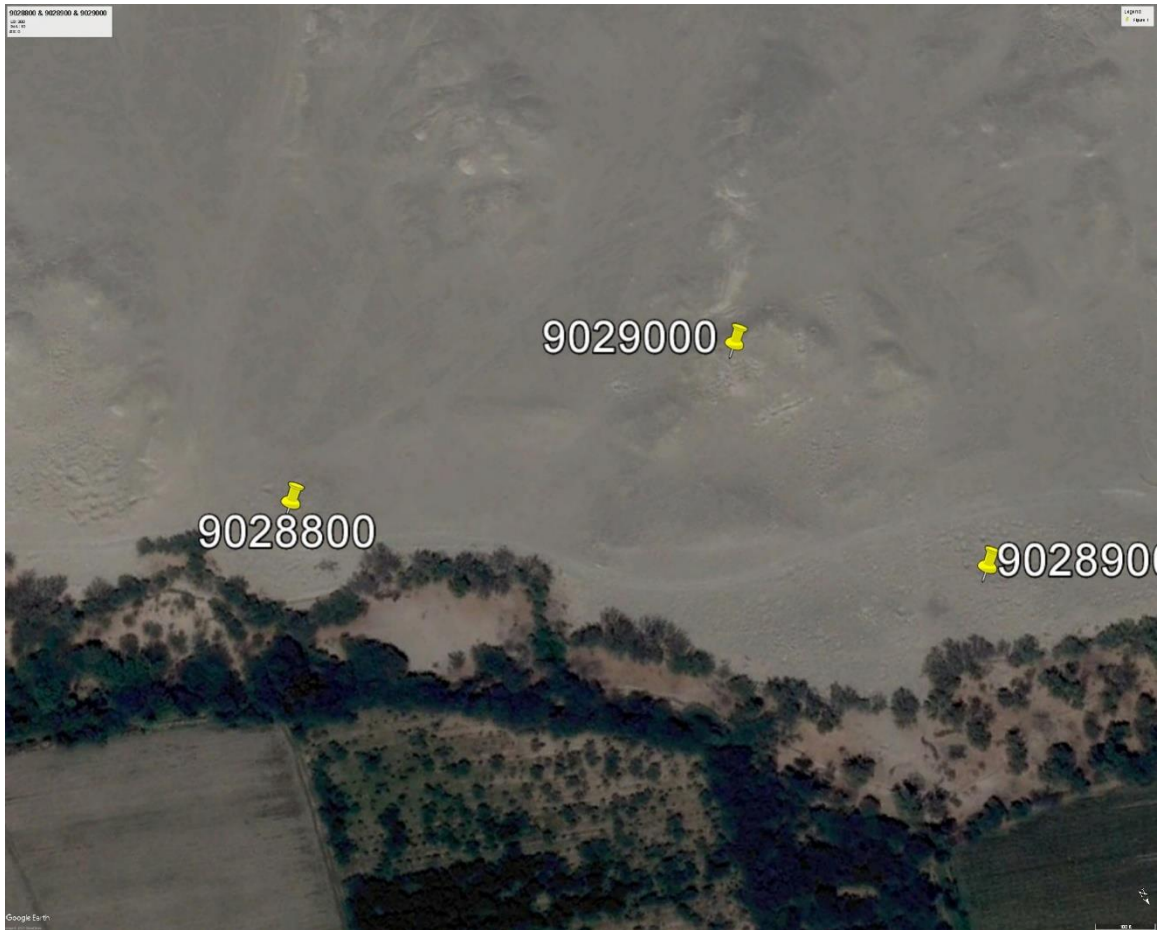


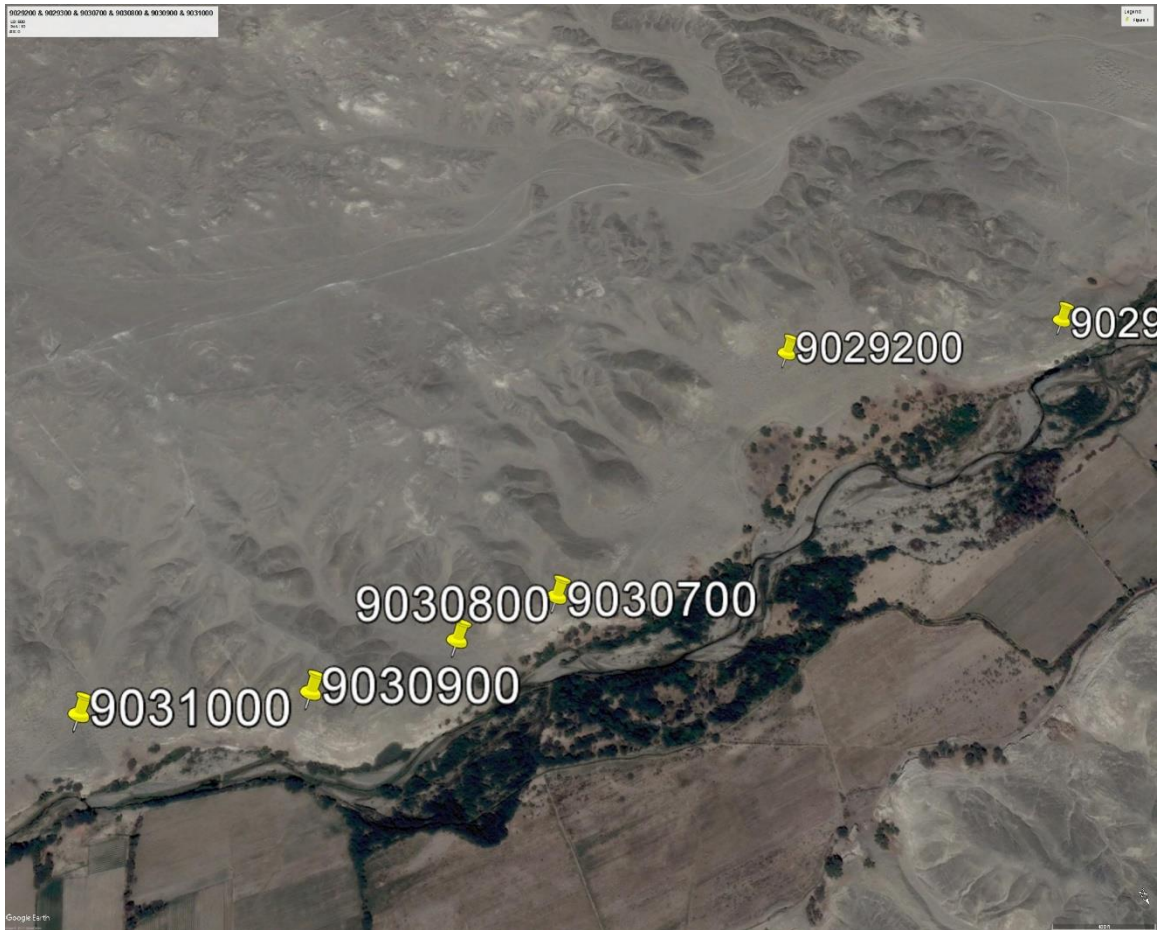




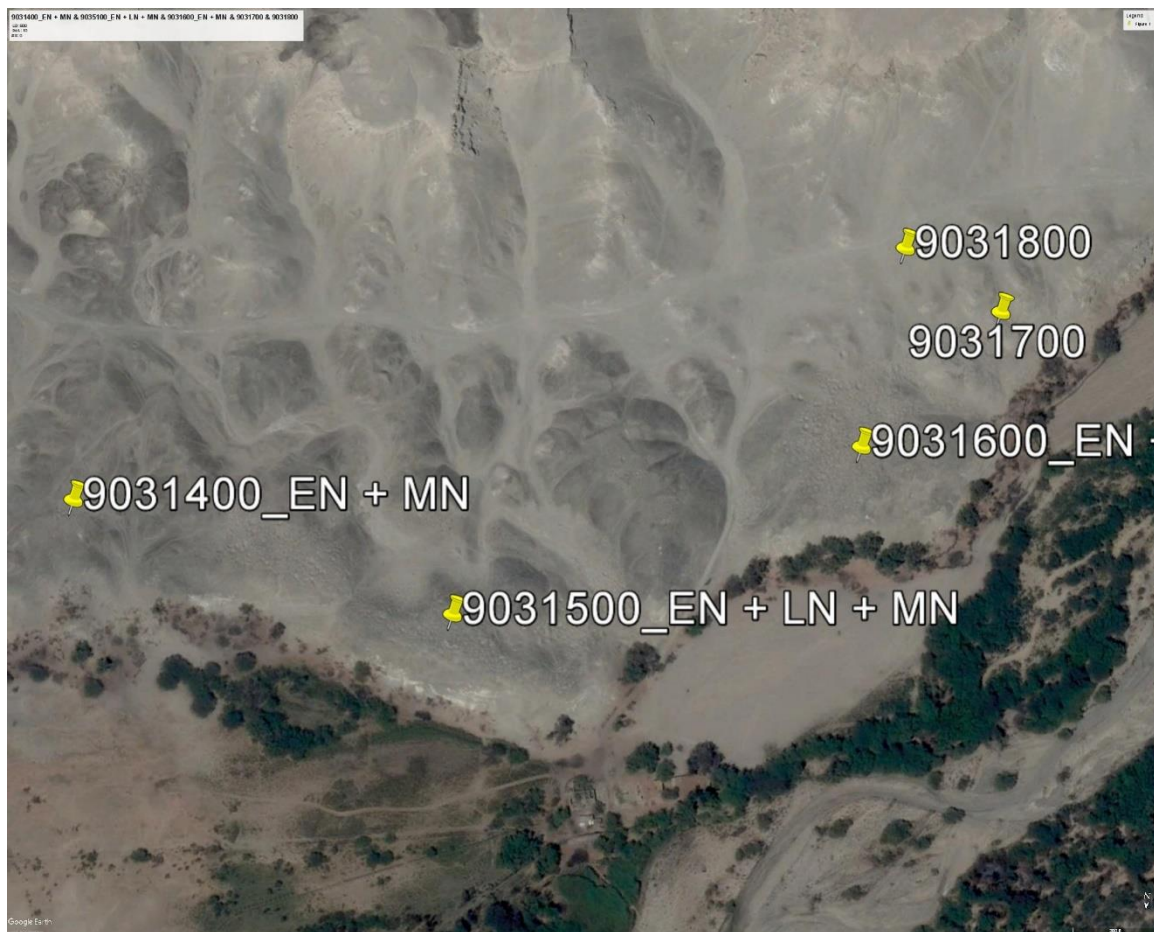


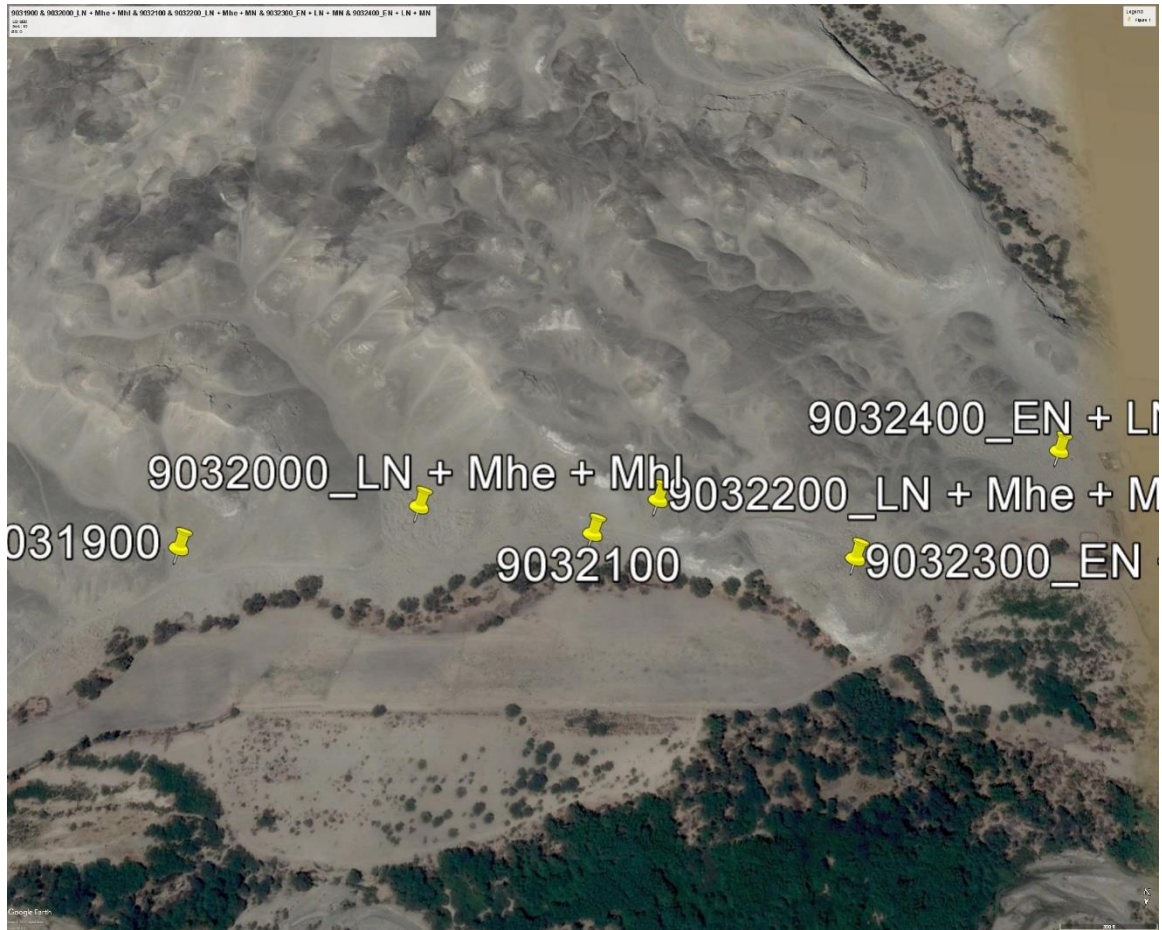


















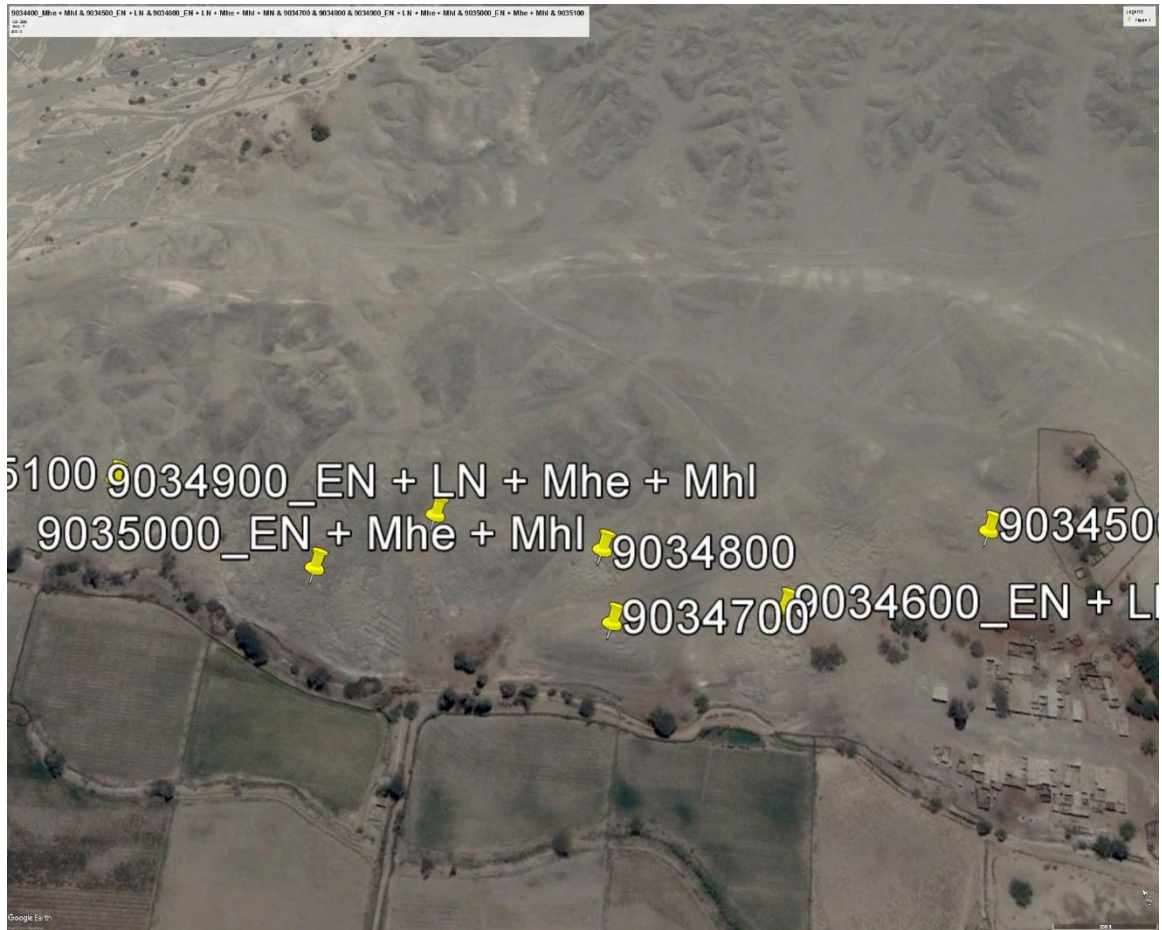






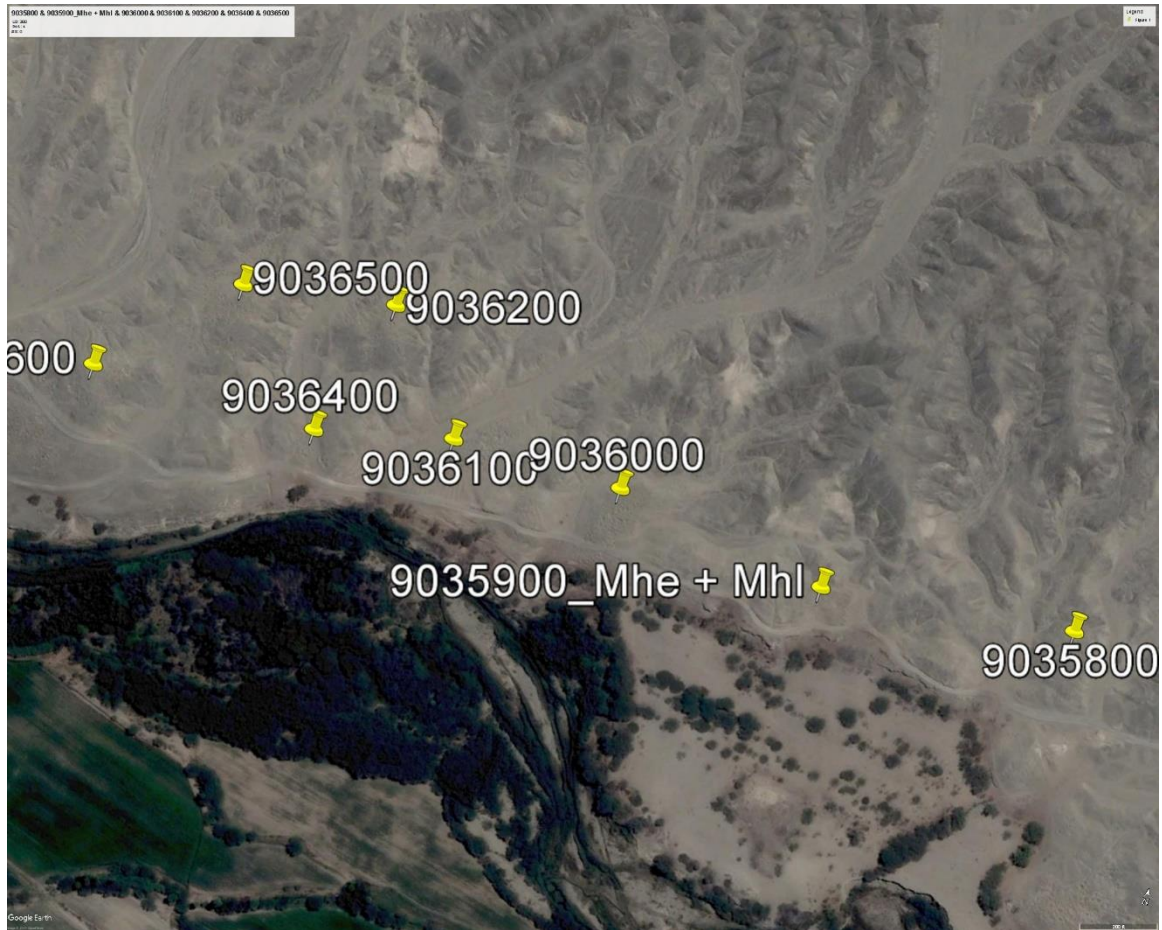


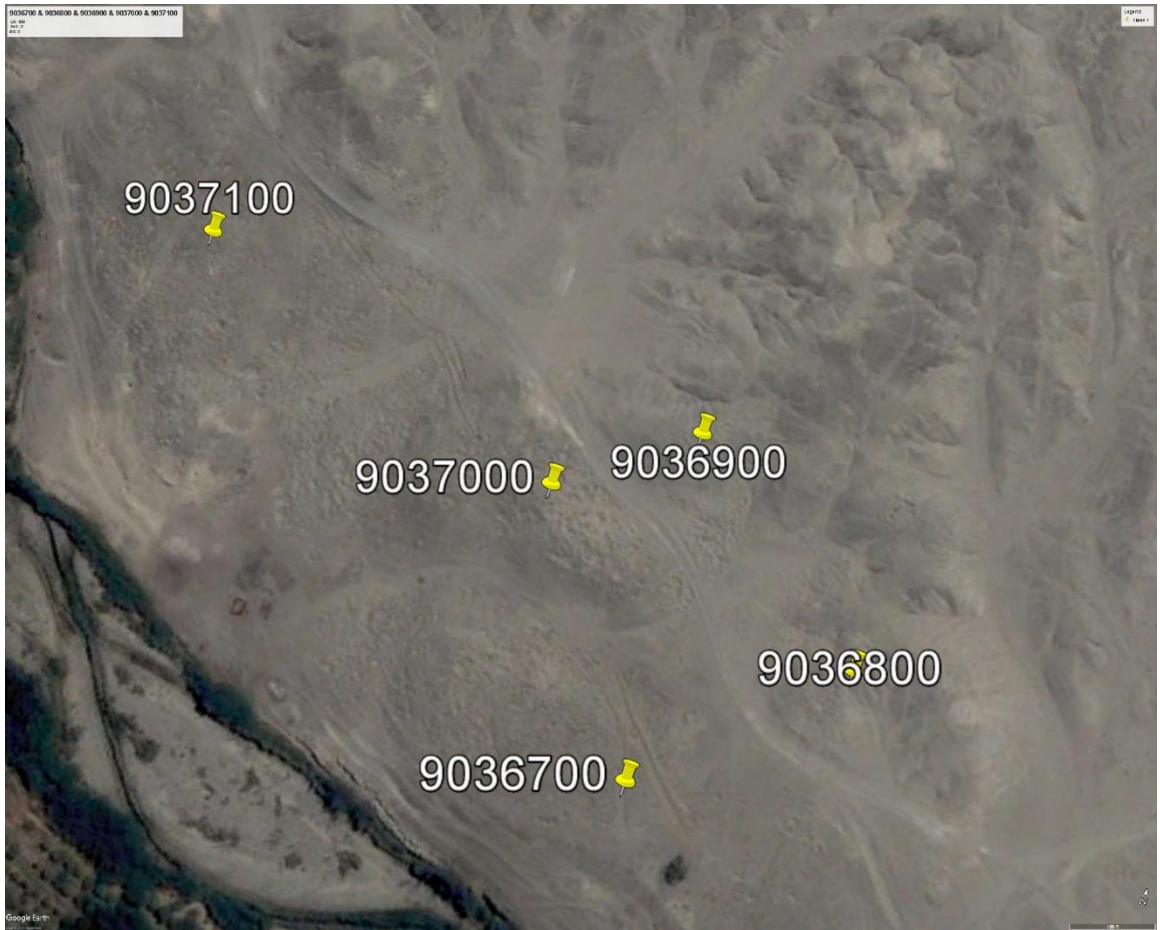






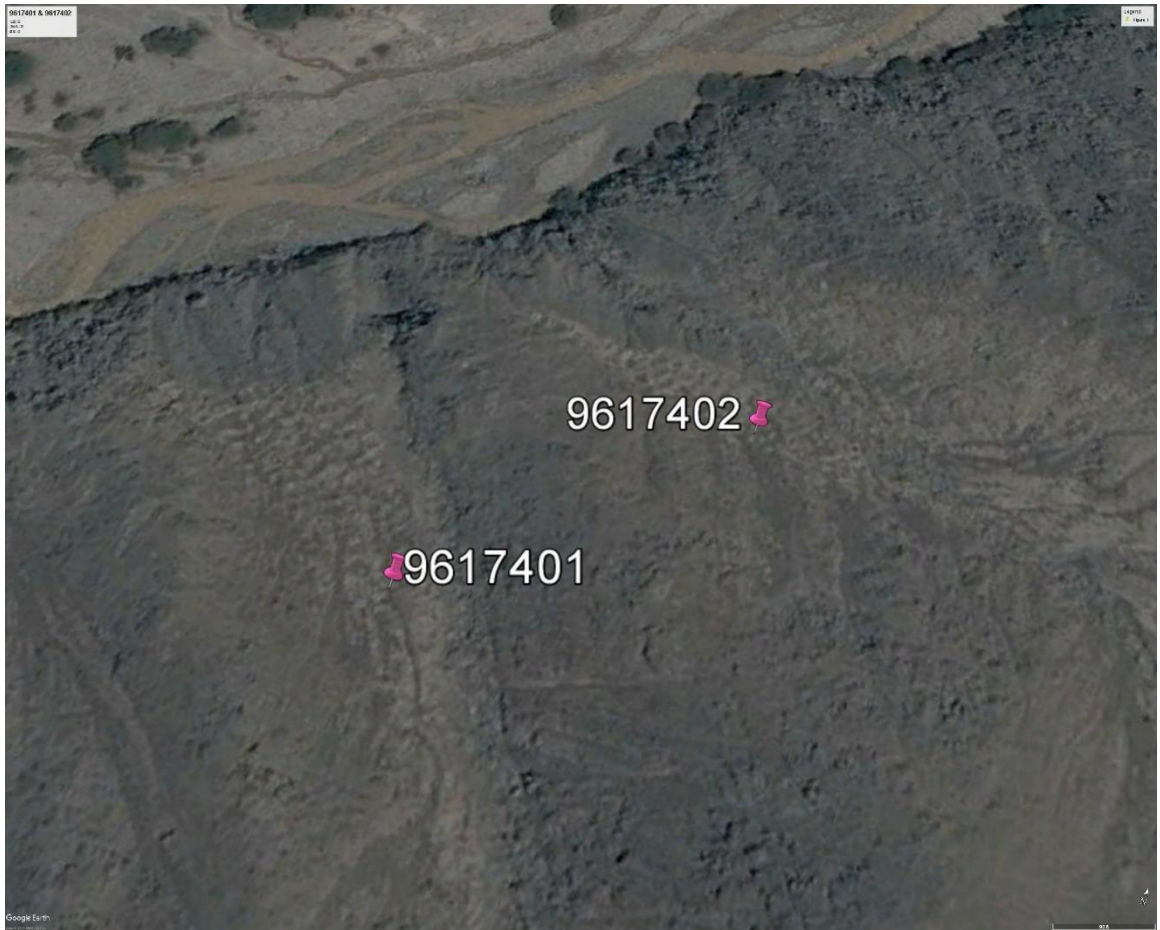
































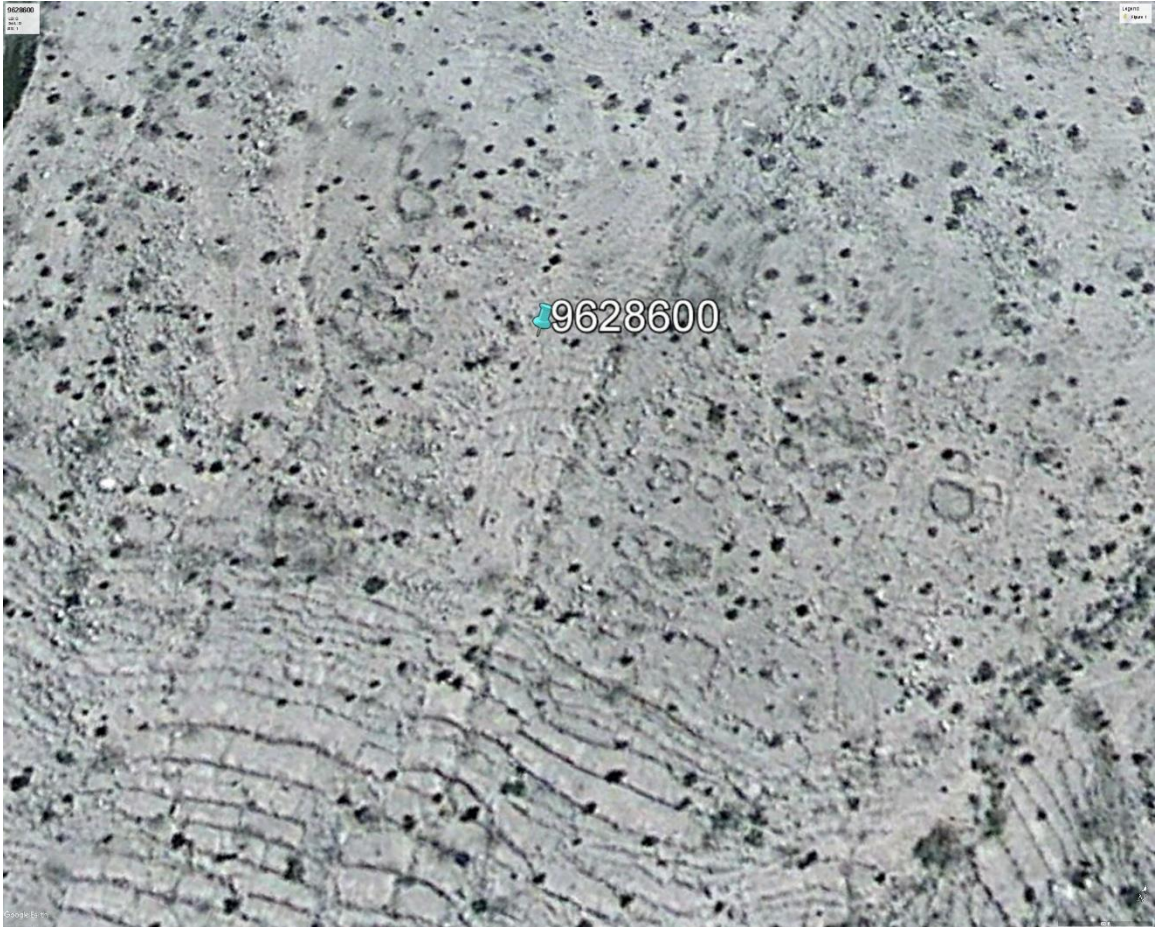






















APPENDIX: NASCA GOOGLE EARTH IMAGES

2016













































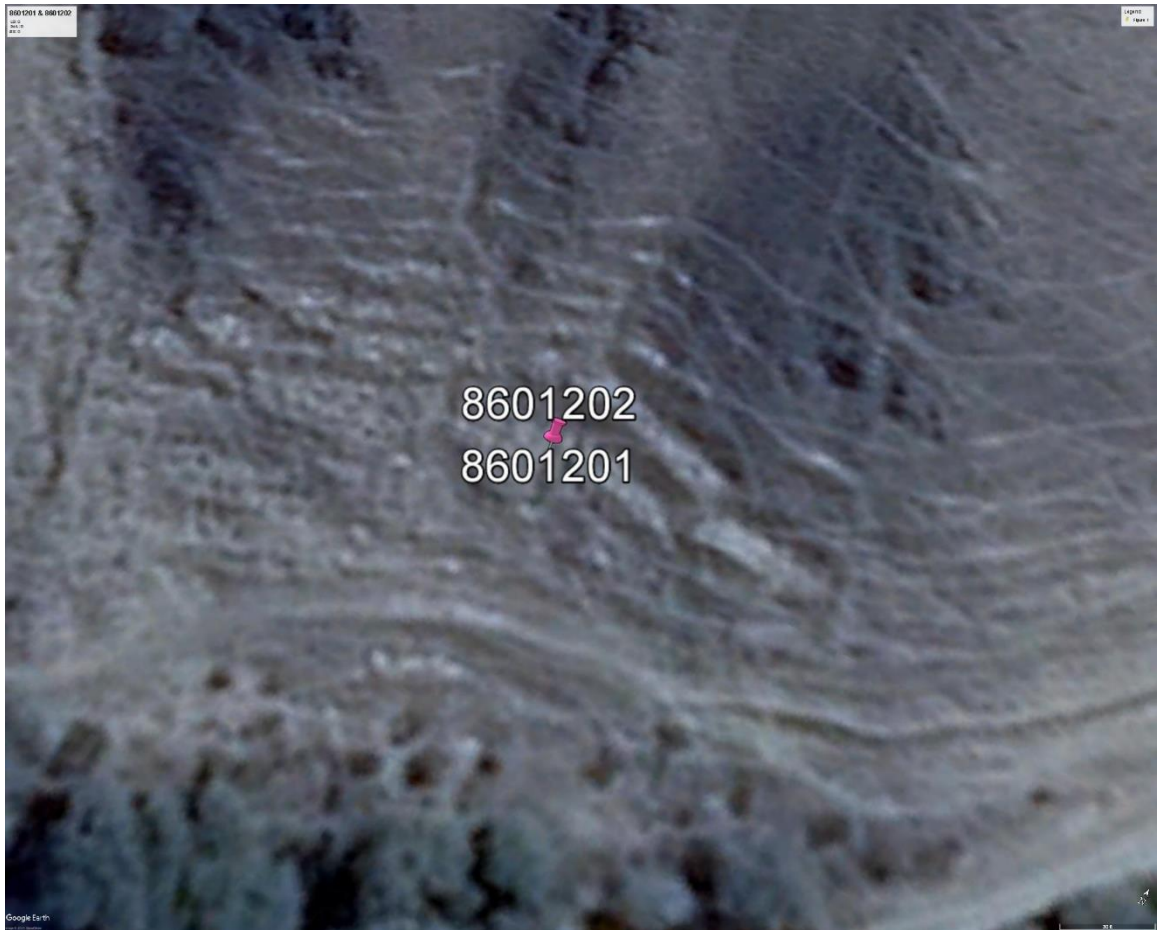




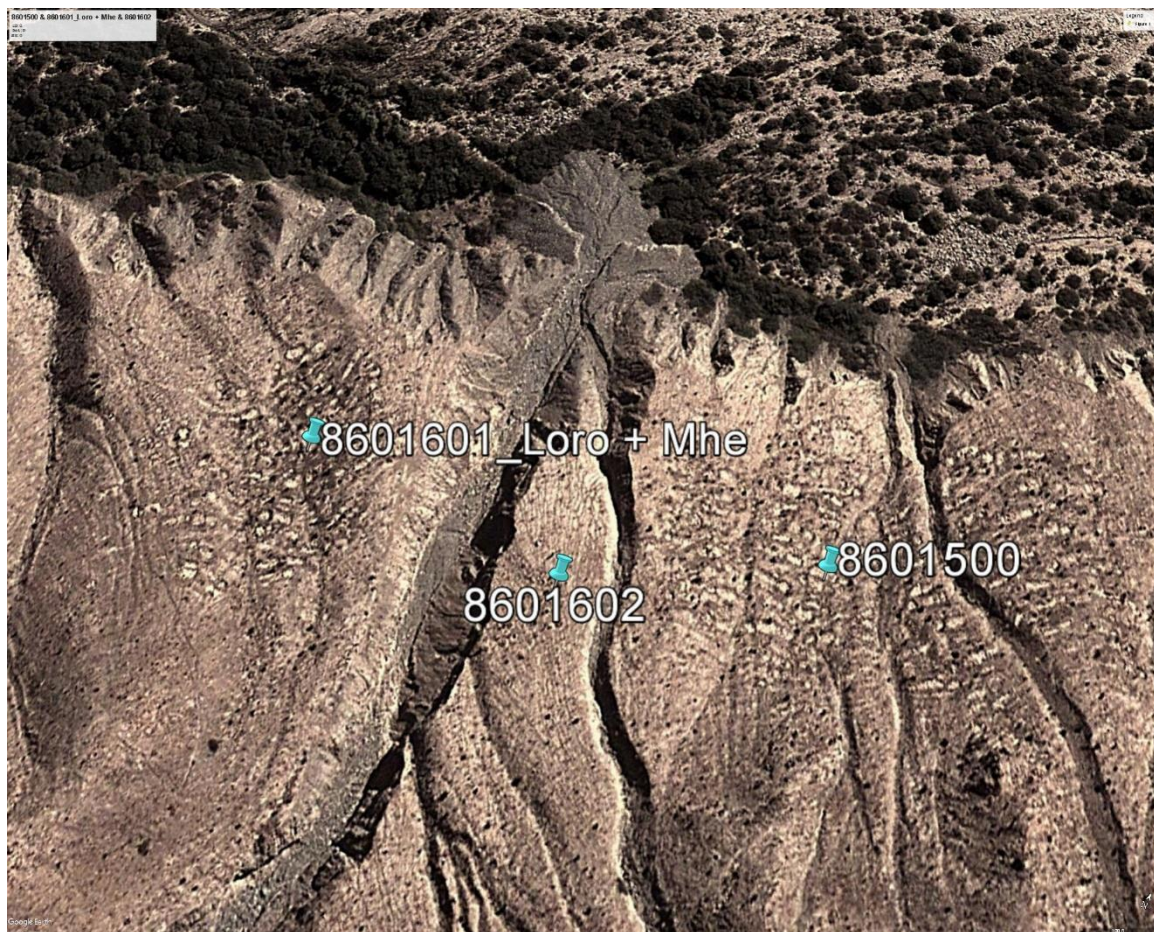






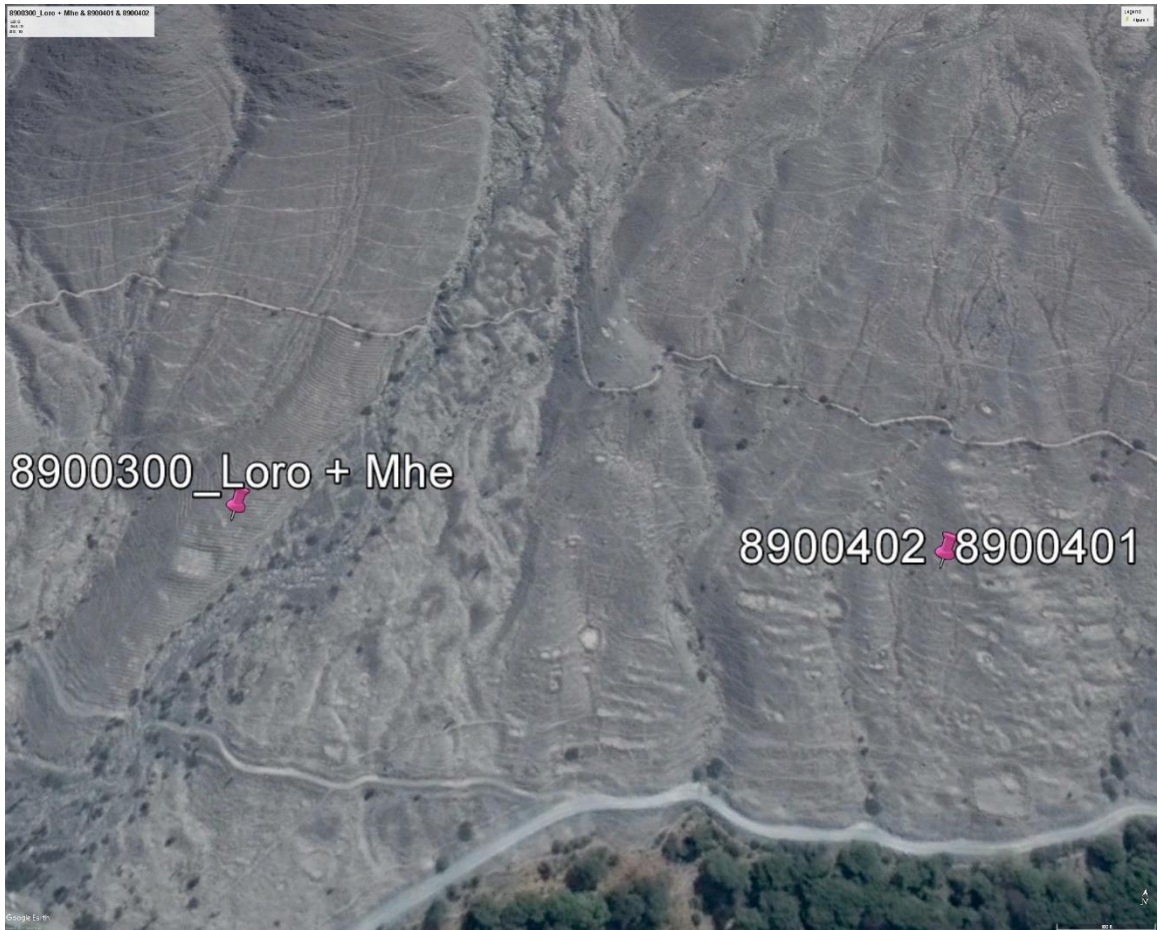




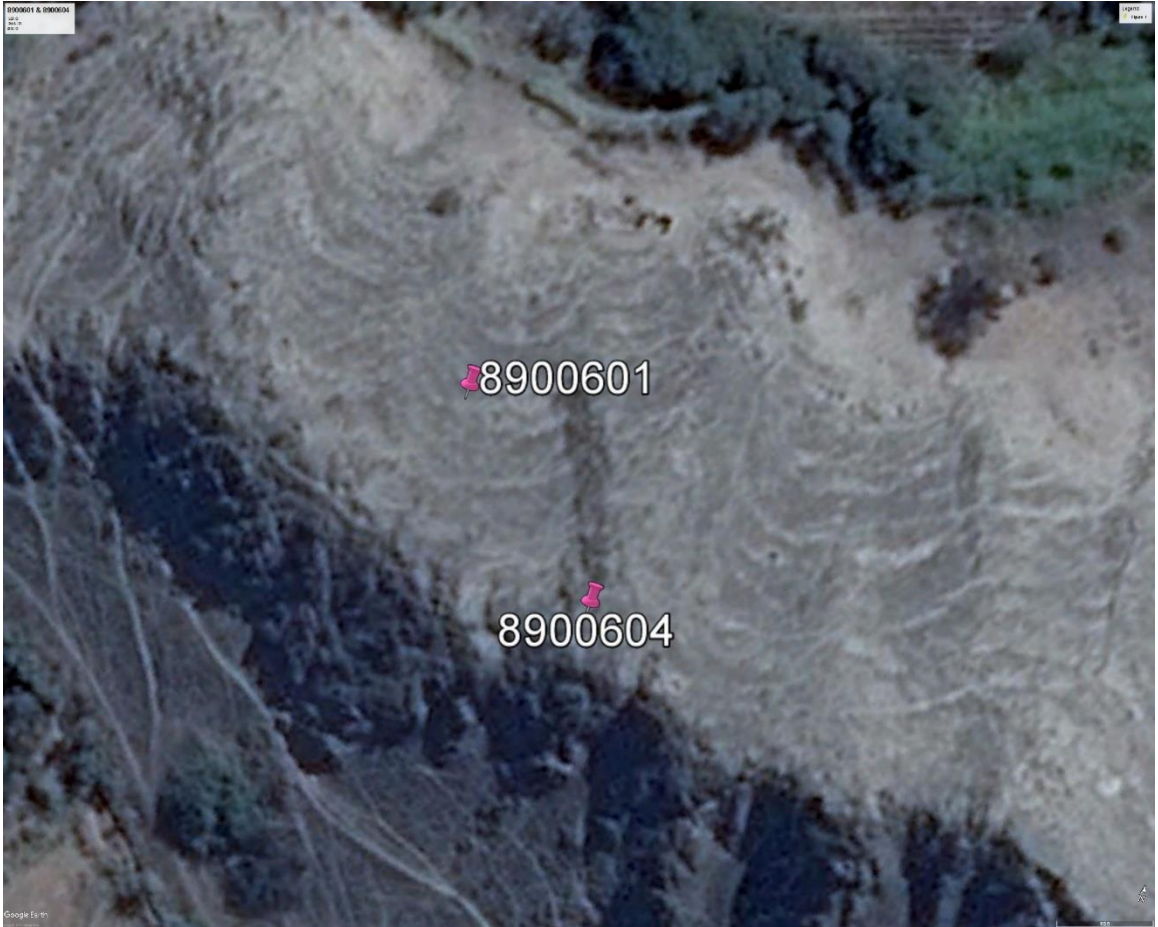


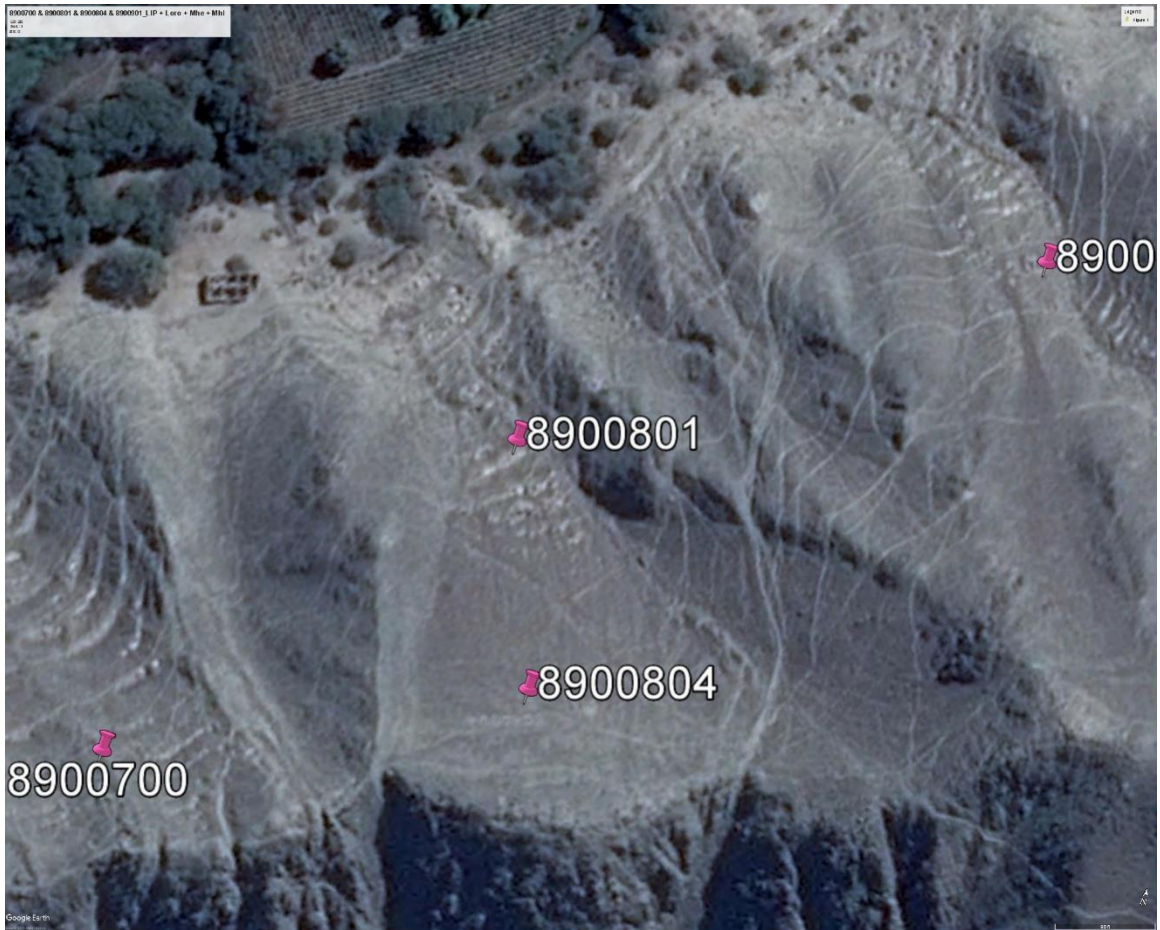




























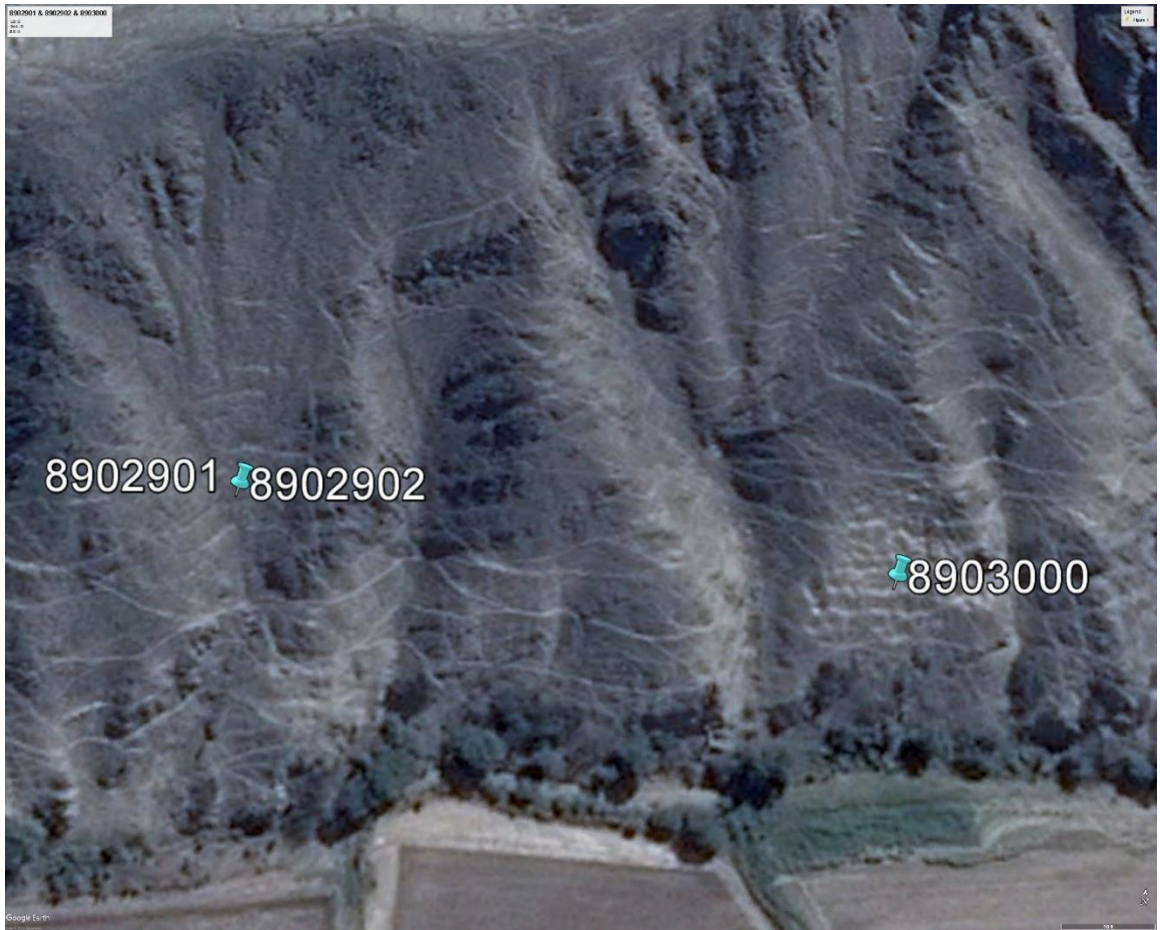












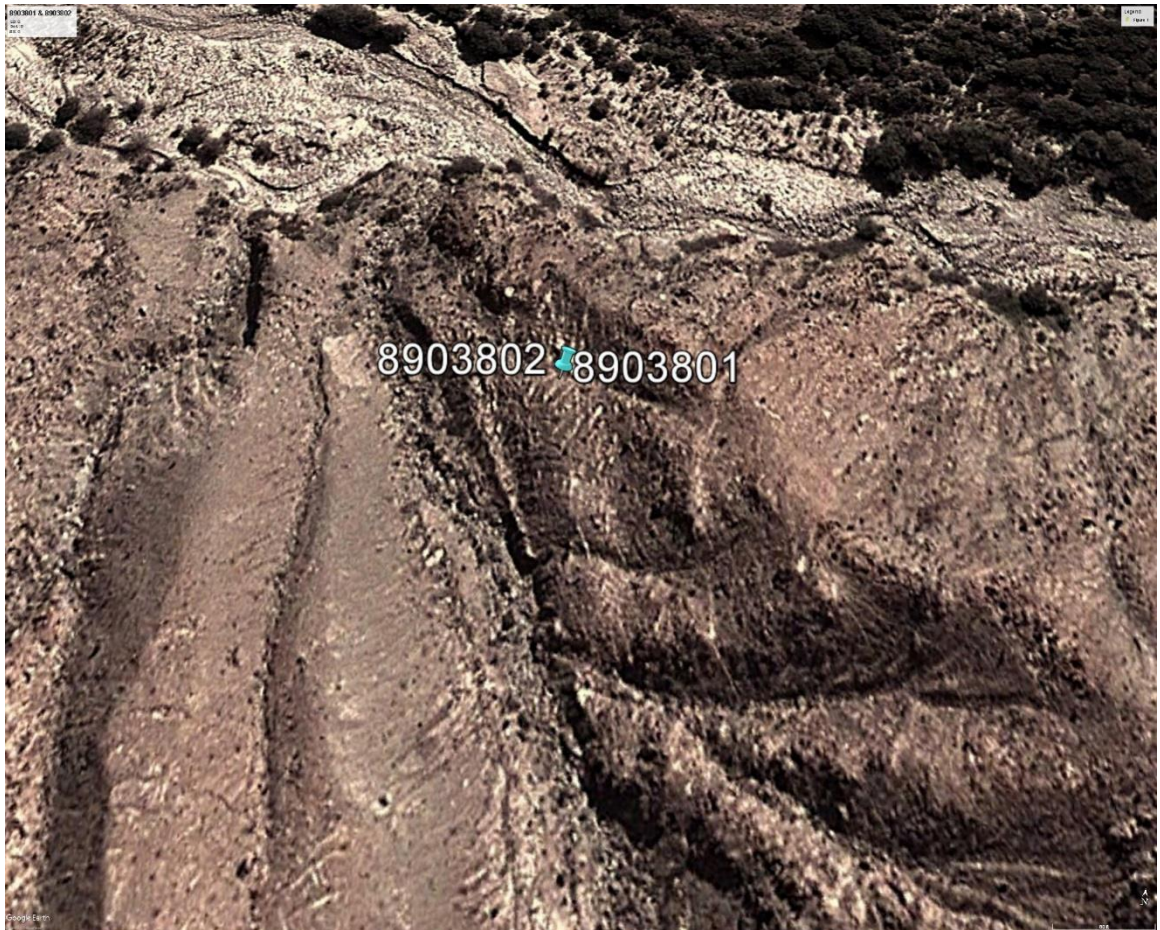












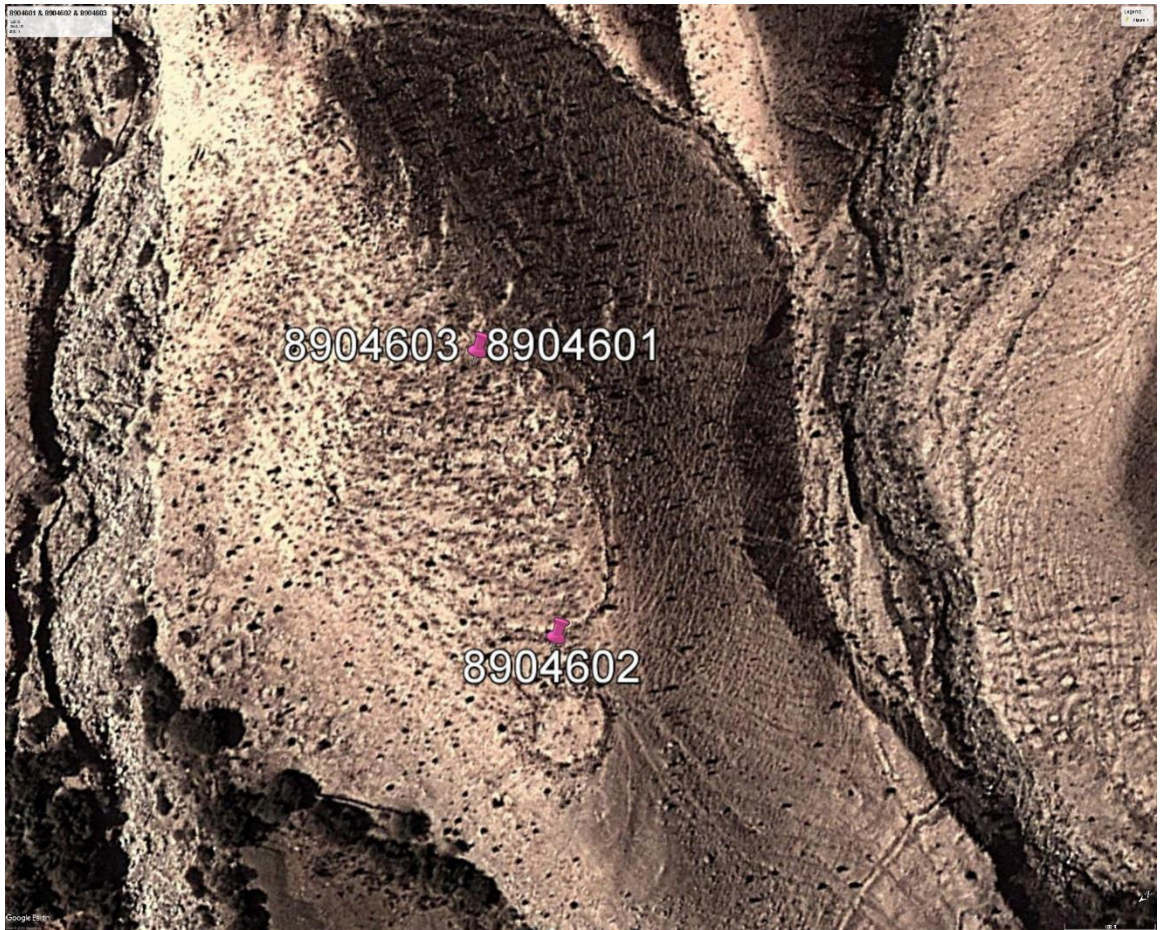
























































































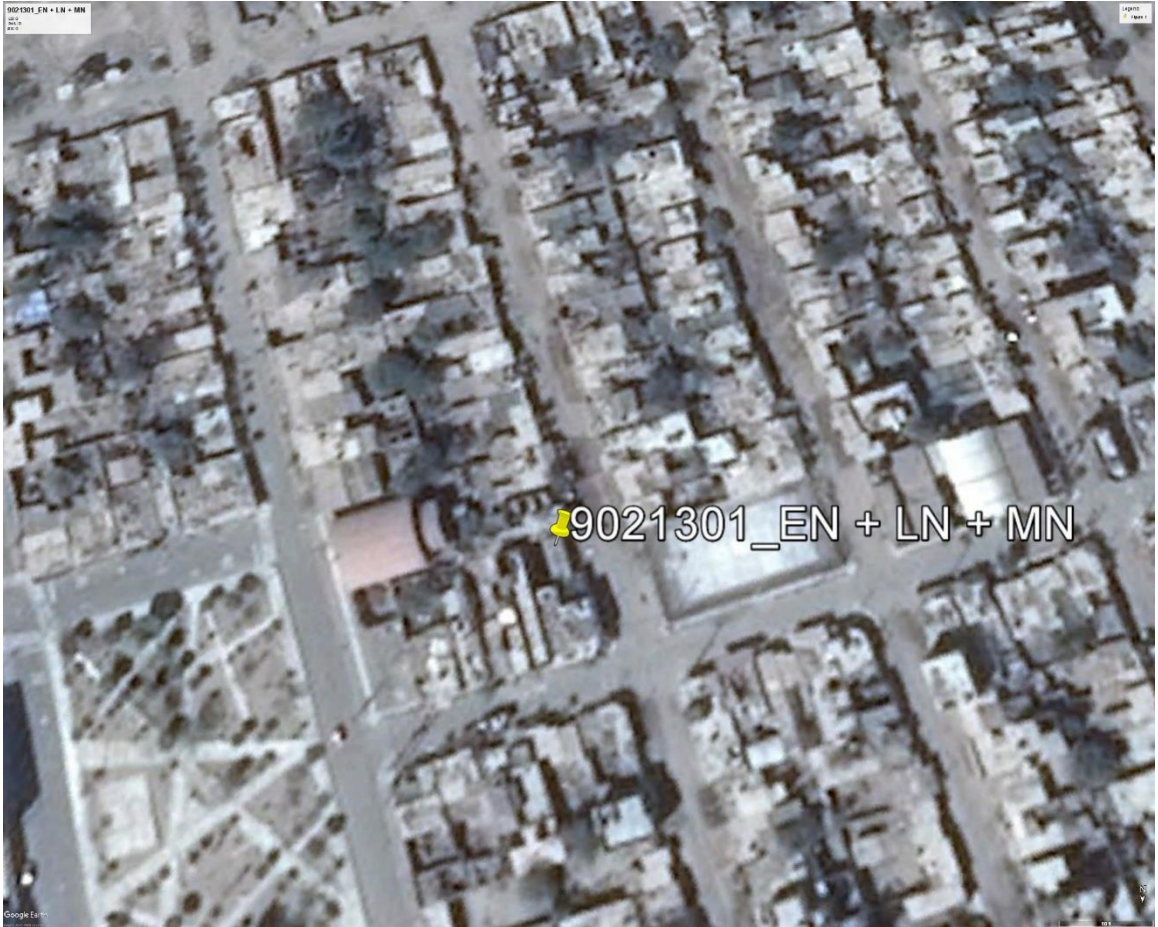


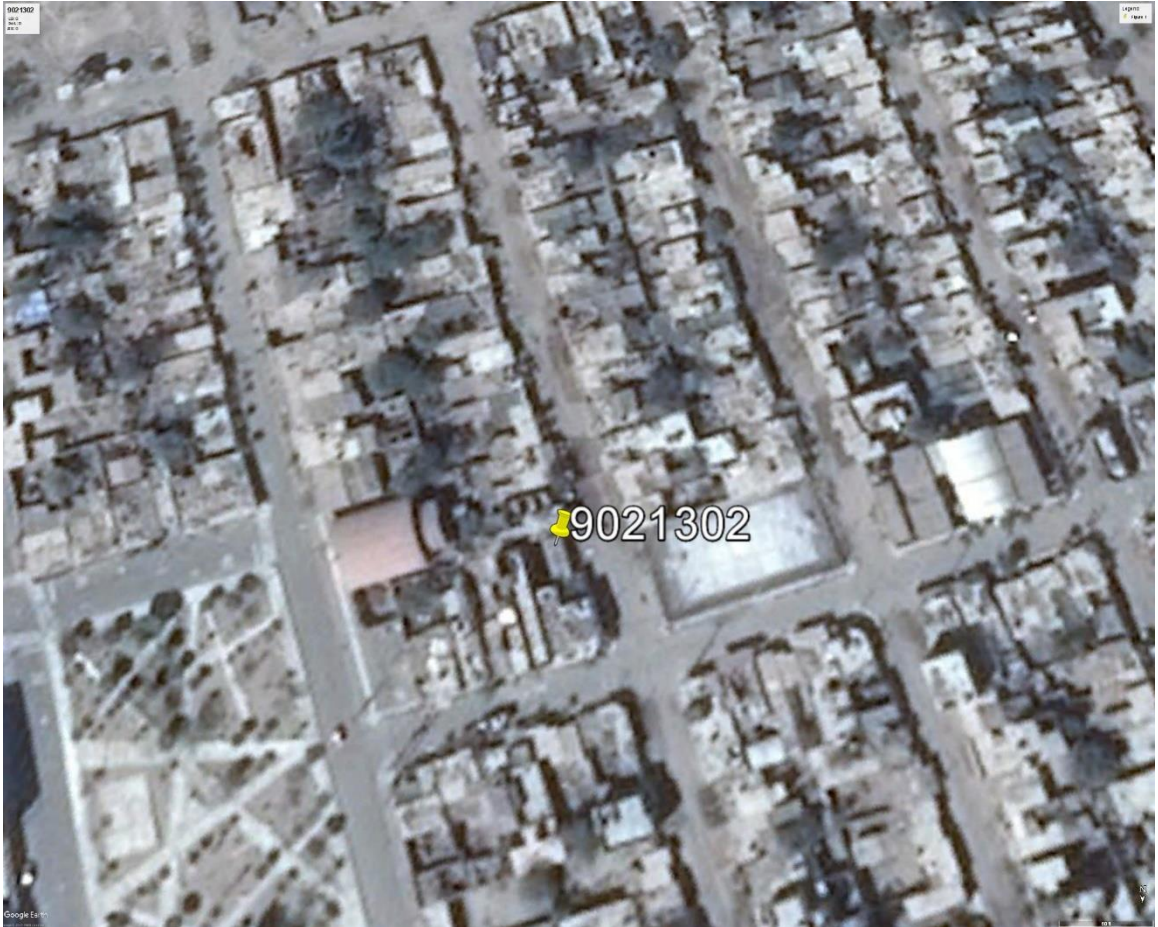




































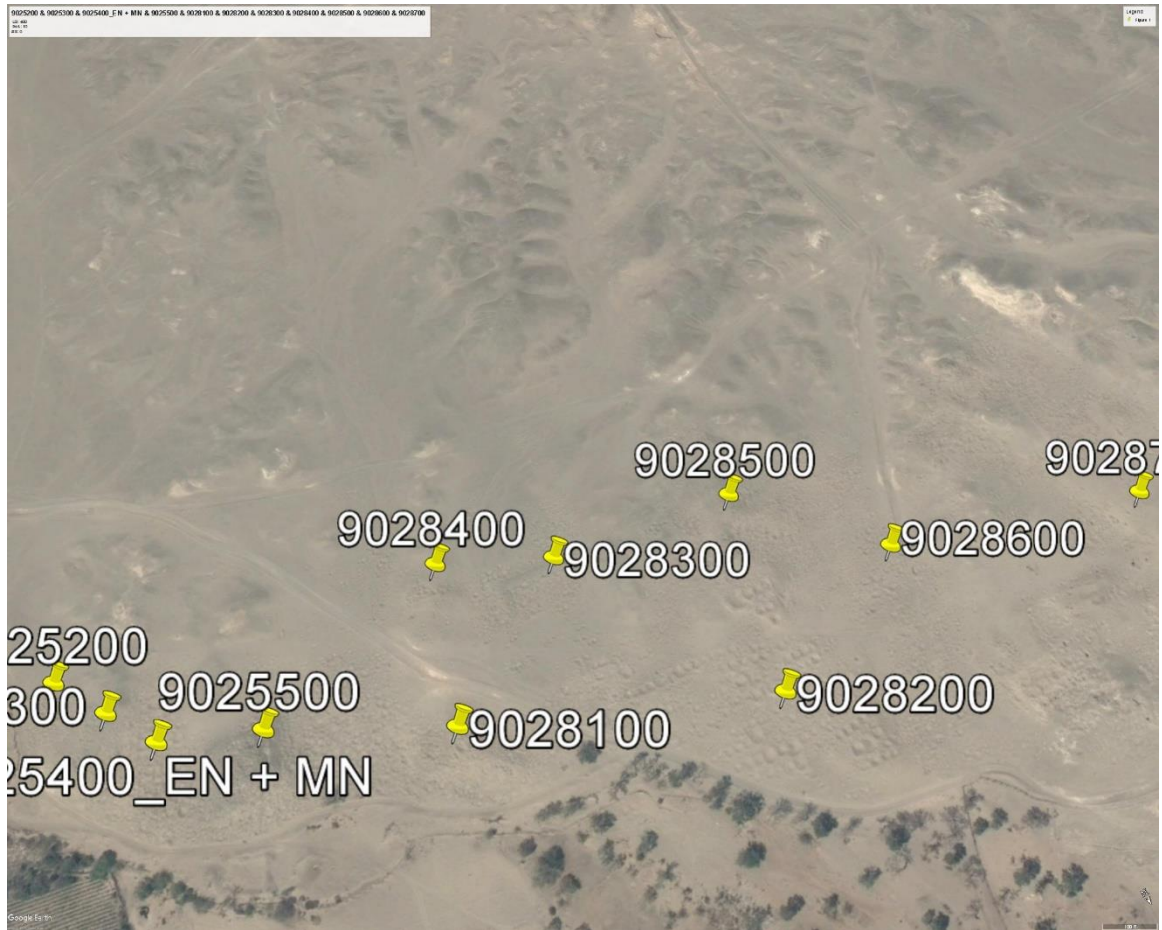


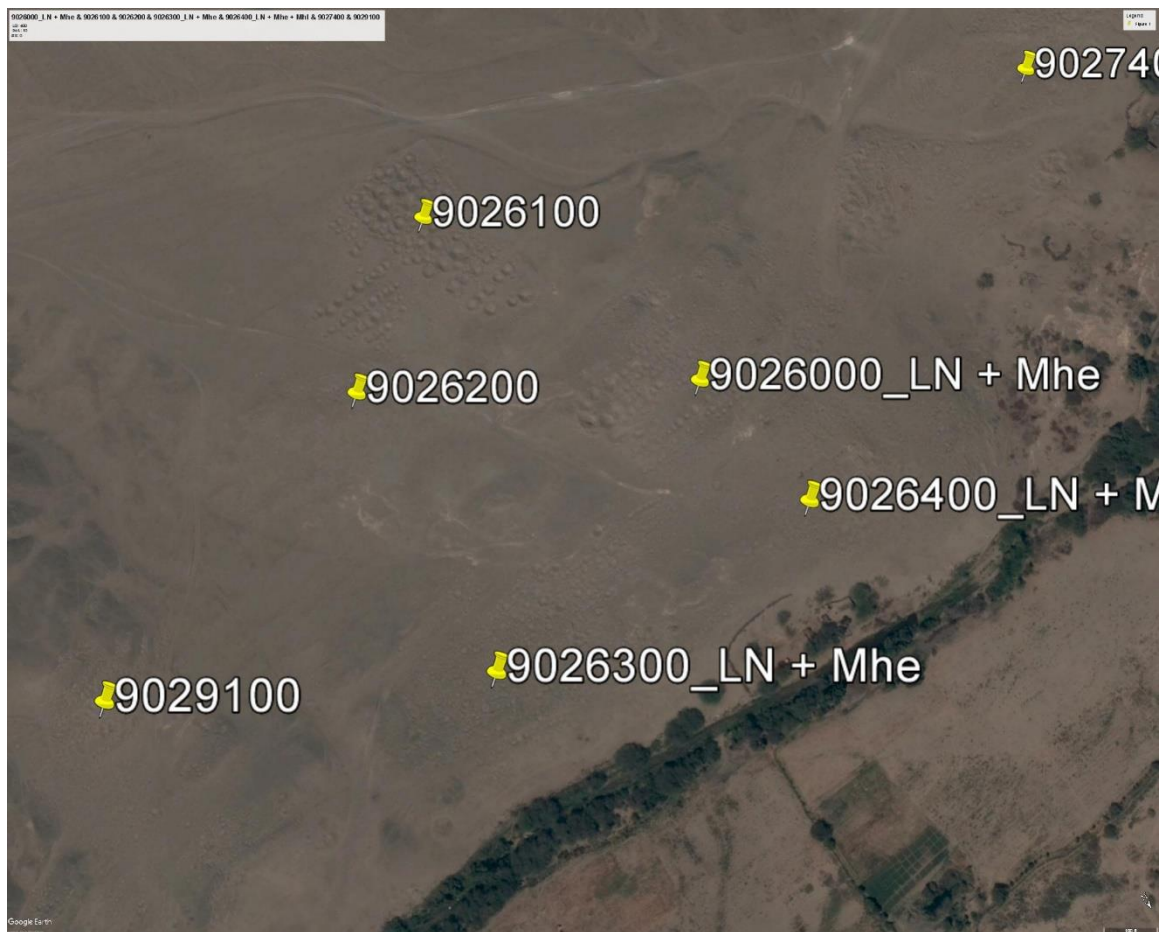


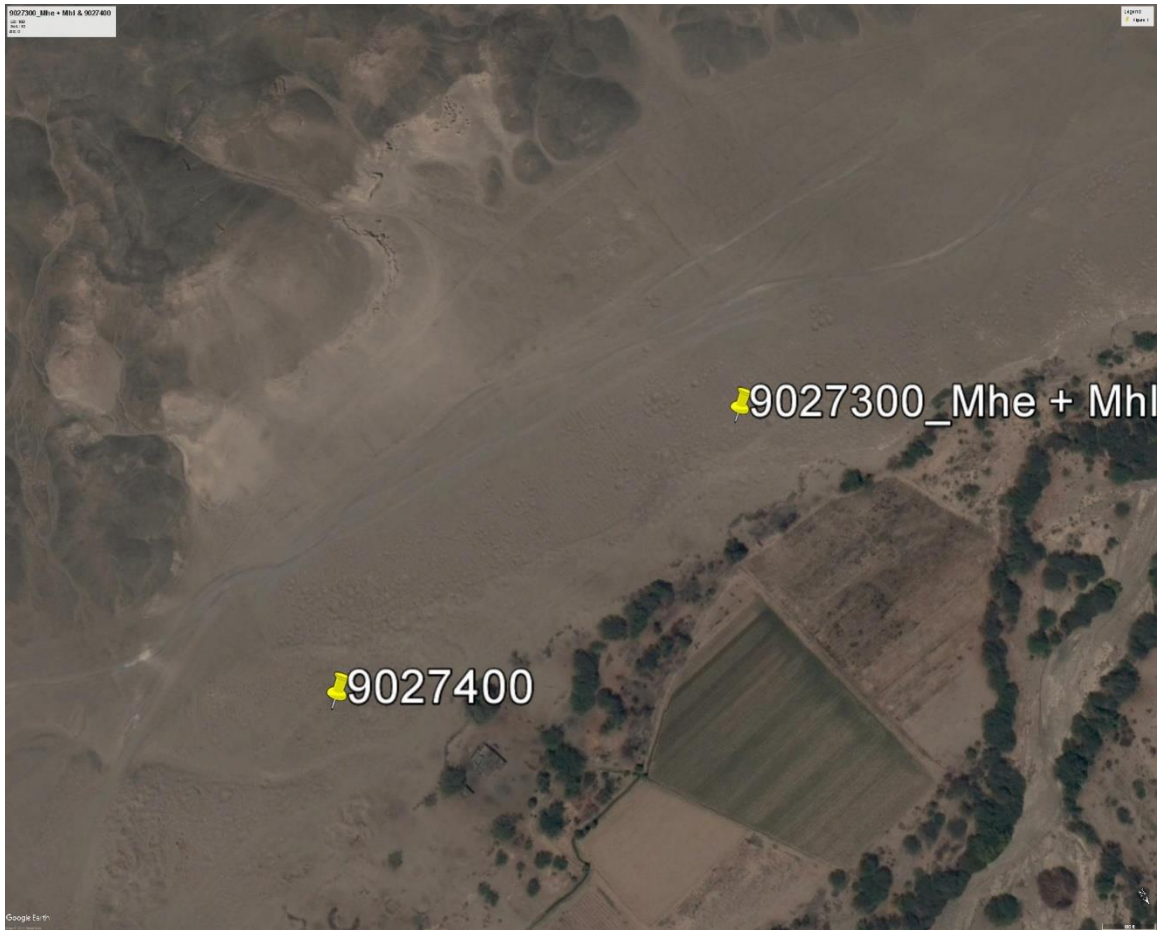


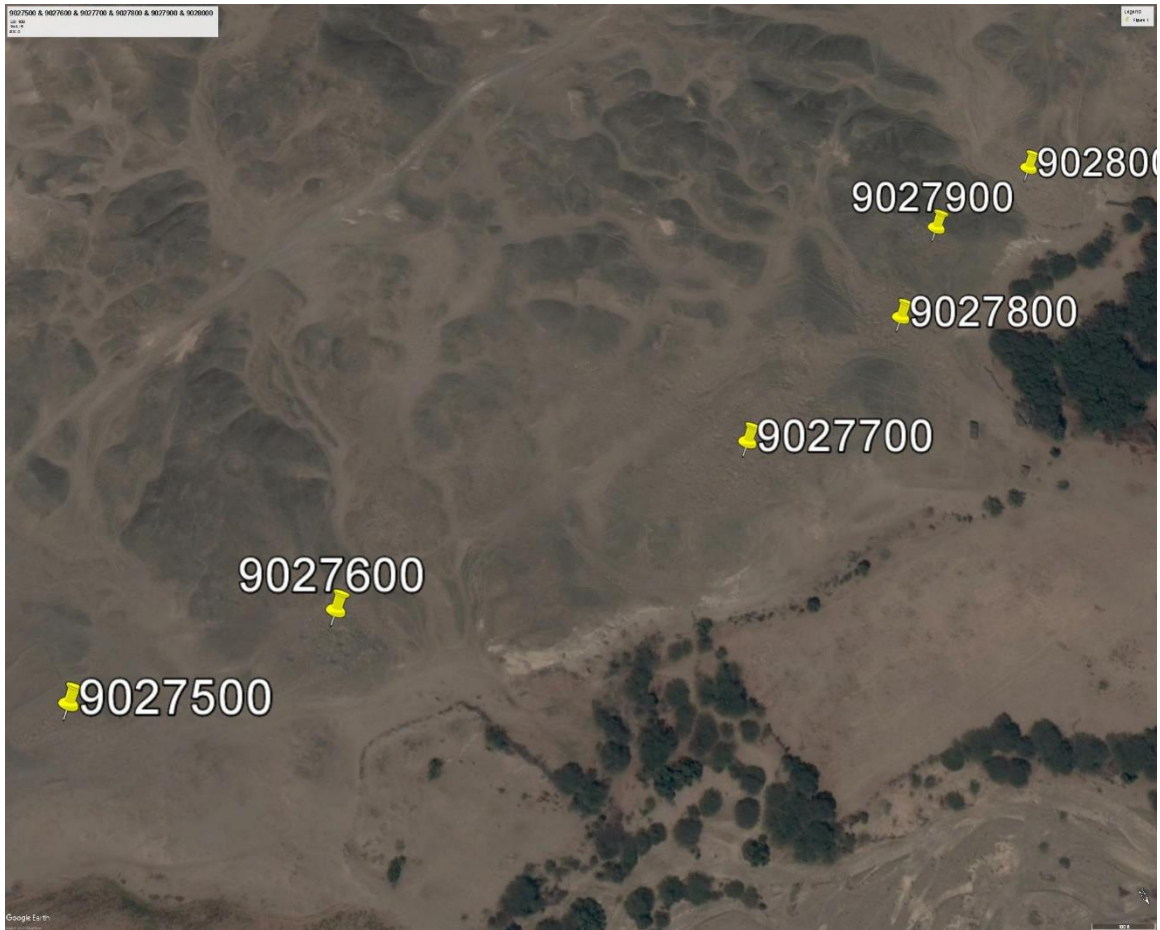




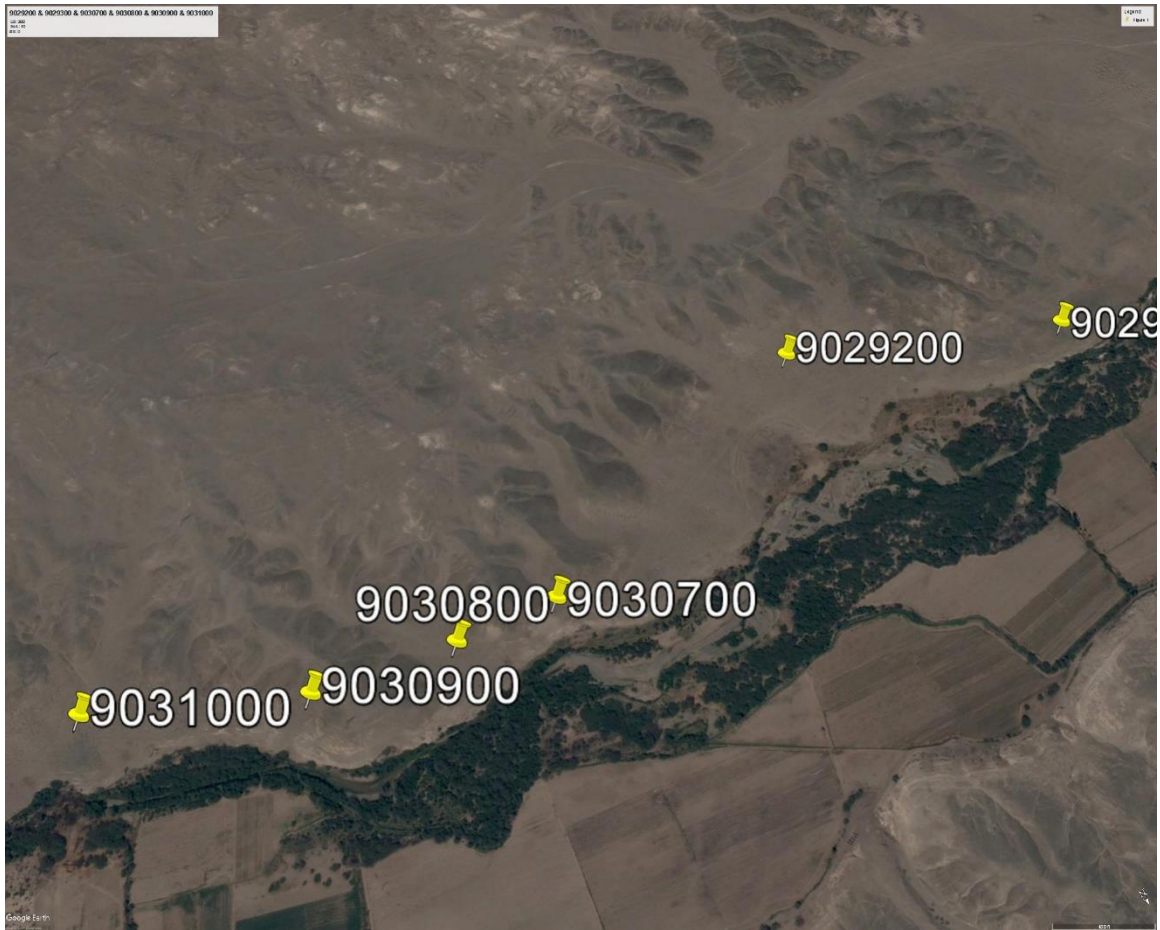


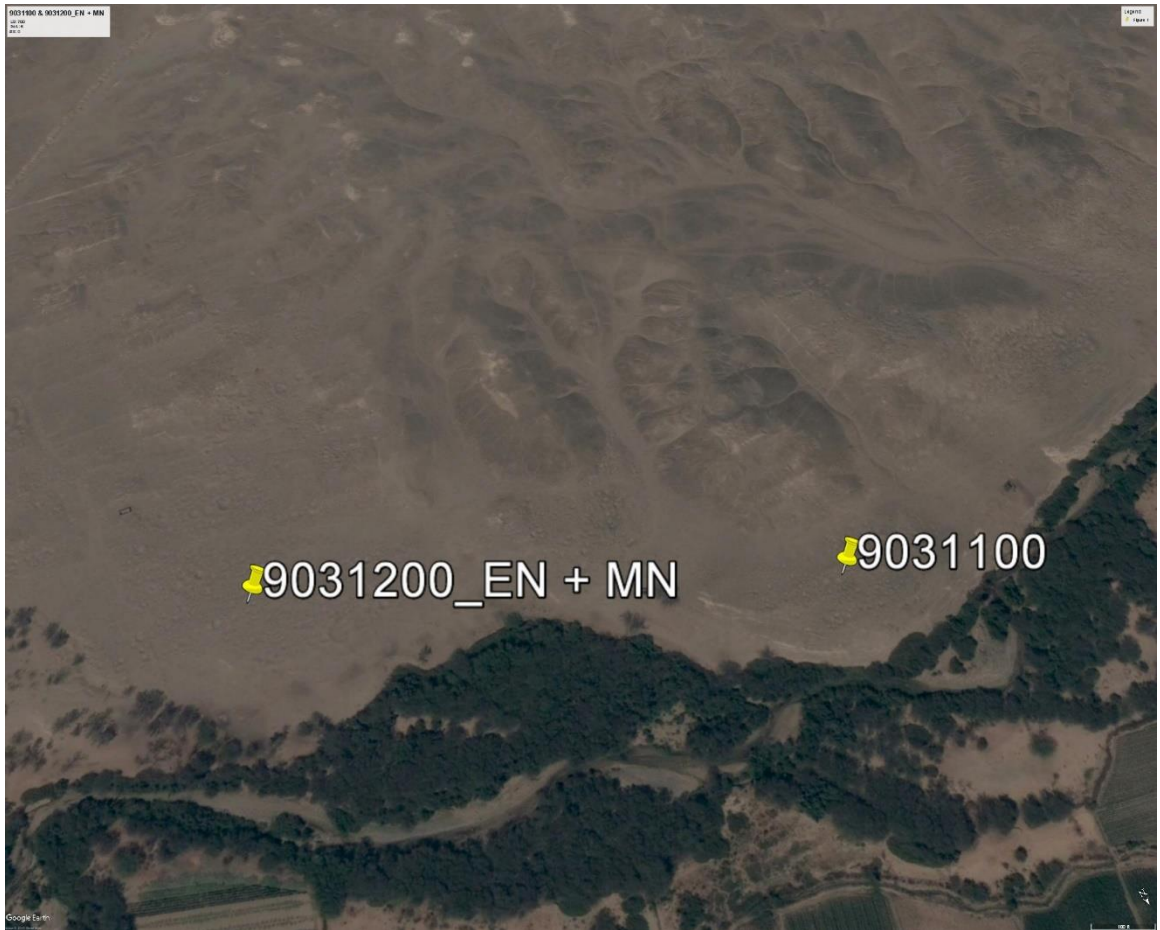


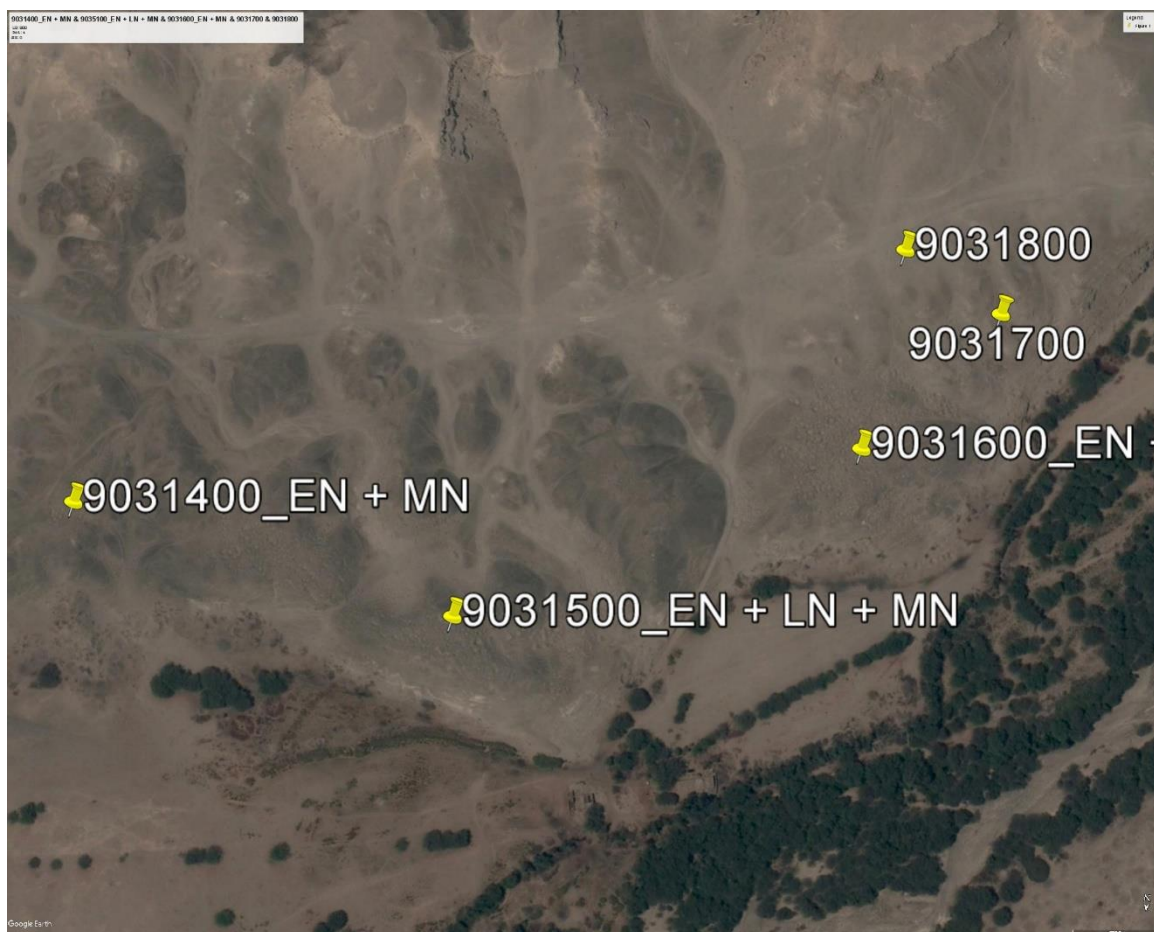


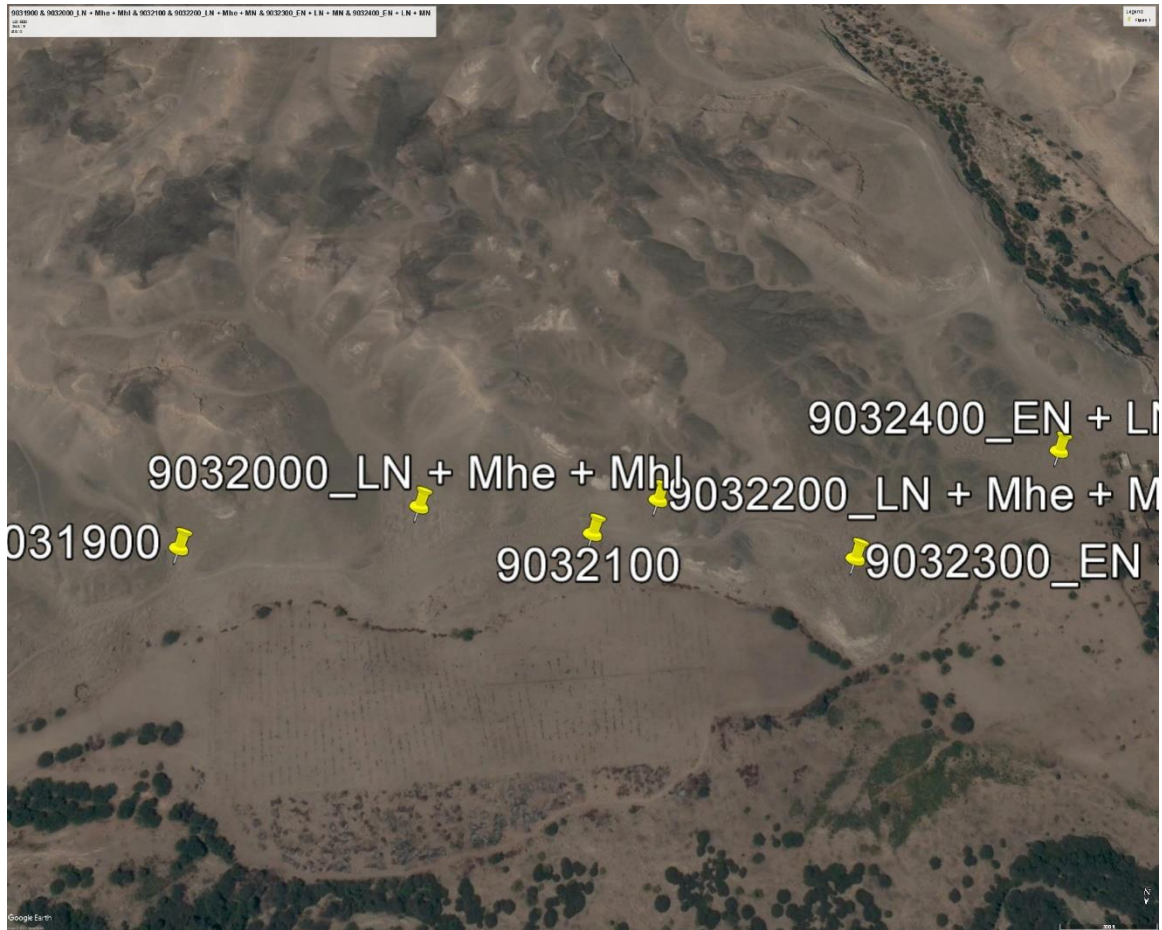
















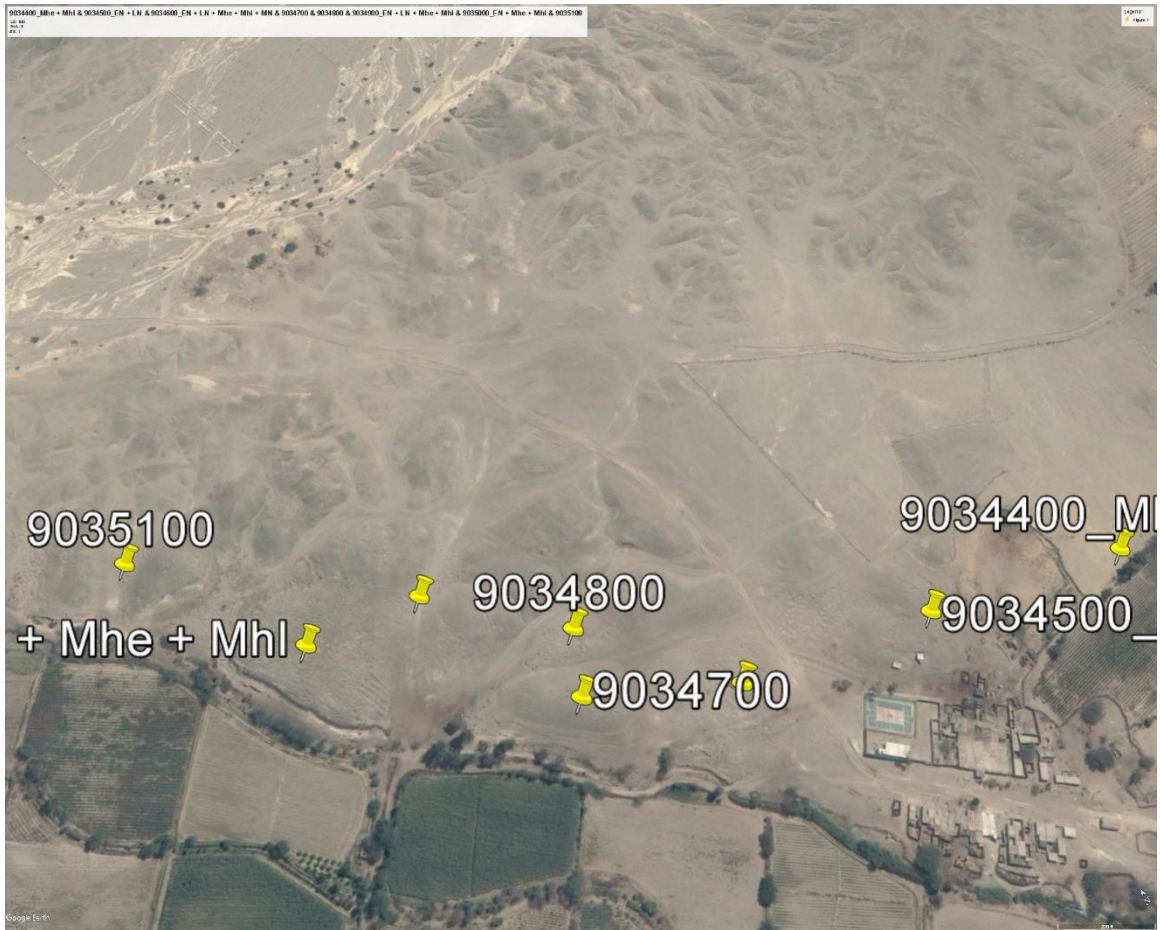
















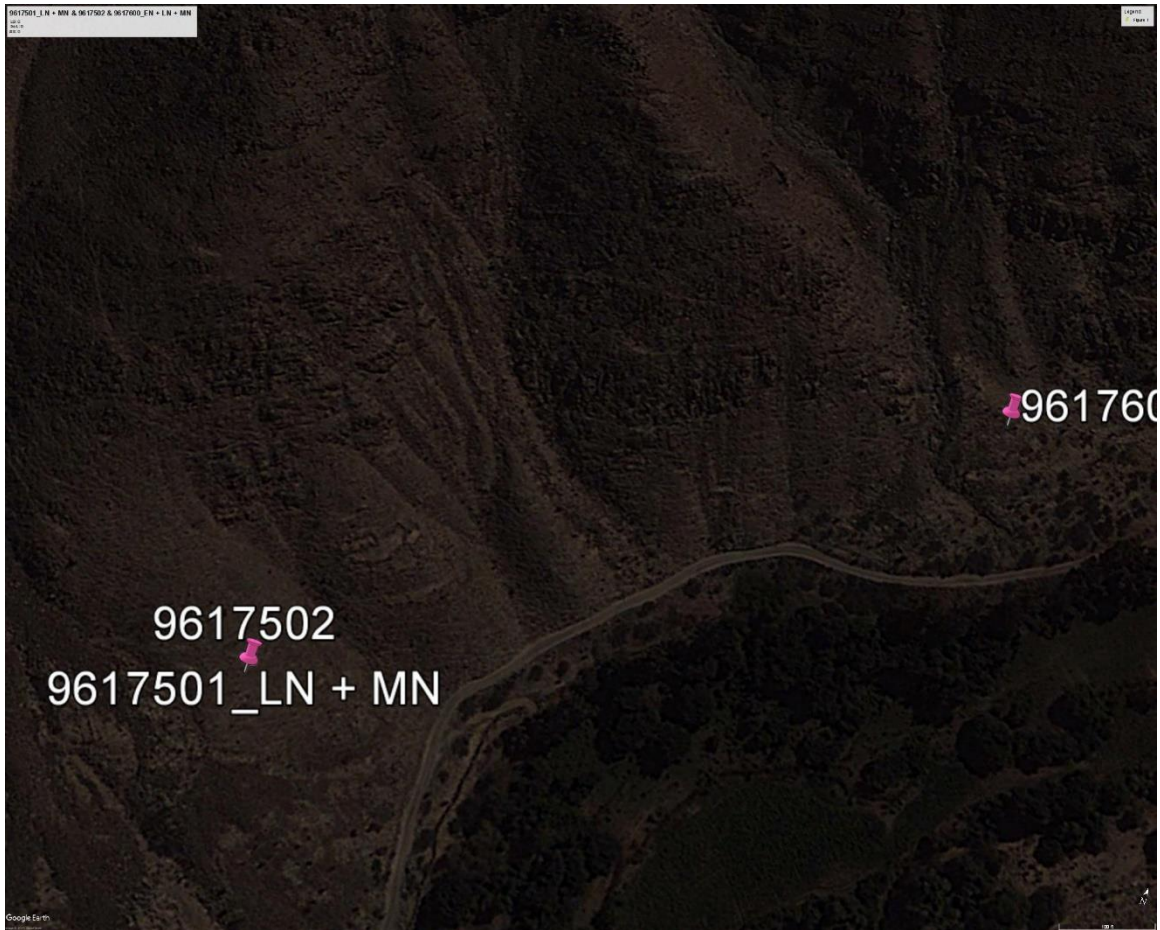




























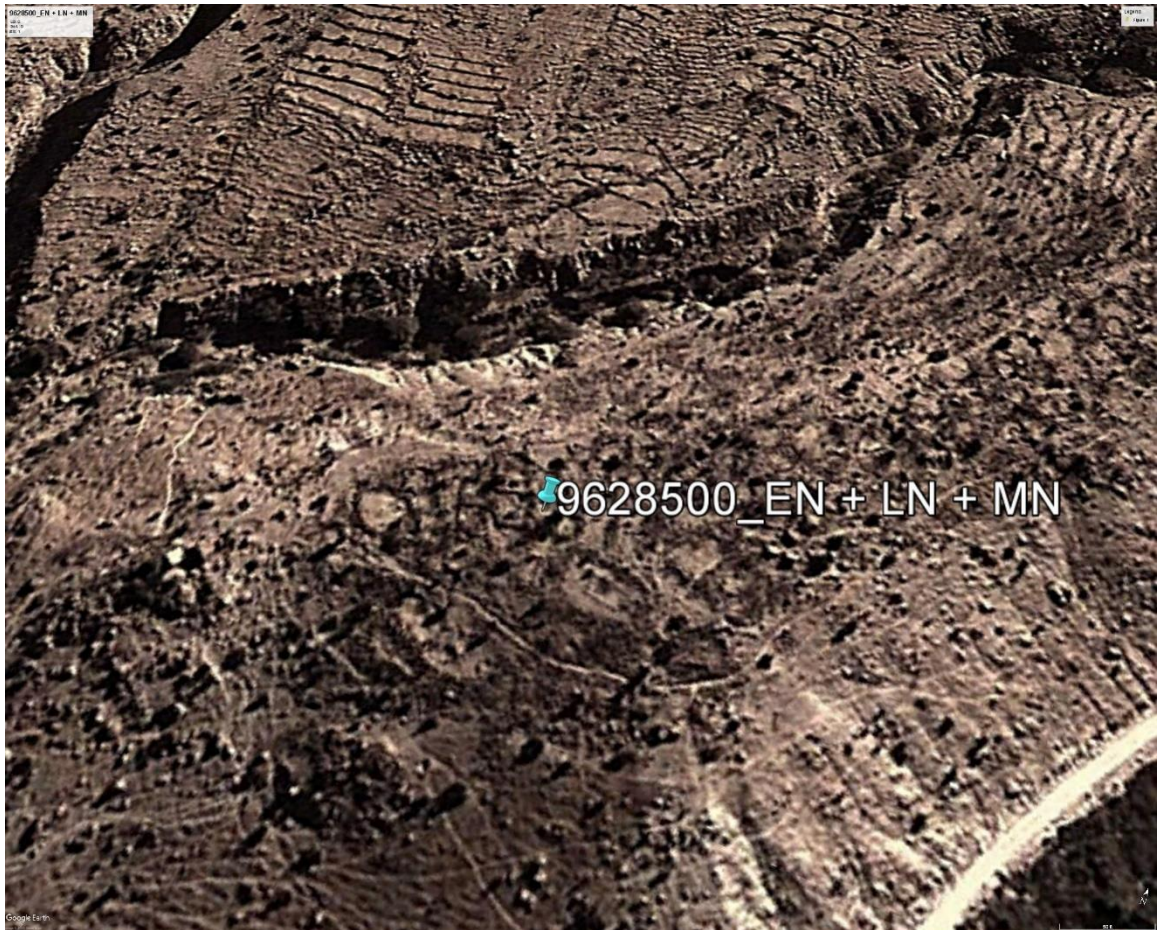










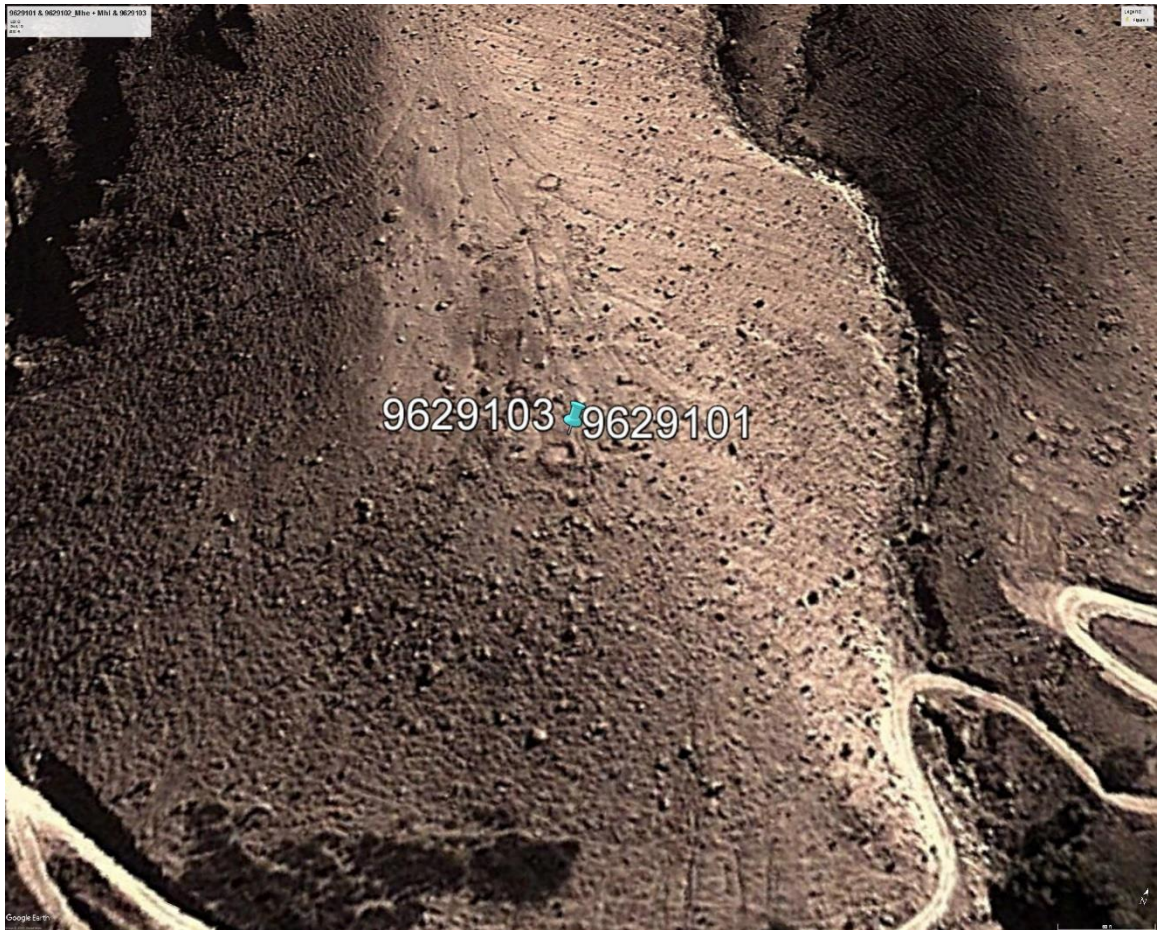














REFERENCES

- Aldenderfer, M., Bandy, M., Conlee, C., Creamer, W., Haas, J., Haley, K., . . . Williams, P. (2008). The Foundations of Power in the Prehispanic Andes: An Introduction. *Archeological Papers of the American Anthropological Association*, 14(1), 1-12. doi:10.1525/ap3a.2004.14.001
- Arnalich, S., Urruela, J., & Arnalich, S. (2012). *GPS & Google Earth for development: how to create, share and collaborate with maps on the net*. Lexington, KY.: Arnalich Water and habitat.
- Arkush, E., & Tung, T. (2013). Patterns of War in the Andes from the Archaic to the Late Horizon: Insights from Settlement Patterns and Cranial Trauma. *Journal of Archaeological Research*, 21(4), 307-369.
- Atwood, R. (2006). *Stealing history: tomb raiders, smugglers, and the looting of the ancient world*. New York: St. Martin's Griffin.
- Aveni, A. (2006). *Journal of Field Archaeology*, 31(3), 333-336.
- Boyer, B. S. (2010). *Nasca middle horizon burial tradition: a preliminary analysis of the above-ground tombs and looted contexts at La Tiza, Peru*. c2010.
- Bower, B. (2009). Taking Trophy Heads Close to Home: Ritual Skulls May Be from Local People, Not Foreign Warriors. *Science News*, 175(2), 12-12.
- Browne, D., Silverman, H., & García, R. (1993). A Cache of 48 Nasca Trophy Heads from Cerro Carapo, Peru. *Latin American Antiquity*, 4(3), 274-294. doi:10.2307/971792
- Conlee, C. A. (2016). *Beyond the Nasca lines: ancient life at La Tiza in the Peruvian Desert*. Gainesville: University Press of Florida.
- Conlee, C. A. (2014). Nasca culture integration and complexity: A perspective from the site of La Tiza. *Journal of Anthropological Archaeology*, 35, 234-247. doi:10.1016/j.jaa.2014.06.006
- Conlee, C. (2003). Local Elites and the Reformation of Late Intermediate Period Sociopolitical and Economic Organization in Nasca, Peru. *Latin American Antiquity*, 14(1), 47-65. doi:10.2307/972234
- Conlee, C. (2007). Decapitation and Rebirth: A Headless Burial from Nasca, Peru. *Current Anthropology*, 48(3), 438-445. doi:10.1086/517591
- Conlee, C. (2008). *Latin American Antiquity*, 19(4), 475-476.
- Covey, R. (2008). Multiregional Perspectives on the Archaeology of the Andes During the Late Intermediate Period (c. A. D. 1000-1400). *Journal of Archaeological Research*, 16(3), 287-338.

- Cuno, J. B. (2012). *Whose culture?: the promise of museums and the debate over antiquities*. Princeton, NJ: Princeton University Press.
- Cuno, J. B. (2011). *Who owns antiquity?: Museums and the battle over our ancient heritage*. Princeton: Princeton University Press.
- Curry, A. (2009). Rituals of the Nasca Lines. *Archaeology*, 62(3), 34-39.
- DeLeonardis, L. (2000). The Body Context: Interpreting Early Nasca Decapitated Burials. *Latin American Antiquity*, 11(4), 363-386. doi:10.2307/972002
- Dillehay, T. D., Lyon, P. J., Bastien, J. W., Brown, J. A., & Buikstra, J. A. (2012). *Tombs for the living Andean mortuary practices*. Washington DC: Dumbarton Oaks Research Library & Collection.
- D'Altroy, T. (1997). Recent Research on the Central Andes. *Journal of Archaeological Research*, 5(1), 3-73.
- Druc, I. (2013). WHAT IS LOCAL? Looking at Ceramic Production in the Peruvian Highlands and Beyond. *Journal of Anthropological Research*, 69(4), 485-513.
- Estrada, C., & López-Hurtado, E. (2017). The Demise of the Ruling Elites: Terminal Rituals in the Pyramid Complexes of Panquilma, Peruvian Central Coast. In ROSENFELD S. & BAUTISTA S. (Eds.), *Rituals of the Past: Prehispanic and Colonial Case Studies in Andean Archaeology* (pp. 193-216). Boulder, Colorado: University Press of Colorado.
- Edwards, M., & Schreiber, K. (2014). PATARAYA: THE ARCHAEOLOGY OF A WARI OUTPOST IN NASCA. *Latin American Antiquity*, 25(2), 215-233.
- E. (2015). *Funerary Practices and Models in the Ancient Andes*. Cambridge University Press.
- Faulseit, R. K. (2016). *Beyond collapse: archaeological perspectives on resilience, revitalization, and transformation in complex societies*. Carbondale, IL: Southern Illinois University Press.
- Felch, J., & Frammolino, R. (2011). *Chasing Aphrodite: the hunt for looted antiquities at the world's richest museum*. Boston: Houghton Mifflin Harcourt.
- Graffam, G. (1992). Beyond State Collapse: Rural History, Raised Fields, and Pastoralism in the South Andes. *American Anthropologist*, 94(4), new series, 882-904.
- Isbell, W., & Schreiber, K. (1978). Was Huari a State? *American Antiquity*, 43(3), 372-389. doi:10.2307/279393
- Isbell, W. H., & Silverman, H. (2002). *Andean archaeology*. New York: Kluwer Academic/Plenum .
- Jennings, J. (2010). *Beyond Wari walls: regional perspectives on Middle Horizon Peru*. Albuquerque: University of New Mexico Press.

- Isbell, W. H. (2004). Mortuary Preferences: A Wari Culture Case Study from Middle Horizon Peru. *Latin American Antiquity*, 15(01), 3-32. doi:10.2307/4141562
- Jennings, J. (2006). Understanding Middle Horizon Peru: Hermeneutic Spirals, Interpretative Traditions, and Wari Administrative Centers. *Latin American Antiquity*, 17(3), 265-285. doi:10.2307/25063053
- Kellner, C.M., Schoeninger, M.J., 2008. Wari's imperial influence on local Nasca diet: the stable isotope evidence. *J. Anthropol. Archaeol.* 27, 226–243.
- Kellner, Corina, Schoeninger, Margaret J., 2012. Dietary Correlates to the Development of Nasca Social Complexity (A.D. 1–750). *Lat. Am. Antiq.* 23, 490–508.
- Kroeber, A. L., Collier, D., & Carmichael, P. H. (1998). *The archaeology and pottery of Nazca, Peru: Alfred L. Kroeber's 1926 expedition*. Walnut Creek, CA: AltaMira Press.
- LAQ volume 28 issue 1 . (2017). *Latin American Antiquity*, 28(01). doi:10.1017/laq.2017.6
- LAQ volume 10 issue 1 . (1999). *Latin American Antiquity*, 10(01). doi:10.1017/s1045663500012323
- LAQ volume 10 issue 4 . (1999). *Latin American Antiquity*, 10(04). doi:10.1017/s1045663500012815
- LAQ volume 10 issue 3. (1999). *Latin American Antiquity*, 10(03). doi:10.1017/s1045663500012566
- LAQ volume 10 issue 2 . (1999). *Latin American Antiquity*, 10(02). doi:10.1017/s104566350001244x
- Law, M., & Collins, A. (2015). *Getting to know ArcGIS*. Redlands, CA: ESRI Press.
- Merritt, E. E. (2008). *National standards and best practices for U.S. museums*. Washington, DC: American Association of Museums.
- Patterson, T. (1986). CLASS AND STATE FORMATION: THE CASE OF PRE-INCAIC PERU. *Dialectical Anthropology*, 10(3/4), 275-282.
- Parcak, S. H. (2009). *Satellite remote sensing for archaeology*. London: Routledge.
- Proulx, D. A. (2006). *A sourcebook of Nasca ceramic iconography*. Iowa City: University of Iowa Press.
- Renfrew, C. (2006). *Loot, legitimacy and ownership: the ethical crisis in archaeology*. London: Duckworth.
- Schreiber, K., & Rojas, J. (1995). The Puquios of Nasca. *Latin American Antiquity*, 6(3), 229-254. doi:10.2307/971674
- Schreiber, K. (1987). Conquest and Consolidation: A Comparison of the Wari and Inka Occupations of a Highland Peruvian Valley. *American Antiquity*, 52(2), 266-284. doi:10.2307/281780

- Schreiber, K. (1994). *Latin American Antiquity*, 5(2), 185-187. doi:10.2307/971567
- Schreiber, K. (1989). *American Anthropologist*, 91(2), new series, 485-486.
- Shimada, I., Schaaf, C., Thompson, L., & Mosley-Thompson, E. (1991). Cultural Impacts of Severe Droughts in the Prehistoric Andes: Application of a 1,500-Year Ice Core Precipitation Record. *World Archaeology*, 22(3), 247-270.
- Smith, M., & Schreiber, K. (2006). New World States and Empires: Politics, Religion, and Urbanism. *Journal of Archaeological Research*, 14(1), 1-52.
- SILVERMAN, H. (2016). An Andeanist's Perspective on the Newark Earthworks. In Jones L. & Shields R. (Eds.), *The Newark Earthworks: Enduring Monuments, Contested Meanings* (pp. 97-110).
- SILVERMAN, HELAINE. "An Andeanist's Perspective on the Newark Earthworks." In *The Newark Earthworks: Enduring Monuments, Contested Meanings*, edited by Jones Lindsay and Shields Richard D., 97-110. University of Virginia Press, 2016.
- Silverman, H. (1988). Cahuachi: Non-Urban Cultural Complexity on the South Coast of Peru. *Journal of Field Archaeology*, 15(4), 403-430. doi:10.2307/530044
- Silverman, H. (1994). The Archaeological Identification of an Ancient Peruvian Pilgrimage Center. *World Archaeology*, 26(1), 1-18.
- Silverman, H., & Proulx, D. A. (2005). *The Nasca*. Malden, Mass.: Blackwell.
- Silverman, H. (1996). The Formative Period on the South Coast of Peru: A Critical Review. *Journal of World Prehistory*, 10(2), 95-146.
- Tung, T., & Knudson, K. (2010). CHILDHOOD LOST: ABDUCTIONS, SACRIFICE, AND TROPHY HEADS OF CHILDREN IN THE WARI EMPIRE OF THE ANCIENT ANDES. *Latin American Antiquity*, 21(1), 44-66.
- Quilter, J. (2014). *The ancient Central Andes*. London: Routledge.
- Udell, S. (2009). *Beginning Google Maps mashups with mapplets, KML and GeoRSS: from novice to professional*. New York, NY: Apress.
- Valdez, L. (1994). Cahuachi: New Evidence for an Early Nasca Ceremonial Role. *Current Anthropology*, 35(5), 675-679.
- Valdez, L., Bettcher, K., Ochatoma, J., & Valdez, J. (2006). Mortuary Preferences and Selected References: A Comment on Middle Horizon Wari Burials. *World Archaeology*, 38(4), 672-689.
- Van Gijseghem, H. (2006). A Frontier Perspective on Paracas Society and Nasca Ethnogenesis. *Latin American Antiquity*, 17(4), 419-444.
- Vaughn, K., Eerkens, J., Lipo, C., Sakai, S., & Schreiber, K. (2014). IT'S ABOUT TIME? TESTING THE DAWSON CERAMIC SERIATION USING LUMINESCENCE DATING, SOUTHERN NASCA REGION, PERU. *Latin American Antiquity*, 25(4), 449-461.

- Vaughn, K., & Grados, M. (2006). 3,000 Years of Occupation in Upper Valley Nasca: Excavations at Upanca. *Latin American Antiquity*, 17(4), 595-612. doi:10.2307/25063074
- Vaughn, K. (2004). Households, Crafts, and Feasting in the Ancient Andes: The Village Context of Early Nasca Craft Consumption. *Latin American Antiquity*, 15(1), 61-88. doi:10.2307/4141564
- Vitelli, K. D., & Colwell-Chanthaphonh, C. (2006). *Archaeological Ethics*. AltaMira Press.
- Waxman, S. (2009). *Loot: the battle over the stolen treasures of the ancient world*. New York: Times Books.
- Whalen, V. H., & La Rosa, L. M. (2014). Late Nasca food and craft production in the Tierras Blancas Valley, Peru. *Ñawpa Pacha*, 34(1), 79-106. doi:10.1179/0077629714z.000000000016
- Williams, P. (2002). Rethinking Disaster-Induced Collapse in the Demise of the Andean Highland States: Wari and Tiwanaku. *World Archaeology*, 33(3), 361-374.

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