MOBILITY AND LITHIC REDUCTION STRATEGIES DURING THE ARCHAIC AND BASKETMAKER PERIODS IN NORTHWESTERN NEW MEXICO

by Kasey M. Flavin

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Approved:

Francis E. Smiley, IV, Ph.D., Chair

Kerry F. Thompson, Ph.D.

James M. Wilce, Ph.D.

ABSTRACT

MOBILITY AND LITHIC REDUCTION STRATEGIES DURING THE ARCHAIC AND BASKETMAKER PERIODS IN NORTHWESTERN NEW MEXICO

KASEY M. FLAVIN

The analysis of lithic debitage provides researchers with valuable information about the lives of prehistoric populations, particularly with respect to residential mobility. In the northern Southwest United States, the gradual change from high mobility practiced by Archaic groups to decreased mobility with the introduction of maize agriculture during the Basketmaker II period is directly reflected in lithic assemblages from these occupations. The increased rates of change from the Basketmaker II to Basketmaker III social organization is also observable in the artifact assemblages, where expediently made tools become common among more sedentary communities of farmers.

Through analysis of 1,579 pieces of lithic debitage and 96 lithic tools from two Archaic sites, two Basketmaker II assemblages, and one Basketmaker III site in the southern portion of the San Juan Basin of New Mexico, I test the Parry and Kelly (1987) hypothesis that sets out a model in which proportions of lithic debitage from different stages in bifacial reduction provide proxy information about rates of residential mobility; the transition to an overall adoption of expedient core technology from standardized (or formal) core technology may represent a response to decreased mobility. The gradual increase of sedentism is observed in the archaeological record in predictable patterns throughout the Southwest and the rest of temperate North America, and my analysis demonstrates similar patterns in northwestern New Mexico, affirming the viability of the Parry and Kelly model as a proxy for prehistoric mobility.

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Chapter 1

Lithic Assemblages, Mobility, and Sedentism in the San Juan Basin

The transition from hunting and gathering to agriculture is one of the most pivotal events in human history. Because of the immense importance of this phenomenon, archaeologists throughout the world continue to seek clarity on the precise conditions that brought about the independent adoption of agriculture, particularly in the Southwestern United States. The Basketmaker II cultural tradition, dating from approximately 500 B.C. to A.D 400 (Matson 2006:150) in the San Juan Basin provides one of the most interesting examples of the adoption of agriculture to produce staple foods in the Southwest because these new farmers appear to remain unexpectedly mobile. Many facets of Basketmaker II populations remain a mystery due in part to poor site preservation outside of sheltered contexts, and because the Basketmaker II peoples appear to maintain a relatively high rate of residential mobility subsequent to the adoption of agriculture. The continued mobility exhibited by these groups is perhaps the most confounding characteristic for southwestern archaeologists (Herr 2009; Matson 1991). A common approach to investigating changes in social organization subsequent to maize agriculture in the Southwest is through lithic studies, as the analysis of stone artifacts may be one of the best and only ways to determine when sedentism occurred in prehistoric populations (Andrefsky 2005:225). This thesis examines the lithic technology associated with the worldwide phenomenon of hunter-gatherers adopting an agricultural lifestyle, albeit at a far more local scale in the San Juan Basin of northwestern New Mexico. This analysis of lithic debitage and tools comprises a very general test of the

Parry and Kelly hypothesis that relates formal, bifacial lithic technology with increased rates of residential mobility. To determine the extent to which archaeologists may identify and explain temporal differentiation between Archaic and early Basketmaker lithic assemblages in addition to demonstrating patterns of residential mobility predicted by Parry and Kelly (1987), I conducted an analysis of lithic debitage and tools recovered from five archaeological sites excavated in the southern portion of the San Juan Basin (Figure 1.1). The five sites examined in this analysis encompass the gradual transition to increased sedentism during three time periods, the middle/late Archaic, the early Basketmaker, and Basketmaker III. The sites analyzed herein also represent but a small sample of the dozens of sites tested and excavated in the area by Southwest Archaeological Consultants, Inc. as part of a multi-year contract with Peabody Energy. The sites were chosen for analysis based upon the presence of temporally diagnostic lithic tools and a manageable assemblage size; I analyzed an average of 313 pieces of lithic debitage for each of the five sites.

Following the Parry/Kelly theory (1987) that lithic reduction strategies provide proxy information for residential mobility, I hypothesized that if the lithic debitage present at a site reflects bifacial reduction strategies, then the assemblage likely represents manufacture by more mobile groups that date to Archaic period, while debitage that exhibits characteristics more typical of expedient tool manufacture represents the presence of later, more sedentary populations that potentially relied on agriculture for subsistence.

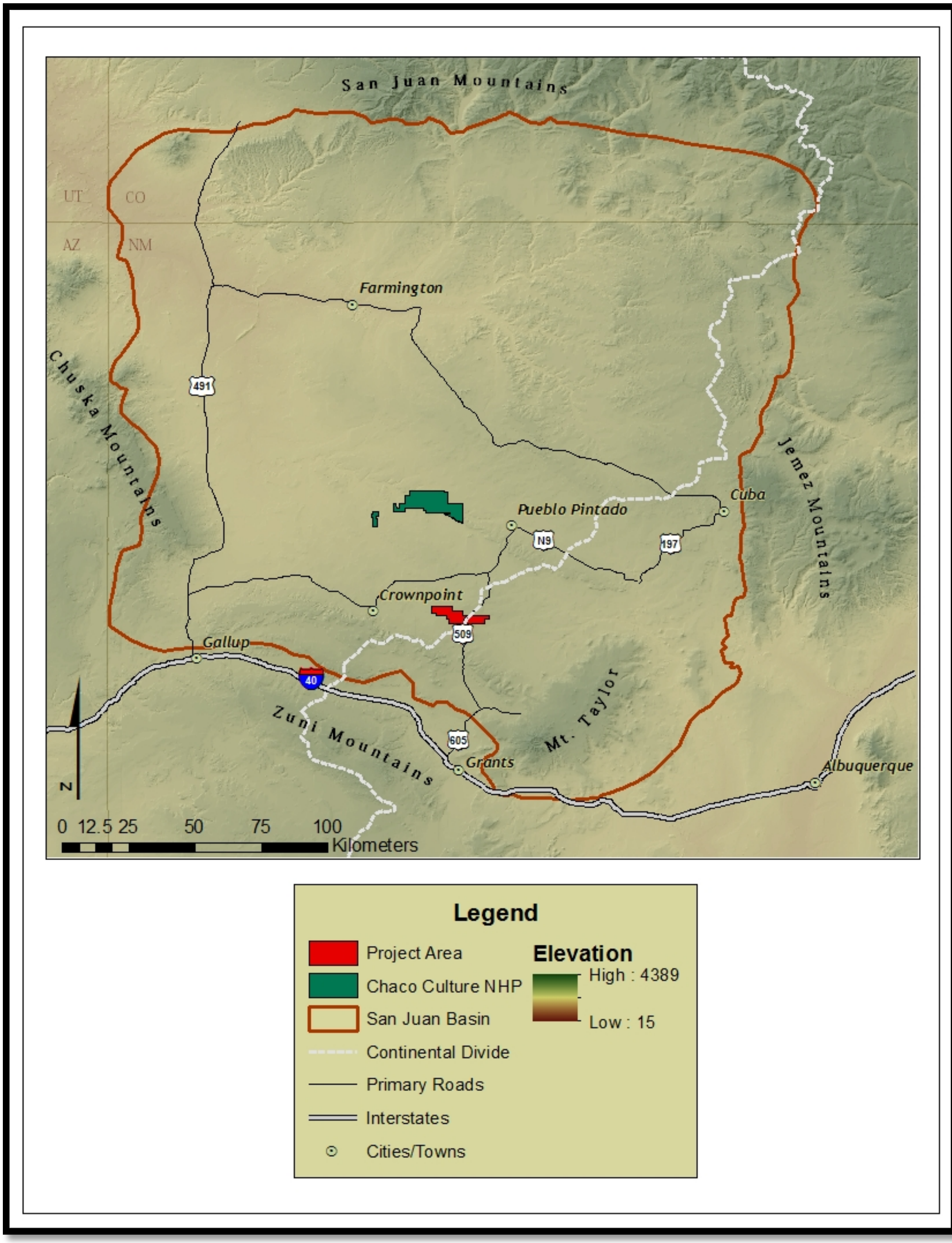

Figure 1.1. Map showing the project area, the extent of the San Juan Basin, and raw material-producing mountain ranges

Through analysis of lithic tools and debitage from several sites in the southern San Juan Basin in New Mexico, I also aimed to determine the degree to which Basketmaker II assemblages differ from Archaic assemblages. If the Parry and Kelly model holds in this region of the northern Southwest, one would expect to see subtle changes in the lithic technology between occupations of highly mobile Archaic groups and semi-mobile Basketmaker II groups. If Baskemaker II populations in the southern San Juan Basin were more sedentary than the preceeding Archaic populations, then lithic debitage from Basketmaker II occupations associated with dignostic projectile points and other tools should reflect more expedient manufacture. Though drastic differences in the assemblages from the Archaic and Basketmaker II periods may not be evident, differences in tool types or reduction strategies that reflect a shift to agricultural subsistence rather than a shift to sedentism help in the development of hypotheses regarding the degree of residential mobility practiced by each group. General raw material types within assemblages also provide clues about mobility, as the presence of many different material types present in the same stratigraphic unit may point to prolonged habitation at a site.

Residential mobility correlates to the preferred subsistence strategy of a given population and can, with increasing frequency, be reliably identified by the morphological characteristics of the lithic debitage recovered from a site. By analyzing attributes within lithic assemblages including diagnostic projectile points recovered from years of excavation in the San Juan Basin, I will add to our understanding of the time it took for hunter-gatherers to transition to a more sedentary lifestyle and the technological changes that accompanied that shift. This analysis also tests the utility of the Parry and

Kelly hypothesis on a very small sample of sites as a general measure of the broad utility of the theory.

Ecological models help to describe some of the possible interactions prehistoric populations had with a given landscape across the transition from Archaic to Basketmaker II periods (Bird and O'Connell 2006). Foraging models also offer an explanatory framework in which to test theories of technological change, and archaeologists should be able to develop hypotheses about diet to predict changes in technology, or vice versa (Kelly 1995:109). To address topics concerning social organization among hunter-gatherers and foragers, my research draws on previous archaeological investigations conducted on prehistoric populations in the San Juan Basin region of northwestern New Mexico (Hewett 1977; North 2000; Railey 2008).

In addition to describing prehistoric populations, a general understanding of the geomorphological processes present in the region provides background to some of the site formation processes affecting stratigraphic integrity of the sites from which I collected data. The importance of the transition from the high residential mobility and foraging strategies of Archaic populations, to semisedentism and the introduction of agriculture in the Basketmaker II period must also be understood in terms of the prehistoric environmental conditions in the San Juan Basin (Vivian 1990). Such conditions denote potential stressors that may have prompted populations to change subsistence and mobility strategies in such a marginal area. Archaeologists have long studied the mobility patterns of Archaic populations and the adoption of agriculture by Basketmaker II populations in the Southwest (Charles et al. 2006; Huckell 1996; McBrinn 2010; Whalen 1994), and my research adds to the body of literature relating to implications of the transition between highly mobile and sedentary groups as observed in lithic assemblages.

To conduct an analysis using lithic material as a proxy for mobility patterns across the Archaic-Basketmaker II transition, I examined lithic debitage, tools, and diagnostic projectile points collected from five sites excavated by Southwest Archaeological Consultants, Inc. between 2009 and 2014. Because the artifacts I analyzed were recovered by the same approximate excavation techniques, I did not encounter any major problems that often arise from differing data collection practices. All data recovery consisted of the excavation of 1 m x 1 m or 2 m x 2 m units, in arbitrary 10 cm levels. Sediments however, may have been screened through different mesh sizes (1/4 inch or 1/8 inch) based upon grain size, clay content, and relative frequency of artifacts per site and per stratum.

After a review of several preliminary site reports guided by Steven R. Mack, project director at Southwest Archaeological Consultants, Inc. in Santa Fe, I based the assemblages chosen for analysis on the cultural affiliations identified by field supervisors and the presence of diagnostic artifacts within assemblages. The inferences made throughout this research are largely supported by the presence of diagnostic artifacts alone, as radiocarbon and paleobotanical analyses from storage and thermal features assumed to be associated with the lithic assemblages are still pending for three of the five sites.

Spatial analysis of the debitage and projectile points on X, Y, and Z axes collected during previous individual site investigations accurately shows the distribution of artifacts on a given site. Understanding spatial distribution of artifacts on the sites helps to describe temporal relationships, though the vertical arrangement of artifacts may not reflect true depositional sequences at sites that exhibit poor stratigraphic integrity.

To initiate the analysis of lithic characteristics, I selected five site assemblages that contain lithic material from Archaic, Basketmaker II, and Basketmaker III occupations based on in-field site assessments by archaeologists at Southwest Archaeological Consultants, Inc., and the diagnostic tools I identified during analysis. I then developed a typology for categorizing technomorphological attributes of lithic debitage (Figure 1.2) and lithic tools and created separate databases for each in Microsoft Access, monitoring several metrical and morphological attributes of each specimen.

Figure 1.2. Example of lithic debitage that results from core reduction and tool production.

Primary, secondary, pressure, and biface thinning flakes were differentiated from angular debris, and other macroscopic observations were made paying particular attention to platform morphology. I also measured flake attributes such as length, width, and thickness following procedures for lithic analysis set forth by Andrefsky (1998, 2001), Odell (2001), and Mack (personal communication 2014). I then tabulated these data by site and by attribute to facilitate in analysis of proportions and frequencies. A regional (San Juan Basin) raw material source database is still in the making, and therefore I cannot reliably make claims on the various material types that occur within the assemblages analyzed. I did however distinguish between obsidian, chert, and fine-grained volcanic material to differentiate between basic material types. After collecting raw data from the site assemblages, I ran exploratory data analysis (EDA) to look at differences in assemblage attributes.

Following the Parry/Kelly Hypothesis that formal tools are a function of high residential mobility and expedient tools suggest manufacture by less mobile groups, inferences can be made about the levels of mobility of groups that occupied the sites based on the debitage produced from tool manufacture. Smaller "microdebitage" and shatter present in the upper levels of the sites might suggest occupation by a more sedentary group, perhaps from the Basketmaker II period. The abundance of bifacial thinning flakes would point to an older, more mobile population from at least the middle Archaic period.

By conducting metrical and statistical analysis of lithic flake and projectile point attributes, I investigated the different mobility strategies of prehistoric peoples of the San Juan Basin across the poorly understood agricultural transition to determine the extent to which the introduction of maize may have restrained mobility in the study area. My analysis of lithic debitage will add to the archaeological literature regarding characteristics of and variability among lithic material during an immensely important transitional period in the northern Southwest. On a broader anthropological scale, understanding the limitations of an analysis of lithic material will help to refine our knowledge and inform future approaches to studying residential mobility and the transition to agriculture in various portions of the San Juan Basin.

Chapter 2

Theoretical Considerations for Analyzing Lithic Material

In this chapter, I discuss the theoretical models that inform my research, beginning with the principle that lithic reduction sequences relate more or less directly to residential mobility as set forth by Parry and Kelly (1987). I also examine Archaic hunter-gatherers and early Basketmaker II foragers in the context of the environmental and mobility constraints they may have faced in an arid region using ecological models Bird and O'Connell 2006; Kelly 1995; Winterhalder and Kennet 2006). Finally, I explore ways in which tracking morphological changes in lithic assemblages through time may help to determine the extent to which the adoption of agriculture may have restrained mobility in the study area, assuming that decreased residential mobility is an indicator of farming.

The Parry/Kelly Hypothesis

Lithic reduction strategies provide researchers valuable information on rates of residential mobility among prehistoric groups (Parry and Kelly 1987), and this model provides the framework for my research. Sedentism generally refers to the presence of residential units that groups occupied year-round, whereas residential mobility refers to the movement of an entire group from one location to another (Andresfsky 2005:226). Both sedentary and mobile groups employ logistically organized collectors to supply the group with specific resources, resulting in small logistical camps visible in the archaeologicaal record (Binford 1980:10). The Parry and Kelly model holds that the shift to an overall adoption of expedient core technology from standardized (or formal) core technology may represent a response to decreased mobility. Though more difficult and time consuming to acheive, the foremost advantage of standardized core reduction is the portability of the resulting formal tools and the function of tools as multiuse implements, easily altered or resharpened to be suitable for a wide variety of tasks (Parry and Kelly 1987:298). Lithic technologies based on curation of formal tools such as bifaces, retouched flakes, and prepared cores, all have qualities of flexibility. Curated tools can be rejuvinated and recycled, and have the potential for redesign to perform different functions due to advance preparation, transportability, and anticipated need (Andrefsky 2005:226; Bamforth 1986:38).

With expedient technology on the other hand, cores are not prepared in any way and manufacturers reguard all flakes removed from unstandardized cores as potential tools (Parry and Kelly 1987:287). Informal or expediently made tools are more casual in terms of form and are made, used, and discarded over a relatively short period of time in reponse to unforseen conditions rather than in anticipation of certain situations (Andrefsky 2005:227). Expedient flake tools possess sharper edges, as they typically endure limited use and are discarded when they become dull. Because of the frequent discard rates of expedient tools however, manufacturers would have required a greater amount of raw lithic material to be readily available in order to meet anticipated tool needs. Because of this, the Parry/Kelly model assumes that populations exhibiting a tendency toward expedient tool manufacture participated in more sedentary social systems because they would have settled close enough to a raw material source that economical core reduction was not necessary. Highly mobile groups conversely tend to make economical use of raw materials through careful, formal core reduction as energy expenditure from curation and transport of raw lithic material would have been high, and high-quality material sources may have few and far between anticipated encampment sites. Some exceptions occur where high-quality raw material occurs in abundance in a specific region, and economical use or long distance curation is not a concern. The maintenence and recycling of formal tools howerver are closely related to raw material availability and not solely to settlement organization (Bamforth 1986:38).

While the Parry/Kelly model remains widely cited by lithic analysts (Bryce 2010; Nelson 1994) and other archaeologists (Latady and Goff 1998) interested in the shift from high residential mobility to sedentism in the Southwest and beyond, some critics (Railey 2010) question the soundness and wide-spread applicability of the model as a way to explain changes in formal and expedient tool manufacture. Any hypothesis that claims to account for such a broad topic should be examined thoroughly and revisited often. Railey (2010:261) however seems to mistake the claims made by Parry and Kelly (1987), citing problems with their claim that the shift to expedient technologies correlates with a qualitative shift to intensive maize agriculture, a model that does not hold up against archaeological evidence across North America. While Parry and Kelly (1987:297) suggest that the shift to expedient core technology seems to correlate with the first *emphasis* on maize as a major food staple, they specifically state that the shift is not related to the introduction of agriculture, and note that horticulture (including the cultivation of maize) was established well before the adoption of expedient core technology in the Eastern Woodlands, the Southwest, and Mesoamerica. Instead, Parry and Kelly (1987:297) state that "the most striking correlate of expedient core technology appears to have been a shift in settlement patterns." Because the Parry and Kelly model is somewhat general in nature, it typically holds up in many different contexts around the world (Parry and Kelly 1987:301), but as one might expect there are exceptions in tool use and manufacture among some cultures that may render the Parry and Kelly hypothesis meaningless.

Lithic sequences at sites in the Pacific Northwest exhibit blade tool assemblages suggestive of formal core technologies used by mobile hunter-gatherers, and following the Parry and Kelly model, decrease as groups became more sedentary. Formal tool production reappears later however, as specialized tools used for intensive fish processing, hide working, and specialized wood and bone/antler working activities become more common (Prentiss et al. 2014:33). The presence of knives, scrapers, gravers, and drills in later assemblages suggests that the formality or expediency of tool manufacture may relate as much to subsistence strategies as rates of residential mobility. Sedentary groups would have found utility in a well-made formal tool just as much as mobile groups. While some lithic anaylists may percieve the Parry and Kelly model as a hard and fast rule, the authors carefully acknowledge that the shift in tool manufacture did not involve the wholesale replacement of one technology by another, or the abandonment of formal tools. Even industies with the greatest emphasis on expedient core reduction retained some use of formal tools, typically crafted by specialists (Parry and Kelly 1987:296). Archaeologists investigating the shift from mobility to sedentism and from formal to expedient tools may benefit from a certain degree of critical examination of long standing and widely held hypotheses, and should explore multiple lines of evidence especially given that these shifts occur at different times, in different places, under different circumstances thoughout the world.

Residential mobility seemingly correlates to the preferred subsistence strategy of a given population, and can be reliably identified by the morphological characteristics of lithic debitage recovered from a site. Analysis of lithic artifacts including diagnostic projectile points recovered from years of excavation in the San Juan Basin will add to our understanding of the shift from the hunter-gatherer subsistence strategy of Archaic populations to the adoption of an agricultural subsistence strategy by Basketmaker groups, and the technological changes that accompanied that shift. Research conducted by Parry and Christenson (1987) in the Black Mesa region of northeastern Arizona tracks adaptive shifts in lithic assemblages through time in reference to mobility and subsistence strategies. Additional previous research (Jennings 1980; Huckell 1996; Vierra 1994) of transitional subsistence adaptations in the greater Colorado Plateau region demonstrate that careful examination of lithic assemblages with the theoretical frameworks of human behavioral ecology and optimal foraging theory may reliably inform archaeologists about the nature of residential mobility among hunter-gatherers, and the subsequent adoptation of food production in an arid setting.

Ecology and Mobility

The importance of understanding patterns of mobility in prehistoric populations is widely discussed in the archaeological literature, with particular emphasis placed on inter-regional resettlements of people (Kelly 1995; Price et al. 1994). Such studies provide informative points of discussion surrounding possible scenarios in which cultural material may exhibit variability across time and space. For my research, behaviors relating to residential mobility indicated by the reduction sequences of lithic tools is the primary focus. Successful mobility strategies involved technologies that enabled the accomplishment of immediate goals of a given group such as providing warmth, clearing land, constructing dwellings and storage facilities, and procuring and processing food (Odell 2003:191). Stone tools played an integral role in these activities, and procurement of such a valuable resource would have significanly influenced the movements of prehistoric populations across the landscape.

Ecological models help illustrate some of the potential ways in which prehistoric populations interacted with the landscape during the transition from mobile hunting and gathering to a more sedentary foraging subsistence strategy. Human behavior is typically patterned and often leaves material traces behind that archaeologists can monitor. Behavioral ecology represents a theoretical framework that is amenable to archaeological tests (Bird and O'Connell 2006:167), and because lithic material holds up against forces of erosion and decomposition better than most other kinds of material culture, analysis of flaked stone attributes across time and space helps archaeologists better understand past human behavior. Adaptive behaviors in relation to social and environmental factors including considerations of the fitness-related behavioral tradeoffs that organisms face in particular environments (Bird and O’Connell 2006) should be observed in changes among the lithic tools and debitage present on a site containing Archaic and Basketmaker artifact assemblages.

Optimal Foraging Theory

The transition to agriculture from the theoretical perspective of optimal foraging theory implies that humans maximize the rate of nutrient acquisition to enhance fitness, either by increasing nutrient intake, or by reaching an intake threshold more quickly and so freeing more time to pursue other fitness-related activities (Bird and O'Connell 2006:146). Prehistoric foragers operated with broad information about their environment and thus normally acted in terms of strategies that they thought had a high probability of success (Kelly 1995:98). In the arid San Juan Basin and on the Continental Divide in particular, mobile groups would have been proficient in exploiting very limited resources, and the location of these resources and their seasonal availibility would likely have been widely known to groups or bands across the region.

Environmental degradation and population-resource imbalance caused by demographic and environmental pressures comprise some of the many explanations for the origins of agriculture (Winterhalder and Kennett 2006:5). Climatic conditions in the southern San Juan Basin do not readily facilitate farming endeavors, and earnest attempts must have been made by ancient peoples to move to food production as a preferred subsistence strategy, which may help to explain the seemingly slow transition to a reliance on agriculture during the Archaic through Basketmaker III periods in the northern Southwest. A foraging model offers an explanatory framework with which to examine rates of technological change observed in artifact assemblages, containing well-made bifacial tools to more expedient flake tools, and the waste products that result from their manufacture.

The Transition to Agriculture in the Old and New Worlds

Until around thirteen thousand years ago, all human groups known to archaeologists relied upon the hunting and gathering of wild foods or species of plants whose reproduction is not directly managed by humans (Winterhalder and Kennett 2006:3). Eventually though, most foraging groups adapted to mixed foraging and cultivation strategies that ultimatley led to full-scale agriculture, although there now exist an increasing number of cases in the archaeological record in which agriculture preceeded sedentism or sedentism preceeded agricuture (Kelly 1985:150; Rosenswig 2006; Savard et al. 2006), creating even more confusion for researchers attempting to pinpoint this transition. The Basketmaker II tradition represents the earliest attempts at an intensified reliance on agriculture in the northern Southwest and stands in contrast with the spread of food production in the Old World (Gregg 1988), specifically with the Natufian culture of the Levant (15,000-11,500 years B.P.). Both traditions slowly transition during an intermediate period between hunting and gathering and early attempts at agriculture in arid environments. The Natufians however represent sedentary villagers who harvested wild grains, while Basketmaker populations appear as significantly-committed farmers while remaining nomadic.

Though the Natufians embarked on a sedentary village lifestyle with the advent of horticulture, they retained some measure of mobility, developing seasonal patterns of anticipated mobility that encouraged the building of more permanent storage facilities and domestic foundations to serve the same group over the course of many years (Bar-Yosef and Meadow 1995:48). Evidence for similar behavior occurs in the San Juan Basin, with ephemeral and bell-shaped storage pits of the Archaic period evolving into more formal and permaneant slab-lined cists during the Basketmaker periods. In arid environments, mobility is seasonally constrained, especially as the use of stored food during the winter becomes more important, or as the distribution of water sources limits the movements of desert foragers (Kelly 1995:117). The arid environment of the southern San Juan Basin may explain why local Basketmaker II groups seem to maintain relatively high rates of residential mobility subsequent to the adoption of an agricultural subsistence strategy. Failed crops would have been a factor, creating a neccesity to continue to rely on broad-spectrum foraging. Early Natufian communities similarly practiced intensive and extensive harvesting of wild cereals as part of an anticipated seasonal mobility pattern (Bar-Yosef and Meadow 1995:59).

A continued reliance on significant residential mobility and long-distance trade and social networks would have helped mitigate unpredictable crop yields and other risks inherent in the adoption of agricultural crops as a resource staple. Trade networks help hunter-gatherers maintain social ties that form insurance networks of affinal kin and trading partners, and also instruct children in the resource geography of the region (Kelly 1985:151). Eventually, decreased mobility among hunter-gatherer groups within a certain territory would lead to a pattern of at least permanent settlement and encourage investments of energy in building permanent dwellings and storage facilities in certain locations. Such a change in energy expenditure would eventually lead to the emergence of semi-sedentary communities of hunter-gatherers with predictable annual movements along established trails between seasonal sites (Bar-Yosef and Meadow 1995:51). Settled horticultural societies also maintained information through extensive social networks, and even societies practicing the most intensive forms of agriculture may still have engaged in hunting and gathering (Winterhalder and Kennet 2006:3), further illustrating the challenges in attempting to define the position of a society on the broad continuum of residential mobility.

Application of Theoretical Models to Research

Behaviors relating to residential mobility indicated by reduction sequences of lithic tools are of principal interest in this research, though the varying levels of complexity present in and among social systems across time and space make it difficult to pinpoint appropriate theoretical bases for analysis. As a result, archaeologists have, and continue to propose various explanations for the events that precipitate significant cultural transformations, such as the transition to agriculture. Researchers should be somewhat wary of limiting their theoretical outlook to just one theoretical approach, as many possess certain strengths and weaknesses depending on the types of inferences one wishes to make based on archaeological materials present at a site. A behavioral ecology model provides archaeologists with a way in which to generate expectations about the form and variations of prehistoric cultures in specific ecological settings (Bird and O'Connell 1996:143). Local conditions often mediate the factors that condition technological behavior (Bamforth 1991:231), and universal needs and reactions to a given ecological setting create patterns in subsistence strategies from which archaeologists can infer many pertinent details regarding prehistoric cultural systems based upon empirical data collected from a site. Population density, rates of residential mobility, and levels of inter-group cooperation or competition among prehistoric populations comprise just some of the inferences generated by human behavioral ecologists (Bird and O'Connell 2006). Adaptations by prehistoric populations to regional environmental and social pressures brought about tremendous changes in cultural organization. My goal is to determine the extent to which the adoption of agriculture might affect residential mobility in the San Juan Basin during the transition from the Archaic to Basketmaker periods by analyzing the ubiquitous lithic materials present at five aceramic archaeological sites. If technological changes from specialized to expedient core reduction and tool manufacture can be identified through time, then mobile hunter-gatherers gradually became more sedentary in the Basketmaker periods.

Chapter 3

A Brief Cultural History of the San Juan Basin

This chapter serves to provide insight into the history of Archaic and Basketmaker II groups whose cultural material comprise the focus of this analysis. Understanding the context for shifting subsistence strategies and social organization is important for recognizing and appreciating the concomitant changes in lithic tool production. In addition to discussing the characteristics of prehistoric populations and material culture, I also consider the manner in which maize agriculture was introduced to and adopted by foraging groups in the Southwest.

Throughout most of the human career, populations relied on a foraging subsistence strategy that required a fair amount of residential mobility. With the invention of farming however, foragers were able to settle in one place for longer and increase the amount and reliability of their food supply, allowing the land to support many people. Food production from domesticated plants and animals fulfilled immediate subsistence requirements and generated surpluses that led to increased economic and social complexity (Barker 2006:1). Patterns in residential mobility during the shift to agriculture vary throughout world history, but that Basketmaker II groups appear to remain mobile for so long subsequent to the adoption of agriculture is quite atypical. What does remain consistent among Basketmaker farming with that of other prehistoric groups throughout the world is that an adoption to agriculture is the foremost precondition for the development of great urban civilizations (Barker 2006). Early Basketmaker farmers originated the foundational Puebloan adaptation of dispersed settlements in small encampments, hamlets, and villages across a large geographic range (Smiley and Robins 2005:319) ultimately resulting in the great Chaco Culture of the San Juan Basin.

Prehistoric Populations in the San Juan Basin

Evidence for human populations on the southern edge of the San Juan Basin dates back to at least the late Paleoindian period (13,000 to 8,000 years ago). Diagnostic projectile points and ceramic sherds within the project area suggest a continuous human occupation in this arid environment, from Paleoindian and Archaic groups, to each phase identified by the Pecos Classification of Ancestral Puebloans and later to Navajo settlements. Prehistorically, this region was seldom an area of optimum exploitation of food resources among groups utilizing a simple technology, however the archaeological record reflects an increasing sophistication of technological adaptation to an often marginal environment (Hewett 1977:65). My research centers on the transition from Archaic to Basketmaker II cultures as observed in the technomorphological characteristics of lithic assemblages and accordingly, I focus my discussion on Archaic and early farming populations. A lithic analysis should help to make clear the preferred subsistence strategies, residential mobility patterns, and archaeological correlates associated with Archaic and Basketmaker II groups in the southern San Juan Basin.

The Archaic Period

The Archaic period in the Southwest spans the approximate period from 8,500 to 4,000 B.P., although ambiguities surround the actual cut-off dates, if any exist, between late Archaic and Basketmaker II traditions (Charles and Cole 2006:167; Kearns 2009:49;

Irwin-Williams 1973:11; Matson 2006:150). Some archaeologists group the late Archaic together with the Early Agricultural period (Huckell 1996:1). The Late Archaic period began roughly around 4,000 years B.P. after the Altithermal interval from 8,000-4,000 B.P. that brought about higher average temperatures and low precipitation (Matson 1991:145). The subsequent cooling on the Colorado Plateau allowed the flora to occupy approximately the same places as it does today (Matson 1991:167). Exploitation of this arid landscape for subsistence would have required extensive knowledge of the landscape and high rates of residential mobility to facilitate movement between sparse resource patches and water sources.

Archaic groups comprised small bands of hunter-gatherers who relied on a highly mobile, broad spectrum foraging strategy in response to seasonal scheduling of plant and animal resources (Reher and Witter 1977:113) and who were adapted to modern environmental conditions. Throughout the Archaic period, populations increasingly relied on gathering over hunting, evidenced by a general increase in frequency of ground stone at open-air sites. Archaic sites and assemblages vary throughout the Southwest as well as within the San Juan Basin. Prehistoric populations faced a variety of climactic, resource, and demographic problems and coped with them in a variety of ways, some of which led to an ever-increasing intensification of subsistence bases and eventually to a dependence on agriculture (Vierra 1994:16). The range in adaptations of Archaic groups creates problems in developing accurate classifications from an archaeological perspective, especially in terms of developing models of settlement and mobility, as sites of all ages occur in a wide variety of topographic and depositional situations (Parry and

Smiley 1990:55). Despite these obstacles however, archaeologists continue to refine our knowledge of Archaic mobility, subsistence, and toolkits.

Archaeologists infer the high rate of residential mobility among Archaic groups based upon the lack of long-term habitation sites. Because of the varied topography and vegetal zones, difficulties arise in trying to reconstruct precise seasonal movements of Archaic foragers, though the general models suggest they used open grass- and shrublands primarily in the spring, summer, and fall for collecting wild plants while exploiting pinyon-juniper woodlands near the bases of mountains and mesas for hunting large game in the winter (Railey 2008:30). Archaic campsites are marked by thin, widespread sheets of refuse, implying intermittent occupation (Hewett 1977:69). These aceramic campsites usually comprise eroded thermal features and fire-cracked rock as well. The presence of ephemeral campsites alone cannot date Archaic sites, as many groups used this marginal landscape intermittently throughout prehistory, likely as hunting and resource procurement grounds. Archaeologists recognize Archaic occupations based upon diagnostic artifacts and when possible, radiocarbon dating and paleobotanical analysis of material recovered from thermal and storage features.

Dating of annual plant remains recovered from thermal features not only provides researchers with approximate dates of occupation, but also with valuable information pertaining to subsistence. Tracking the shift in diet from the Archaic to the Basketmaker II periods represents a crucial first step in understanding the process by which maize agriculture was integrated into local foraging economies in the San Juan Basin. Behavioral ecological models of subsistence strategies in unpredictable environments suggest that Archaic foragers would have exploited a wide range of resources, reflecting a combination of considerations regarding resource availability, predictability, and productivity (Merrill et al. 2009:21023). Macrobotanical remains present in sheltered contexts on the Colorado Plateau reveal that the typical late Archaic diet consisted of a variety of resources including amaranth, chenopods, pinyon nuts, acorns, bison, mule deer, bighorn sheep, antelope, cottontail, prairie dog, jackrabbit, and squirrel. The open air sites of the El Segundo Mine permit area do not contain such well-preserved sites however, and because radiocarbon dating and botanical analysis is still pending on most sites therein, archaeologists infer cultural and temporal affiliation based primarily upon the presence of diagnostic lithic remains.

The general Archaic toolkit includes woodworking tools, scrapers, drills, and a variety of dart point forms made of lithic material (Vierra 1994:6). Diagnostic projectile points from the late Archaic period in the San Juan basin include Gypsum, Armijo, and Augustin point types, most of which exhibit stemmed or corner-notched bases. Seed processing implements such as slab metates and one-hand manos also occur frequently at late Archaic sites, consistent with a broad-spectrum subsistence strategy. Ground stone recovered from excavations at the El Segundo Mine typically consist of roughly shaped sandstone slabs that exhibit light pecking and very shallow basins. Perhaps because they are easier to curate, manos recovered here exhibit much more use-wear than the metates.

The Basketmaker II Period

Several distinct but not mutually exclusive characterizations about the origins and development of Basketmaker culture exist among archaeologists (Prudden 1897; Kidder and Guernsey 1919; Morris and Burgh 1954; Vierra 1994; Irwin-Williams 1973; Lipe

1993; Smiley 1997, 2002). What is agreed upon however, is that the Basketmaker II period represents the first instance of semi-sedentism and a reliance on agriculture on the Colorado Plateau (Matson and Chisholm 1991). The Basketmaker II period spans at least 1,600 years from approximately 3,000 to 1,400 years before present (Reed 2000:5), and given this relatively long period of time and the large geographic distribution of Basketmaker II sites, reasonable hypotheses suggest that these populations relied on multiple adaptations with varying degrees of success, and more than one ethnic group may have been involved (Sesler and Hovezak 2011:9). According to the in situ development model, Basketmaker groups descended directly from local Archaic peoples throughout the Colorado Plateau, responding to the diffusion of maize northward as part of a complex comprising the cultigen itself and the knowledge associated with its cultivation and use. Foraging bands then transmitted maize and information regarding cultivation to other mobile groups without major population movements (Merrill et al. 2009:21020).

A migration model on the other hand suggests that Basketmaker groups represent the migration of Proto-Uto-Aztecan (PUA) maize agriculturalists from the south (Matson 1991:10). Despite the fact that the beginning of Basketmaker culture coincides with the advent of agriculture in many archaeological interpretations, the migration model may no longer be tenable, as research continues to push back the dates of agriculture in the Southwest. If outside populations moved throughout the region introducing maize to local groups, archaeologists might expect to see farming during the same approximate time period in the region. Available data now also indicate a Great Basin homeland for PUA populations rather than in Mesoamerican (Merrill et al. 2009:21019), challenging Hill's (2002) long-standing linguistic interpretation of Uto-Aztecan origins in the Southwest.

That populations adopt agriculture at different times throughout the Southwest points to independent regional development based upon subsistence needs and agricultural sustainability in various environmental settings. Populations on the northern Colorado Plateau adopted agriculture at least 1,000 years after its introduction on the southern Colorado Plateau. Given the trade networks in place during this time, the lag likely cannot be attributed to isolation. The arrival of maize in the Southwest coincided with a period of increased effective moisture that would have promoted an abundance in local wild resources, and successful hunter-gatherers in the region would not have been attracted to maize agriculture because it would have disrupted their preexisting subsistence strategies (Merrill et al. 2009:21024). Northern groups, with cultural characteristics often resembling their Great Basin neighbors more than populations to the south, may not have initially perceived any benefits of agriculture over their long history of successful broad-spectrum foraging. Eventually however, neighboring groups from the south who did see the utility of farming would encroach on foraging territories, forcing northern groups to follow suit (Geib 1994).

The arid and unpredictable environment of the San Juan Basin, particularly on the Continental Divide, likely accounts for the high rates of mobility exhibited by Basketmaker II groups subsequent to the adoption of agriculture. Failed crops must have been fairly common, creating a neccesity to continue to rely on broad-spectrum foraging. The earliest agricultural components in the region document continuity with longstanding foraging traditions, and these along with subsequent components represent a consistency of demographic and behavioral ecological models expected in this region when maize was integrated into a subsitence strategy of broad spectrum foraging (Merrill et al. 2009:21024). A continued reliance on high residential mobility and long-distance trade and social networks also would have helped mitigate unpredictable crop yields and other risks inherent in the adoption of agricultural crops as a resource staple.

Though the Basketmaker II period represents an early adoption of agriculture, dependence on maize cultivation for subsistence did not likely occur until about A.D. 700-800, during the Basketmaker III period. Basketmaker II groups remained mobile, though evidence of more permanent structures help archaeologists define their occupations in the archaeological record. Occupations of pre-ceramic maize-growing hunter-gatherer foragers are characterized by fairly substantial architectural units, extramural activity areas, domestic middens, and a functional richness in lithic assemblages (Sesler and Hovezak 2011:13). Open air dwellings are not quite pithouses at this time, but rather shallow basins with log and mortar walls (Hewett 1977:70).

In sheltered contexts, archaeologists recognize the Basketmaker II tradition by the absence of ceramics and the presence of well-made baskets, sandals, woven bags, aprons, hide and fur blankets, and atlatls (Hewett 1977:70). The open-air Basketmaker II sites on the El Segundo mine do not contain such artifacts, and archaeologists here determine cultural affilitation by lithic assemblages and by indications of activity areas that typically point to long-term use of areas. The presence of projectile point types such as San Pedro suggests occupation by Basketmaker II populations, as well as ground stone with more pronounced shoulders and use-wear. Large, amorphous charcoal stains with associated sediment oxidation also indicate prolonged occupation at a particular site.

Patterns of land-use in the near hinterland environment of the southern San Juan Basin point to continued exploitation of resources in the area from the Paleoindian period until modern times, but seemingly only during seasonal rounds of foraging. This portion on the Continental Divide seems incapable of supporting long-term habitation or resource intensification. Though the Basketmaker II tradition is marked by a reliance on agriculture, groups appear to have remained relatively mobile in this region, continuing to rely on broad-spectrum foraging which creates difficulties for archaeologists who seek to better understand the transition from high mobility during the Archaic to presumed sedentism during the Basketmaker II period.

Chapter 4

Regional and Site Settings

In order to discuss patterns of prehistoric social organization in terms of lithic technology and rates of residential mobility in any meaningful way, it is important to recognize and understand the environmental contexts that may have affected the behaviors and motives of Archaic hunter-gatherers and Basketmaker forager-farmers. In this chapter, I provide an overview of the regional environmental and geographic setting of the project area in question. I then present descriptions for the five sites from which the lithic material analyzed in this research were recovered, including the specific assemblage characteristics of each.

Environmental Setting

The archaeological sites from which the lithic materials in this analysis derive were all recovered from within the lease area of the El Segundo coal mine owned by Peabody Energy Resources. The mine is located in the southern portion of the San Juan Basin in McKinley County, New Mexico approximately 72 km north of Grants and 43 km south of Chaco Culture National Historical Park (Figure 4.1). The sites excavated in the mine permit area lie on or very near the Continental Divide at an average elevation of approximately 2100 m above sea level (Figure 4.2).

Sparse stands of juniper and occasional pinion trees occur on the landscape, with the most common vegetation type comprising various grasses and shrubs, including bunch grass, sagebrush, four-wing saltbush, Mormon tea, and rabbitbrush. At sites near

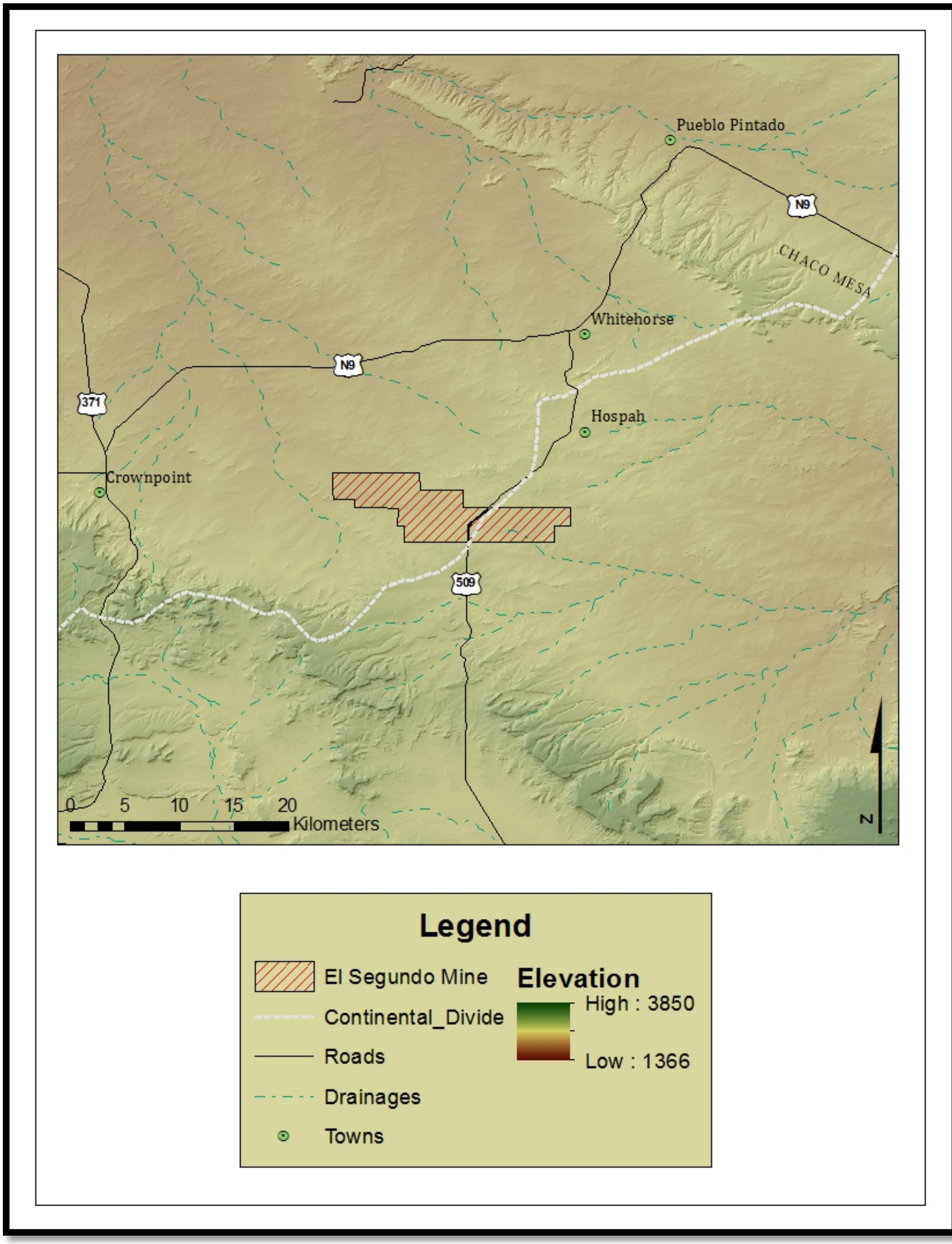

Figure 4.1. Map of the general project area.

arroyos, rills, and the ephemeral tributaries to Inditos Draw, the only semi-permanent water source in the area, subsistence plants such as chenopodium, amaranth, and sunflower occur with moderate frequency. Because of the location on the Continental Divide, permanent water sources are rare and are often only found in modern land use contexts such as cattle tanks. Despite the lack of water and the relatively sparse vegetation in the area, the faunal population here is quite rich. Herds of elk (*Cervus canadensis*) attract hunters, and pronghorn antelope *(Antilocapra americana)* frequent the area, easily bypassing the modern barbed-wire fences placed by cattle ranchers. The mine permit area

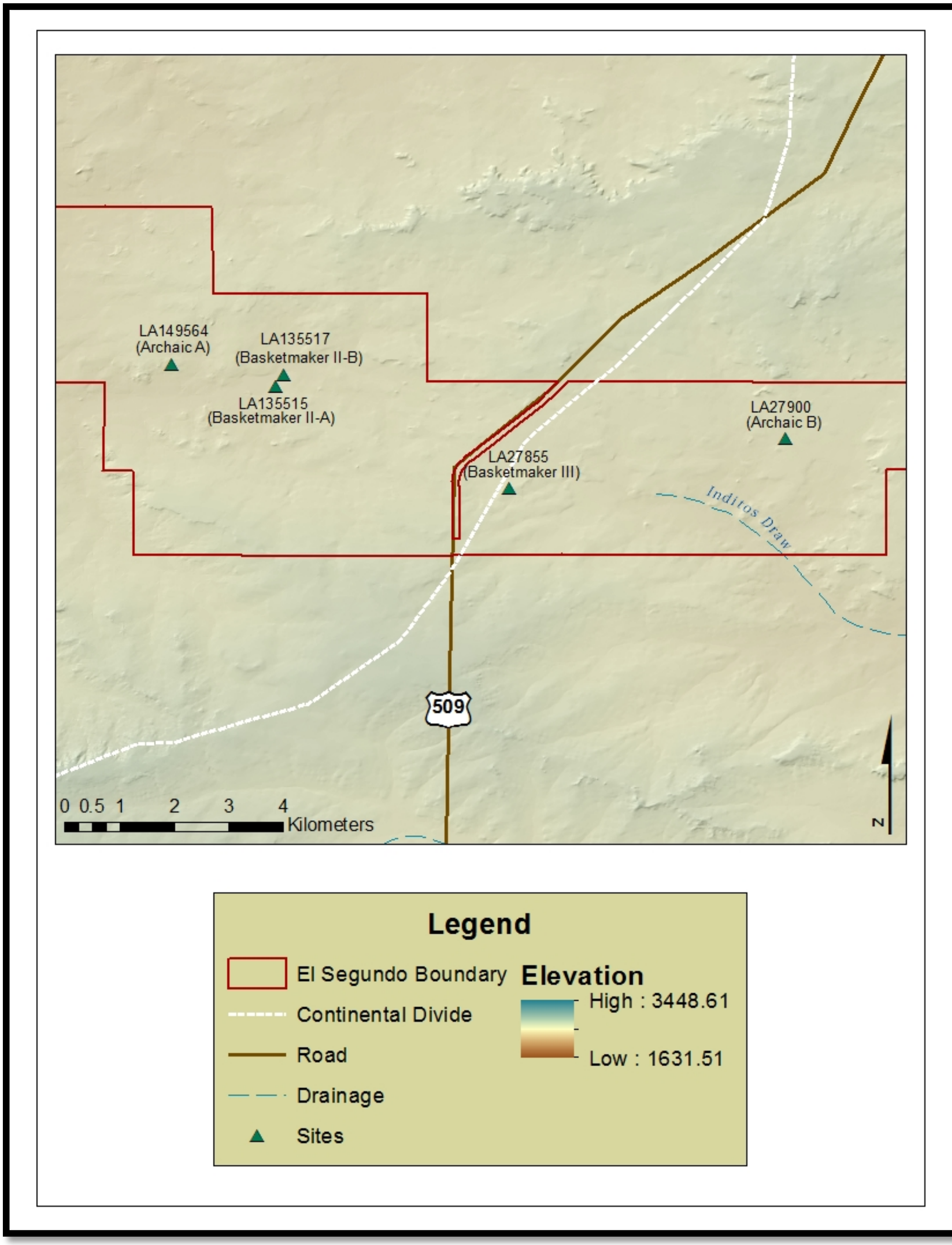

Figure 4.2. Map of the five sites examined in this analysis.

also hosts healthy populations of black-tailed jackrabbit (*Lepus californicus*), cottontail rabbit (*Lepus sylvaticus*), grey fox (*Urocyon cinereoargenteus*), porcupine (*Erethizon dorsatum*), prairie dog (*Cynomys*), and a variety of rodents and reptiles, including collard lizards (*Crotaphytus collaris*) and rattlesnakes (*Crotalus atrox*).

The weather conditions in the area can be quite inhospitable, with temperatures ranging from -36 degrees Fahrenheit in the winter to 106 degrees Fahrenheit in the summer, with less than 22 cm of precipitation annually (National Park Service 2006). Perhaps the most distinguishing and least appealing (to human populations) climatic phenomenon in this region is the wind. Springtime shifts in the jet stream create strong southwest to northeast prevailing winds from March to June, when sustained winds of 20-35 miles per hour and gusts up to 70 miles per hour occur almost daily.

Due to the high winds common in this region, most intact archaeological sites reside near leeward areas of sandstone/shale escarpments. In valleys and windward areas, sites typically consist of palimpsest blowouts or wind-scoured deflations, with low aeolian sand dune accretions present on the eastern edges of site boundaries. Hematite lag in deflated areas typically indicates the presence of shale bedrock or residuum less than five cm below the present ground surface. Young aeolian and alluvial sediments predominate in the area, though some sites exhibit rubification and in situ soil formation and/or accumulations of calcium carbonate, which suggest the presence of buried soils and provide relative temporal indicators (Wells et al. 1990; Smith and McFaul 1997).

Aeolian accretions from high seasonal winds and alluvial movement of sediments from the sheet wash and rill cutting caused by monsoon thunderstorms overlay the Upper Cretaceous Menefee Formation of sandstone and coal-bearing shale. Sandstone or shale bedrock is quite shallow in this part of the San Juan Basin because of aeolian scouring, and excavations units in the project area typically cease when bedrock is reached. The general lack of soil formation in this region, in addition to high frequency of bioturbation from rodents and red harvester ants creates problems in identifying discrete cultural occupations, as stratigraphic integrity is typically compromised.

The geophysical features in the area consist of extensive mesa formations, cuestas, sandstone escarpments, and erosional benches (Figure 4.3). The mesas, cuestas, and benches provide excellent vantage points of expansive valleys, and accordingly

Figure 4.3. Geophysical features typical in the project area.

archaeologists encounter many sites with lithic scatters and ephemeral thermal features interpreted to be hunting camps in these locations. Areas leeward of sandstone escarpments also yield many archaeological sites. Dry coursed masonry walls built as extensions of sandstone formations are typically interpreted as windbreaks at prehistoric seasonal hunting camps or historic sheep herding sites. Because the region is geomorphologically unstable and characterized by young aeolian sediment packages and wind scouring, stratigraphic sequences of archaeological sites exhibit extensive commixture. Some sites however contain soils formed beneath a mantle of aeolian sediments, and the accumulation of clays and calcium carbonate provide approximate dates of occupation where archaeologists find artifacts and features in situ.

Mountain ranges surround the San Juan Basin, most of which provided prehistoric populations with high-quality lithic material. The Chuska Mountains to the west yield Narbona (or Washington) Pass chert, the Zuni Mountains to the South bear several cherts, Mt. Taylor to the east yields Horace Mesa and Grants Ridge obsidian, and the Jemez Mountains to the northeast yield Polvadera and Obsidian Ridge obsidian, as well as Pedernal chert. Lithic assemblages in the mine permit area consist mainly of these semi-local raw materials.

For this analysis, I examined the lithic debitage and tools from five sites in the project area; two single-component Archaic sites, two early Basketmaker assemblages that derived from two multicomponent sites, and one single-component Basketmaker III habitation site. For the three single component sites, temporal affiliation was assigned in-field and confirmed during analysis based on examination of all tools present in each assemblage. For the two sites with multiple temporal components, I examined all of the tools present at the site and identified the locus at each site that comprised mainly of diagnostic Basketmaker II projectile points. Artifact loci, or Excavation Features (EF's) are essentially excavation blocks centered around features and/or artifact concentrations, which may result from a single occupation or many. The early Basketmaker assemblages chosen for this analysis appeared to represent a single component (as opposed to palimpsest occupations fairly common in the area) based on closely related artifact types. During analysis of the five site assemblages, no absolute dates were reported and temporal affiliation was designated based on diagnostic artifacts, though the Archaic sites have since been assigned radiocarbon dates during the ongoing analysis of all sites in the project area by Southwest Archaeological Consultants, Inc. The early Basketmaker sites and Basketmaker III site still lack absolute chronometric dates, however I am confident that the diagnostic lithic materials, chiefly projectile points, present at each site fit well within temporally designated types widely recognized in the region (Charles and Cole, 2006:178; Geib 2011; Irwin-Williams 1973; Justice 2002; Kearns 2009; Shelly 1994:389).

Site Descriptions

LA149564

This Archaic limited activity campsite (Figure 4.4) was situated on an east to west trending ridge on the northern edge of Orphan Annie Draw. Recent radiocarbon analysis dates this site firmly between 5,700 and 6,200 radiocarbon years before present (Mack, personal communication 2015). The site, measuring 50 by 32 m (Figure 4.5) was situated on the southern (windward) slope of a local topographic high at 2,119 m subjecting the site to aeolian and alluvial erosion. Much of the western half of the site exhibits deflation, and erosion from channelized and overland water flow was evident throughout the site. A shallow wash parallels the ridge to the north, and a series of scarps and benches typical of an upland/valley setting occur to the south. The convex surface of the site slopes from the northwest to the southeast at about 6 degrees (Mack 2009:6).

Figure 4.4. LA149564 site overview looking north (provided by Southwest Archaeological Consultants, Inc.).

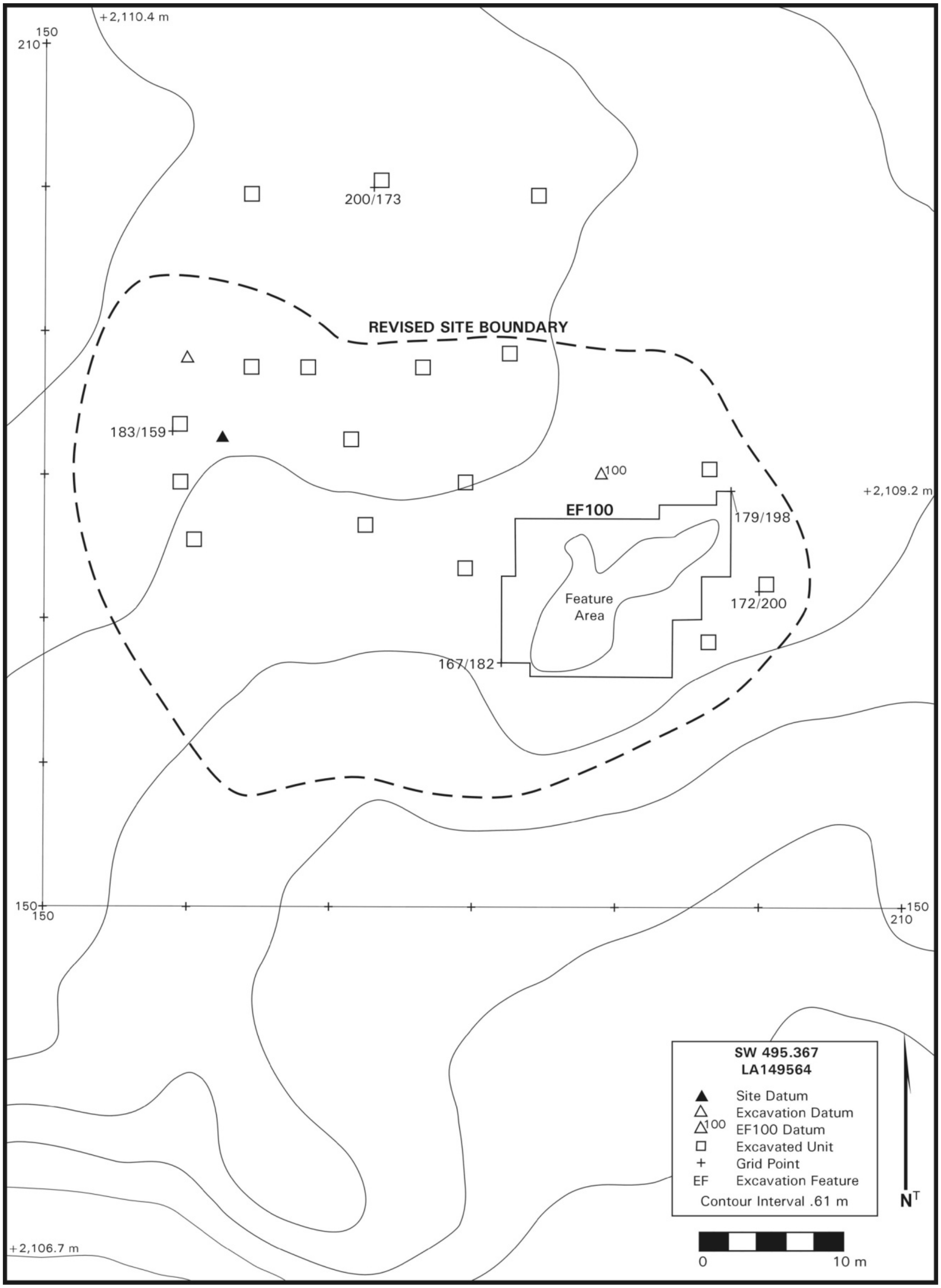

Figure 4.5. LA149564 site plan view (adapted from Mack 2009).

A few juniper growing on the northern boundary of the site represented the only canopy cover at LA149564, with the majority of vegetation consisting of low shrubs and grasses covering between 25-50 percent of the site surface. Vegetation identified on the site includes sagebrush, winterfat, saltbush, wolfberry, snakeweed, four-o'clock, Indian ricegrass, ring muhly, and alkali sacaton (Mack 2009:6).

The surface manifestation of cultural material on LA149564 comprised a sparse lithic scatter identified during pedestrian survey. Subsequent subsurface testing revealed an intact occupation area consisting of two storage pits and 11 unlined thermal features. The sedimentological sequence on the site represented a well-developed, albeit disturbed soil profile. The profile A/Btj/Btk/Bk/R on the eastern edge of the site indicates prolonged surface stability allowing for the formation of soils, and the relative dating of the site occupation, though postdepositional processes of erosion and bioturbation have reworked or removed this sequence throughout much of the site (Mack 2009:38). Recent aeolian sand capped the underlying soil profile and the archaeological materials. The 825 pieces of lithic debitage recovered from LA 149564 originated from the excavation of 154 m^2, most of which comprised the block excavation of EF-100 that revealed a cultural occupation surface indicated by the presence of storage and thermal features within the same I/II/X soil/sediment units.

Based upon preliminary in-field identification, excavation of the site yielded a temporally diagnostic Armijo dart point (Figure 4.6), five retouched pieces, two cores, two mano fragments, two stone pendants, and 825 pieces of debitage of which I analyzed 454 from a random sample. After examining the tools recovered from the site in a laboratory setting for this analysis, I determined that an additional projectile point fragment was present (Figure 4.7), as were three multidirectional cores (Figures 4.8, 4.9, and 4.10), and three retouched pieces (Figures 4.11, 4.12, and 4.13).

Figure 4.6. Nearly complete Armijo projectile point recovered from LA149564.

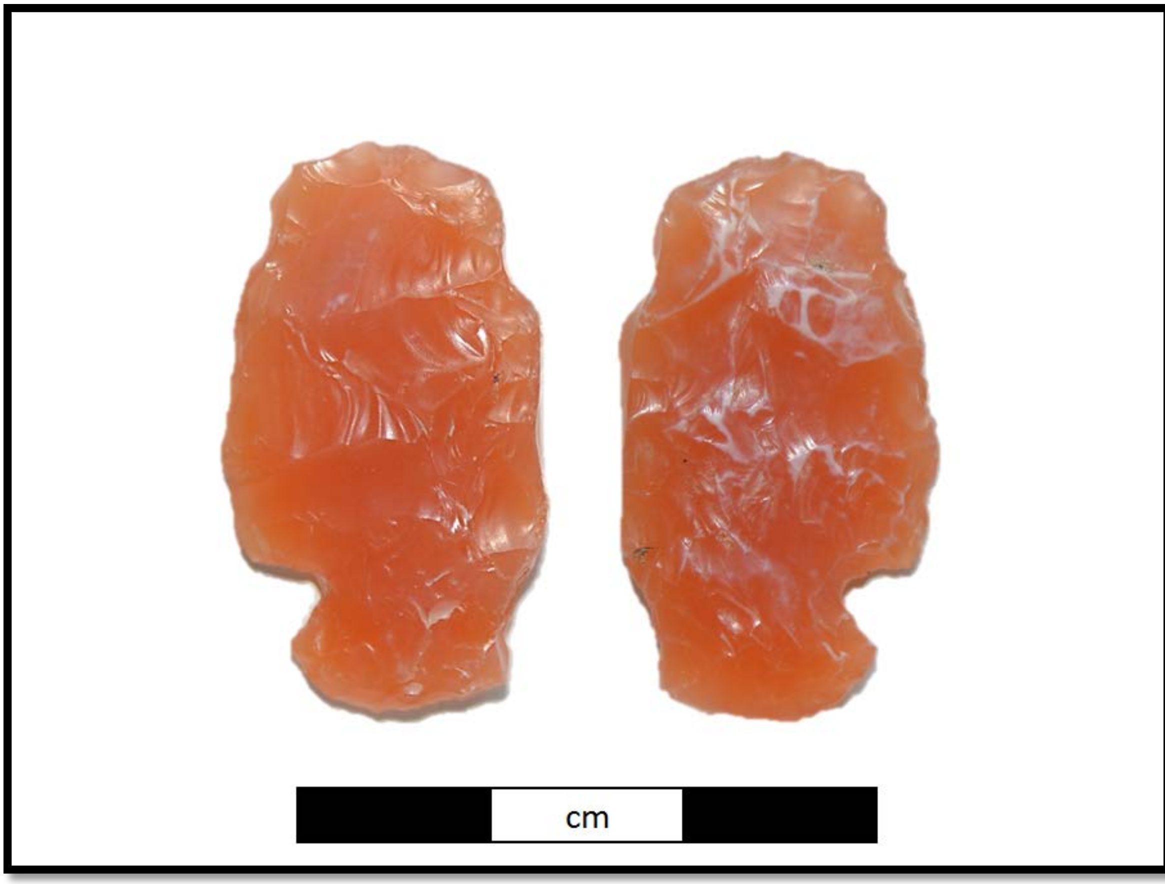

Figure 4.7. Projectile point fragment recovered from LA149564.

Figure 4.8. Multidirectional core recovered from LA149564.

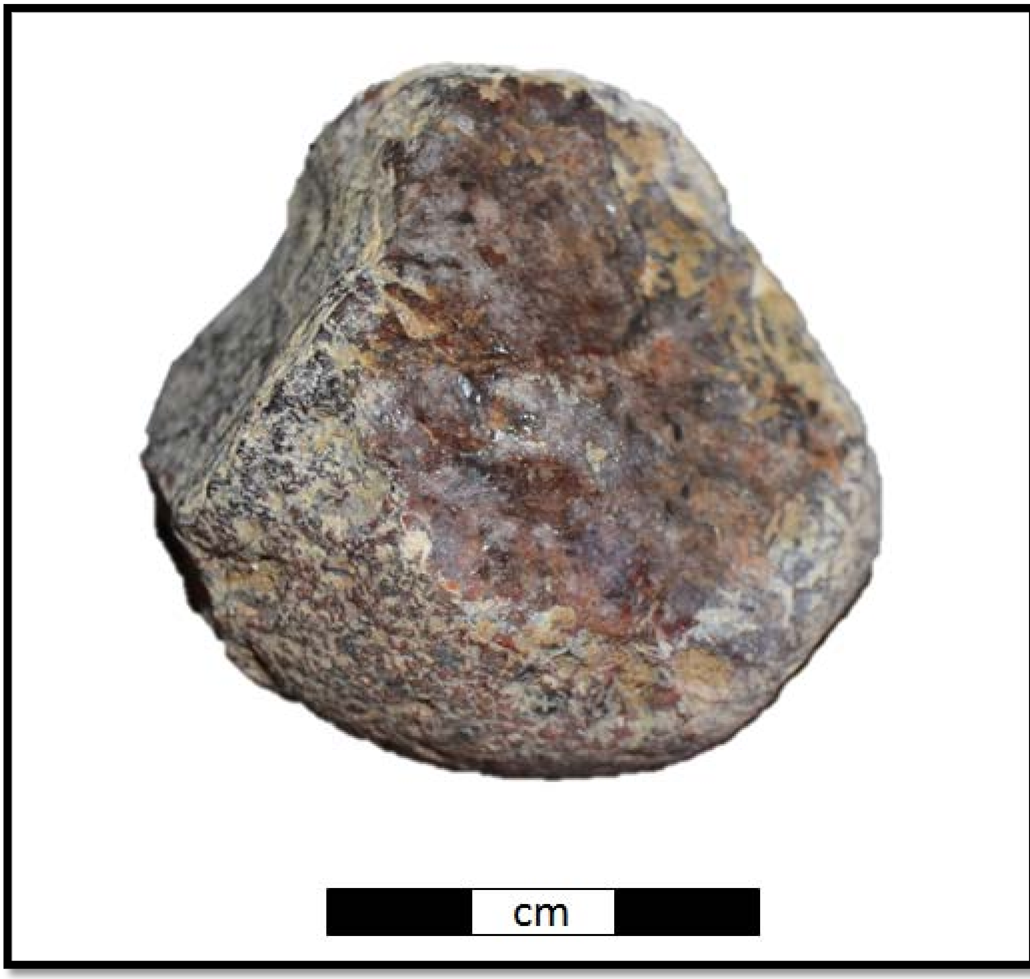

Figure 4.9. Multidirectional core recovered from LA149564.

Figure 4.10. Multidirectional core recovered from LA149564.

Figure 4.11. Retouched piece recovered from LA149564.

Figure 4.12. Retouched piece recovered from LA149564.

Figure 4.13. Retouched piece recovered from LA149564.

LA27900

This Archaic site measuring 68 by 46 m at an elevation of 2,116 m represents a limited activity campsite (Mack 2014a:6) based upon the presence of at least two temporally diagnostic projectile points. Recent radiocarbon assays have firmly dated LA27900 to 6407-6669 cal B.P. based on four small (<.03 g) fragments of pinion (*Pinus* sp.) and juniper (*Juniperus* sp.) charcoal recovered from two thermal features (Mack, personal communication 2015). The site occupies a low southwest to northeast trending hill (Figure 4.14) forming a fairly distinct that rises above the surrounding area that is otherwise geologically featureless, affording the site a 360 degree view for two to three km in any direction (Mack 2014a:6). The landscape to the south of the site is

Figure 4.14. LA27900 site overview facing northeast (provided by Southwest Archaeological Consultants, Inc.).

characterized by a broad, unbroken expanse of upland flats cut on mudrock, while to the north, west, and east of the site, the hill sloped down into alluvial plains cut with deeply incised gullies.

The site occupied the north-northwest portion of the hill top and extends down onto the northwest-facing slope of the hill (Figure 4.15). Mack (2014a:6) describes the site as thinly mantled by aeolian sand overlying friable, noncalcareous sandstone bedrock that crops out discontinuously across the site and a light olive brown (2.5Y 5/5) silty shale that is intact in the northwestern portion of the site but otherwise weathered into a C_r horizon. A large blowout was present on the southern windward portion of the hill where wind scouring has completely removed the regolith, leaving behind bedrock float on the deflated surface. Mack (2014a:7) interprets the site as one undergoing near constant modification by geomorphic processes, with a dynamic site surface being reworked from both aeolian processes and overland water flow.

The site and surrounding area lacks any canopy cover, with vegetation consisting primarily of shrubs, bunchgrasses, and forbs. Fourwing saltbush (*Atriplex canescens*), broom snakeweed (*Gutierrezia sarothrae*), sagebrush (*Artemisia* spp.), and winterfat (*Krascheninnikovia lanata*), dock (*Rumex* sp.), goosefoot (*Chenopodium* sp.), and sunflower (*Helianthus annuus*) together provide less than 25 percent groundcover on the site (Mack 2014a:7).

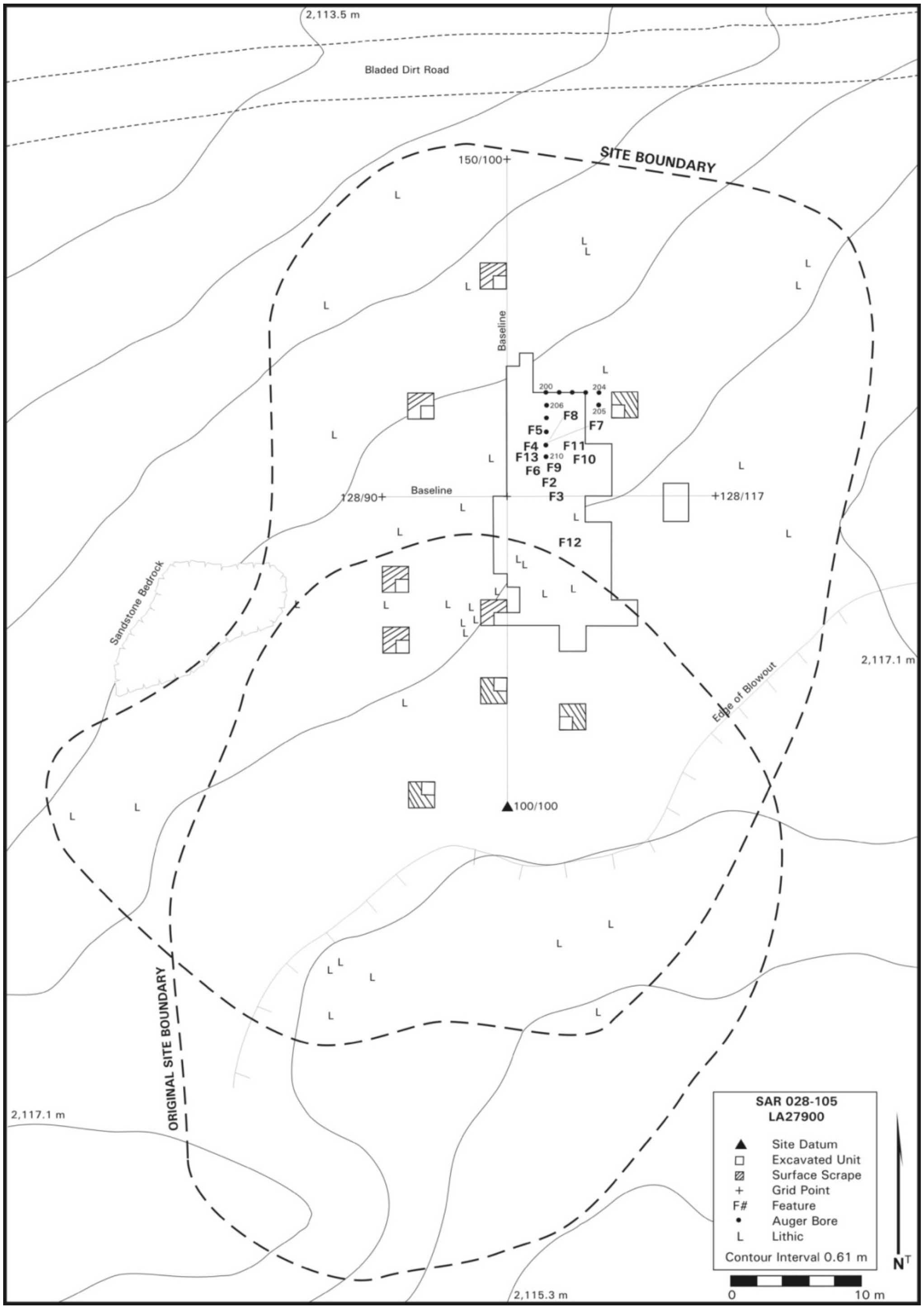

Figure 4.15. Plan view of LA27900 (adapted from Mack 2014a).

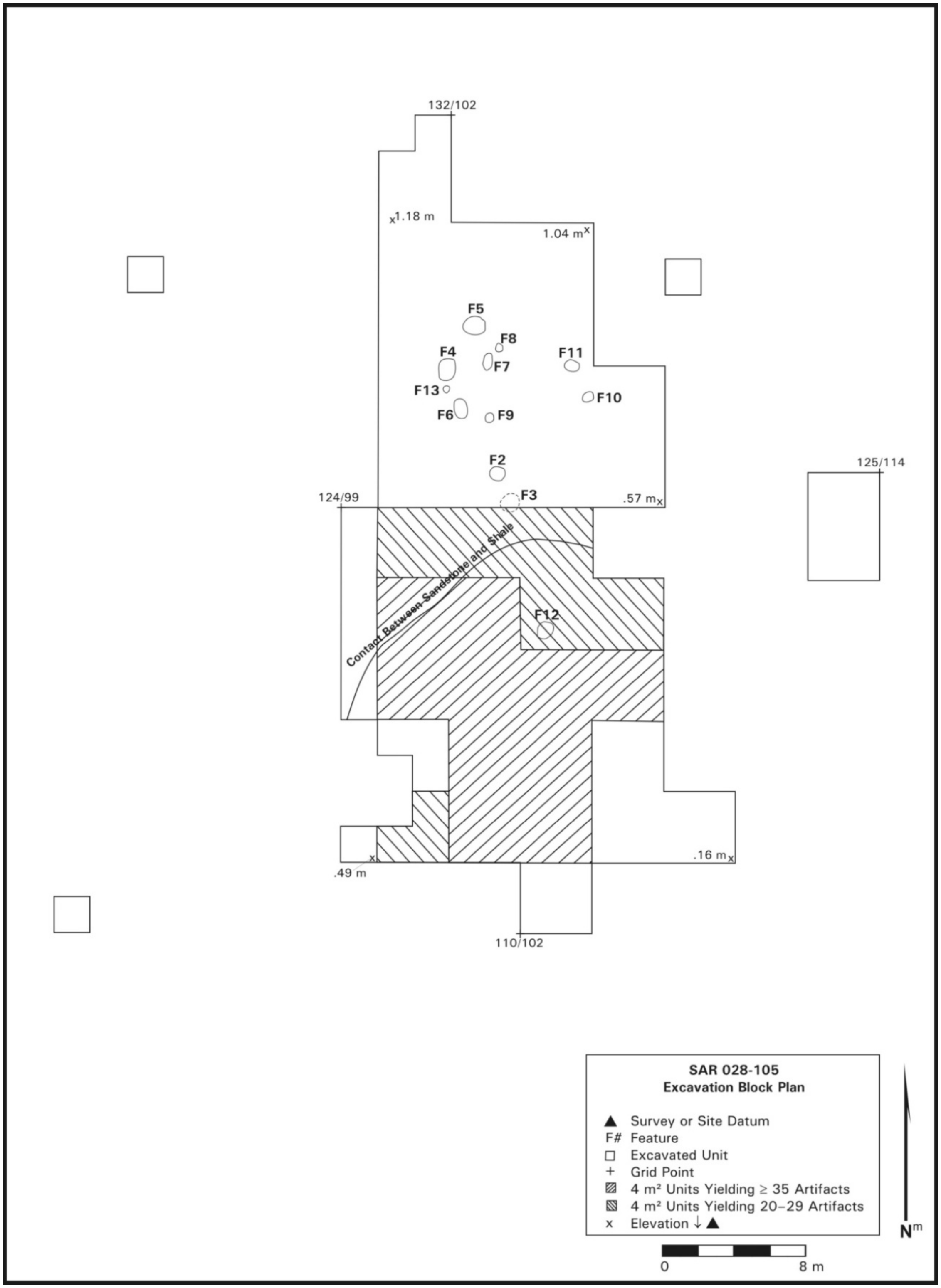

Figure 4.16. Plan view of excavation block, showing only units excavated into Stratum II (Adapted from Mack 2014a).

The site was initially identified based on the presence of a small lithic scatter of 16 artifacts, a San Jose projectile point, two pieces of groundstone, and what appeared to be a possible thermal feature determined to be natural upon further investigation. Subsequent testing and excavation of the site revealed the presence of an intact "occupation area" (Figure 4.16) containing 12 features (eight thermal pits and four post holes) and a substantial lithic assemblage that appeared to result from bifacial reduction. All features were present within the same stratigraphic interval with their upper contactsoccurring between 25 and 30 cm below the present ground surface. A relationship is evident between the elevation of each feature and the slope position within the occupation area (Figure 4.17) suggesting a paleosurface that parallels the modern ground surface and indicating that the general topography in the immediate area had not changed significantly in at least the last 2,000 years (Mack 2014a:22). Within the subsurface occupation area, over 1,150 artifacts were recovered including diagnostic Armijo and En Medio projectile points in addition to two projectile point bases and several uniface and biface fragments.

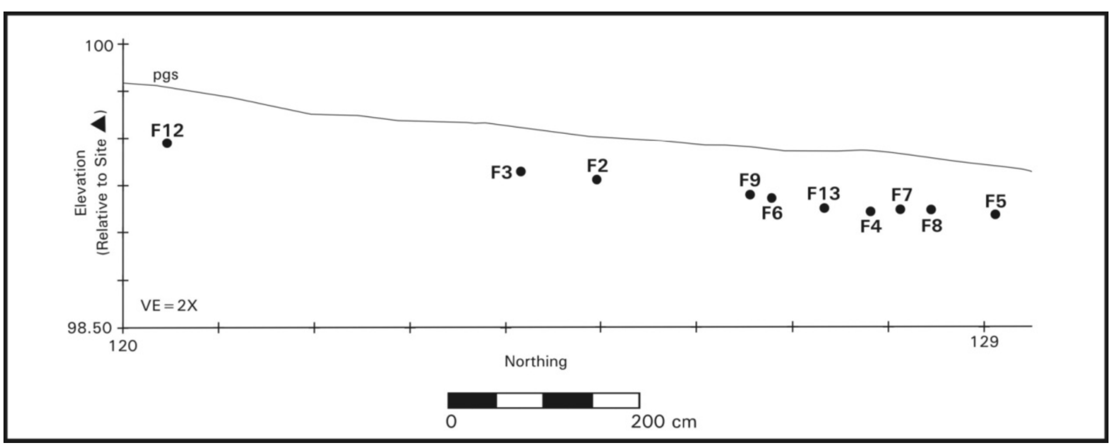

Figure 4.17. Schematic cross section of excavation block showing relationship of feature depths and the present ground surface (adapted from Mack 2014a)

Site excavation yielded 1,181 artifacts including 1,133 pieces of debitage (of which I analyzed the first 531 that were received by the lab). Within the assemblage were four projectile points, two of which are complete San Jose and Armijo points (Figures 4.18 and 4.19), and two specimens that represent En Medio hafting elements (Figures 4.20 and 4.21), as well as a possible stem from a projectile point (Figure 4.22) 34 biface fragments (Figure 4.23), four uniface fragments, two unidirectional cores (Figure 4.24) and three fragments of a single groundstone implement, all recovered within seven stratigraphic units of well-developed but partially eroded soil. Based upon the general composition of the artifact assemblage recovered from excavation (mostly bifacial thinning and retouch flakes), the site was identified as a probable Archaic logistical encampment representing a narrow range of activities (Mack 2014a:26).

Figure 4.18. San Jose projectile point recovered from LA27900.

Figure 4.19. Armijo projectile point recovered in two pieces approximately four m apart at LA 27900.

Figure 4.20. En Medio projectile hafting element recovered from LA27900.

Figure 4.21. Possible En Medio projectile hafting element recovered from LA27900.

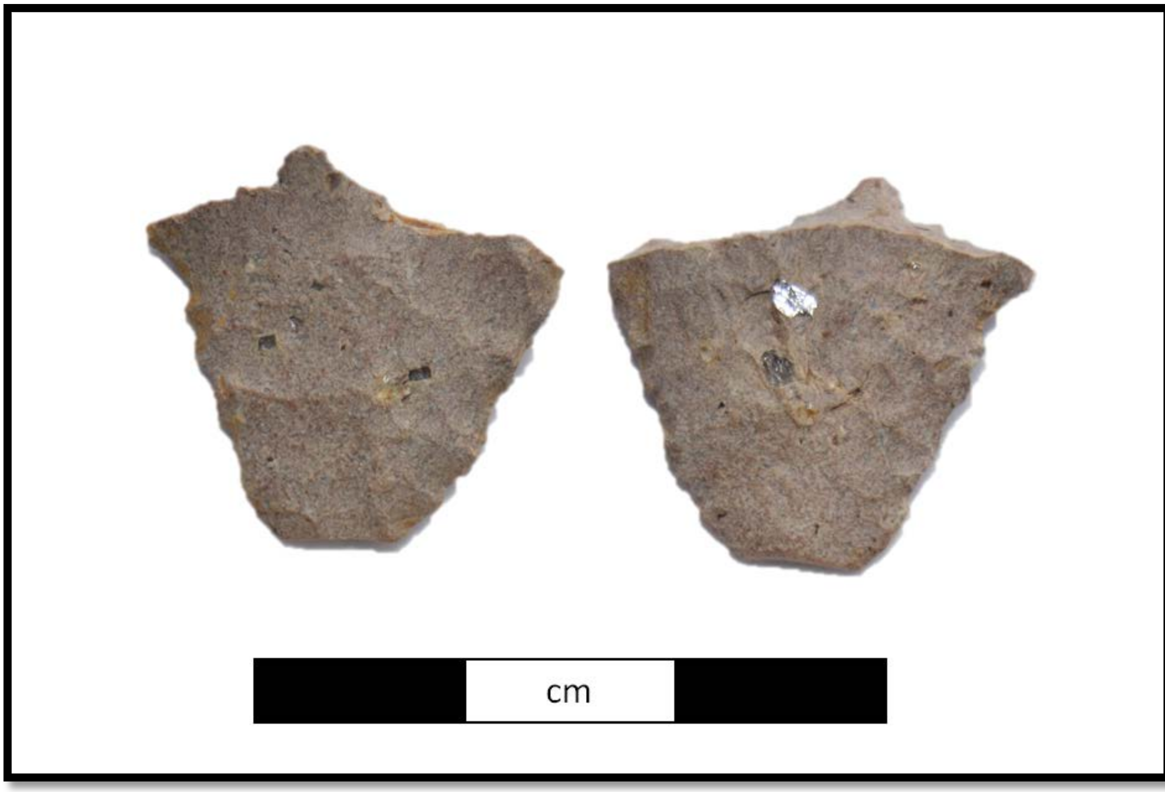

Figure 4.22. Stem from an early-style projectile point recovered from LA27900.

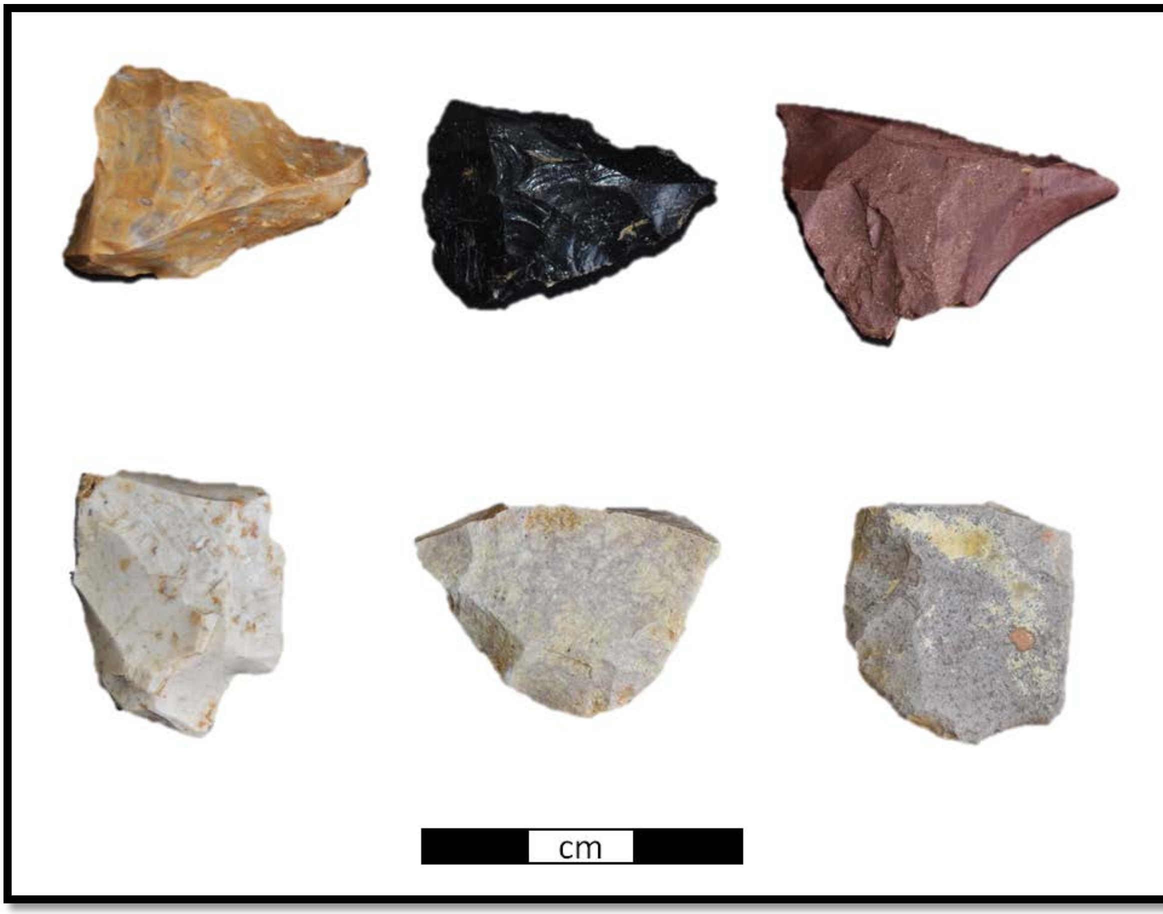

Figure 4.23. Sample of biface fragments recovered from the excavation block at LA27900.

Figure 4.24. Exhausted unidirectional core recovered from LA27900.

LA135515

This large multicomponent site measures 240 m by 160 m and is situated along a low southeast- to northwest trending ridgeline at 2,117 m in elevation between two similarly oriented finger ridges, which overlook a small valley to the west-northwest (Figure 4.25). The convex surface of the ridge gently slopes downward between four and six degrees on either side, and at least three shallow erosional channels originate near a large (20 m by 70 m) area of deflation in the northern portion of the ridge, draining to the north (Figure 4.26). A large portion of sandstone bedrock outcrops in the southwest portion of the site near the crest of the ridgeline, with a 26 m by 23 m area of deflation present on the leeward side (southeast) of the outcrop (Harmon 2010:17).

Figure 4.25. Site overview of LA135515 looking northwest (provided by Southwest Archaeological Consultants, Inc.).

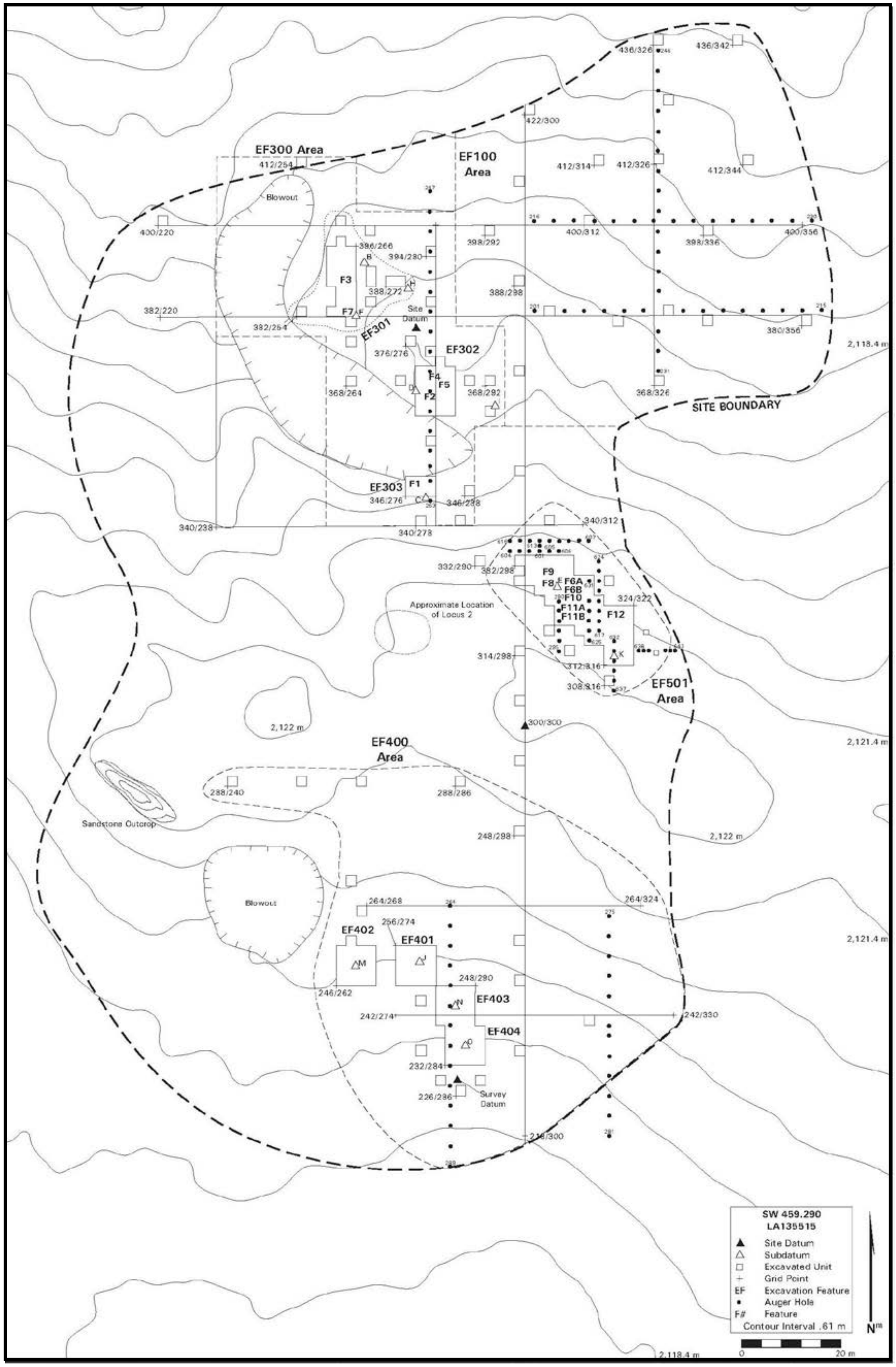

Figure 4.26. Plan view LA13551 (adapted from Harmon 2010).

A few juniper (*Juniperus* sp.) occur near the deflation on the northern portion of the site however, vegetation on the site consists primarily of understory shrubs and grasses, providing approximately 30% ground cover. Vegetation identified by Harmon (2010:17) on the site includes blue grama (*Boutelous gracilis*), alkali sacaton (*Sporobolus airoides*), galleta grass (*Pleuraphis* sp.), winterfat (*Krascheninnikovia lanata)*, four-wing saltbush (*Atriplex canescens*), Bigelow sagebrush (*Artemisia bigelovii*), broom snakeweed (*Gutierrezia sarothrae*), and Russian thistle (*Kali tragus*).

During pedestrian survey, archaeologists originally recorded the site as a late Archaic limited activity campsite consisting of two artifact concentrations and a very sparse lithic scatter. Subsequent excavation of the site revealed one historic and at least three pre-Columbian components (early Archaic, middle Archaic, Late Archaic/Early Basketmaker). Only the lithic material derived from the locus designated as Excavation Feature (EF) 301 however was examined in this investigation (Figure 4.27). Excavation of this area yielded 158 pieces of lithic material, including four projectile points (Figures 4.28, 4.29, 4.30, and 4.31), two bifaces, a utilized flake (Figure 4.32), and a core (Figure 4.33). Five groundstone artifacts and a thermal feature associated with the eroded remnants of a possible activity or habitation area were also recovered in the area.

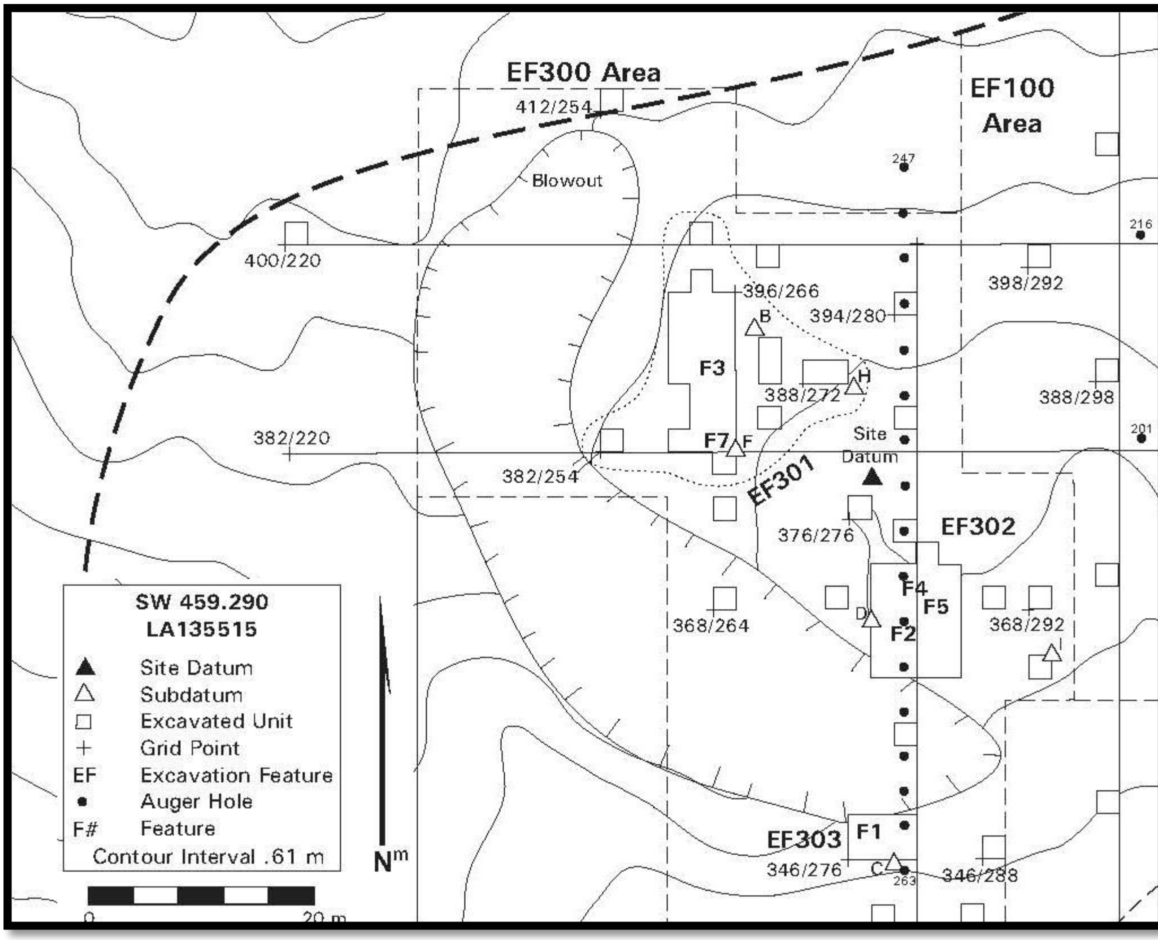

Figure 4.27. Plan view of EF 301 (adapted from Harmon 2010).

Figure 4.28. Basketmaker style point fragment recovered from excavation at LA135515.

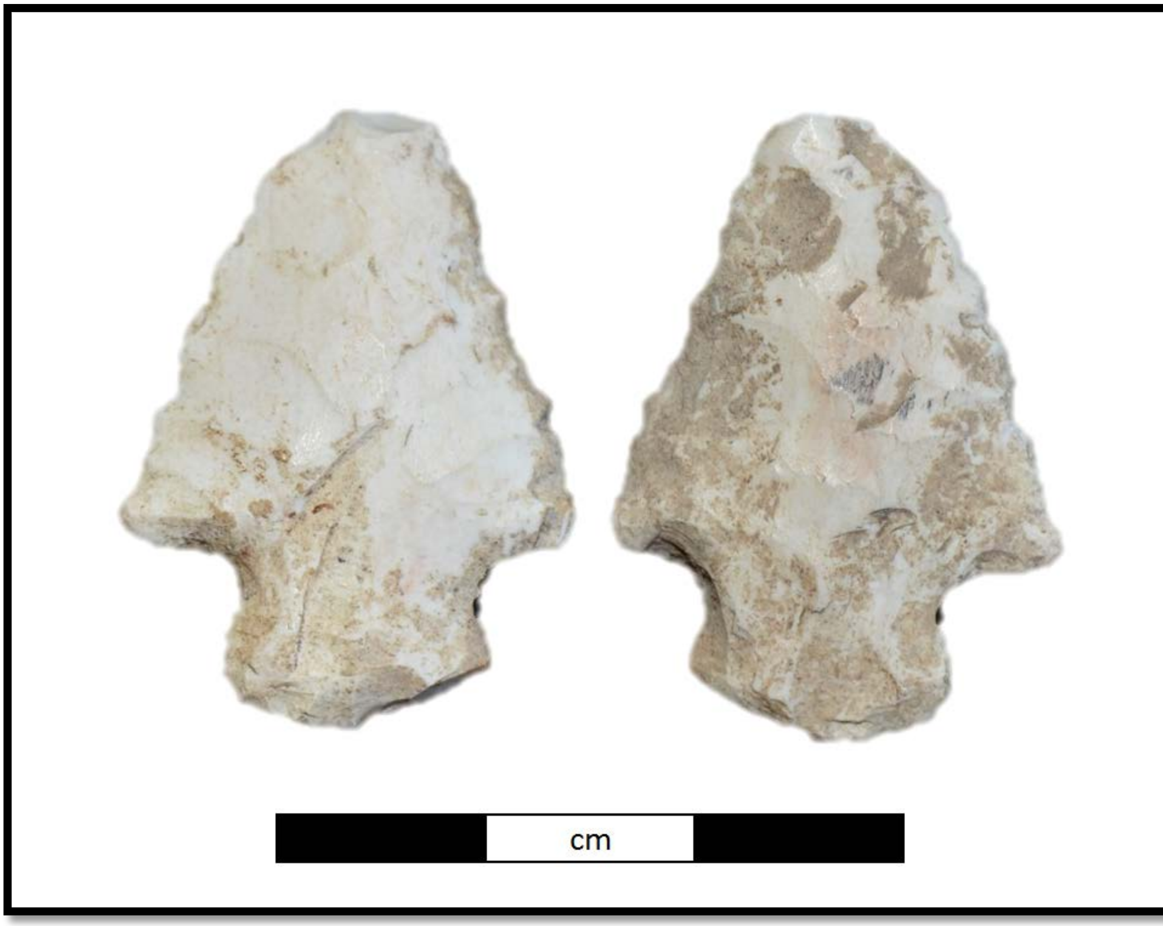

Figure 4.29. Basketmaker style point fragment recovered from excavation at LA135515.

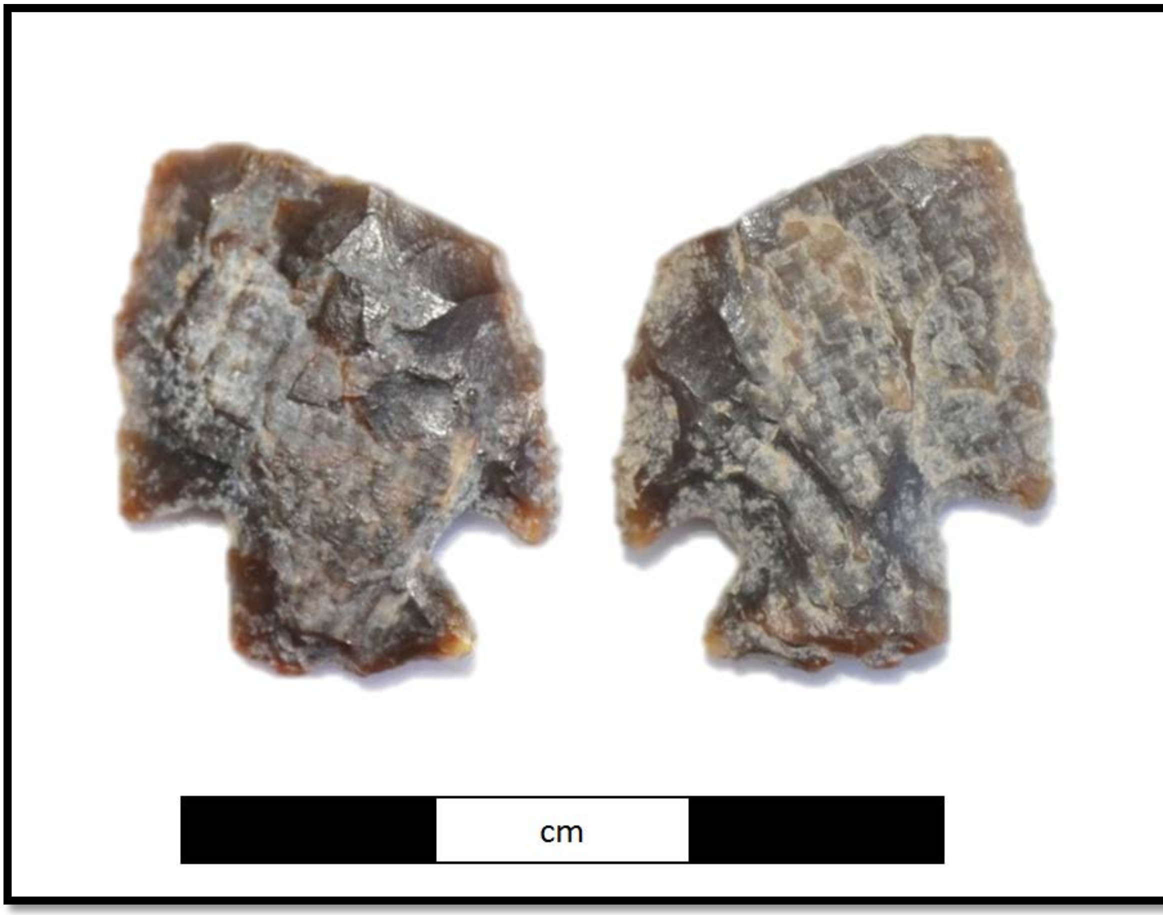

Figure 5.30. Basketmaker style point fragment recovered from excavation at LA135515.

Figure 5.31. Serrated San Pedro point recovered from LA135515.

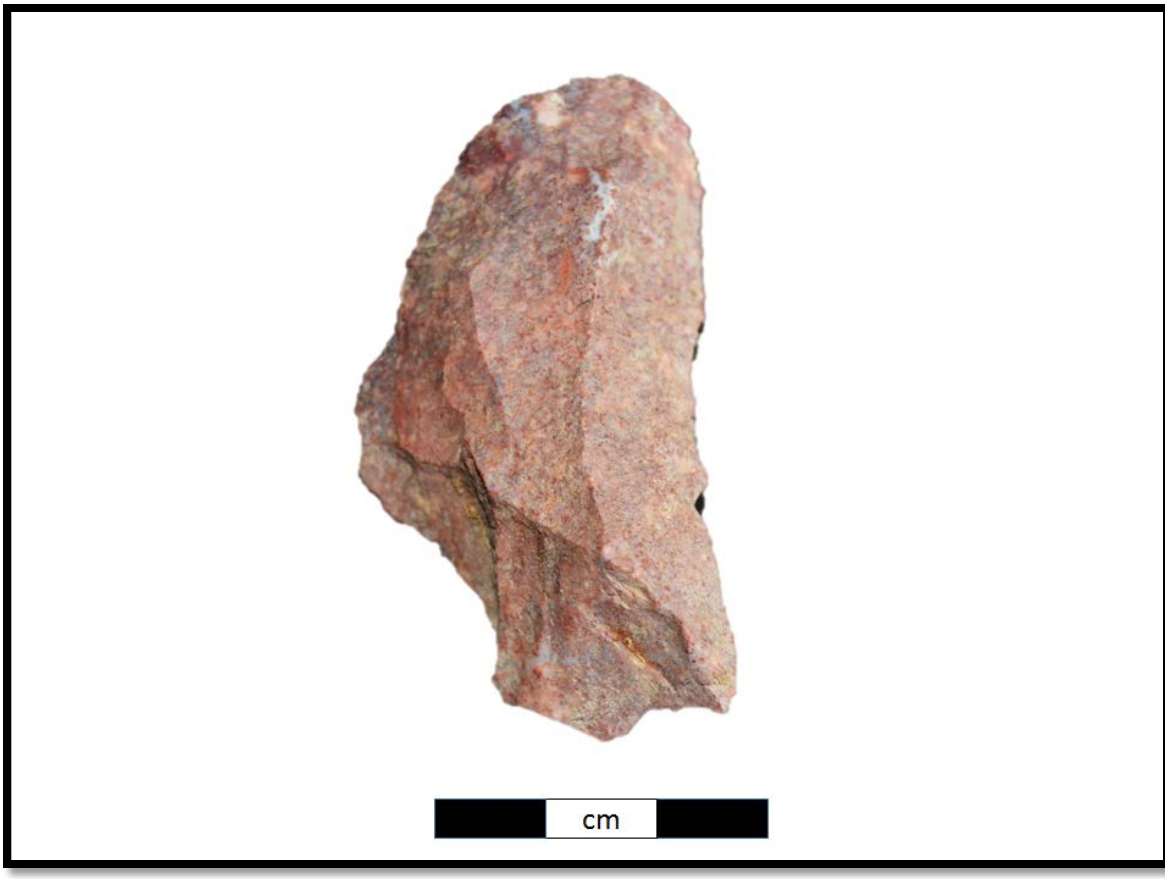

Figure 4.32. Utilized flake recovered from EF 301.

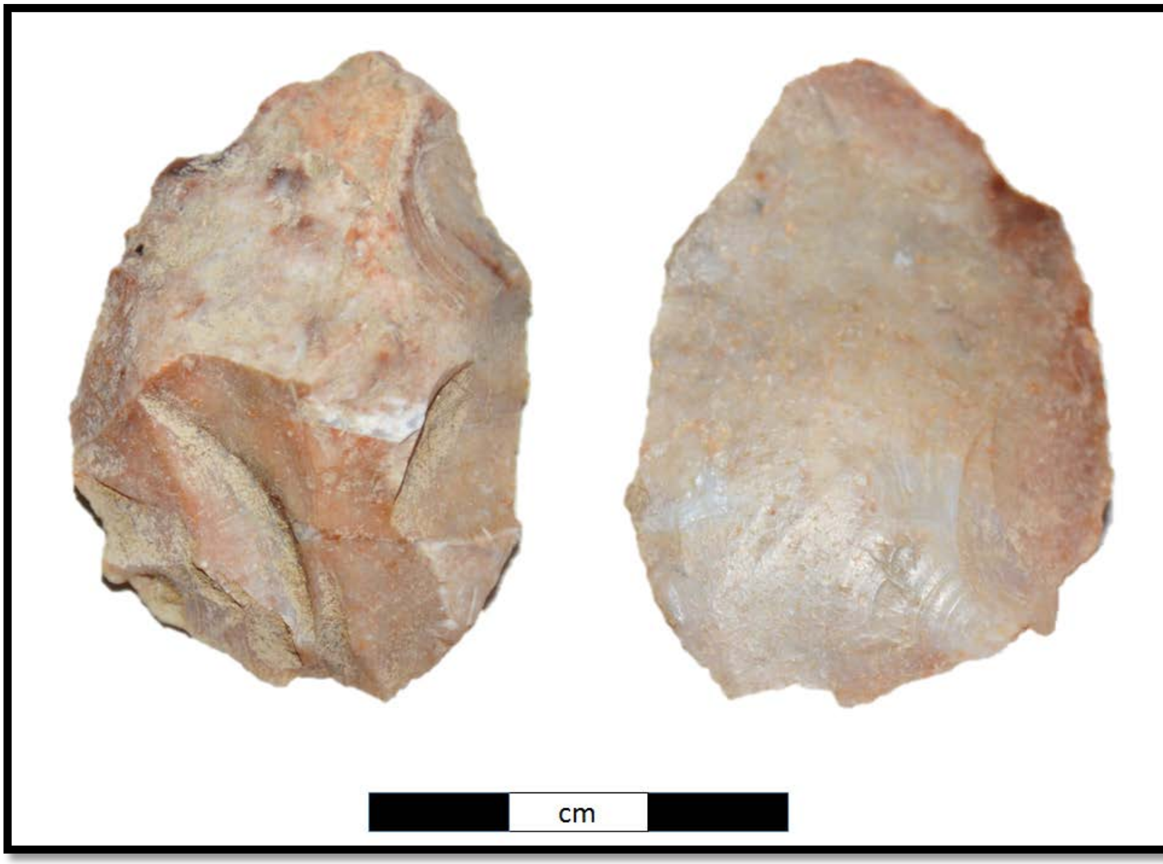

Figure 4.33. Core recovered from EF 301.

The sedimentological package on the site proved relatively thin, with bedrock occasionally visible on the present ground surface. The major constituent of the sediments was young aeolian deposits, which was on average less than 10 cm deep, and contained pebble-sized lag deposits of hematite on the southern portion of the site. The sediment sequence of the site generally consisted of an aeolian sand package (Stratum I) atop a slightly hard loam (Stratum III), which occurred above a truncated, culturally sterile clay loam possibly representing a B_t soil horizon (Harmon 2010:18). In the northern portion of the site where EF301 is located, the predominant sediment consisted of single-grain to massive aeolian sandy loam, accounting for the poor preservation of thermal features and vertical data.

LA 135517

This multicomponent site measures 160 by 130 m and occurs at 2,216 m in elevation less than 3 km west of the Continental Divide. The site occupied the highest portion of a north-trending ridge (Figure 4.34) in an area characterized by upland flats consisting of discontinuous bedrock escarpments and erosional remnants (Mack 2014b:19). The ridge slope exhibits moderate rugosity from aeolian sculpting and grades gently (less than 6 degrees) to the east and west of the site (Figures 4.35 and 4.36). To the south, the ridge tread grades into the lower slopes of the higher northwest-trending ridge on which LA occupied, and to the north the ridge grades into a valley floor approximately 500 m north of the site.

Figure 4.34. Overview of LA 135517 looking northeast (provided by Southwest Archaeological Consultants, Inc.).

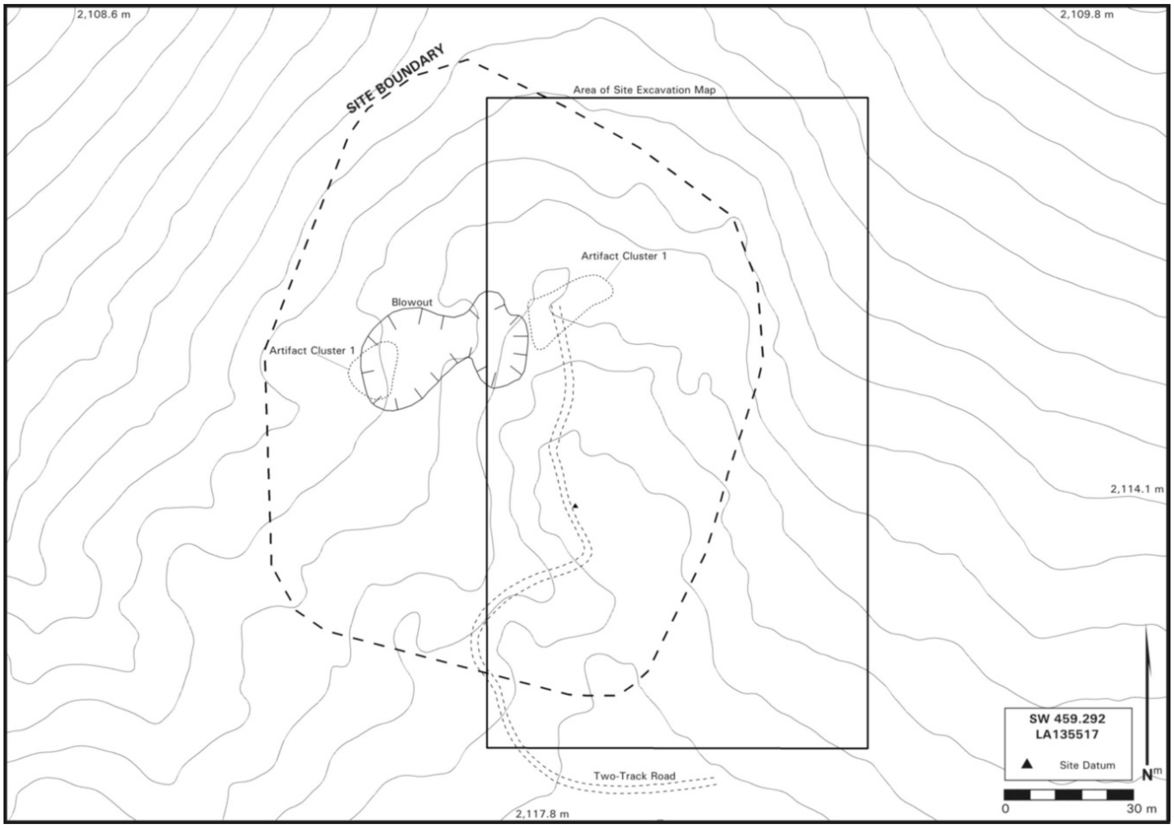

Figure 4.35. Map of site and surrounding area (adapted from Mack 2014b).

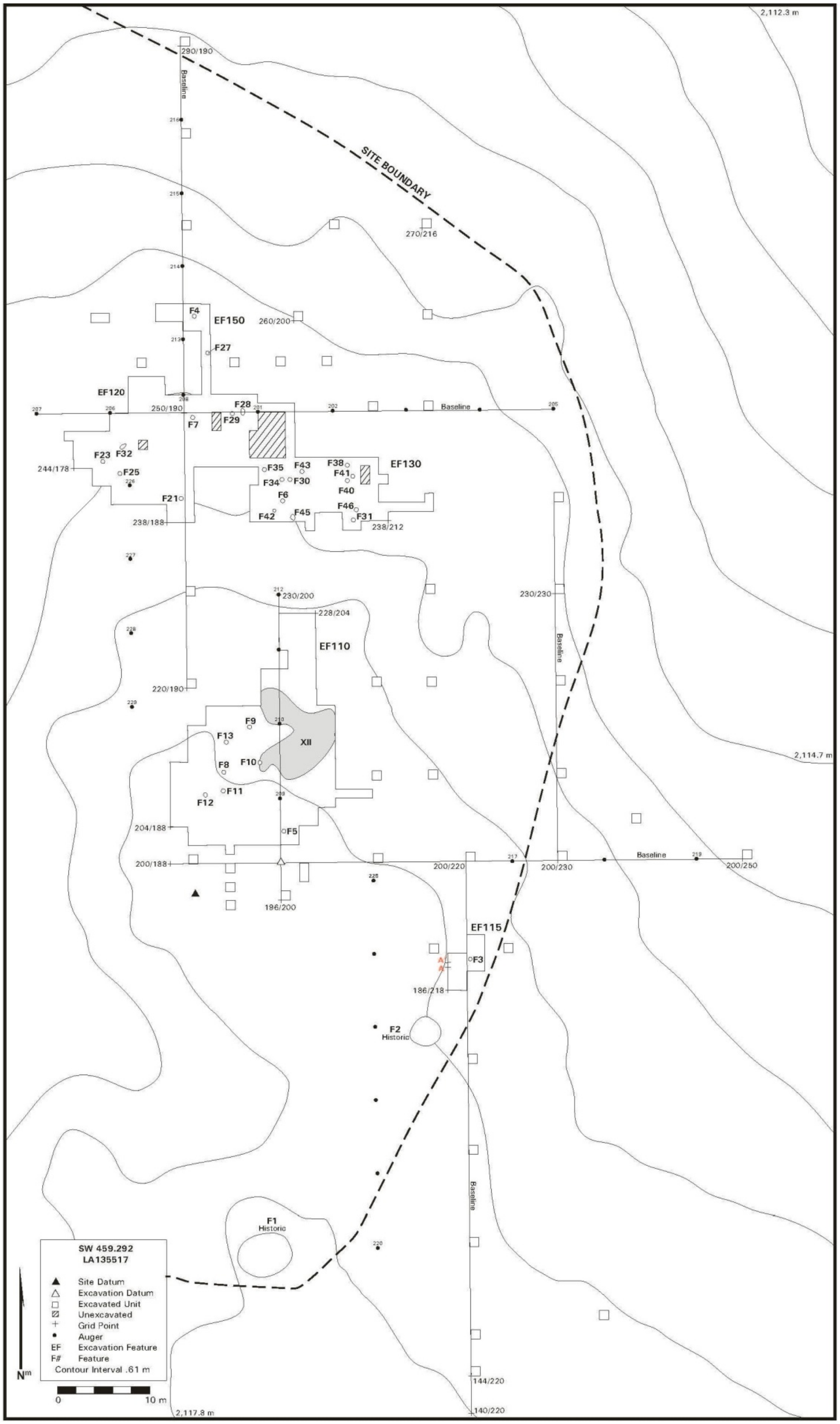

Figure 4.36. Map of the excavated portion of the site (adapted from Mack 2014b).

Aeolian processes eroded the western margin of the ridge creating a distinct concave riser aligned obliquely to prevailing winds dividing the ridge into windward and leeward slopes (Mack 2014b:20). Erosional remnants of sandstone bedrock project from deflated surfaces on the west-southwest portion of the ridge and rills reworked the surface sediments that were typically less than 10 cm thick. On the leeward portion of the ridge, accumulation of aeolian sediments in the form of sheets and stabilized ridge dunes occur, with test units revealing some packages 2 m thick (Mack 2014b:20).

The vegetal regime on the ridge was considered a juniper shrubland, though juniper (*Juniperus* sp.) provided less than 10 percent canopy cover. Grasses and shrubs present at the site included blue grama (*Boutelous gracilis*), alkali sacaton (*Sporobolus airoides*), galleta grass (*Pleuraphis* sp.), broom snakeweed (*Gutierrezia sarothrae*), winterfat (*Krascheninnikovia lanata)*, rabbitbrush (*Ericameria* sp.) four-wing saltbush (*Atriplex canescens*), and Russian thistle (*Kali tragus*).

The initial site survey reported an artifact scatter of over 90 pre-Columbian lithic artifacts, primarily in the form of debitage. The archaeologists identified middle Archaic and Basketmaker II components based upon the presence of a San Jose projectile point and two corner-notched expanding stem projectile points. Full site investigations which entailed excavation of more than 650 m^2 yielded revealed 1,700 artifacts from three subsite areas; the block excavation of locus, or excavation feature (EF) 115 proved to result from a middle to late Archaic occupation, EF's 120, 130, and 150 yielded artifacts that point to occupations from the middle to late Archaic through Basketmaker II or III, and EF 110 contained cultural material from the middle to late Archaic and Pueblo II or

III periods. For this analysis, I analyzed the lithic material recovered from EF 120 (Figure 4.37) which coalesced with EF's 130 and 150 over the course of excavation and yielded diagnostic projectile points

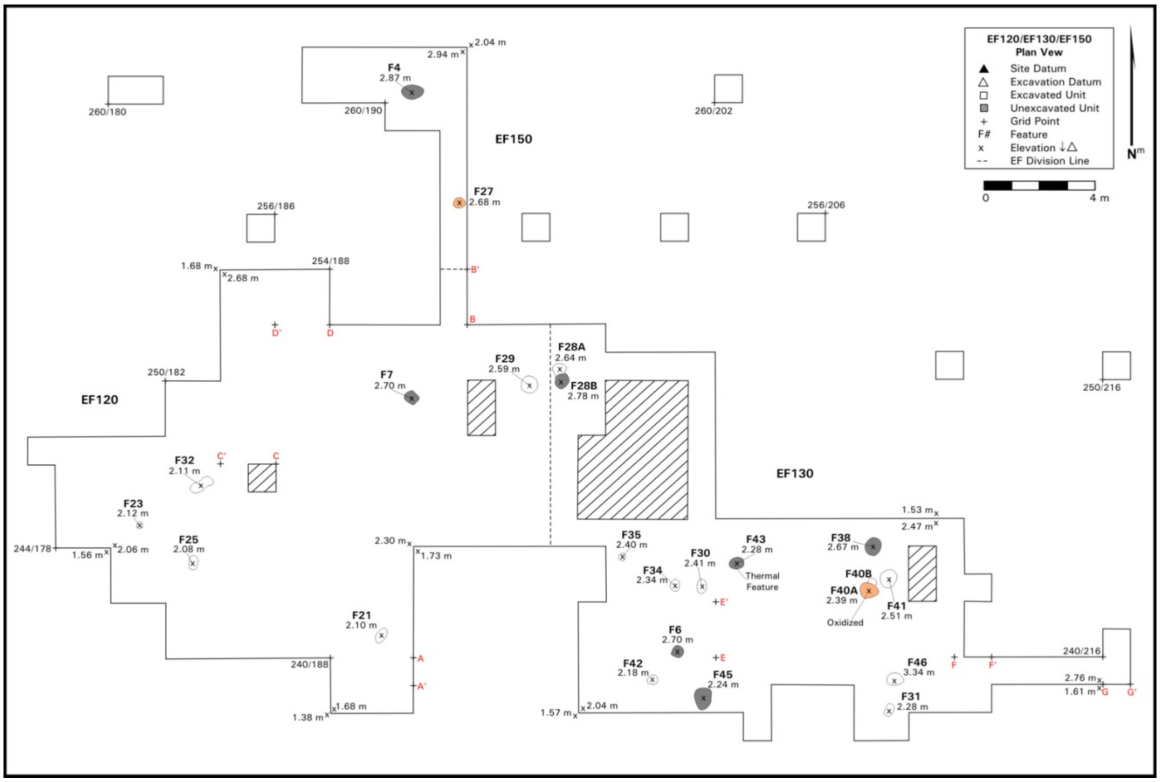

Figure 4.37. Map of EF's 120, 130, and 150 (adapted from Mack 2014b).

resembling typical Basketmaker II point styles. From EF120, six features (small to medium pits) were documented, the artifacts recovered include 296 pieces of lithic debitage, all of which I examined for this analysis, 22 groundstone items, five manuports, one hammerstone, one utilized flake (Figure 4.38), and nine projectile points, seven of which resemble styles typical of the Basketmaker II period (Figure 4.39). The other two projectile points (Figure 4.40) resemble earlier styles (one resembling Sudden Side

Notched point) though these were recovered from a greater depth than the Basketmaker points at 70 to 80 cm below the present ground surface.

Figure 4.38. Utilized flake, possible end scraper.

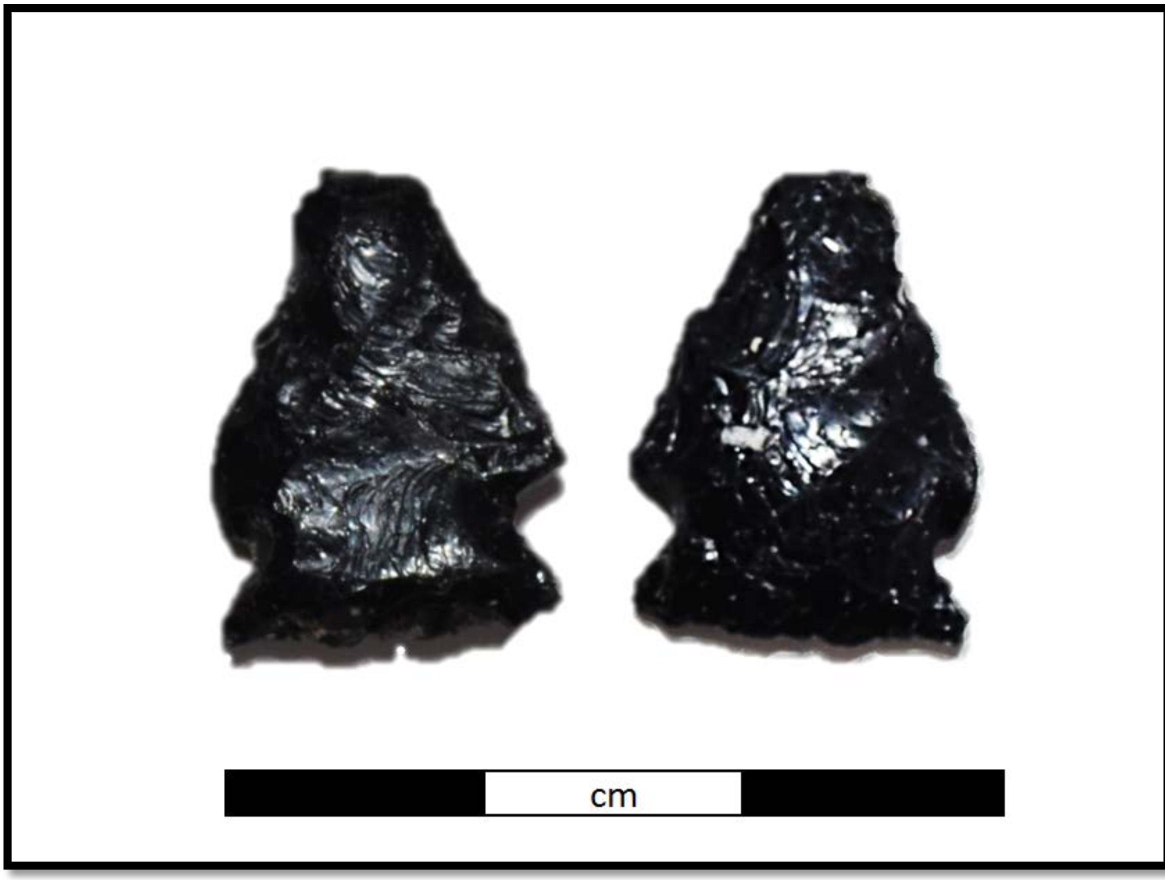

Figure 4.39. Projectile point recovered from LA135517.

Figure 4.40. Projectile point recovered from LA135517.

Figure 4.41. Basketmaker style point recovered from excavation at LA135517.

Figure 4.42. Basketmaker style point recovered from excavation at LA135517.

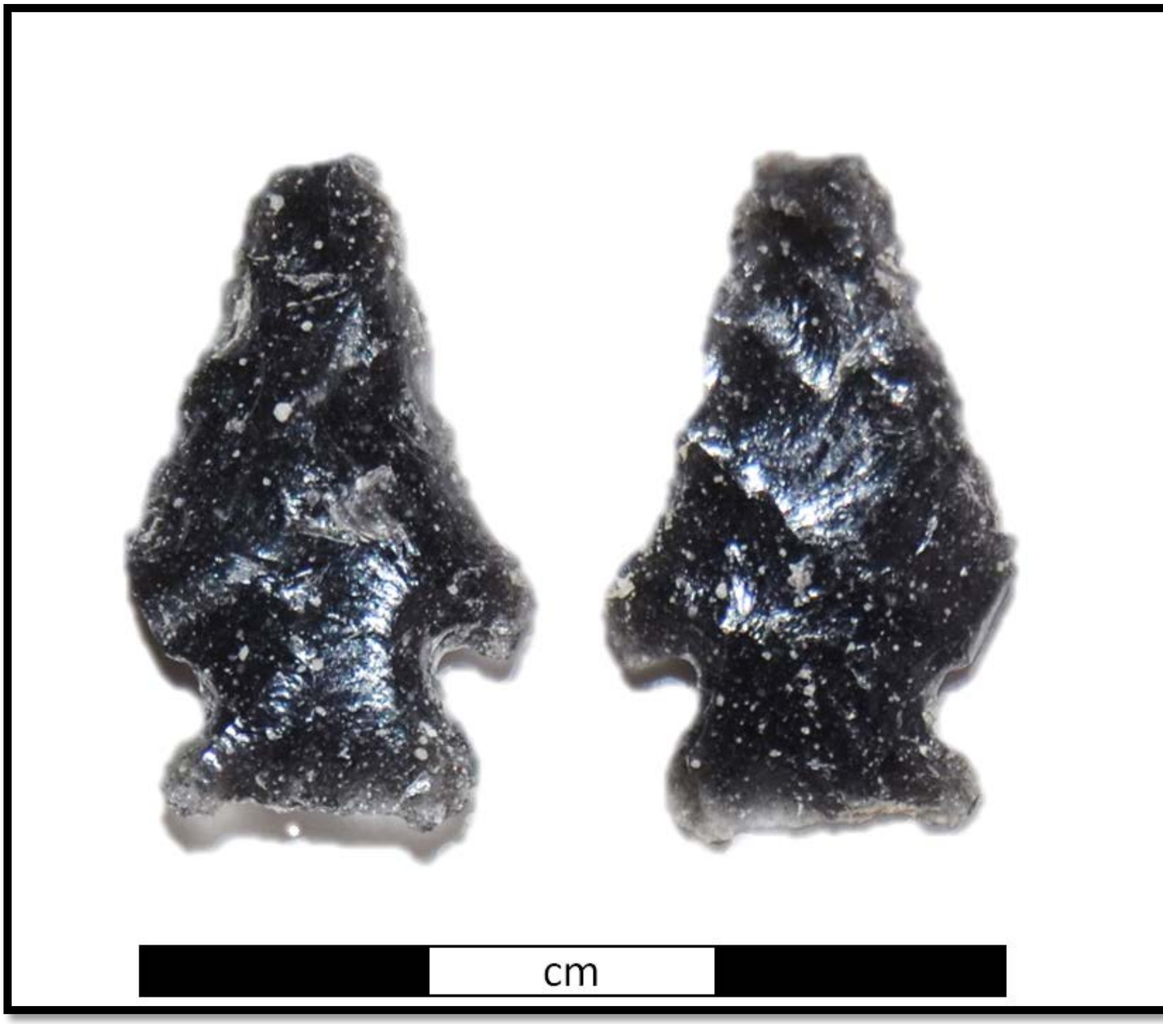

Figure 4.43. Basketmaker style point recovered from excavation at LA135517.

Figure 4.44. Basketmaker style point recovered from excavation at LA135517.

Figure 4.45. Basketmaker style point recovered from excavation at LA135517.

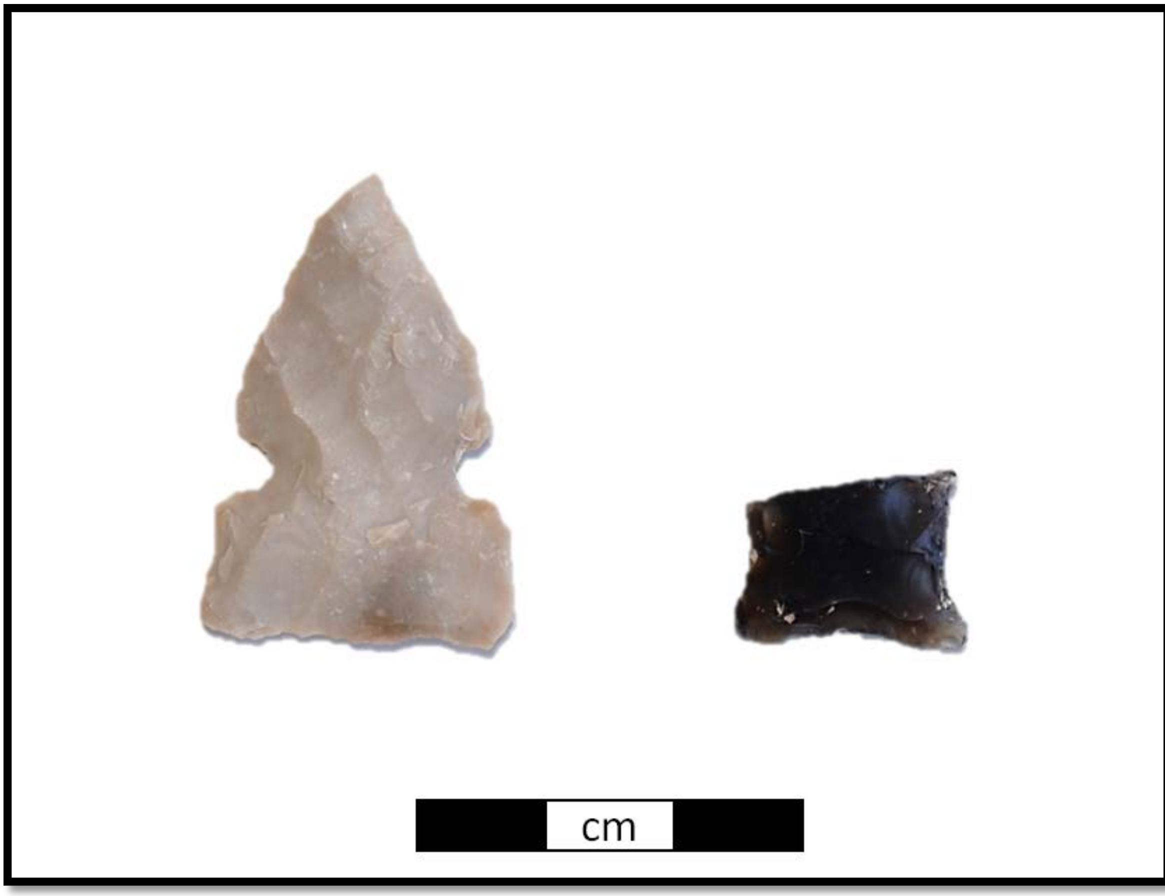

Figure 4.46. Sudden Side Notched (left) and possible Grants San Jose (right) recovered from 70-80 cm below ground surface in EF 120.

LA27855

In order to track rates of change in lithic assemblages through time in the project area, I analyzed the debitage from a site identified as a Basketmaker III habitation. This site, which was also used historically for animal containment by Navajo sheepherders, measured 113 by 53 m and occurred on a southwest to northeast trending finger ridge (Figure 4.47) at an elevation of 2,139 m less than one km east of the Continental Divide. The ridge overlooked Inditos Draw, the only perennial water source in the area. The surface of the ridge represented a geomorphic surface dating to the late Pleistocene and exhibited headward erosion from several small gullies and associated rill networks into the north-central portion of the ridge (Lucas and Mack 2010:6). Sandstone bedrock cropped out discontinuously across the site, and intact portions of the ridge tread occurred only on the southern portion of the ridge (Figure 4.48).

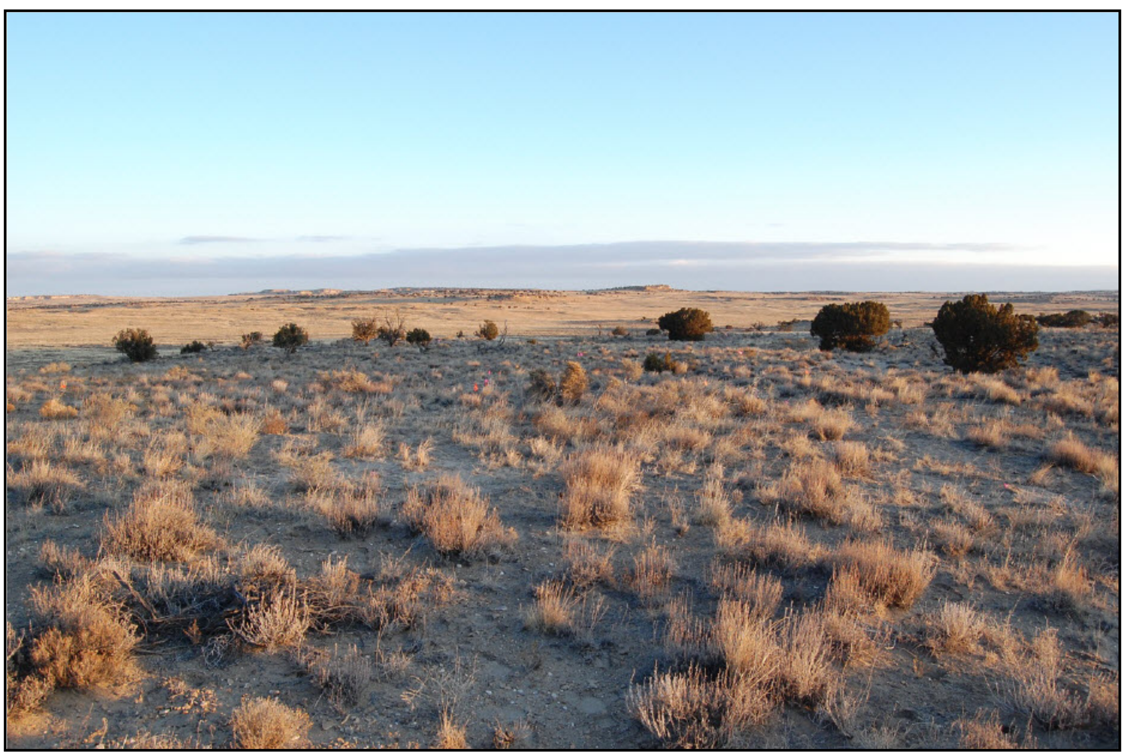

Figure 4.47. Overview of LA27855 looking north (provided by Southwest Archaeological Consultants, Inc.).

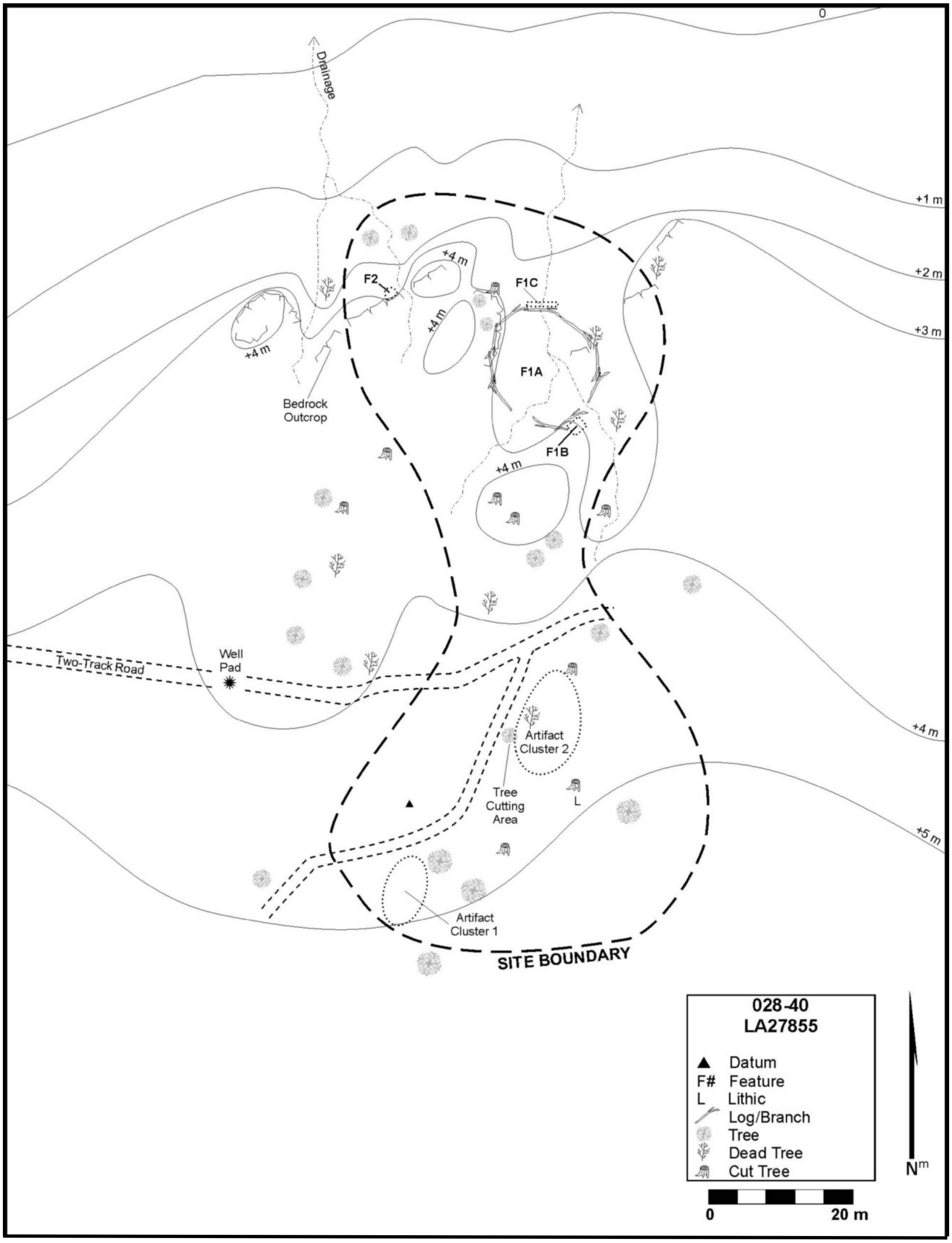

Figure 4.48. Plan view map of LA27855 (adapted from Lucas and Mack 2010).

The ridge was occupied by a juniper shrubland, but erosional processes reduced the ground cover to approximately 30 percent on average (Lucas and Mack 2010:7). In the southeastern portion of the site however, erosion was less significant and ground cover was as high as 60 percent. In addition to juniper (Juniperus scopulorum), various grasses and shrubs common in the project area provided ground cover including fourwing saltbush (*Atriplex canescens*), rabbitbrush (Chrysothamnus nauseous), sagebrush (*Artemisia* sp.), and winterfat (*Krascheninnikovia lanata*).

Initial recording of the site during survey identified a lithic scatter and four historic Navajo features related to sheepherding (Lucas and Mack 2010:7). Subsequent testing and excavation of the site revealed a Basketmaker III occupation area (EF 100) comprising a pit structure measuring 3.62 by 3.31 m, and 19 extramural features (mainly slab-lined thermal features) beneath an average of approximately 20 cm of sediment (Figure 4.49). The features appeared to have been excavated into a heavily bioturbated paleosurface and covered by a well-developed albeit severely disturbed soil profile (Lucas and Mack 2010:53). Excavation in the occupation locus yielded 278 Lino Gray sherds, 11 projectile points (Figures 4.50 through 4.60), five lithic tools including a drill (Figure 4.61), two potential knives (Figures 4.62 and 4.63), and a retouched flake (Figure 4.64), five cores (Figures 4.65 through 4.69), two bifaces (Figures 4.70 and 4.71), 110 pieces of lithic debitage, all of which I examined in this analysis, 9 groundstone fragments, one manuport, one turquoise bead, and one alabaster bead.

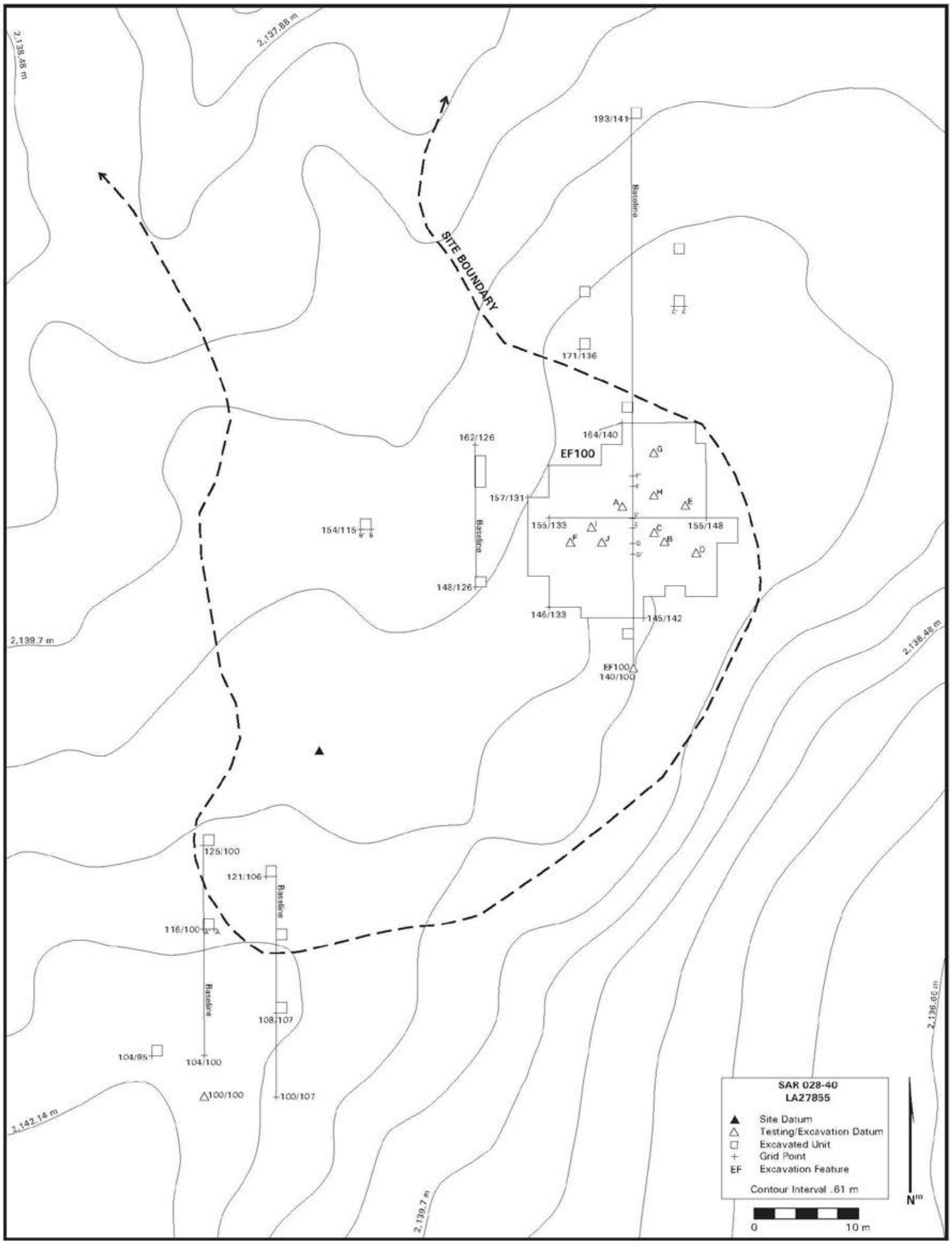

Figure 4.49. Plan view of the Basketmaker III habitation locus (adapted from Lucas and Mack 2010).

Figure 4.50. San Pedro Side-notched projectile point recovered from LA27855.

Figure 4.51. Possible Gypsum or Augustin projectile point recovered from EF100.

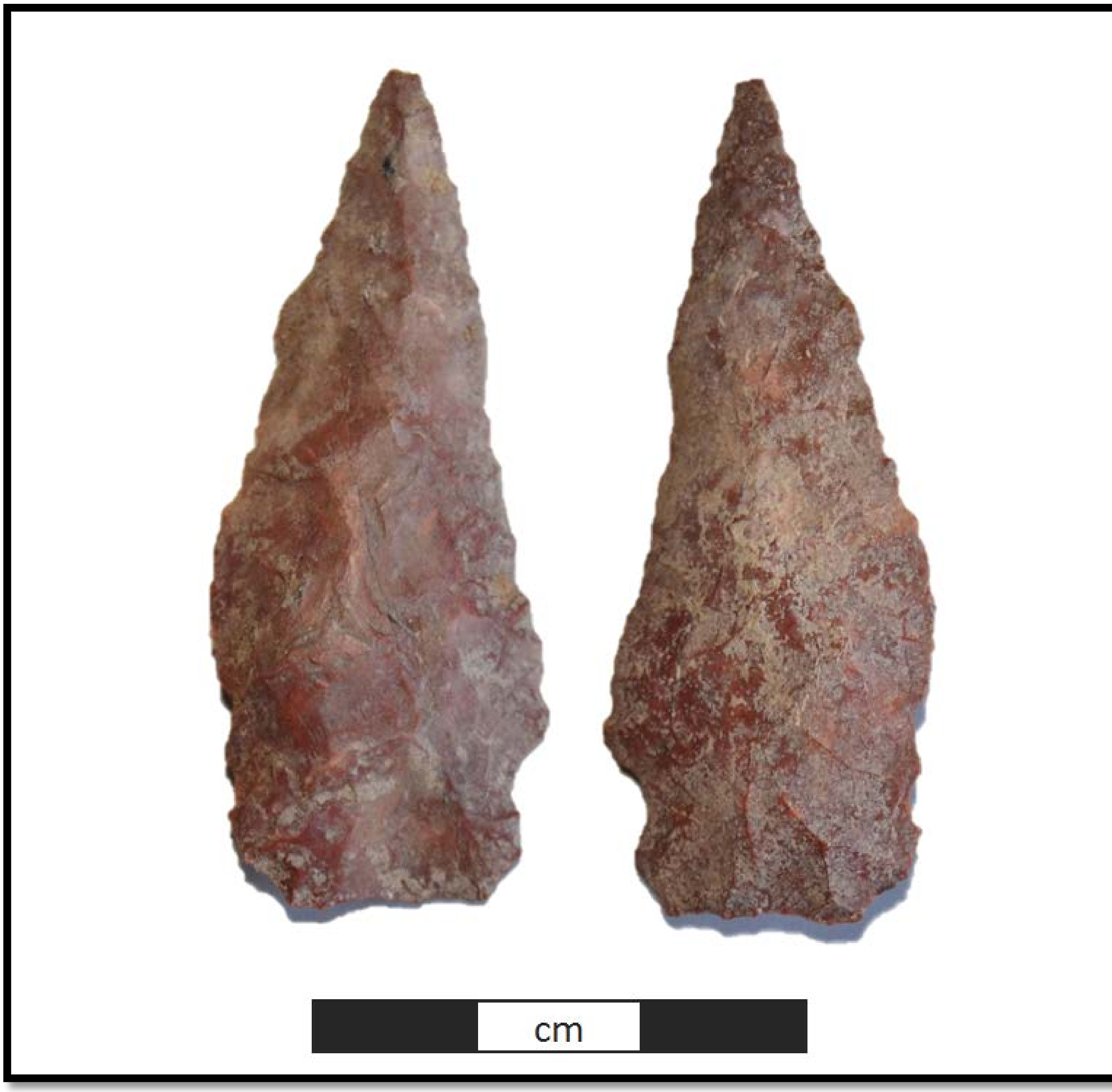

Figure 4.52. Projectile point recovered from EF100.

Figure 4.53. Dolores Straight Stem projectile point recovered from EF100.

Figure 4.54. Projectile point recovered from EF100.

Figure 4.55. Tularosa Corner Notched projectile point recovered from EF100.

Figure 4.56. Projectile point (without intact hafting element) recovered from EF100.

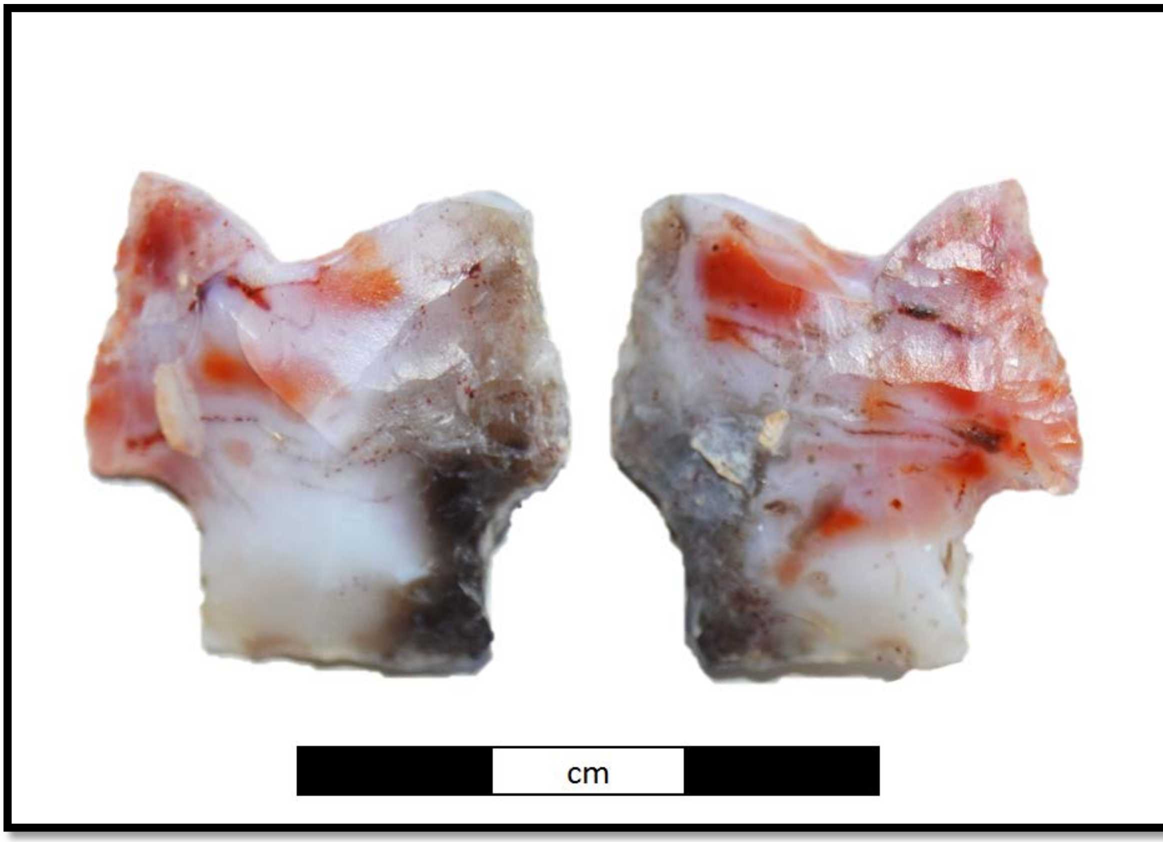

Figure 4.57. Proximal portion of a projectile point recovered from EF100.

Figure 4.58. Bonito Notched projectile point recovered from EF100.

Figure 4.59. Bonito Notched projectile point recovered from EF 100.

Figure 4.60. Projectile point recovered from EF100.

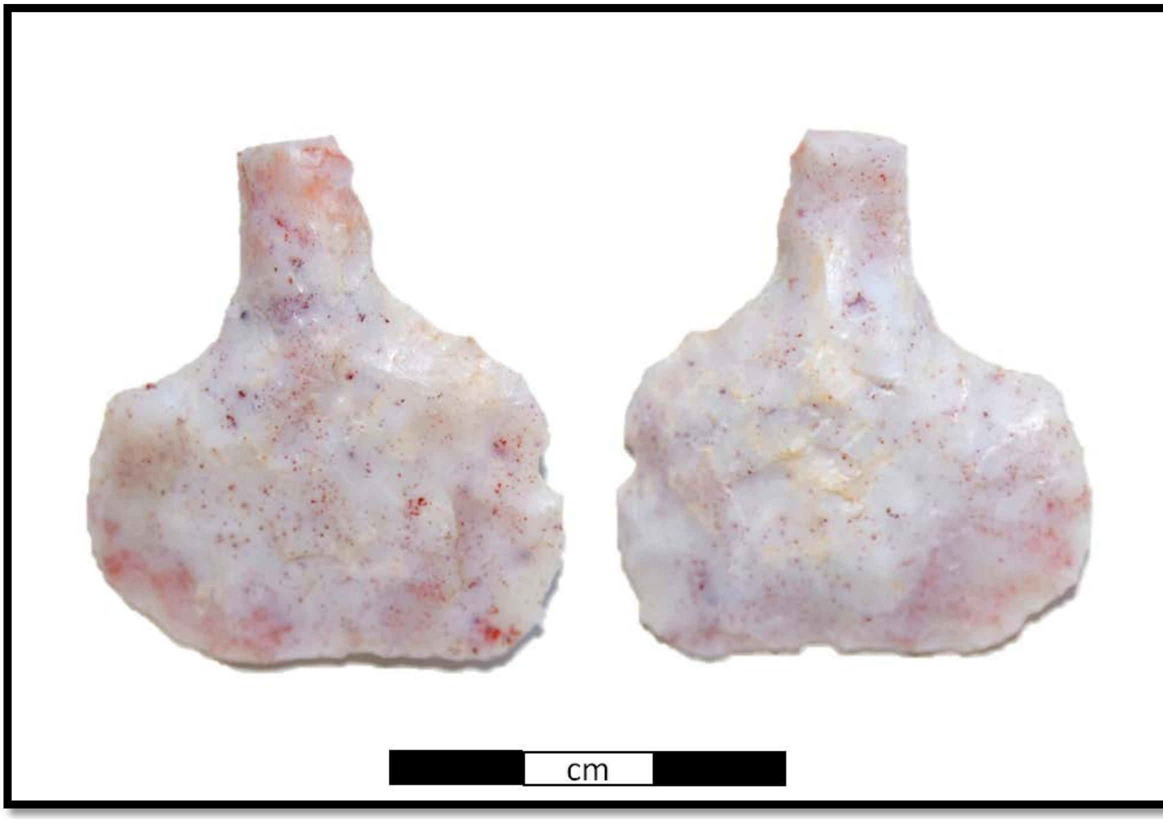

Figure 4.61. Nearly complete drill recovered from EF 100 (pit structure fill).

Figure 4.62. Basketmaker III knife.

Figure 4.63. Proximal portion of a probable knife.

Figure 4.64. Lithic tool likely used as a side scraper.

Figure 4.65. Core recovered from EF100.

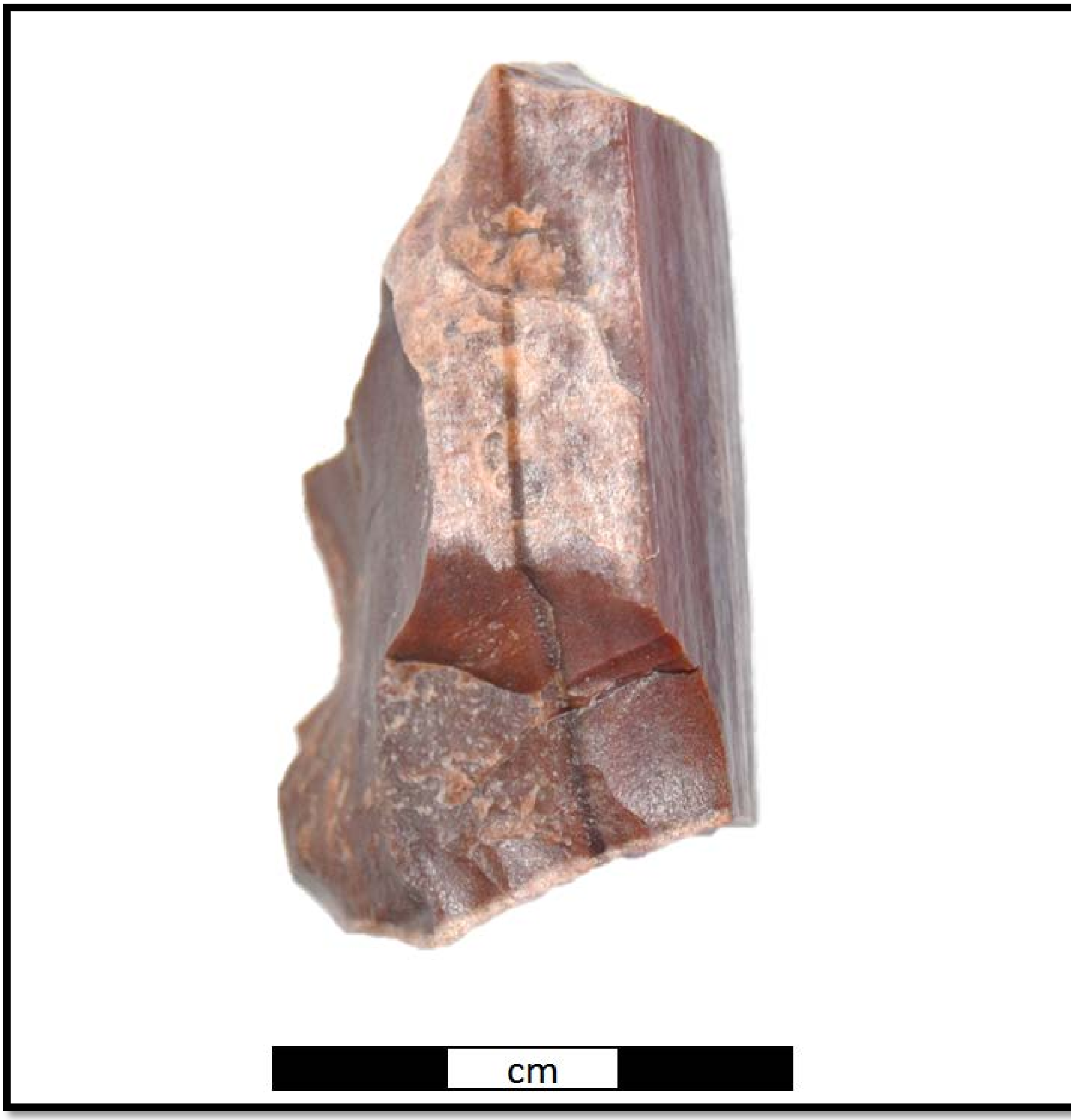

Figure 4.66. Petrified wood core recovered from EF100.

Figure 4.67. Core recovered from EF100.

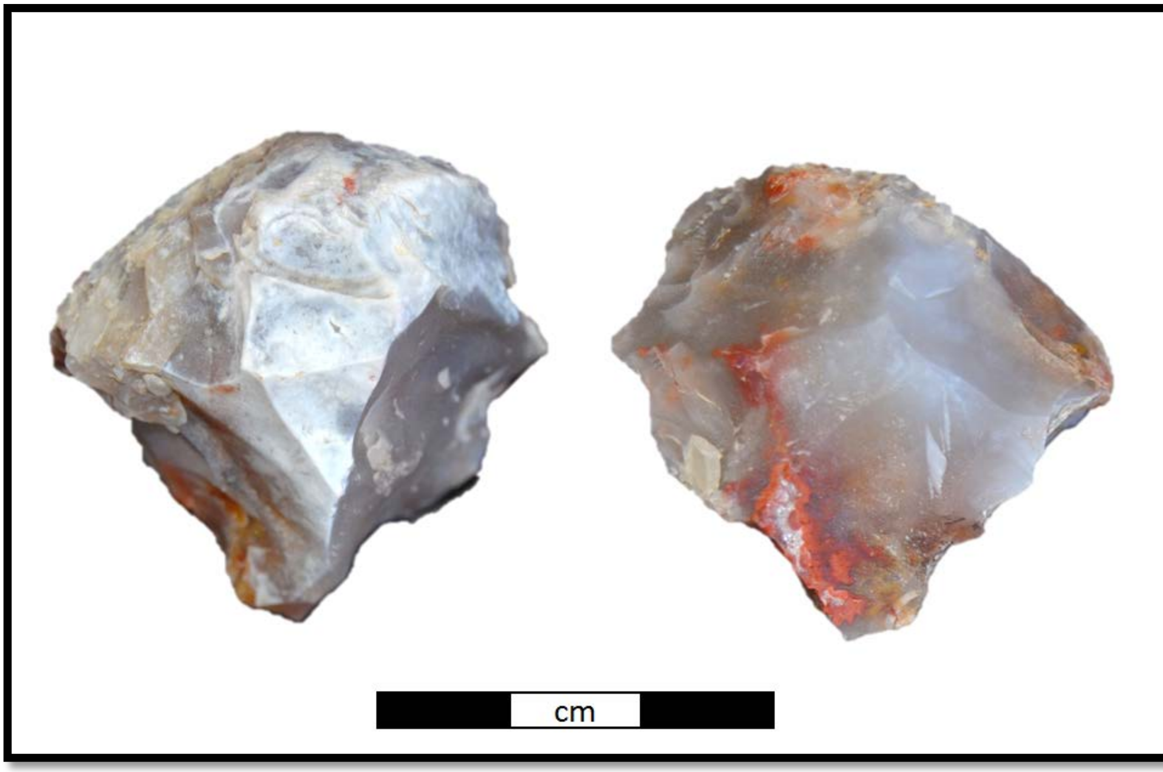

Figure 4.68. Core recovered from EF100.

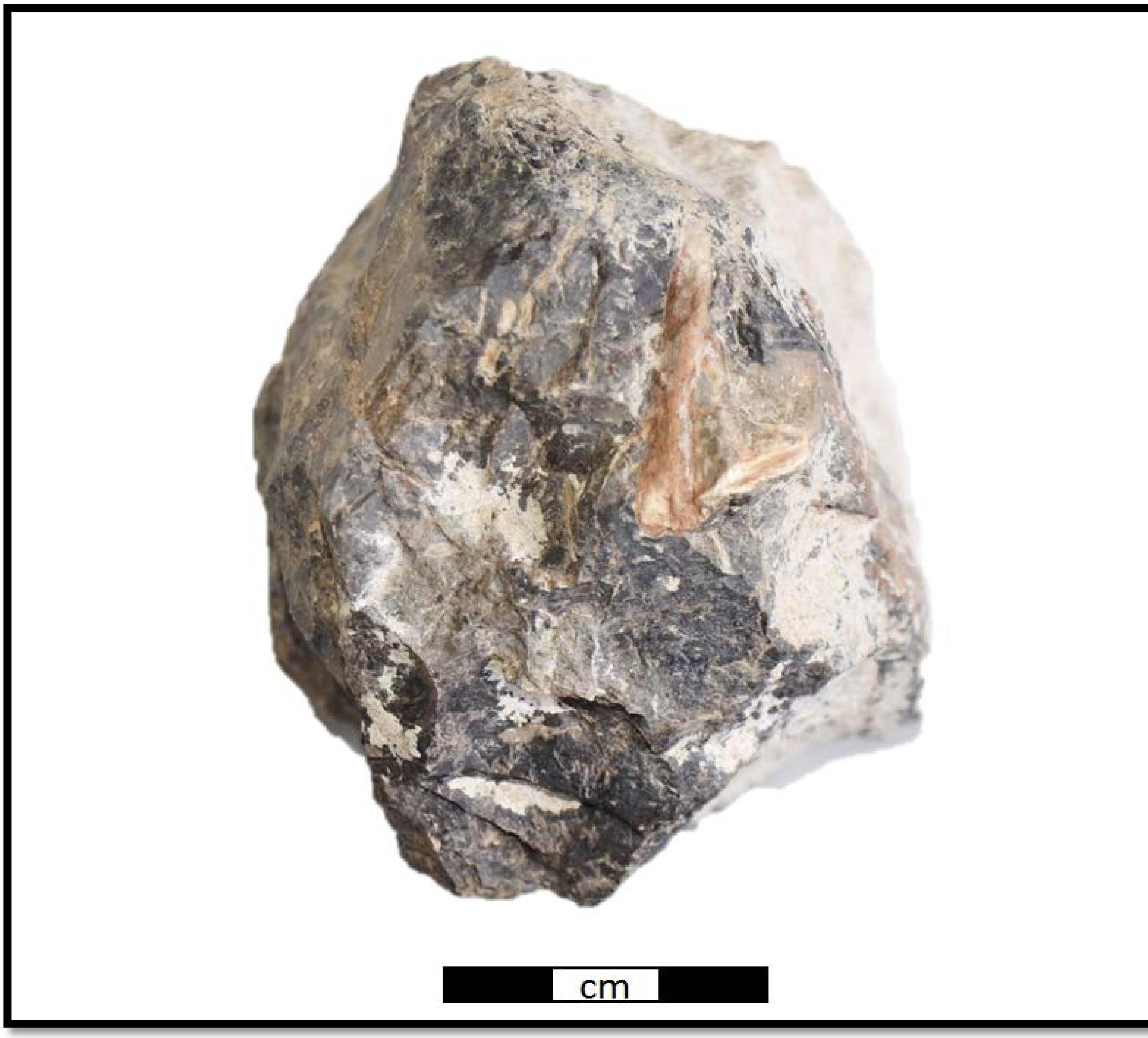

Figure 4.69. Multidirectional core recovered from EF100.

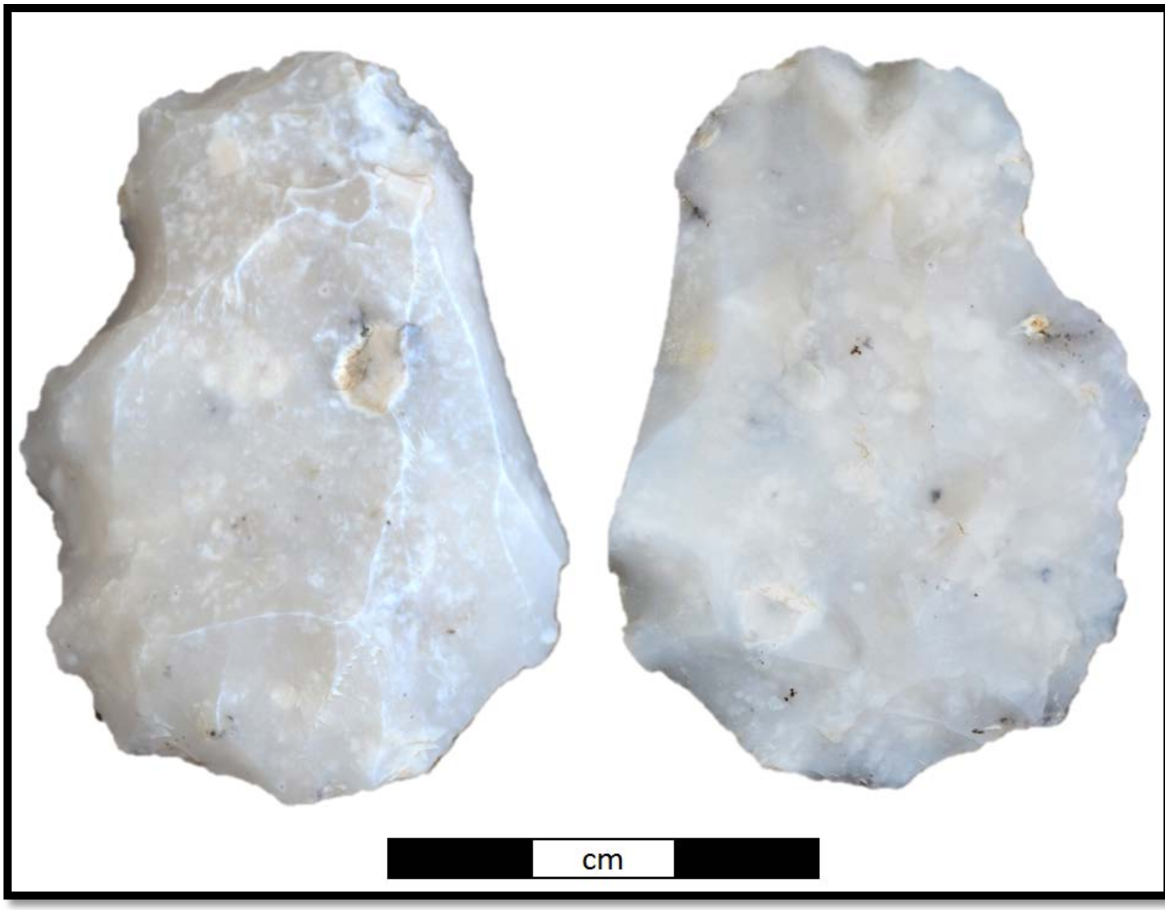

Figure 4.70. Biface recovered from LA27855.

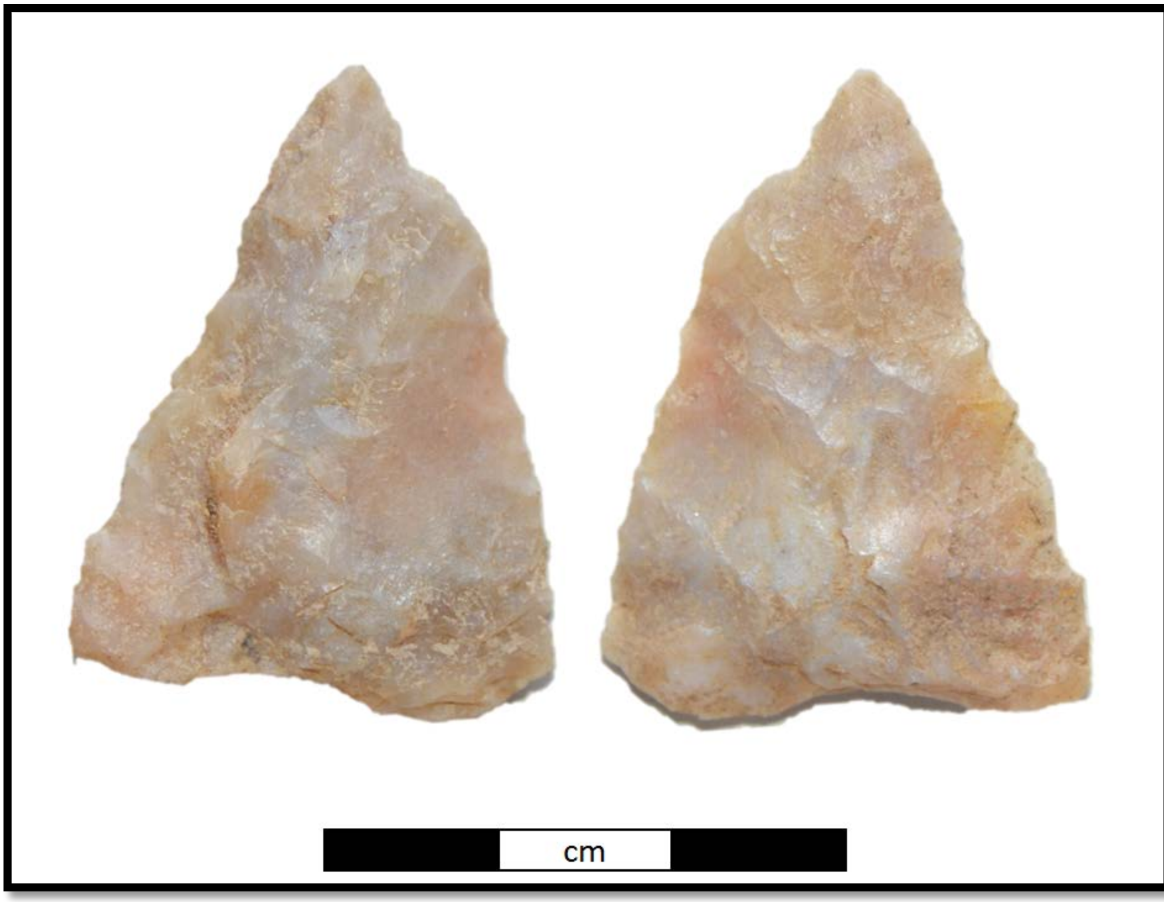

Figure 4.71. Biface recovered from LA27855.

Chapter 5

Research Methods and Materials

The primary goal of this research was to determine the extent to which lithic assemblages change through time in the San Juan Basin following the Parry and Kelly (1987) hypothesis that correlates core reduction techniques to rates of residential mobility. If the Parry and Kelly model holds works in this region, lithic assemblages from sites occupied by mobile hunter-gatherers in the Archaic periods should point to core reduction and tool production that is more formal, while sites with later Basketmaker II and III assemblages should reflect a pattern of increased sedentism through more expediently manufactured lithic tools. To test the Parry and Kelly model, I conducted an analysis measuring 15 attributes on 1,579 pieces of debitage and 13 attributes on 96 stone tools recovered from a small sample of five open-air sites in the El Segundo mine permit area. In the following discussion, I outline the manner in which the lithic material was recovered, explain the process of selecting assemblages for the analysis, and discuss the development of a typology and database with descriptions for each attribute field.

Initial Data Recovery

This analysis is based on the lithic material recovered from the systematic excavation of five sites between 2009 and 2014 by Southwest Archaeological Consultants, Inc. The site treatment plans remain relatively consistent, from initial identification during pedestrian survey, to testing, and finally, full excavation. All sites were hand-stripped in 1 m x 1 m or 2 m x 2 m units, with the latter excavated in quadrants for more precise horizontal control. Each level was excavated in arbitrary 10 cm levels. Units were excavated to bedrock until the sedimentological structure of the site is ascertained, and sterile strata determined. Sediments were screened through either 1/4 inch or 1/8 inch mesh based upon grain size, clay content, and relative frequency of artifacts per site and per stratum. Artifacts were bagged by unit, by level, by quadrant (when applicable), and by artifact type. Each bag was labeled with site number, unit number, northing, easting, level, artifact type and count, excavator, date, and mesh size. Each artifact bag was then given a number at the lab, and the provenience information for each bag was recorded and entered into a database in Microsoft Access, to which I would later merge the database I compiled from analyzing the lithic material.

Data Set

The first step of this analysis involved a review of the preliminary excavation reports on sites in the El Segundo mine permit area issued by Southwest Archaeological Consultants, Inc. to determine which assemblages would best facilitate analysis. Because of the high frequency of sites that occur in the area, sites were chosen based on information from a smaller, non-random sample of reports that included open-air sites designated as middle to late Archaic or early Basketmaker/Basketmaker II. The sites chosen for analysis also yielded both lithic debitage and tools. Site type and temporal designations were made in-field based on diagnostic artifacts present at a given site as radiocarbon and paleobotanical analyses from thermal features assumed to be associated with the lithic assemblages are still pending on most sites.

Lithic material from one site (LA27900, or Archaic B) was recovered in part by me during excavation in May-June 2014, and was chosen for analysis based on the presence of at least two diagnostic projectile points from what was likely a single use site. To show patterns in debitage attributes through time, two Archaic sites (LA149564 and LA27900) were chosen for the analysis based on the presence of diagnostic tools, as were sites comprising Basketmaker II assemblages (LA135515 and LA135517). In order to better illustrate rates of change in lithic assemblages through time in the region, I also examined lithic debitage and tools from a later Basketmaker III site (LA27855) that I thought might yield results much different from the earlier assemblages. Basketmaker III period represents the first highly visible occupation throughout much of the northern Southwest, and is thought to mark the development of a village lifeway centered on maize agriculture (Nichols 2002:66). With an emphasis on agriculture for subsistence, Basketmaker III technology and economy changed as evidenced by habitation sites yielding a ceramic for the first time in the Southwest, arrow points instead of spear points, and changes in storage facilities and pit structure architecture. Changes in the lithic assemblages of increasingly sedentary populations should be more pronounced than changes between mobile and semi-mobile Archaic and Basketmaker II groups. The Basketmaker II assemblages analyzed in this study derived from multi-component sites, and were identified as such after I examined all of the formal tools from each of the sites from and typed them using multiple regional references (Charles and Cole 2006; Justice 2002; Kearns 2011). Discrete artifact loci on a site are given excavation feature (EF) numbers and with few exceptions, each EF yields artifacts from a single occupation.

Typology

After the assemblages were selected, I developed a typology based primarily on stages in the reduction sequences of each flake (Figure 5.1). I then created a database in Microsoft Access which included fields for typological categories (Appendix A). Additional attributes were also monitored or measured, including flake condition, dimension measurements, weight, amount of dorsal cortex, presence or absence of a platform lip, platform morphology, presence or absence of edge damage, raw material type, and material color. Interior features and flake termination were not monitored for this analysis. The typology and database produced for this study monitor the morphology of small debitage and tools, with particular attention paid to platform morphology. Though some of the typological categories in the tool database use labels that infer function (i.e. scraper), use-wear and residue analyses were not conducted in this study and the function of expedient tools could not reliably be determined. A typology based on morphology lacks some specificity regarding particular activities each tool performed (Odell 1981:321), but the morphological characteristics of debitage and expedient tools contain valuable information pertaining to tool production and economizing behavior, as well as levels of residential mobility.

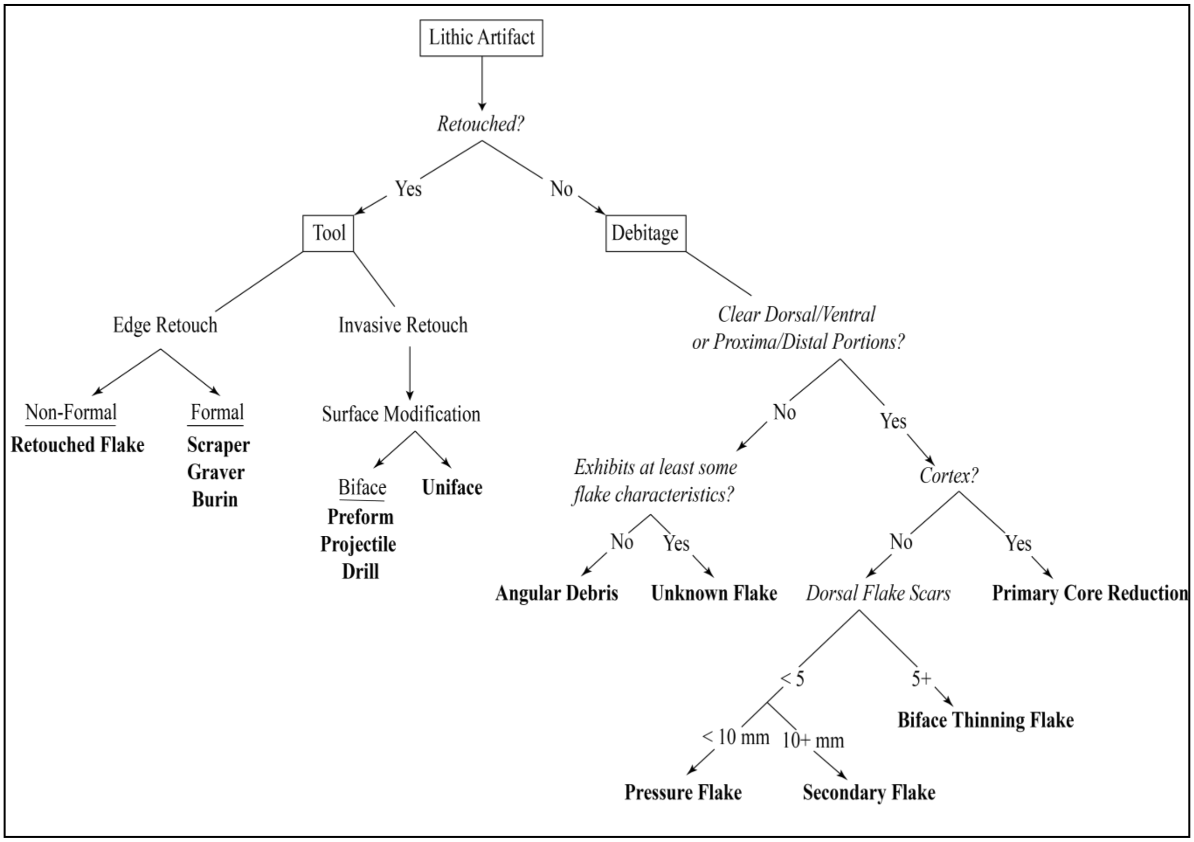

Figure 5.1. Morphological typology developed for this lithic analysis (after Odell 2003:109).

Databases

As shown in the typology developed for this analysis, two main categories of lithic material were identified, tools and debitage, resulting in the production of two separate databases using Microsoft Access 2010. The tool database is primarily for descriptive purposes, as lithic tools types provide the only means of approximating cultural or temporal affiliation of the sites from which the materials derive. The debitage database comprised fields that help support decisions to place flakes in the typological categories that presume to reflect various stages in tool production, as debitage types and attributes generally reflect the kind of tool production in assemblages, even if archaeologists do not recover the tools themselves (Andrefsky 2005:229). The descriptive variables of raw material type and color were added to the database after analysis was underway owing to the perceived potential for additional information, perhaps relating to procurement strategies, once material sourcing has been completed, but serves no explicit purpose for this analysis.

Debitage

Class. The first observation made of each piece of lithic material specified whether it was a flake or a piece of angular debris, or "shatter". While it lacks discernable flaking patterns or conchoidal fractures to indicate orientation, angular debris is a byproduct of purposeful lithic reduction and is potentially informative in regards to the strategies of reduction employed by the manufacturer. An abundance of angular debris in an assemblage may indicate wasteful usage of raw material due either to the manufacture of expedient tools or the close proximity to a source, which would eliminate the need for economic use of the material. Some of the angular debris from the El Segundo assemblages consisted of highly siliceous petrified wood which tends to fracture along planes that follow the wood grain rather than adhering to the typical conchoidal fracture mechanics of siliceous material, allowing an observer to determine proximal and distal ends or ventral and dorsal surfaces. The white, chalky silicified wood debris that occurs naturally on or near some sites in the project area were not included in this analysis as they lack the levels of silicification required to control fracturing for tool manufacture.

Condition. The condition of each flake represents the second observation made of each specimen. Variables within this attribute include complete, proximal, distal, medial, lateral, and not applicable for angular debris (Figure 5.2). Complete flakes are unbroken or nearly unbroken and always retain striking platforms. Proximal flakes are those with platforms, including specimens that consist only of a platform. Distal flakes show the termination at the end of the flake, but can be confused with lateral pieces that show termination on the sides of flakes, which is especially true for very small pieces of debitage. In this case, specimens were examined under magnification in order to identify ripples or fissures that would help orient the piece. Medial flakes exhibit two lateral edges often perpendicular to dorsal flake scars. The 'not applicable' category comprises all specimens designated as angular debris.

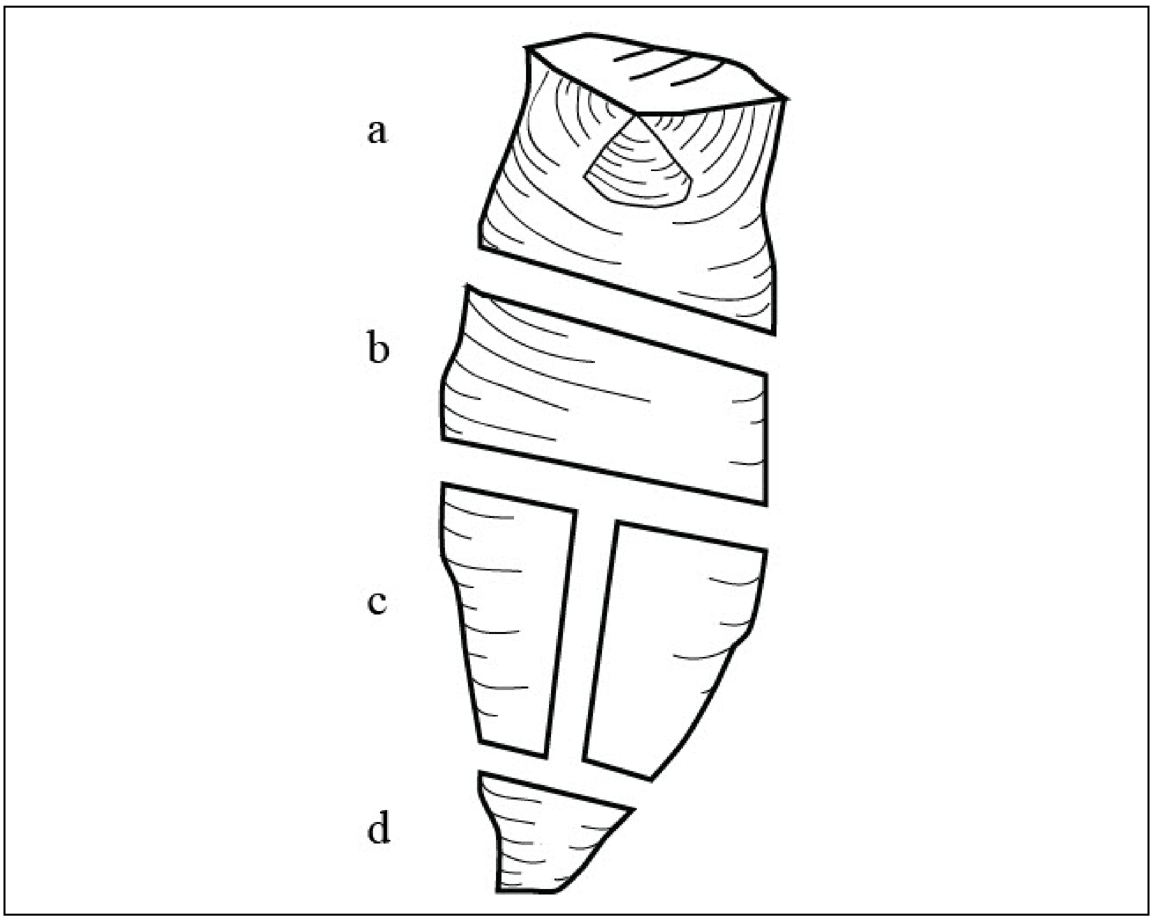

Figure 5.2. Example of incomplete flake fragments from the ventral surface: (a) proximal end with striking platform; (b) medial fragment; (c) lateral fragments; (d) distal fragment.

Measurements. The debitage database includes fields for maximum length, maximum width, maximum thickness, and maximum dimension. The measurements taken of each piece of debitage depended on the condition of the flake; I only recorded maximum lengths, widths, and thicknesses of complete flakes initially, but began to measure thickness on all specimens after specimen number 87. I recorded the maximum dimension of all incomplete flakes, which approximated what would be either the length of width of a flake had it been complete (Figure 5.3). All measurements were taken using Mitutoyo Digimatic Calipers.

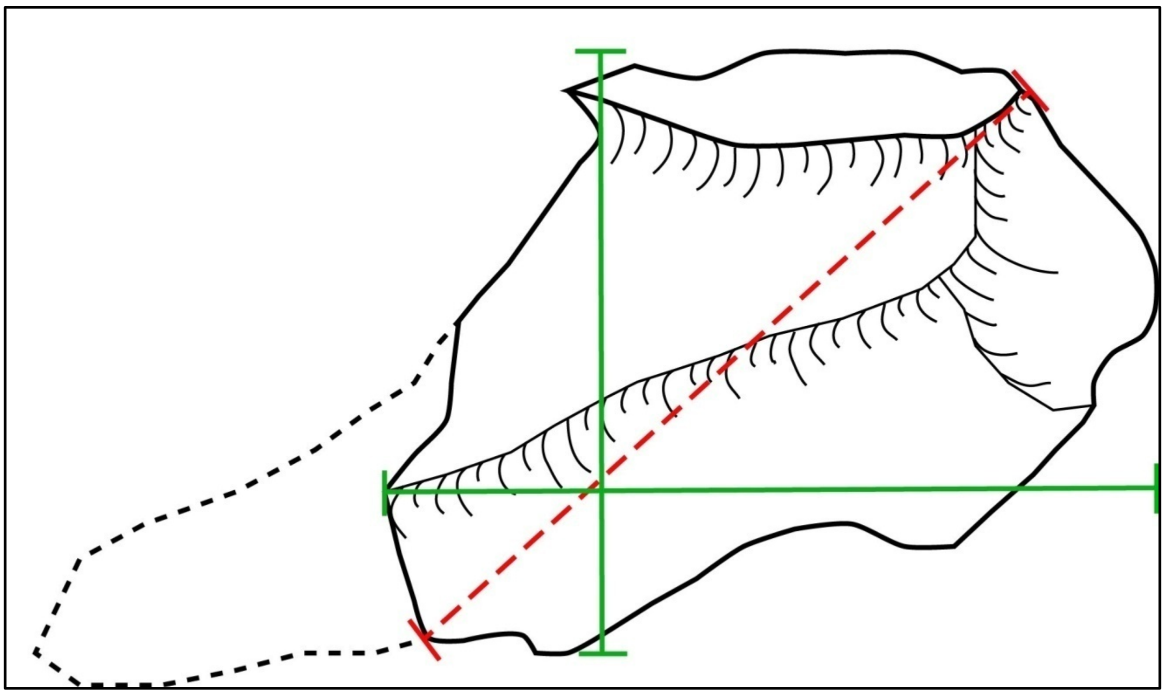

Figure 5.3. Illustration showing where measurements of maximum dimension may be taken on an incomplete flake (solid green lines) to approximate either length or width, rather than measuring the actual maximum dimension on random planes (red dotted line).

Weight. Each piece of debitage was weighed on a digital scale in order to determine the weight of all debitage analyzed. This provides additional information about the nature of the assemblage under analysis; the 1,579 pieces of lithic material examined weighed 2,282 g (about five pounds) in total pointing to an assemblage comprised primarily of very small pieces of debitage.

Dorsal Scars. The amount of dorsal scars present on a flake were counted and recorded as integers one through five, five or more, and not applicable (for angular debris). The amount of flake scars may be indicative of the stage in the reduction sequence the flake was produced. One characteristic of late-stage bifacial reduction flakes is a relatively high number (five or more) of negative flake scars, and well-executed pressure flakes will typically show two or three parallel flake scars. I provided flake scar counts for each flake regardless of condition.

Cortex Amount. The amount of cortex or rind from chemical weathering present on a flake or piece of angular debris provides another indication in reference to the stage of reduction the piece represents i.e. primary, secondary, etc. The cortex category in the database refers to the amount of cortex present on the dorsal surface, comprising percentage ranges including, zero percent, one to ten percent, 11 to 50 percent, 51 to 90 percent, 91 to 99 percent, and 100 percent. In most cases for this analysis, a flake exhibiting any amount of cortex was considered to result from primary decortication unless it possessed other attributes that intuitively suggested otherwise such as multiple negative flake scars and/or edge retouch.

Platform Attributes. Characteristics of striking platforms occupy three separate fields in the database, all of which function primarily in the identification of reduction stages of each flake as accurately as possible. Platforms that exhibit a large amount of modification on the form of abrasion or faceting that results from deliberate platform preparation typically indicates late-stage reduction (biface thinning more particularly).

Lipped platforms are widely recognized to result from soft-hammer reduction in the manufacture of bifacial tools (Shott 1994:75). Platform modification is less common in earlier stages of the reduction sequences. Secondary flake platforms for instance usually exhibit some abrasion and perhaps faceting, while the platforms of primary flakes early in the reduction sequence flakes are usually flat and not abraded at all. I monitored for the presence or absence of platform lipping, examining the very small flakes under low power (<100x) magnification. The presence or absence of platform abrasion represented a separate category for each proximal flake and also required frequent microscopic examination. The third platform characteristic I monitored was overall morphology. The categories in this field included complete cortical coverage, partial cortical coverage, flat, bifaceted, multifaceted, fragmented/crushed, and not applicable.

Flake Type. The flake type designation refers to the stage in the reduction sequence each flake is thought to represent. From the attributes specified above, each flake is classified as primary, secondary, biface thinning, pressure (Figure 5.4), or unknown with the latter category reserved for pieces of angular debris and very small pieces of debitage with no discernable features that naturally result in the processes of removing flakes from objective pieces. While these categories are broad, they are useful in this analysis as I examine the relationship between flake types at each site that I presume result from formal or expedient tool manufacture.

Figure 5.4. From left to right, examples of primary flakes, secondary flakes, biface thinning flakes, pressure flakes, angular debris, and unknown flake types.

Edge Modification. The presence or absence of edge modification was monitored in order to identify flakes that may have been used for expedient purposes, but did not exhibit enough retouch to warrant placement into the tool database. I examined modification of the edges with the unaided eye, as microscopic edge damage can often be attributed to post depositional processes.

Raw Material Type. As mentioned above, raw material is not of any real significance for the present analysis, but I recorded it for the data potential it may provide at a later date, when regional sources and variations of material are better understood. The material types provided are meant to be broadly classified, as petrological analyses of the assemblages are underway. The categories I identify include obsidian, chert, chalcedony (siliceous material with varying degrees of translucence), silicified wood, mud/siltstone, quartzite, and sandstone.

Color. The color of each specimen was recorded after number 75, when I began to recognize some patterning of raw material type and color; the assemblages seemed to consist of material that resulted from a similar objective piece. As with material type, color serves no purpose in this analysis but was recorded for potential analysis in the future, perhaps examining the spatial distribution of flakes of the same material/color to identify the location of activity areas.

Tools

Type. I assigned each tool to a type based on presumed function given the presence of certain morphological characteristics. Specimens exhibiting use wear or damage on lateral edges were designated as side scrapers, and pieces with edge damage on either proximal or distal edges were considered end scrapers. Within the assemblages, unifaces represent any tool exhibiting flake removal or other modification on either the ventral or dorsal surface, while bifaces exhibit modification of both surfaces. Drills are bifacial tools that exhibit a long, pointed segment and an expanding edge for handling. Projectile points are bifacial tools with a clearly defined hafting element, such as shoulders, ears, stems, or notches. Core tools present in the assemblage consist of either unidirectional cores from which flakes were removed from a single striking platform in the same direction or a multidirectional core from which flakes are removed from several different striking platforms in many directions.

Condition. The condition of each tool was documented with categories describing the completeness of each, including complete, proximal, distal, medial, lateral, and not applicable for multidirectional cores. Complete tools are unbroken or nearly unbroken and always retain morphological characteristics that enable type classification. Proximal tools retain bases and/or hafting elements that typify projectile points. I included a category for missing tips for projectile points and other bifaces that were primarily intact, save for the very tip of the implement. Proximal tools retain only the tips of implements and provide little information regarding size, shape, or presumed function with the exception of impact fractures on distal projectile point fragments. Medial tool segments exhibit two lateral edges often perpendicular to flake scars on the surface(s) of the implement. Only one edge is apparent on lateral pieces that are considered tools either on the basis of bifacial flake removal or edge damage on unifaces. The not applicable category comprises all specimens designated as multidirectional cores, as the completeness of a core tool with no directional orientation could not be reliably ascertained.

Hafting Element. This attribute provides further information about the projectile points present in the assemblages and includes the variables stemmed, side-notched, and corner-notched (Figure 5.5) . These categories help type the points in at least a general way, and when only the proximal portion of a point remains, helps to conceptually categorize the specimen in a temporal sense, as stemmed and shouldered points typically indicate the presence of Archaic or older populations and notched points become more prevalent in later assemblages.

Base. Describing the basal morphology of projectile points and bifaces helps to type or at least describe tools in a more detailed manner. Categories used to describe the tool bases in the El Segundo assemblages include straight, slightly concave, concave, slightly convex, convex, and bifurcated (Figure 5.6). The "slightly" qualifier was used to describe convex or concave basal segments that were not purposefully made to be straight, convex, or concave perhaps indicative of a lack of proficiency in manufacture (seemingly unintended).

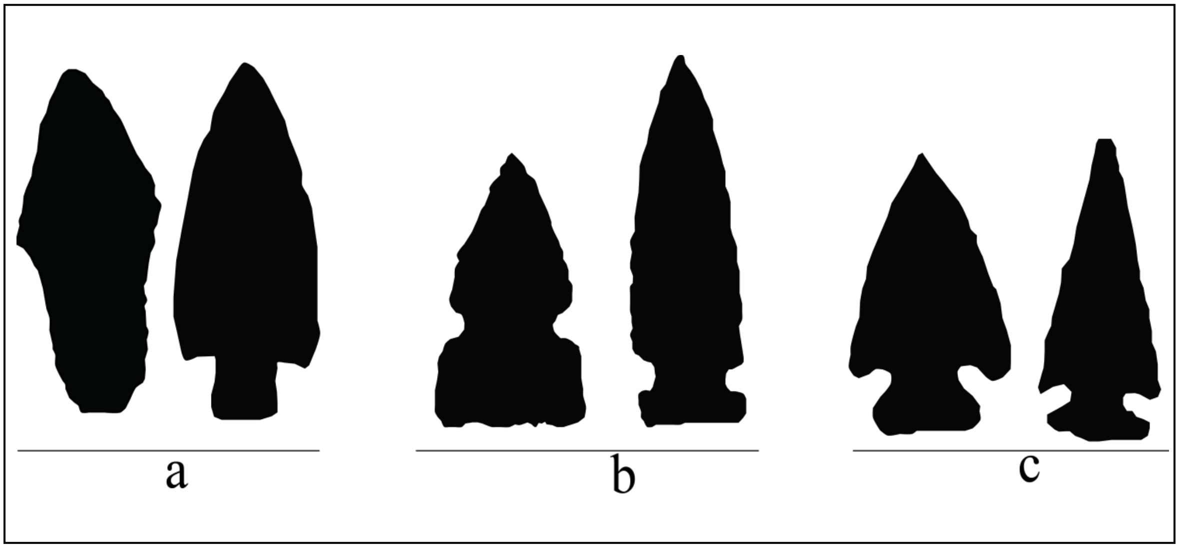

Figure 5.5. General shapes of hafting elements (a) stemmed, (b) side-notched, (c) corner-notched.

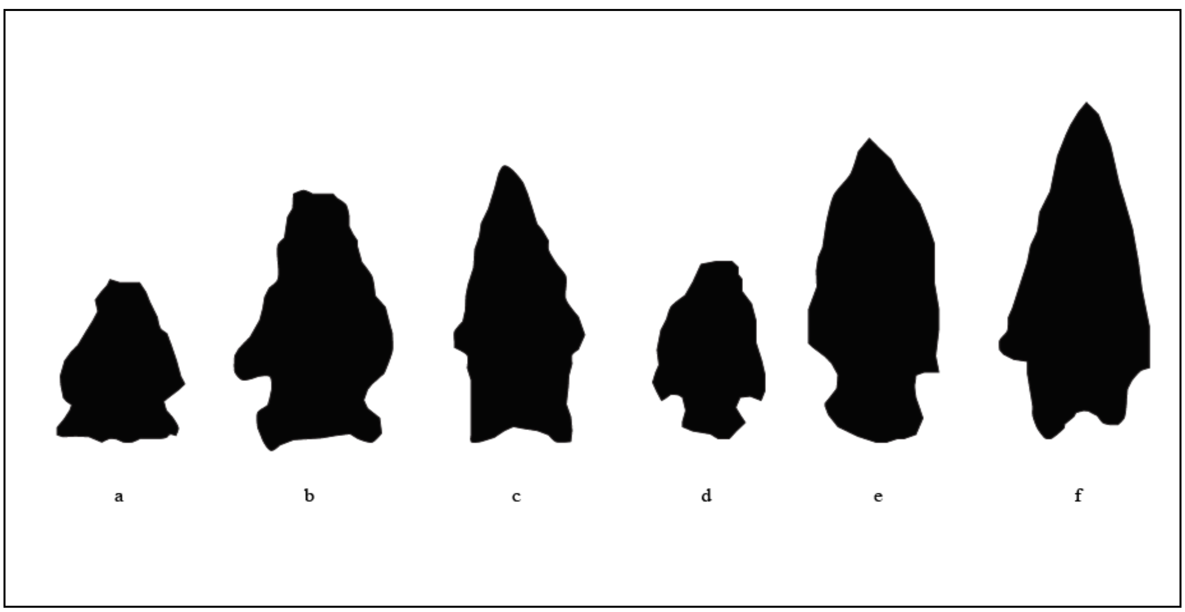

Figure 5.6. Base shapes (a) straight, (b) slightly concave, (c) concave, (d) slightly convex, (e) convex, (f) bifurcated.

Flaking Pattern. The manner in which flakes were removed from the faces of a tools points to certain lithic traditions in some cases, and in general may point to formal or expedient tool manufacture. The categories in the database include parallel, oblique, parallel-oblique, and convergent (chevron) which represent well-executed flaking patterns typical of earlier lithic traditions. A category is also present for tools exhibiting a random flaking pattern, common in more expediently-made tools. A not applicable category exists for multidirectional cores and flake tools that only exhibit edge damage or modification.

Serration. I included a yes/no category in the tool database to monitor for serrated edges on tools. I considered tools to be serrated only if the edges were modified by pressure flaking to create a cutting edge. Tools that exhibited undulating edges were not considered serrated, as use wear or post depositional processes may have created an edge that resembles serration.

Raw Material Type. As discussed above in the debitage section, the material types are of little consequence to the present research question, but were recorded to facilitate potential research in the future. The raw material types provided are meant to be broadly classified, as no petrological analyses of the assemblages are still underway. The categories include obsidian, chert, chalcedony (siliceous material with varying degrees of translucence), silicified wood, mud/siltstone, quartzite, and sandstone.

Color. Also discussed in the debitage section, monitoring for raw material color was an afterthought when I began to recognize some patterning of raw material type and color; the assemblages seemed to consist of material that resulted from a similar objective piece. As with material type, color serves no purpose in this analysis but was recorded for potential analysis in the future, perhaps examining the spatial distribution of flakes of the same material/color to identify the location of activity areas.

Measurements. Like the debitage database, the tool database includes fields for maximum length, maximum width, maximum thickness, and maximum dimension. For the most part, the measurements taken of each tool depended on its condition, I recorded the maximum dimension and thickness of most tools, and maximum length and width when I believed those measurements to be representative of the piece as a whole. All measurements were taken using Mitutoyo Digimatic Calipers.

Weight. Each tool was weighed on a digital scale in order to determine the weight of all lithic material analyzed. This provides additional information about the nature of the assemblage under analysis; the 96 lithic tools within the assemblages weighed 1,732 g (about four pounds).

Examining a combination of each of the attributes outlined above ensures a thorough analysis of both debitage and tools. The rigorous analysis of each piece of debitage helped to increase the reliability and accuracy of the type categories in which they were placed. Though some of the attributes and variables monitored were not directly related to the present research question, their presence in the database allows for further analysis in the future.

Chapter 6

Results and Discussion

Through the analysis of lithic debitage and tools recovered from excavation at five sites in the San Juan Basin, I set out to determine the degree to which assemblages change through time. Following the Parry and Kelly (1987) model that core reduction strategies provide proxy information for rates of residential mobility, I expected that the lithic material that derived from the two Archaic sites examined in this research would primarily represent formal core reduction and tool manufacture, while debitage and tools recovered from the two Basketmaker II and one Basketmaker III assemblages examined would reflect an increase in expedient lithic technologies as populations became increasingly sedentary. By monitoring a suite of attributes relating to the lithic reduction sequences present in a sample of five different artifact assemblages, I was able to compare the assemblages to determine the degree of technological change over time. Through the use of descriptive statistics following the Parry and Kelly (1987) approach to lithic analysis, as well as exploratory data analysis, I illustrate the ways in which formal tool manufacture decreases in the project area over time while discussing the associated implications for prehistoric social structure in terms of residential mobility.

Debitage

The flaked stone assemblages generally consisted of primary flakes, secondary flakes, biface thinning flakes, pressure flakes, shatter, and unidentified pieces of debitage composed of a variety of raw material types. Figures 6.1 through 6.5 show the frequencies of recovered material by site and by raw material type as well as the frequency of artifacts per excavation level. Both the horizontal and vertical scales for each graph are different due to varying specimen counts and arbitrary 10 cm levels excavated per site.

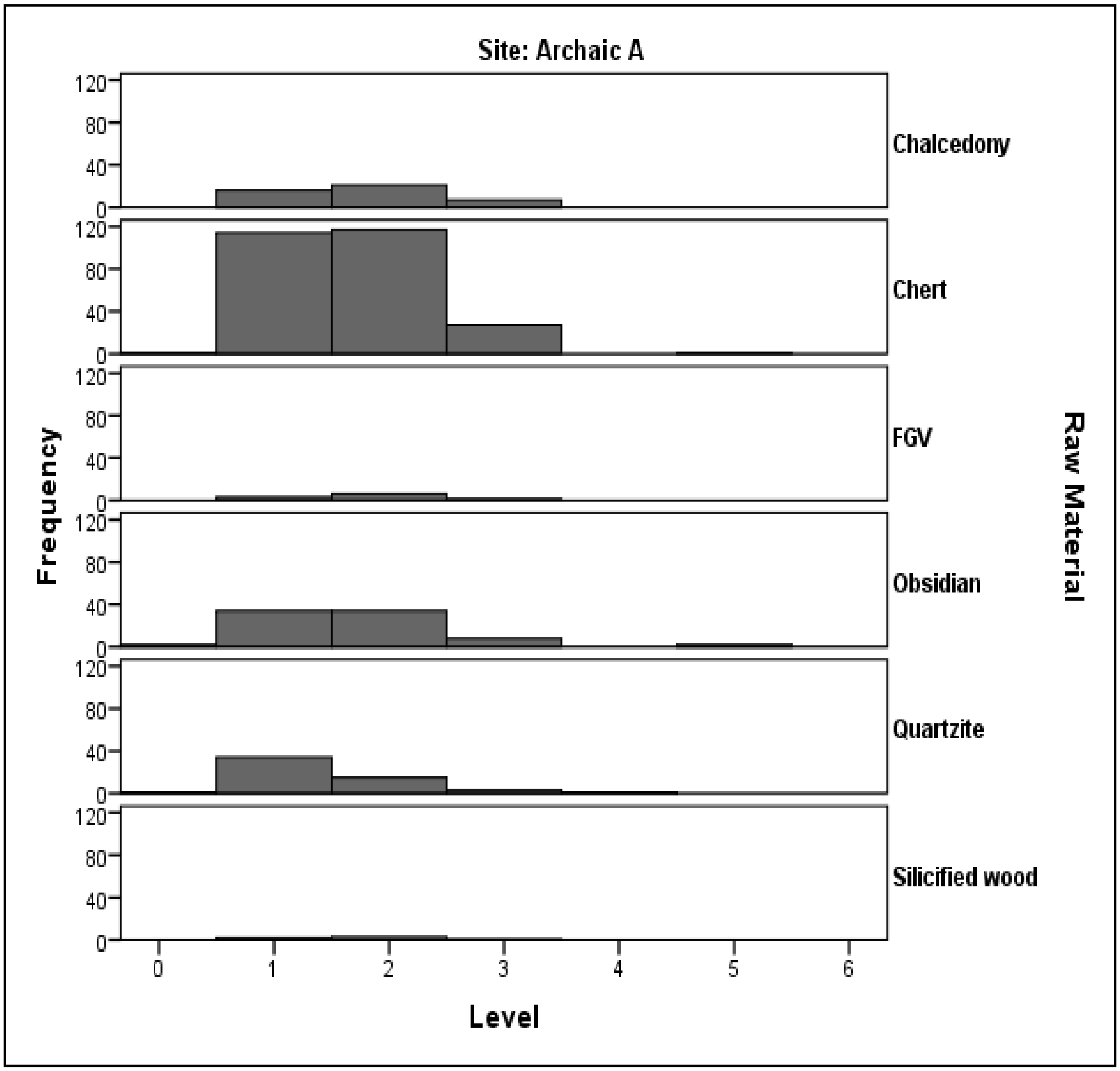

Figure 6.1. Frequency of flakes and raw material by arbitrary 10 cm levels at LA149564; the majority of artifacts here were recovered from levels one and two, and were composed of chert.

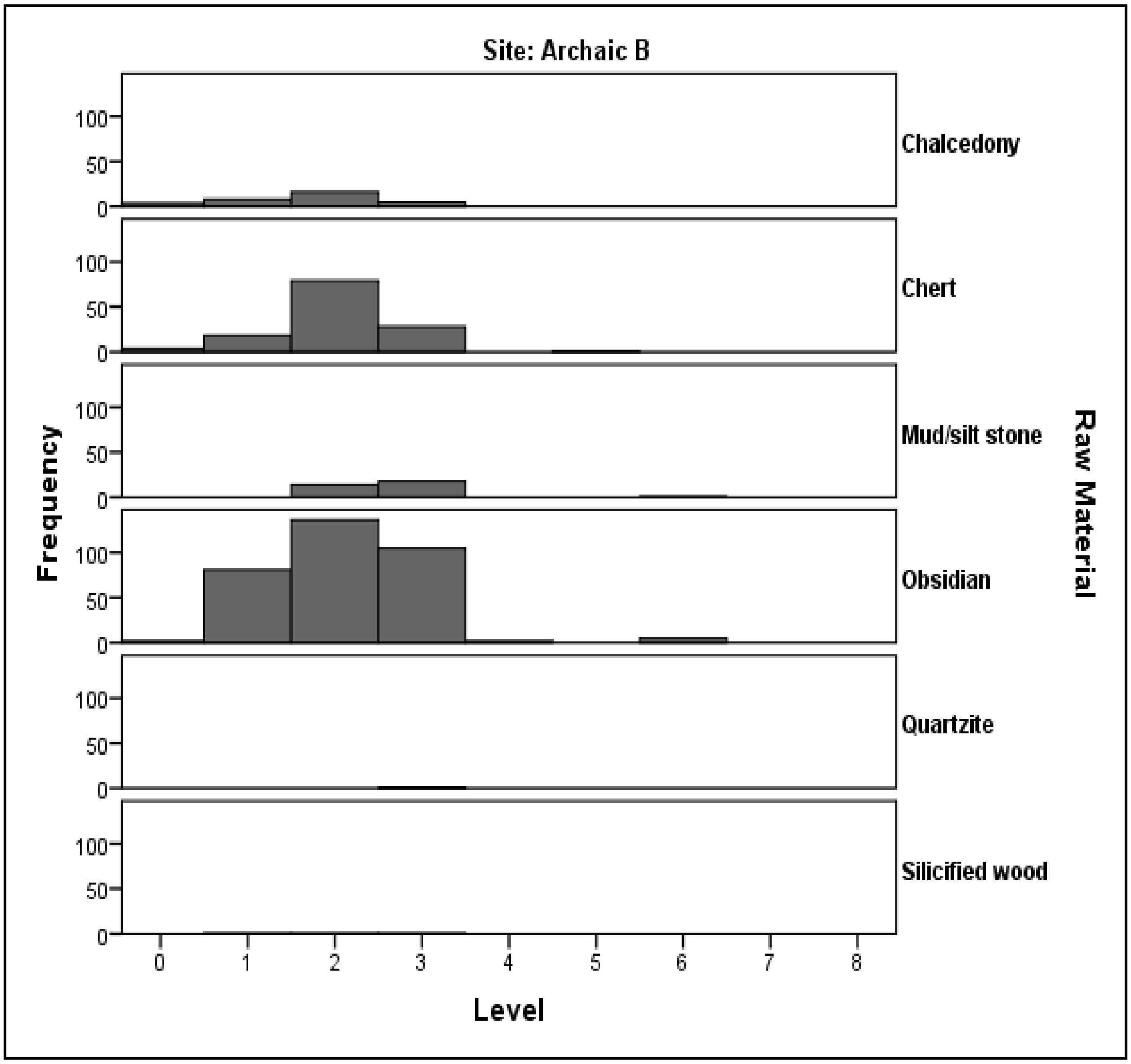

Figure 6.2. Frequency of flakes and raw material by arbitrary 10 cm levels at LA27900; the majority of artifacts here were recovered from between levels one and three, and obsidian and chert were the primary raw material types.

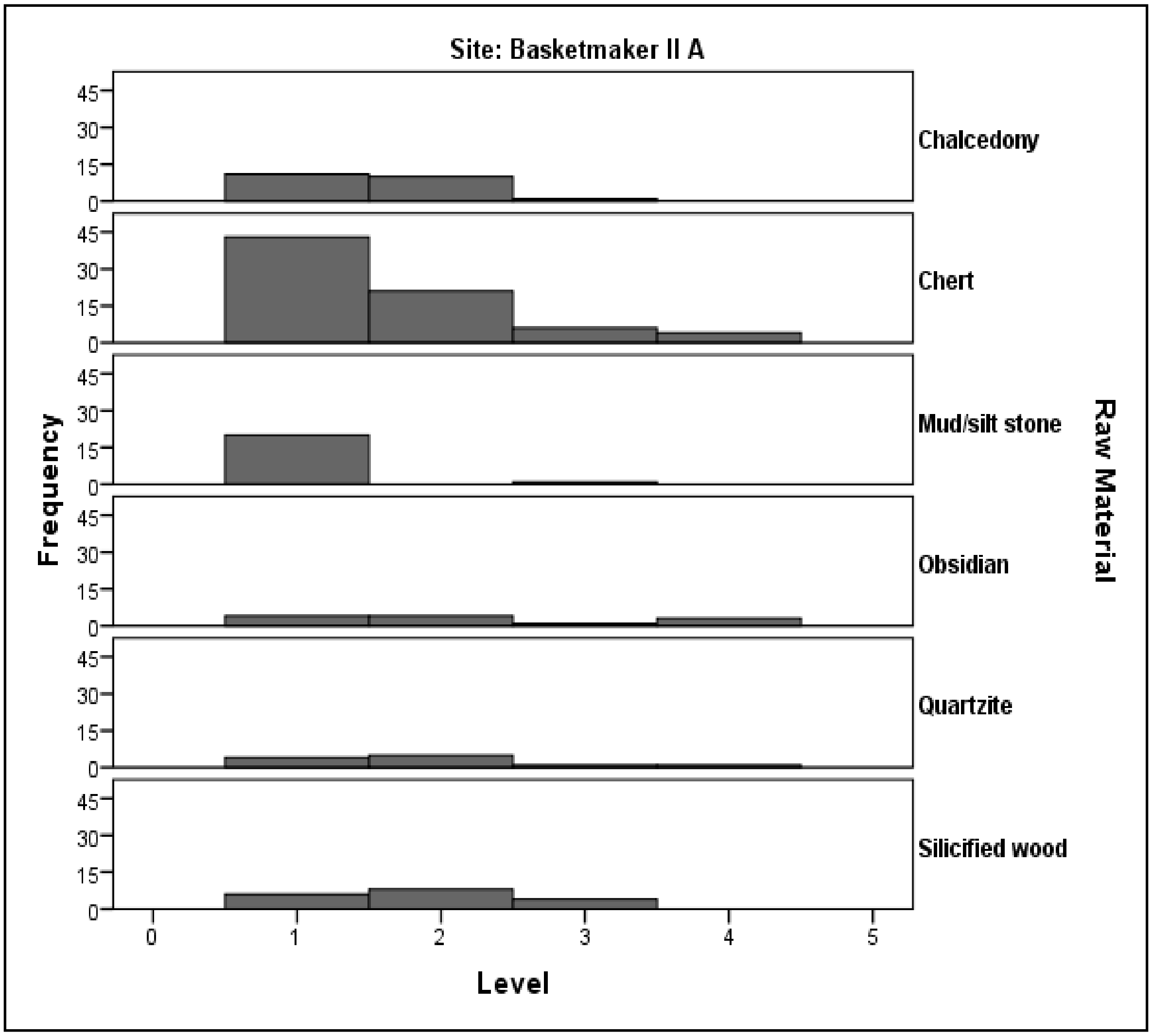

Figure 6.3 Frequency of flakes and raw material by arbitrary 10 cm levels at LA135515; the majority of artifacts here were recovered from levels one and two, and were composed of chert.

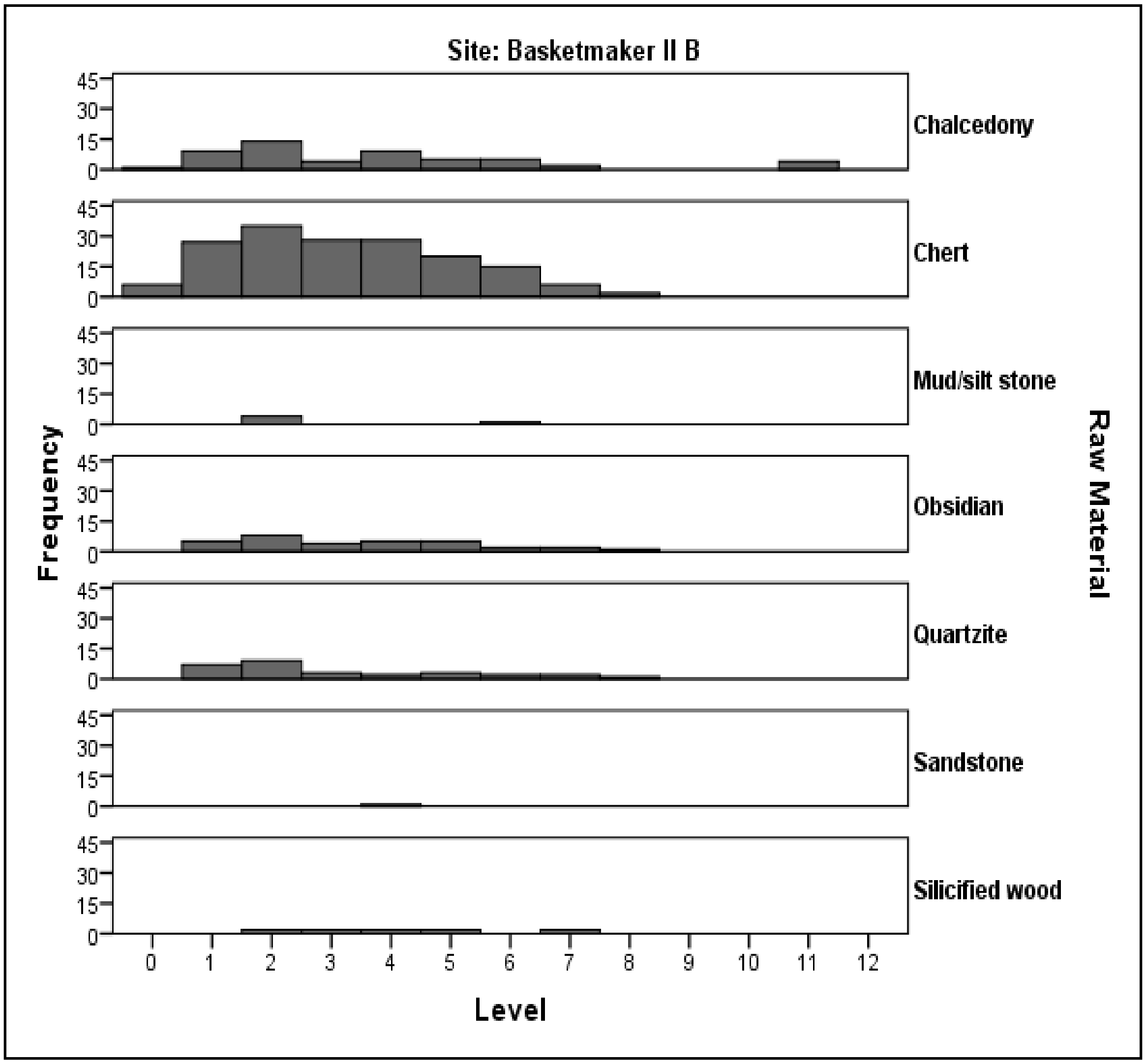

Figure 6.4. Frequency of flakes and raw material by arbitrary 10 cm levels at LA135517; the majority of artifacts here were recovered from between levels one and five, and were composed of chert.

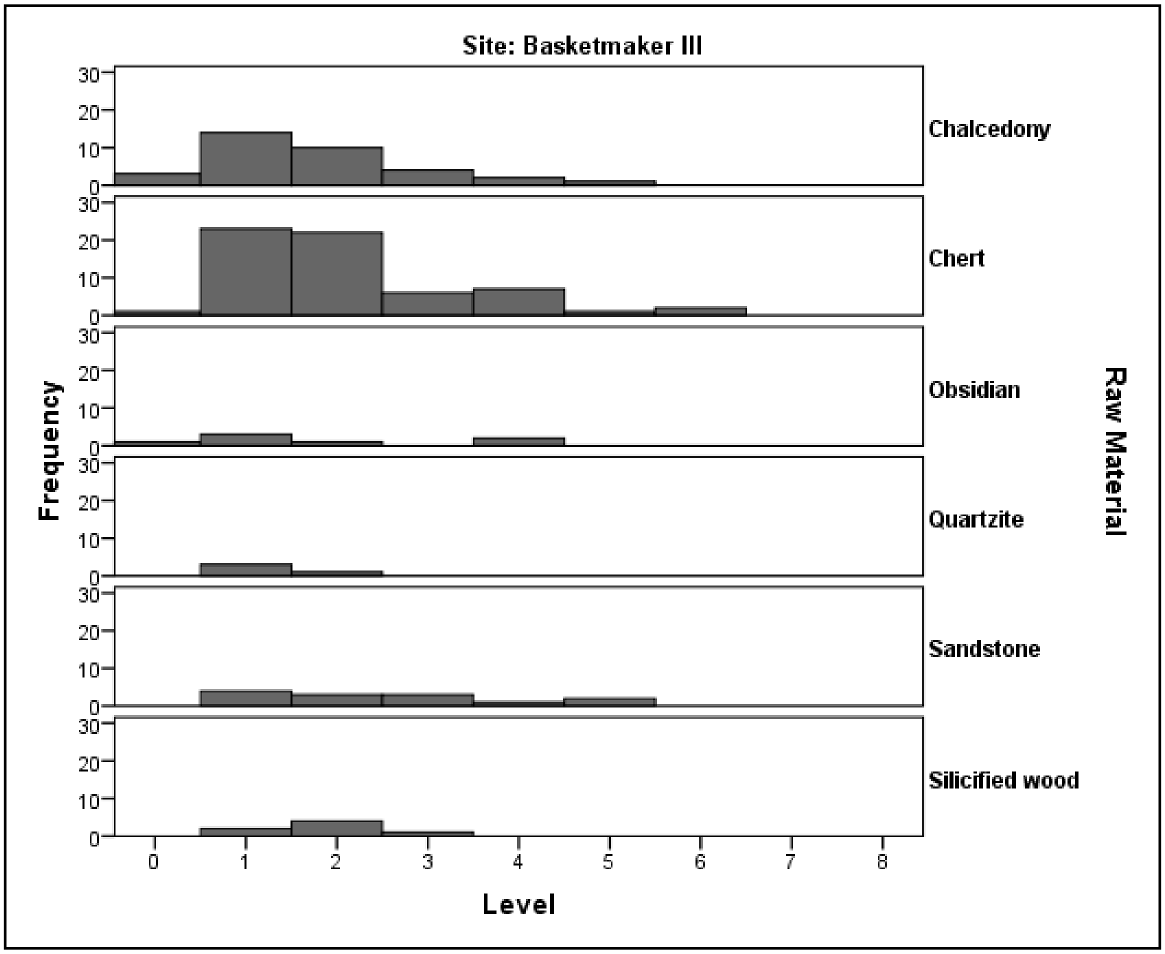

Figure 6.5. Frequency of flakes and raw material by arbitrary 10 cm levels at LA27855; the majority of artifacts here were recovered from levels one and two, and were composed of chert and chalcedony.

I used Chi-square tests to compare observed flake type proportions present at sites of the same time period in order to determine whether or not each site chosen for analysis contained similar assemblages. I did not include the unknown flake type category in the Chi-square tests in order to obtain results that more accurately reflect the compositions of each assemblage. The probability value given from the test approximates the chances of encountering similar frequencies of those actually observed, if the Null hypothesis is true. Among the Basketmaker II sites, x^2=6.01, d.f.=3, p=.111 requiring acceptance of the null, and suggesting that the relative proportions of flake types are similar (Table 6.1).

Between the two Archaic sites (LA149564 and LA27900), a result of x^2=24.45, d.f.=3, *p*=.000 suggests a difference exists between the two site assemblages. Relative proportions of each flake type at the two sites are fairly similar (Table 6.2), except among the biface thinning flakes which are far more abundant at the Archaic B site (LA27900). I do not believe however that this result indicates the presence of an assemblage dating to another period; the lower number of biface thinning flakes and increased number of pressure flakes present at the Archaic A site (LA149564) may simply represent more emphasis on tool retouch than on the manufacturing of biface blanks at this site.

Table 6.1. Frequencies of Basketmaker II Flake Types used in Chi-Square Test (excluding Unknown flake types).

		Site		
		Basketmaker II A	Basketmaker II B	**TOTAL**
Flake Type	Biface Thinning	42	66	**108**
	Pressure	16	29	**45**
	Primary	27	45	**72**
	Secondary	29	88	**117**
TOTAL		114	228	**342**
Result: x^2=6.01, d.f.=3, *p*=.111				

Table 6.2. Frequencies of Archaic Flake Types used in Chi-Square Test (excluding Unknown flake types).

		Site		
		Archaic A	Archaic B	**TOTAL**
Flake Type	Biface Thinning	89	174	**263**
	Pressure	144	125	**269**
	Primary	12	7	**19**
	Secondary	67	70	**137**
TOTAL		282	376	**688**
Result: x^2=24.45, d.f.=3, *p*=.000				

To further illustrate that the different assemblages differ significantly from one another, I ran Chi-square test between all possible combinations of the five sites. Table 6.3 shows with p=.000 for each Chi-square test ,the Null hypothesis is rejected, and statistically significant differences exist between most of the assemblages with respect to proportions of flake types, with the exception of the two Basketmaker II sites which comprise similar assemblages.

Table 6.3. Results of Chi-square tests showing *p*-values between each assemblage in the analysis (excluding Unknown flake types).

Site	Archaic A	Archaic B	BM II A	BM II B	BM III
Archaic A	--	.000	.000	.000	.000
Archaic B	.000	--	.000	.000	.000
BM II A	.000	.000	--	.111	.000
BM II B	.000	.000	.111	--	.000
BM III	.000	.000	.000	.000	--

As mentioned in the previous chapter, I examined several attributes of each flake in order to assign it to a type. In particular, the counts of dorsal flakes and platform morphology of proximal flakes and flake fragments such as platform abrasion, faceting, and lipping were monitored for the identification of biface thinning flakes. Bifaces and the debris from their production occur in high proportions at Archaic sites (Parry and Kelly 1987:288), so my primary concern was with the frequency of bifaces and biface thinning flakes present at the El Segundo sites. Table 6.4 shows the proportions of biface thinning flakes decreasing over time, while assemblage proportions of primary and secondary flakes associated with expedient core reduction increase into the Basketmaker III period.

Table 6.4. Frequencies and Proportions of Flake Types per Site.

Site Name	Flake Type	Frequency (n)	% of Assemblage
LA149564 (Archaic A)	Biface Thinning	89	19.3
	Pressure	144	31.2
	Primary	12	2.6
	Secondary	67	14.5
	Unknown	150	32.5
	TOTAL	462	100
LA27900 (Archaic B)	Biface Thinning	174	32.8
	Pressure	125	23.5
	Primary	7	1.3
	Secondary	69	13
	Unknown	156	29.4
	TOTAL	531	100
LA135515 (Basketmaker II A)	Biface Thinning	42	26.6
	Pressure	16	10.1
	Primary	27	17.1
	Secondary	29	18.4
	Unknown	44	27.8
	TOTAL	158	100
LA135517 (Basketmaker II B)	Biface Thinning	66	21.9
	Pressure	29	9.6
	Primary	45	15
	Secondary	88	29.2
	Unknown	73	24.3
	TOTAL	301	100
LA27855 (Basketmaker III)	Biface Thinning	20	15.7
	Pressure	2	1.6
	Primary	27	21.3
	Secondary	59	46.5
	Unknown	19	15
	TOTAL	127	100

I associate the unidentifiable pieces of debitage labeled "unknown" with intensified and/or late-stage tool production based on my experience with flintknapping. That is, more time expended in tool production correlates to more debris produced, including very small pieces of shatter (usually from more vitreous obsidian). Debitage designated as an unknown type decreases markedly through time as formal tool production decreases (Figure 6.6). Another interesting pattern emerged within the Basketmaker II assemblages, where relative proportions of flake types are far less variable than at the Archaic or Basketmaker III sites, which perhaps points to a transition period in the region from favoring formal tools to those more expediently manufactured. Also of note is that pressure flakes all but disappear in the Basketmaker III assemblage (n=2) suggesting very little facial retouch occurred on the site despite the presence of fourteen relatively well-made formal tools (see Figures 4.42 through 4.54).

Among the 1,579 pieces of debitage analyzed from all five sites, only 561 flakes retained platforms. Faceted or prepared platforms indicate standardized core reduction for the production of formal tools (Parry and Kelly 1987:292). Within the El Segundo debitage dataset, the proportion of faceted platforms predictably decreased through time (Table 6.5). The shift from curated to expedient core technology as indicated by platform preparation is most pronounced between Basketmaker II and Basketmaker III assemblages, consistent with analysis conducted by Parry and Kelly (1987:290) in the greater Southwest region. A similar pattern of decreased standardized core reduction and use of formal tools emerges among other attributes in the assemblage, such as the frequency of facial retouch on tools and of prepared platforms on flakes (Table 6.6).

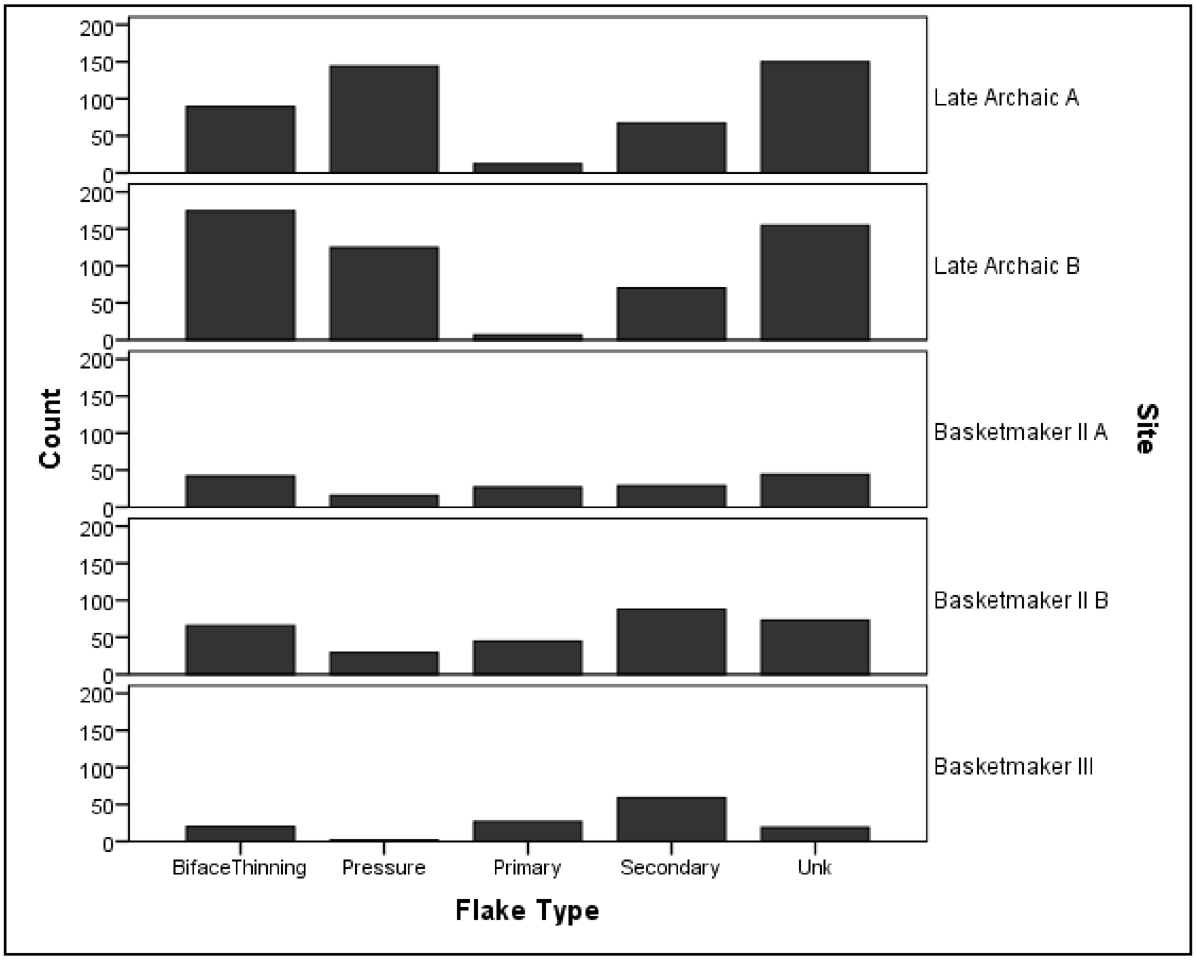

Figure 6.6. Frequency of flake types by site (through time).

Table 6.5. Proportion of Faceted Platforms among Complete and Proximal Flakes.

	Site				
	LA149564 Archaic A	LA27900 Archaic B	LA135515 Basketmaker II A	LA135517 Basketmaker II B	LA27855 Basketmaker III
% of flakes with faceted platforms	23.6	47.6	22.0	18.2	5.6
Period Total	31.9		10.6		

Table 6.6. Proportion of Debitage and Tool Characteristics that Suggest Formal Manufacture by Site*.

	Site				
	LA149564 Archaic A	LA27900 Archaic B	LA135515 Basketmaker II A	LA135517 Basketmaker II B	LA27855 Basketmaker III
% of tools with retouch	50.0	90.4	70.0	84.2	71.5
Period Total	82.1		79.3		
% of biface thinning flakes	19.3	32.8	26.6	21.9	15.7
Period Total	26.5		23.5		
% of flakes with faceted platforms	23.3	42.8	22.0	18.5	5.5
Period Total	32.1		19.5		
% of flakes with abraded platforms	32.9	25.0	18.4	20.3	11.8
Period Total	28.7		19.6		

* Categories are the same used in the table produced by Parry and Kelly (1987:292).

Because formal tools, projectile points in particular, were recovered from each site, the percentage of tools with retouch is high all around, though it does decrease over time. Accordingly, the percentage of flakes that I identified as resulting from bifacial reduction also decreases from the Archaic through Basketmaker periods. Reductions in percentages also occur in proximal flakes with platform characteristics consistent with core preparation. Higher percentages of faceted and/or abraded platforms within an assemblage of debitage indicates more care and energy expenditure in tool production than in assemblages where the majority of proximal flakes exhibit no platform preparation at all (Andrefsky 2005:230).

The observed decrease in the frequency of debitage attributes related to formal tool production among the El Segundo assemblages is consistent with the findings of Parry and Kelly (1987) in lithic assemblages throughout temperate areas of North America, and with their hypothesis that formal tool use correlates to degrees of residential mobility. A shift to sedentism is associated with a shift to an emphasis on expedient core technology, and increasingly expedient lithic technology is a logical consequent of decreased residential mobility (Parry and Kelly 1987:297). The shift to an emphasis on expedient core technology was a lengthy process that began in the Basketmaker II period, and as previously mentioned, the greatest changes in the assemblages typically occur between Basketmaker II and Basketmaker III occupations. Indeed, the percentages of characteristics associated with formal tool production observed in the El Segundo data set decrease most dramatically between the Basketmaker II and III periods, with the exception of platform faceting and abrasion, which decreases the most between the Archaic and Basketmaker II periods (Table 6.7). Interestingly but perhaps not surprisingly, the rates of reduction in tools with facial retouch and in the presence of biface thinning flakes are nearly identical.

Table 6.7. Percentage Changes in Formal Core Reduction and Tool Production Attributes.

<table>
<tr><th rowspan="2"></th><th colspan="3">Period</th></tr>
<tr><th>Archaic</th><th>Basketmaker II</th><th>Basketmaker III</th></tr>
<tr><td>% of tools with facial retouch</td><td>82.1</td><td>79.3</td><td>71.5</td></tr>
<tr><td>% change through time</td><td colspan="2">2.8</td><td>7.8</td></tr>
<tr><td>% of biface thinning flakes</td><td>26.5</td><td>23.5</td><td>15.7</td></tr>
<tr><td>% change through time</td><td colspan="2">3.0</td><td>7.8</td></tr>
<tr><td>% of flakes with faceted platforms</td><td>31.9</td><td>10.6</td><td>5.6</td></tr>
<tr><td>% change through time</td><td colspan="2">21.3</td><td>5</td></tr>
<tr><td>% of flakes with abraded platforms</td><td>28.7</td><td>19.6</td><td>11.8</td></tr>
<tr><td>% change through time</td><td colspan="2">9.1</td><td>7.8</td></tr>
</table>

Because placement of a flake into a type category can be a somewhat subjective task, I also measured the lengths, widths, and thicknesses of each complete flake and the maximum dimension of partial flakes in order to track any changes in the average size of material in each assemblage. The overall dimension of flakes increases through time from the Archaic sites to the Basketmaker III site (Figures 6.7 and 6.8) corresponding to the pattern of earlier assemblages comprising mainly smaller pressure and bifacial thinning flakes and later assemblages consisting of higher frequencies of large primary and secondary flakes.

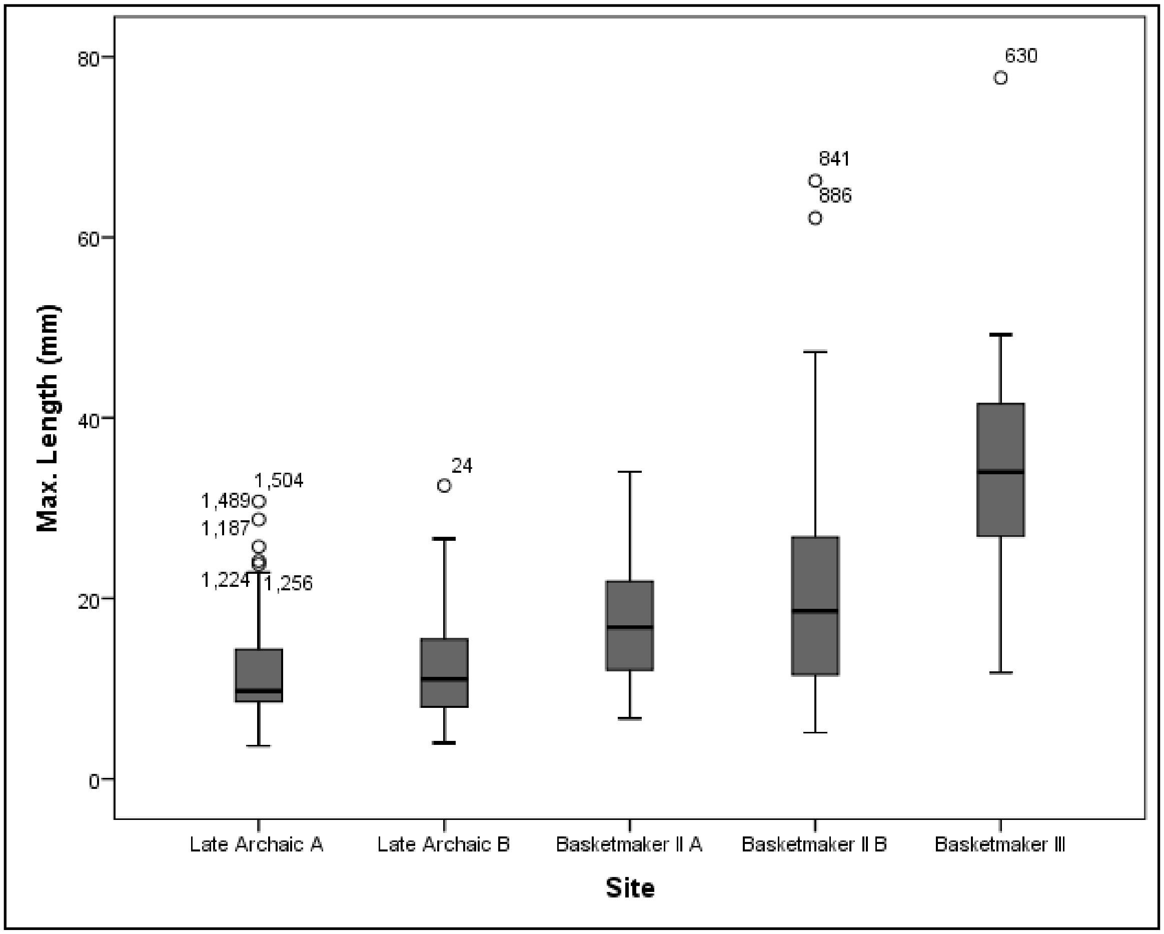

Figure 6.7. Lengths of complete flakes by site.

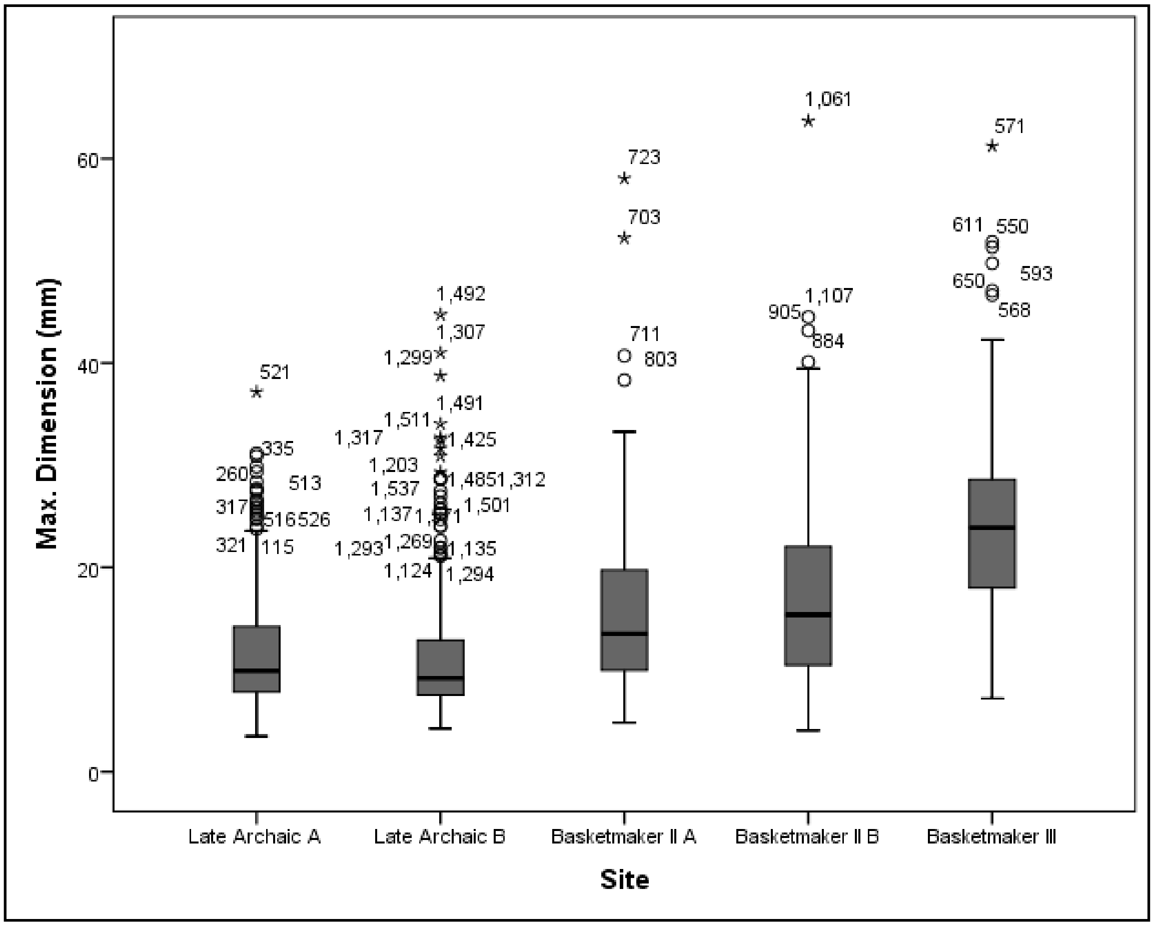

Figure 6.8. Maximum dimensions of incomplete flakes by site.

To determine the probability that two assemblage samples derived from the same population, I also ran independent sample *t* test with a 95% confidence interval between the mean maximum flake length (in mm) at the two Archaic sites and the two Basketmaker II sites (Table 6.8), and between the Archaic and the Basketmaker II sites (Table 6.9) and the Basketmaker II and Basketmaker III sites (Table 6.10). I observed no statistically significant difference between the two Archaic assemblages (with t=.622; d.f.=145; p=.535) or the two Basketmaker II assemblages (with t=1.42; d.f.=88; p=.159). There is however, a statistically significant difference in mean flake length between the Archaic and Basketmaker II assemblages (with t=7.22; d.f.=235; p=.000) and between the Basketmaker II and Basketmaker III assemblages (with t=5.99; d.f.=123; p=.000) suggesting that overall flake size increases in the assemblages through time.

Table 6.8. Results of an Independent Samples *t* Test of Mean Flake Length (in mm) Showing No Statistical Differences Between Assemblages of the Same Time Period.

Site	**n**	**Mean**	***t***	**Significance (2-tailed)**
Archaic A	79	11.763	.622	.535
Archaic B	68	12.357		
Basketmaker II A	29	17.744	1.42	.159
Basketmaker II B	61	21.487		

Table. 6.9. Results of an Independent Samples *t* Test Showing Statistical Differences Between Archaic and Basketmaker II Assemblages.

Time Period	**n**	**Mean**	***t***	**Significance (2-tailed)**
Archaic	147	12.038	7.22	.000
Basketmaker II	90	20.281		

Table. 6.10. Results of an Independent Samples *t* Test Showing Statistical Differences Between Basketmaker II and Basketmaker III Assemblages.

Time Period	**n**	**Mean**	***t***	**Significance (2-tailed)**
Basketmaker II	90	20.281	5.99	.000
Basketmaker III	35	34.513		

Tools

The primary focus for this analysis was more on the debris from tool production than on the tools themselves. The diagnostic tools within assemblages helped to place each site into a temporal window, but patterns in tool types also help to bolster a hypothesis for increased use of expedient tools through time. Table 6.11 shows the frequencies of different tool types per site. I consider any tool with extensive facial retouching (biface, drill, knife, projectile point) to be the result of standardized core preparation for the manufacture of formal tools, and tools with only marginal retouch or edge damage (scrapers and unifaces) to result from expedient manufacture. The cores in the tool database consist of formal unidirectional cores and informal amorphous or multidirectional cores.

Table 6.11. Formal and Expedient Tool Frequencies by Site.

Site Name	Flake Type	Frequency (n)	% of Tools
LA149564 (Archaic A)	Biface	2	25
	Projectile	2	25
	Multi Core	2	25
	Uni Core	1	12.5
	Side Scraper	1	12.5
	TOTAL	8	100
LA27900 (Archaic B)	Biface	18	58.1
	Projectile	6	19.4
	Uniface	4	12.9
	Uni Core	2	6.5
	Side Scraper	1	3.2
	TOTAL	31	100
LA135515 (Basketmaker II A)	Projectile	4	40.0
	Biface	2	20.0
	Multi Core	2	20.0
	Side Scraper	1	10.0
	Uniface	1	10.0
	TOTAL	10	100
LA135517 (Basketmaker II B)	Projectile	9	47.4
	Biface	7	36.8
	Multi Core	2	10.5
	End Scraper	1	5.3
	TOTAL	19	100
LA27855 (Basketmaker III)	Projectile	13	46.4
	Multi Core	6	21.4
	Biface	5	17.9
	Side Scraper	2	7.1
	Drill	1	3.6
	Uniface	1	3.6
	TOTAL	28	100

Frequencies of formal tools and standardized cores remain relatively high from Archaic through Basketmaker II periods, likely owing to a lack of a formal use-wear analysis of the lithic debitage. There are 40 specimens in the debitage database identified as exhibiting marginal retouch, edge scarring, or both indicative of expedient use, but were not added to the tool database either because I could not determine with certainty whether the edge damage resulted from use or postdepositional processes. Though flakes with edge scarring and retouch were present on all five sites, the majority (50%) derive from the later Basketmaker III site (LA 27855) where expedient use of flakes would be expected.

Although formal tools occur in relatively high frequencies at each of the sites, the percentages do decrease through time (Table 6.12). The most dramatic decrease expectedly occurs between the Basketmaker II and Basketmaker III periods (3.6% decrease between Archaic and Basketmaker II, 8.0% decrease between Basketmaker II and III).

Table 6.12. Proportion of Formal Tools per Time Period.

	Period		
	Archaic	Basketmaker II	Basketmaker III
% of formal tools	79.5	75.9	67.9

The changes in lithic technology are concomitant with the enormous changes in social organization that occur at the time. The Basketmaker III site (LA27855) in the El Segundo data set is the only one at which a habitation structure was encountered. Though the region is not ideal for long term settlement, a habitation site here points to a larger trend toward sedentism during this period which also coincides with an increased reliance on agricultural subsistence strategies. With evidence for maize well before the Basketmaker III period in the northern Southwest, the shift to a more sedentary lifestyle is not related to the introduction but rather the emphasis on maize agriculture, which is also true in Mesoamerica and during the Eastern Woodlands period (Parry and Kelly 1987:297). In this portion of the San Juan Basin however there is no evidence for agriculture as the chief subsistence strategy during any time period. Groups moving through this region would have continued to rely on broad spectrum foraging in addition to any horticultural or agricultural activities.

The analysis of flaked stone recovered from archaeological sites sheds light on technological organization and patterns in mobility among forager groups. By following the Parry and Kelly (1987) hypothesis that lithic material provides proxy information in regards to residential mobility, I have demonstrated through an analysis of 1,580 pieces of debitage and 96 tools that a shift does occur in lithic assemblages from the use of more formal tools in the Archaic period to expediently manufactured tools through time into the Basketmaker III period. The shift that occurs in this portion of the San Juan Basin is consistent with technological change elsewhere on the Colorado Plateau, where the frequency of more expediently made tools increases slightly during the Basketmaker II period in which groups remained fairly mobile while potentially experimenting with maize cultivation, and rises more dramatically from the Basketmaker II to Basketmaker III period which is characterized by agricultural intensification and decreased residential mobility.

Chapter 7

Summary and Conclusions

The primary goal of this analysis was to track changes in Archaic and Basketmaker II lithic assemblages through the slow shift to sedentism and maize agriculture in the northern Southwest in general, and the southern San Juan Basin in particular. By testing the applicability of the Parry and Kelly (1987) hypothesis which states that proportions of standardized core forms and biface thinning flakes within artifact assemblages can inform researchers about degrees of residential mobility, I demonstrated from a sample of just five sites in a limited study area in the San Juan Basin that assemblage composition points to a gradual shift to more expedient tool use and therefore an increasingly sedentary lifestyle. That such clear patterns arise in the quantitative data from the five assemblages points to the strength of the Parry and Kelly hypothesis that relates lithic technological traditions to rates of residential mobility. The patterns observed in my data set of a gradual change from the Archaic to Basketmaker II period and a more dramatic shift into the Basketmaker III period also mirrors patterns encountered throughout the Colorado Plateau, leading to the eventual intensification of agriculture, increased population densities, and more permanent architecture in the Puebloan periods.

The Value of Debitage Analysis

After being neglected by researchers for decades as prehistoric trash, lithic debitage has gradually gained importance as an artifact class that can help interpret aspects of prehistoric technology, economy, and social organization (Andrefsky 2001:2).

The results of this analysis illustrate the utility of lithic debitage and tools for placing archaeological sites into broad time periods in the absence of absolute chronometric dates. Archaeologists attempting to research prehistoric populations and their social structures do so through analysis of material culture. For many hunting and gathering groups however, that cultural material is often limited to durable stone artifacts. In open air contexts, lithic tools and the debitage resulting from their manufacture are all that remain of a preceramic archaeological site. The debris from tool production or retouch possesses valuable information about the manufacturer and the social system in which they operated, and continues to prove a great resource for archaeologists. Debitage is far more abundant at sites than are the stone tools themselves, and the types of flakes and/or the entire debitage assemblage may themselves be culturally or temporally diagnostic (Shott 1994:71). Because lithic debitage is not ordinarily removed from sites by curation or by collection from later prehistoric occupants and modern looters, the abundance, distribution, and composition of recovered assemblages should not be biased by curation or collection (Shott:1994:71). The ubiquitous "lithic scatters" in the Southwest possess great data potential for archaeologists interested in preceramic hunter-gatherer groups or in any culture that employed stone technology.

Limitations of This Analysis

The limitations of this lithic analysis resulted primarily from site sample size and context from which the lithic material was recovered. A lack of absolute chronological dates for most of the sites also limits my ability to definitively assess the changes in assemblages through time. I do not however, believe that the limitations negate in any way the results of the analysis, though I kept them in mind during the course of this research.

Sample Size. Though I analyzed a large number of artifacts, the assemblages derived from just five sites out of hundreds in the project area. A larger sample of lithic assemblages would provide more conclusive information regarding technology and mobility patterns in the region.

Chronological Data. No absolute chronometric dates existed for any of the sites at the outset of this research. Through ongoing analyses conducted by researchers at Southwest Archaeological Consultants, Inc., two radiocarbon date clusters confirm the temporal placement of the Archaic sites examined in this analysis. The Basketmaker II and Basketmaker III sites were designated as such based upon diagnostic material culture present at each of the sites, including but not limited to projectile points and other lithic tools, groundstone, and ceramics.

Assemblage Contexts. Because the two Basketmaker II assemblages I analyzed derived from multicomponent sites (LA135515 and LA135517) which also exhibited extensive reworking of geomorphological surfaces, mixing of lithic material from different occupations may have occurred, potentially skewing the data. The fact that flake type variability was least pronounced within the Basketmaker II assemblages may be due in part to commixture of components.

Assumptions made on rates of residential mobility among prehistoric populations based upon proportions of bifacial tools and the debris from their manufacture in an assemblage may be misleading without understanding the limits of such interpretation. The use of bifacial tools did not cease during a certain time period. There always existed a need for well-made tools such as knives, drills, and certainly projectile points for groups maintaining a hunting and gathering subsistence strategy subsequent to the adoption of agriculture and the associated shift to sedentism. Expedient tools conversely would also have been used by any person with an immediate and short-term need for a sharp edge, regardless of time period.

Studies that attempt to link settlement or mobility patterns to stone tools argue that global aspects of human behavior are reflected fairly directly in technology (Bamforth 1991:217). A person or the society in which he or she operates cannot be accurately and wholly described by means of the tools used. Lithic analysis is but one tool for the archaeologist to use in piecing together the small glimpses of prehistoric life we acquire through our investigations.

The Parry and Kelly Hypothesis

Despite the limitations outlined above, my analysis of lithic debitage revealed patterns consistent with the Parry and Kelly (1987) hypothesis linking flaked stone assemblages with residential mobility. When used as a general framework for interpreting the proportions of flake types present in an assemblage, I found a reduction through time in the frequencies of debitage associated with the production of formal tools, a trend consistent within most North American cultural complexes. Even with a very small sample of sites, the results of this analysis illustrate the viability and value of the Parry and Kelly model, which holds up in this area of the Southwest.

Continuing Research

As archaeologists continue to conduct data recovery projects on the Colorado Plateau, the transition to agriculture in region becomes more clear, helped largely in part by increased accuracy in dating techniques. Syntheses of the gray literature produced by the many cultural resource management projects conducted in the last decade will likely reveal previously unrecognized patterns in Archaic and Basketmaker subsistence in mobility. Application of the Parry/Kelly model to debitage analyses will also provide archaeologists with valuable information with which to supplement their research. Current geologic assays of regional raw material sources additionally will help archaeologists to refine our assumptions of mobility in the area by better defining lithic conveyance zones and understanding procurement patterns from the many high-quality lithic sources that encircle the San Juan Basin, helping to better our understanding of the prehistoric populations that once lived here.

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Appendix A: El Segundo Debitage Data

El Segundo Debitage																				
Site	DSN	GRID NORTH	GRID EAST	LEVEL	Class	Condition	Max Dimension	Max Length (mm)	Max Width (mm)	Max Thickness (mm)	Weight (g)	Dorsal Scars	Cortex Amount	Platform Lip	Platform Morphology	Platform Abrasion	Flake Type	Edge Modification	Raw Material	Color
LA149564	1041				Flake	Complete		8.04	6.39	0.8	0.05	2	0%	Yes	Fragmented/Crushed	Yes	Pressure		Chert	black/gray
LA149564	1042				Flake	Distal	7.5				0.09	3	0%	No	N/A	No	Pressure	Absent	Chert	black/gray
LA149564	1043				Flake	Lateral	11.57				0.26	2	0%	No	N/A	No	Unk		Chert	black/gray
LA149564	1044				Flake	Proximal	19.16				0.58	3	0%	No	Fragmented/Crushed	Yes	BifaceThinning		Chert	black/gray
LA149564	1045				Flake	Lateral	12.93				0.43	3	0%	No	N/A	No	Unk		Chert	tan
LA149564	1046				Flake	Medial	5.55				0.02	2	0%	No	N/A	No	Pressure		Obsidian	black
LA149564	1047				Flake	Distal	8.81				0.1	N/A	0%	No	N/A	No	Unk		Quartzite	red
LA135515	491	388	264	1	Angular Debris	N/A (angular)	26.86				5.26	N/A	1-10%	No	N/A	No	Primary	Absent	Mud/silt stone	light blue
LA135515	492	388	264	1	Angular Debris	N/A (angular)	22.71				1.82	N/A	11-50%	No	N/A	No	Primary	Absent	Chert	white
LA135515	505	388	264	1	Flake	Lateral	9.74				0.06	2	0%	No	N/A	No	Unk	Absent	Obsidian	trans. obs.
LA135515	506	388	264	3	Flake	Distal	11.06				0.17	3	0%	No	N/A	No	Unk	Absent	Chert	pink/gray
LA135515	507	388	264	4	Angular Debris	N/A (angular)	8.33				0.1	N/A	1-10%	No	N/A	No	Primary	Absent	Chert	clear/red-orange
LA135515	508	384	264	2	Angular Debris	N/A (angular)	40.7				16.77		11-50%	No	N/A	No	Primary	Absent	Silicified wood	clear/red-orange
LA135515	493	388	262	1	Flake	Proximal	11.15				0.34	5+	0%	No	Fragmented/Crushed	Yes	BifaceThinning	Absent	Chert	tan/pink
LA135515	494	388	262	1	Angular Debris	N/A (angular)	6.97				0.04	N/A	0%	No	N/A	No	Unk	Absent	Chert	tan
LA135515	495	388	262	1	Flake	Complete		11.96	7.83	1.37	0.13	5	0%	No	Bifacet	Yes	Pressure	Absent	Chert	white
LA135515	496	388	262	1	Angular Debris	N/A (angular)	13.48				0.39	N/A	0%	No	N/A	No	Unk	Absent	Chert	tan
LA135515	497	388	262	1	Angular Debris	N/A (angular)	9.73				0.22	N/A	1-10%	No	N/A	No	Primary	Absent	Chert	tan/pink/gray
LA135515	498	388	262	1	Flake	Lateral	8.77				0.1	2	1-10%	No	N/A	No	Primary	Absent	Quartzite	clear/black
LA135515	499	388	262	1	Flake	Proximal	8.06				0.1	3	0%	No	Bifacet	Yes	Unk	Absent	Chert	tan
LA135515	500	388	262	2	Flake	Proximal	52.23				37.99	2	11-50%	No	Flat	No	Primary	Absent	Quartzite	tan/pink
LA135515	501	388	262	2	Angular Debris	N/A (angular)	17.87				1.34	N/A	0%	No	N/A	No	Unk	Absent	Chert	clear/black
LA135515	502	388	262	2	Flake	Complete		21.88	14.4	2.95	1.1	5+	0%	Yes	Multifacet	Yes	BifaceThinning	Absent	Chert	gray/white
LA135515	503	388	262	2	Flake	Complete		8.28	5.94	1.58	0.06	3	0%	No	Flat	Yes	Pressure	Absent	Chalcedony	brown

El Segundo Debitage																				
Site	DSN	GRID NORTH	GRID EAST	LEVEL	Class	Condition	Max Dimension	Max Length (mm)	Max Width (mm)	Max Thickness (mm)	Weight (g)	Dorsal Scars	Cortex Amount	Platform Lip	Platform Morphology	Platform Abrasion	Flake Type	Edge Modification	Raw Material	Color
LA135515	504	388	262	2	Flake	Medial	14.63				0.66	2	0%	No	N/A	No	Secondary	Absent	Quartzite	red
LA135515	484	388	262	2	Flake	Distal	9.98				0.1	4	0%	No	N/A	No	BifaceThinning	Absent	Chert	tan
LA135515	485	388	262	2	Flake	Lateral	5.22				0.02	2	0%	No	N/A	No	Unk	Absent	Chert	brown
LA135515	486	388	262	2	Flake	Complete		12.09	12.02	3.56	0.53	2	0%	No	Fragmented/Crushed	No	Secondary	Absent	Chert	gray
LA135515	487	388	262	2	Angular Debris	N/A (angular)	28.51			5.66	5.05	N/A	11-50%	No	N/A	No	Primary	Absent	Chert	white/clear
LA135515	488	388	268	1	Flake	Medial	24.17				1.41	5	0%	No	N/A	No	BifaceThinning	Absent	Chert	brown
LA135515	489	392	264	2	Flake	Lateral	12.37				0.25	3	0%	No	N/A	No	Unk	Absent	Chert	brown
LA135515	490	388	260	1	Flake	Proximal	19.74				1.47	2	0%	No	Multifacet	Yes	BifaceThinning	Absent	Chert	gray
LA135515	462	388	260	1	Flake	Distal	13.19				0.38	3	0%	No	N/A	No	BifaceThinning	Absent	Chert	tan
LA135515	465	388	260	1	Flake	Proximal	13.5				0.19	N/A	0%	No	Fragmented/Crushed	No	Unk	Absent	Chalcedony	clear
LA135515	467	388	264	2	Flake	Proximal	19.42			3.06	0.94	5+	0%	Yes	Flat	Yes	BifaceThinning	Absent	Obsidian	trans. obs.
LA135515	469	388	264	2	Flake	Complete		31.63	17.65	3.88	1.9	5+	0%	No	Fragmented/Crushed	Yes	BifaceThinning	Absent	Chert	white
LA135515	450	388	268	1	Flake	Lateral	7.41				0.11	4	0%	No	N/A	No	Unk	Absent	Chert	white/clear
LA135515	452	388	268	1	Flake	Lateral	10.12				0.12	2	0%	No	N/A	No	Unk	Absent	Chert	gray
LA135515	455	388	268	1	Flake	Proximal	17.48				0.48	4	0%	No	N/A	No	Unk	Absent	Chert	gray
LA135515	456	388	268	2	Flake	Lateral	17.57				0.47	2	0%	No	N/A	No	Unk	Absent	Chert	gray
LA135515	458	390	262	1	Flake	Complete		34.03	25.74	11.72	7.99	2	91-99%	No	Flat	No	Primary	Absent	Mud/silt stone	light green
LA135515	460	390	262	1	Flake	Distal	12.24				0.12	3	0%	No	N/A	No	Unk	Absent	Mud/silt stone	light blue
LA135515	463	390	262	1	Angular Debris	N/A (angular)	10.06				0.19	N/A	0%	No	N/A	No	Unk	Absent	Mud/silt stone	light blue
LA135515	464	390	262	1	Flake	Proximal	9.94				0.09	3	0%	No	Fragmented/Crushed	Yes	Pressure	Absent	Chert	white
LA135515	466	390	262	1	Angular Debris	N/A (angular)	16.55				0.3	N/A	0%	No	N/A	No	Unk	Absent	Silicified wood	white
LA135515	468	390	262	1	Angular Debris	N/A (angular)	8.19				0.23	N/A	0%	No	N/A	No	Unk	Absent	Silicified wood	white
LA135515	470	390	262	1	Flake	Medial	5.92				0.03	2	0%	No	N/A	No	Pressure	Absent	Chert	red
LA135515	471	390	262	1	Flake	Distal	9.18				0.09	3	0%	No	N/A	No	BifaceThinning	Absent	Chert	gray
LA135515	472	390	262	1	Flake	Medial	16.86				0.44	2	0%	No	N/A	No	BifaceThinning	Absent	Quartzite	gray/white
LA135515	473	390	262	1	Flake	Complete		19.03	26.68	4.31	2.14	5+	0%	No	Fragmented/Crushed	No	BifaceThinning	Absent	Chert	brown

El Segundo Debitage

Site	DSN	GRID NORTH	GRID EAST	LEVEL	Class	Condition	Max Dimension	Max Length (mm)	Max Width (mm)	Max Thickness (mm)	Weight (g)	Dorsal Scars	Cortex Amount	Platform Lip	Platform Morphology	Platform Abrasion	Flake Type	Edge Modification	Raw Material	Color
LA135515	474	390	262	1	Angular Debris	N/A (angular)	7.34				0.08	N/A	0%	No	N/A	No	Unk	Absent	Mud/silt stone	light blue
LA135515	475	390	262	1	Flake	Proximal	9.93				0.11	5	0%	Yes	Bifacet	No	BifaceThinning	Absent	Mud/silt stone	light blue
LA135515	509	390	262	1	Angular Debris	N/A (angular)	17.82				0.58	1	1-10%	No	N/A	No	Primary	Absent	Chert	black
LA135515	510	390	262	1	Flake	Distal	10.89				0.13	2	0%	No	N/A	No	BifaceThinning	Absent	Mud/silt stone	light green
LA135515	511	390	262	1	Flake	Distal	9.14				0.05	2	0%	No	N/A	No	Unk	Absent	Mud/silt stone	light green
LA135515	512	390	262	1	Flake	Proximal	12.17				0.35	2	0%	No	Multifacet	Yes	BifaceThinning	Absent	Chert	gray
LA135515	513	390	262	1	Flake	Lateral	7.82				0.06	1	0%	No	N/A	No	Unk	Absent	Chert	gray
LA135515	514	388	260	2	Flake	Complete		28.34	24.6	4.12	3.63	5+	0%	No	Fragmented/Crushed	No	BifaceThinning	Absent	Quartzite	black
LA135515	515	388	260	2	Flake	Lateral	16.69				0.89	2	0%	No	N/A	No	Secondary	Absent	Silicified wood	tan
LA135515	516	388	260	2	Flake	Proximal	14.52				0.57	2	0%	No	Flat	Yes	Secondary	Absent	Silicified wood	tan
LA135515	517	388	260	2	Flake	Lateral	19.82				0.85	1	0%	No	N/A	No	Secondary	Absent	Chalcedony	clear/red-orange
LA135515	519	390	262	2	Flake	Medial	25.87				1.15	2	0%	No	N/A	No	Secondary	Absent	Chert	gray
LA135515	520	390	262	2	Flake	Distal	58.04			17.38	46.06	5	0%	No	N/A	No	Secondary	Absent	Quartzite	pink
LA135515	518	386	262	1	Flake	Lateral	16.37				0.16	1	0%	No	N/A	No	Unk	Absent	Chalcedony	clear
LA135515	476	386	264	1	Angular Debris	N/A (angular)	13.95				0.16	N/A	0%	No	N/A	No	Unk	Absent	Mud/silt stone	light blue
LA135515	477	386	264	1	Flake	Lateral	16.69				0.55	5	0%	No	N/A	No	Secondary	Absent	Chert	white
LA135515	478	386	264	2	Flake	Medial	11.19				0.17	4	0%	No	N/A	No	BifaceThinning	Absent	Chert	white/clear
LA135515	479	386	264	2	Flake	Distal	8.33				0.06	2	0%	No	N/A	No	Pressure	Absent	Chalcedony	brown
LA135515	480	386	264	2	Flake	Proximal	9.24				0.11	2	0%	No	Flat	No	Secondary	Absent	Chert	black/gray
LA135515	481	386	264	2	Flake	Complete		23.29	10.77	2.27	0.48	5+	0%	Yes	Fragmented/Crushed	Yes	BifaceThinning	Absent	Chalcedony	brown
LA135515	482	386	264	2	Flake	Complete		16.47	10.34	1.73	0.28	5	0%	No	Bifacet	Yes	BifaceThinning	Absent	Obsidian	black
LA135515	483	386	264	2	Angular Debris	N/A (angular)	12.68				0.18	N/A	0%	No	N/A	No	Unk	Absent	Chalcedony	clear

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Site	DSN	GRID NORTH	GRID EAST	LEVEL	Class	Condition	Max Dimension	Max Length (mm)	Max Width (mm)	Max Thickness (mm)	Weight (g)	Dorsal Scars	Cortex Amount	Platform Lip	Platform Morphology	Platform Abrasion	Flake Type	Edge Modification	Raw Material	Color
LA135515	538	382	264	2	Flake	Proximal	12.27				0.36	1	0%	No	Fragmented/Crushed	Yes	Unk	Absent	Chert	pink
LA135515	539	382	264	2	Flake	Complete		24.11	18.16	4.66	1.92	N/A	100%	No	Flat	Yes	Primary	Absent	Chert	tan/pink/gray
LA135515	540	382	264	3	Flake	Complete		13.21	10.21	0.83	0.15	4	0%	No	Fragmented/Crushed	No	BifaceThinning	Absent	Chert	white/clear
LA135515	541	392	260	1	Flake	Complete		14.29	16.63	3.97	0.79	3	0%	Yes	Bifacet	Yes	BifaceThinning	Absent	Chert	black/gray
LA135515	542	392	260	1	Flake	Complete		16.57	18.45	3.33	0.83	2	0%	No	Fragmented/Crushed	Yes	BifaceThinning	Absent	Chert	tan/pink
LA135515	525	392	264	3	Flake	Distal	18.39				0.69	2	51-90%	No	N/A	No	Primary	Absent	Silicified wood	brown
LA135515	526	382	262	1	Flake	Distal	29.29				2.7	4	0%	No	N/A	No	Secondary	Absent	Mud/silt stone	light blue
LA135515	527	382	262	1	Flake	Proximal	15.12				0.35	2	0%	No	Fragmented/Crushed	Yes	BifaceThinning	Absent	Chalcedony	brown
LA135515	528	382	262	1	Flake	Medial	13.45				0.43	3	0%	No	N/A	No	BifaceThinning	Absent	Chert	gray
LA135515	529	392	260	2	Angular Debris	N/A (angular)	12.26				0.43	N/A	0%	No	N/A	No	Primary	Absent	Chert	tan
LA135515	530	382	262	1	Flake	Medial	20.95			3.84	1.82	2	1-10%	No	N/A	No	Primary	Absent	Mud/silt stone	light blue
LA135515	521	382	262	2	Angular Debris	N/A (angular)	21.25				2.96	N/A	11-50%	No	N/A	No	Primary	Absent	Chert	pink/gray
LA135515	522	394	262	1	Flake	Complete		6.69	8.03	1.07	0.06	3	0%	Yes	Flat	Yes	Pressure	Absent	Chalcedony	white/clear
LA135515	523	394	262	1	Flake	Distal	9.64				0.08	4	0%	No	Fragmented/Crushed	No	Unk	Absent	Chalcedony	white/clear
LA135515	524	394	262	2	Flake	Lateral	27.16			2.1	0.92	3	0%	No	N/A	No	Secondary	Absent	Silicified wood	red
LA135515	531	382	260	2	Flake	Medial	11.35				0.1	2	0%	No	N/A	No	Pressure	Absent	Chert	brown
LA135515	532	382	260	2	Angular Debris	N/A (angular)	15.08				1.09	N/A	0%	No	N/A	No	Unk	Absent	Silicified wood	brown
LA135515	533	382	260	3	Flake	Lateral	14.19				0.65	2	0%	No	N/A	No	Unk	Absent	Chert	black
LA135515	535	0	0	1	Angular Debris	N/A (angular)	5.95				0.06	N/A	0%	No	N/A	No	Unk	Absent	Chert	tan
LA135515	536	0	0	1	Flake	Proximal	16.54				0.36	2	1-10%	No	Fragmented/Crushed	Yes	Primary	Absent	Chert	white
LA135515	555	390	264	1	Angular Debris	N/A (angular)	5.38				0.02	N/A	0%	No	N/A	No	Unk	Absent	Chalcedony	clear/red-orange
LA135515	556	390	264	1	Angular Debris	N/A (angular)	14.47				0.69	N/A	0%	No	N/A	No	Secondary	Absent	Mud/silt stone	light green

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Site	DSN	GRID NORTH	GRID EAST	LEVEL	Class	Condition	Max Dimension	Max Length (mm)	Max Width (mm)	Max Thickness (mm)	Weight (g)	Dorsal Scars	Cortex Amount	Platform Lip	Platform Morphology	Platform Abrasion	Flake Type	Edge Modification	Raw Material	Color
LA135515	557	390	264	1	Flake	Complete		10.47	12.96	3.3	0.49	3	0%	No	Fragmented/Crushed	Yes	BifaceThinning	Absent	Chert	brown
LA135515	558	390	264	1	Angular Debris	N/A (angular)	19.68				1.61	N/A	0%	No	N/A	No	Unk	Absent	Chert	white
LA135515	559	390	264	1	Flake	Complete		31.12	28.33	6.03	5.3	5+	1-10%	No	Flat	Yes	Secondary	Absent	Quartzite	pink/gray
LA135515	543	390	264	1	Angular Debris	N/A (angular)	20.59				1.19	N/A	0%	No	N/A	No	Unk	Absent	Chert	white/clear
LA135515	544	390	264	1	Flake	Lateral	4.82				0.02	3	0%	No	N/A	No	Unk	Absent	Chert	tan
LA135515	545	390	264	1	Flake	Medial	4.92				0.01	2	0%	No	N/A	No	Pressure	Absent	Chalcedony	clear
LA135515	546	390	264	1	Flake	Distal	6.6				0.03	4	0%	No	N/A	No	Unk	Absent	Chert	tan
LA135515	547	390	264	1	Flake	Medial	8.67				0.08	3	0%	No	N/A	No	Pressure	Absent	Chert	brown
LA135515	548	390	264	2	Flake	Lateral	9.68				0.18	2	0%	No	N/A	No	Unk	Absent	Silicified wood	brown
LA135515	549	390	264	2	Flake	Distal	7.26				0.05	3	0%	No	N/A	No	Unk	Absent	Chalcedony	clear/red-orange
LA135515	550	390	264	2	Flake	Medial	10.78				0.09	3	0%	No	N/A	No	BifaceThinning	Absent	Chalcedony	clear
LA135515	551	384	264	2	Angular Debris	N/A (angular)	12.28				0.14	N/A	0%	No	N/A	No	Unk	Absent	Chert	tan
LA135515	552	384	264	2	Flake	Lateral	11.12				0.15	2	0%	No	N/A	No	BifaceThinning	Absent	Quartzite	clear/red-orange
LA135515	553	384	264	3	Flake	Complete		26.53	17.95	4.39	2.03	3	11-50%	No	Fragmented/Crushed	No	Primary	Absent	Chert	tan/pink/gray
LA135515	554	384	264	3	Angular Debris	N/A (angular)	21.61				17.1	N/A	0%	No	N/A	No	Unk	Absent	Mud/silt stone	red
LA135515	565	388	264	3	Angular Debris	N/A (angular)	16.98				2.06	N/A	0%	No	N/A	No	Secondary	Absent	Chert	tan/pink/gray
LA135515	566	388	264	3	Flake	Lateral	9.62				0.08	2	0%	No	N/A	No	BifaceThinning	Absent	Quartzite	black/gray
LA135515	537	384	268	1	Angular Debris	N/A (angular)	28.05				5.01	N/A	0%	No	N/A	No	Secondary	Edge Scarring	Chalcedony	clear/red-orange
LA135515	560	384	262	2	Flake	Distal	12.72				0.25	2	0%	No	N/A	No	BifaceThinning	Absent	Chert	black/gray
LA135515	561	394	264	1	Flake	Distal	14.87				0.35	1	0%	No	N/A	No	BifaceThinning	Absent	Silicified wood	multi
LA135515	562	390	260	1	Flake	Distal	16.56			2.77	1.11	3	0%	No	N/A	No	Secondary	Absent	Chert	gray
LA135515	563	390	260	1	Flake	Complete		16.81	10.47	3.07	0.55	3	0%	No	Flat	Yes	BifaceThinning	Absent	Chert	tan/white

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Site	DSN	GRID NORTH	GRID EAST	LEVEL	Class	Condition	Max Dimension	Max Length (mm)	Max Width (mm)	Max Thickness (mm)	Weight (g)	Dorsal Scars	Cortex Amount	Platform Lip	Platform Morphology	Platform Abrasion	Flake Type	Edge Modification	Raw Material	Color
LA135515	564	390	260	1	Angular Debris	N/A (angular)	31.73				2.88	N/A	0%	No	N/A	No	Secondary	Absent	Chert	white
LA135515	597	390	260	2	Angular Debris	N/A (angular)	24.8				1.39	N/A	0%	No	N/A	No	Secondary	Absent	Chalcedony	brown
LA135515	534	390	260	2	Flake	Complete		20.12	11.47	4.99	0.99	1	11-50%	No	Multifacet	No	Primary	Absent	Chert	white/clear
LA135515	612	390	268	3	Angular Debris	N/A (angular)	17.88				1.4	N/A	11-50%	No	N/A	No	Primary	Absent	Silicified wood	white/clear
LA135515	613	390	268	3	Angular Debris	N/A (angular)	17.42				1.56	2	0%	No	N/A	No	Secondary	Absent	Chalcedony	clear/red-orange
LA135515	601	390	268	4	Flake	Complete		12.94	6.52	0.97	0.09	3	0%	No	Bifacet	Yes	Pressure	Absent	Chert	black
LA135515	602	388	274	1	Angular Debris	N/A (angular)	17.9				0.75	N/A	1-10%	No	N/A	No	Primary	Absent	Obsidian	trans. obs.
LA135515	603	388	274	1	Flake	Proximal	9.38				0.2	3	0%	No	Fragmented/Crushed	No	BifaceThinning	Absent	Chert	pink/white
LA135515	604	388	274	1	Flake	Complete		21.7	15.2	4.57	1.65	5+	0%	No	Fragmented/Crushed	No	BifaceThinning	Absent	Mud/silt stone	light blue
LA135515	605	388	274	1	Angular Debris	N/A (angular)	22.48				1.6	N/A	0%	No	N/A	No	Secondary	Absent	Mud/silt stone	light blue
LA135515	606	388	274	1	Flake	Proximal	16.51				1.86	4	0%	No	Fragmented/Crushed	No	Secondary	Absent	Mud/silt stone	light blue
LA135515	607	388	274	1	Flake	Distal	16				0.36	N/A	0%	No	N/A	No	BifaceThinning	Absent	Chalcedony	brown
LA135515	608	388	274	1	Flake	Medial	10.11				0.11	3	0%	No	N/A	No	Pressure	Absent	Chalcedony	brown
LA135515	609	394	260	1	Flake	Distal	9.32				0.17	3	0%	No	N/A	No	Unk	Absent	Chert	tan/pink/gray
LA135515	610	394	260	1	Flake	Medial	14.55				0.84	2	0%	No	N/A	No	Secondary	Absent	Chert	brown
LA135515	611	394	260	1	Angular Debris	N/A (angular)	20.06				2.1	N/A	11-50%	No	N/A	No	Primary	Absent	Chert	white/clear
LA135515	598	394	260	2	Angular Debris	N/A (angular)	25.78				6.71	N/A	0%	No	N/A	No	Secondary	Absent	Chert	gray
LA135515	599	394	260	2	Angular Debris	N/A (angular)	32.92				9.34	N/A	0%	No	N/A	No	Secondary	Absent	Obsidian	trans. obs.
LA135515	600	396	262	1	Flake	Distal	38.32			6.69	9.53	1	91-99%	No	N/A	No	Primary	Absent	Chert	tan
LA135515	585	400	262	3	Flake	Distal	24.51				1.33	5	0%	No	N/A	No	Secondary	Absent	Chert	white
LA135515	586	400	262	1	Flake	Lateral	23.35				1.08	N/A	0%	No	N/A	No	Secondary	Absent	Silicified wood	black/gray

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Site	DSN	GRID NORTH	GRID EAST	LEVEL	Class	Condition	Max Dimension	Max Length (mm)	Max Width (mm)	Max Thickness (mm)	Weight (g)	Dorsal Scars	Cortex Amount	Platform Lip	Platform Morphology	Platform Abrasion	Flake Type	Edge Modification	Raw Material	Color
LA135515	587	400	262	1	Flake	Proximal	21.95				1.24	3	0%	No	Flat	No	BifaceThinning	Absent	Chert	black/gray
LA135515	588	400	262	1	Angular Debris	N/A (angular)	13.2				0.35	N/A	0%	No	N/A	No	Unk	Absent	Silicified wood	brown
LA135515	589	400	262	2	Angular Debris	N/A (angular)	8.6				0.15	N/A	0%	No	N/A	No	Unk	Absent	Obsidian	black
LA135515	574	400	262	2	Angular Debris	N/A (angular)	33.26				8.69	N/A	1-10%	No	N/A	No	Primary	Absent	Silicified wood	black/gray
LA135515	575	400	262	2	Angular Debris	N/A (angular)	11.25				0.35	N/A	0%	No	N/A	No	Unk	Absent	Silicified wood	black/gray
LA135515	576	400	262	2	Flake	Medial	12.7				0.18	2	0%	No	N/A	No	BifaceThinning	Absent	Chalcedony	brown
LA135515	577	400	262	1	Flake	Medial	10.38				0.07	5+	0%	No	N/A	No	Pressure	Absent	Mud/silt stone	white
LA135515	578	380	264	1	Flake	Distal	10.64				0.13	1	0%	No	N/A	No	BifaceThinning	Absent	Silicified wood	brown
LA135515	579	380	264	1	Angular Debris	N/A (angular)	20.8			3.23	1.58	N/A	1-10%	No	N/A	No	Primary	Absent	Mud/silt stone	red
LA135515	580	380	264	1	Flake	Distal	27.07			9.67	7.86	N/A	0%	No	N/A	No	Secondary	Absent	Mud/silt stone	pink/gray
LA135515	581	380	264	1	Angular Debris	N/A (angular)	31.67				7.89	N/A	11-50%	No	N/A	No	Primary	Absent	Quartzite	red
LA135515	582	394	260	3	Flake	Complete		19.18	17.02	2.76	0.75	4	0%	No	Fragmented/Crushed	No	BifaceThinning	Absent	Silicified wood	brown
LA135515	583	396	262	3	Flake	Proximal	12.87				0.2	3	0%	No	Fragmented/Crushed	No	Unk	Absent	Silicified wood	brown
LA135515	584	396	262	3	Flake	Proximal	15.42				1.05	1	1-10%	No	Complete Cortex	Yes	Primary	Absent	Obsidian	tan/pink/gray
LA135515	590	396	262	4	Flake	Medial	29.78				1.6	3	0%	No	N/A	No	Secondary	Absent	Chert	white/clear
LA135515	591	396	262	4	Flake	Complete		12.81	7.83	1.26	0.14	2	0%	No	Flat	No	Pressure	Absent	Obsidian	black
LA135515	592	380	264	2	Flake	Distal	11.03				0.26	2	0%	No	N/A	No	BifaceThinning	Absent	Chalcedony	clear/red-orange
LA135515	593	390	268	1	Flake	Distal	7.56				0.04	3	0%	No	N/A	No	Unk	Absent	Obsidian	trans. obs.
LA135515	594	390	268	1	Flake	Lateral	12.92				0.23	3	0%	No	N/A	No	BifaceThinning	Absent	Mud/silt stone	gray
LA135515	595	390	268	1	Flake	Complete		8.84	5.84	1.15	0.06	3	0%	No	Fragmented/Crushed	Yes	Pressure	Absent	Chert	white/clear

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Site	DSN	GRID NORTH	GRID EAST	LEVEL	Class	Condition	Max Dimension	Max Length (mm)	Max Width (mm)	Max Thickness (mm)	Weight (g)	Dorsal Scars	Cortex Amount	Platform Lip	Platform Morphology	Platform Abrasion	Flake Type	Edge Modification	Raw Material	Color
LA135515	596	390	268	1	Flake	Proximal	8.46				0.1	2	0%	No	Flat	Yes	Pressure	Absent	Chert	white
LA135515	567	390	268	1	Flake	Complete		7.35	6.69	1.19	0.05	4	0%	No	Fragmented/Crushed	Yes	Pressure	Absent	Obsidian	trans. obs.
LA135515	568	390	268	1	Flake	Medial	16.29				0.3	2	0%	No	N/A	No	BifaceThinning	Absent	Chalcedony	brown
LA135515	569	390	268	1	Flake	Complete		7.9	10.26	2.05	0.15	3	0%	No	Fragmented/Crushed	Yes	BifaceThinning	Absent	Mud/silt stone	light blue
LA135515	570	400	262	4	Flake	Distal	19.77				0.57	5	0%	No	N/A	No	BifaceThinning	Absent	Chert	black/gray
LA135515	571	400	262	4	Flake	Complete		18.91	18.75	11	4.54	2	1-10%	No	Complete Cortex	No	Primary	Absent	Obsidian	trans. obs.
LA135515	572	400	262	4	Flake	Complete		18.02	20.86	4.74	1.69	2	0%	No	Multifacet	No	Secondary	Absent	Quartzite	gray
LA135515	573	400	262	4	Flake	Lateral	9.33				0.17	2	0%	No	N/A	No	Unk	Absent	Obsidian	black
LA149564	428	167	192	1	Flake	Complete		11.91	9.13	1.67	0.17	5	0%	No	Fragmented/Crushed	Yes	Pressure	Absent	Obsidian	trans. obs.
LA149564	429	167	192	1	Flake	Lateral	7.85				0.36	1	0%	No	N/A	No	Secondary	Absent	Chert	tan/white
LA149564	302	168	188	1	Flake	Distal	10.03				0.09	4	0%	No	N/A	No	Pressure	Absent	Quartzite	red
LA149564	303	168	192	1	Flake	Complete		12.35	7.03	1.44	0.17	3	0%	No	Multifacet	No	Pressure	Absent	Chert	black/gray
LA149564	304	168	192	1	Flake	Distal	9.39				0.13	4	0%	No	N/A	No	Unk	Absent	Obsidian	black
LA149564	305	168	192	1	Flake	Distal	10.79				0.11	2	0%	No	N/A	No	Unk	Absent	FGV	gray
LA149564	306	169	185	1	Flake	Lateral	8.61				0.07		0%	No	N/A	No	Unk	Absent	Silicified wood	clear/black
LA149564	307	169	185	1	Flake	Proximal	8.76				0.1	3	0%	Yes	Fragmented/Crushed	Yes	BifaceThinning	Absent	Quartzite	brown
LA149564	308	169	185	1	Flake	Lateral	32.43				2.85	5	0%	No	N/A	No	Secondary	Absent	Quartzite	red
LA149564	309	169	186	1	Flake	Proximal	13.76				0.35	4	0%	Yes	Flat	Yes	BifaceThinning	Absent	Quartzite	red
LA149564	310	169	186	1	Flake	Medial	7.29				0.11	2	0%	No	N/A	No	Unk	Absent	Chert	tan/white
LA149564	311	169	186	1	Flake	Complete		9.15	8.75	2.15	0.15	3	0%	No	Multifacet	Yes	BifaceThinning	Absent	Quartzite	orange
LA149564	312	169	186	1	Flake	Lateral	8.35				0.08	3	0%	No	N/A	No	Unk	Absent	Chalcedony	clear/black
LA149564	313	169	187	1	Flake	Lateral	8.17				0.07	2	0%	No	N/A	No	Unk	Absent	Quartzite	red
LA149564	314	169	187	1	Flake	Proximal	8.14				0.05	2	0%	No	Multifacet	Yes	Pressure	Absent	Chert	tan/pink/gray
LA149564	315	169	189	1	Flake	Proximal	14.02				0.8	3	0%	No	Fragmented/Crushed	Yes	Secondary	Absent	Chalcedony	red
LA149564	316	169	189	1	Flake	Proximal	19.55				1.83	1	0%	No	Multifacet	Yes	Secondary	Absent	Chert	orange
LA149564	317	169	192	1	Flake	Lateral	13.36				0.29	2	0%	No	N/A	No	Secondary	Absent	Chert	black/gray
LA149564	318	169	192	1	Flake	Distal	7.91				0.05	3	0%	No	N/A	No	Unk	Absent	Chert	brown
LA149564	319	169	192	1	Flake	Proximal	7.84				0.06	3	0%	No	Flat	No	Pressure	Absent	Chert	tan/pink/gray
LA149564	320	170	186	1	Flake	Distal	10.12				0.09	2	0%	No	N/A	No	Unk	Absent	Quartzite	white

El Segundo Debitage																				
Site	DSN	GRID NORTH	GRID EAST	LEVEL	Class	Condition	Max Dimension	Max Length (mm)	Max Width (mm)	Max Thickness (mm)	Weight (g)	Dorsal Scars	Cortex Amount	Platform Lip	Platform Morphology	Platform Abrasion	Flake Type	Edge Modification	Raw Material	Color
LA149564	321	170	186	1	Flake	Medial	9.78				0.08	1	0%	No	N/A	No	Unk	Absent	Chert	black/gray
LA149564	322	170	186	1	Flake	Complete		10.5	7	1.29	0.1	2	0%	No	Fragmented/Crushed	Yes	Pressure	Absent	Chert	black/gray
LA149564	323	170	186	1	Flake	Complete		9.26	11.61	2.18	0.28	3	0%	No	Flat	No	BifaceThinning	Absent	Quartzite	red
LA149564	399	170	187	1	Flake	Medial	9.02				0.05	2	0%	No	N/A	No	Unk	Absent	Quartzite	black
LA149564	400	170	187	1	Flake	Medial	10.09				0.06	2	0%	No	N/A	No	Unk	Absent	Chert	black/gray
LA149564	401	170	187	1	Flake	Medial	6.69				0.06	N/A	0%	No	N/A	No	Unk	Absent	Obsidian	trans. obs.
LA149564	402	170	187	1	Flake	Distal	5.05				0.02	2	0%	No	N/A	No	Pressure	Absent	Chalcedony	clear/red-orange
LA149564	403	170	187	1	Flake	Distal	5.13				0.01	5	0%	No	N/A	No	Unk	Absent	Obsidian	trans. obs.
LA149564	404	170	187	1	Flake	Lateral	12.57				0.06	2	0%	No	N/A	No	Unk	Absent	Obsidian	trans. obs.
LA149564	405	170	187	1	Flake	Distal	8.05				0.03	2	0%	No	N/A	No	Unk	Absent	Chert	orange
LA149564	406	170	190	1	Flake	Medial	9.37				0.06	1	0%	No	N/A	No	Unk	Absent	Obsidian	trans. obs.
LA149564	407	170	191	2	Flake	Lateral	7.43				0.03	N/A	0%	No	N/A	No	Unk	Absent	Quartzite	orange
LA149564	408	170	192	2	Flake	Complete		4.02	4.94	0.48	0.01	2	0%	No	Fragmented/Crushed	Yes	Pressure	Absent	Chert	black/gray
LA149564	409	170	193	2	Flake	Lateral	8.01				0.08	3	0%	No	N/A	No	Unk	Absent	Chert	tan/pink/gray
LA149564	410	170	193	2	Flake	Distal	5.44				0.02	1	0%	No	N/A	No	Pressure	Absent	Obsidian	ashy obsidian
LA149564	411	170	193	2	Flake	Medial	8.71				0.09	1	0%	No	N/A	No	Unk	Absent	Chert	tan/white
LA149564	412	170	193	2	Flake	Complete		10.33	6.81	1.52	0.12	4	0%	Yes	Flat	Yes	BifaceThinning	Absent	Obsidian	black
LA149564	413	170	193	2	Flake	Complete		17.35	14.84	2.39	0.5	5+	0%	Yes	Multifacet	Yes	BifaceThinning	Absent	Chert	tan/white
LA149564	414	170	193	2	Flake	Complete		21.73	12.93	2.13	0.7	4	0%	No	Fragmented/Crushed	Yes	BifaceThinning	Absent	Chalcedony	clear/red-orange
LA149564	415	170	193	2	Flake	Distal	16.13				0.66	4	0%	No	N/A	No	BifaceThinning	Absent	Chert	tan/white
LA149564	416	171	185	1	Flake	Lateral	6.65				0.04	1	0%	No	N/A	No	Unk	Absent	Chalcedony	clear/red-orange
LA149564	417	171	185	1	Flake	Distal	4.83				0.03	3	0%	No	N/A	No	Pressure	Absent	Obsidian	ashy obsidian
LA149564	418	171	191	2	Flake	Medial	7.02				0.03	2	0%	No	N/A	No	Pressure	Absent	Chert	white
LA149564	419	171	191	2	Flake	Distal	12.88				0.35	2	0%	No	N/A	No	Secondary	Edge Scarring	Chert	gray
LA149564	420	171	191	2	Flake	Distal	29.33			7.2	5.21	5	0%	No	N/A	No	Secondary	Absent	Quartzite	red
LA149564	421	172	185	1	Flake	Complete		6.43	7.51	1.62	0.1	3	0%	No	Multifacet	Yes	BifaceThinning	Absent	Obsidian	black
LA149564	422	172	185	1	Flake	Complete		7.05	6.87	1.22	0.06	5	0%	Yes	Multifacet	Yes	BifaceThinning	Absent	Chert	tan

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Site	DSN	GRID NORTH	GRID EAST	LEVEL	Class	Condition	Max Dimension	Max Length (mm)	Max Width (mm)	Max Thickness (mm)	Weight (g)	Dorsal Scars	Cortex Amount	Platform Lip	Platform Morphology	Platform Abrasion	Flake Type	Edge Modification	Raw Material	Color
LA149564	423	172	185	1	Flake	Distal	7.66				0.05	4	0%	No	N/A	No	Unk	Absent	Chert	orange
LA149564	424	172	191	2	Flake	Lateral	4.8				0.03	2	0%	No	N/A	No	Pressure	Absent	Obsidian	black
LA149564	425	173	197	5	Flake	Distal	8.86				0.07	3	0%	No	N/A	No	Unk	Absent	Obsidian	ashy obsidian
LA149564	426	173	197	5	Flake	Distal	11.47				0.19	5	0%	No	N/A	No	BifaceThinning	Absent	Obsidian	trans. obs.
LA149564	427	173	197	5	Flake	Lateral	13.37				0.24	2	0%	No	N/A	No	Secondary	Absent	Chert	gray/white
LA149564	240	174	189	2	Flake	Complete		11.42	6.65	1.21	0.1	3	0%	Yes	Bifacet	Yes	Pressure	Absent	Chert	black/gray
LA149564	241	174	189	2	Flake	Distal	10.82				0.18	2	0%	No	N/A	No	Unk	Absent	Chert	black/gray
~~LA149564~~	~~242~~	~~174~~	~~189~~	~~2~~	~~Flake~~	~~Distal~~	~~15.75~~				~~0.21~~	~~2~~	~~0%~~	~~No~~	~~N/A~~	~~No~~	~~Unk~~	~~Absent~~	~~Chert~~	~~black/gray~~
LA149564	243	174	190	1	Flake	Proximal	11.48				0.19	5	0%	Yes	Flat	Yes	BifaceThinning	Absent	Chert	tan
LA149564	244	174	190	1	Flake	Proximal	7.44				0.05	2	0%	No	Fragmented/Crushed	Yes	Pressure	Absent	Chert	tan
LA149564	245	174	190	1	Flake	Distal	9.42				0.14	2	0%	No	N/A	No	Unk	Absent	Chert	black/gray
LA149564	246	174	190	1	Flake	Medial	6.75				0.03	2	0%	No	N/A	No	Unk	Absent	Obsidian	trans. obs.
LA149564	247	174	190	1	Flake	Lateral	7.47				0.05	2	0%	No	N/A	No	Pressure	Absent	Chert	black/gray
LA149564	248	174	190	1	Flake	Complete		8.66	5.68	1.08	0.06	2	0%	No	Flat	Yes	Pressure	Absent	Chert	black/gray
LA149564	249	174	190	2	Flake	Proximal	8.38				0.06	3	0%	No	Flat	No	Unk	Absent	Chert	yellow
LA149564	250	174	190	2	Flake	Proximal	10.81				0.13	2	0%	No	Fragmented/Crushed	Yes	BifaceThinning	Absent	Chert	pink/gray
LA149564	251	174	190	2	Flake	Proximal	8.26				0.05	3	0%	No	Fragmented/Crushed	Yes	Pressure	Absent	Chert	black/gray
LA149564	252	174	190	2	Flake	Distal	9.3				0.07	N/A	0%	No	N/A	No	Unk	Absent	Chert	black/gray
LA149564	253	174	192	1	Flake	Proximal	19.16				0.55	2	0%	No	Fragmented/Crushed	Yes	Secondary	Absent	Chert	black
LA149564	254	174	192	1	Flake	Complete		9.58	7.09	1.14	0.1	3	0%	Yes	Flat	No	BifaceThinning	Absent	Chert	black/gray
LA149564	255	174	192	1	Flake	Proximal	6.52				0.08	3	0%	No	Flat	Yes	Pressure	Absent	Chalcedony	brown
LA149564	256	174	192	1	Flake	Lateral	12.69				0.25	2	0%	No	N/A	No	Secondary	Absent	Chert	white
LA149564	257	174	192	1	Flake	Lateral	6.47				0.09	2	0%	No	N/A	No	Unk	Absent	Obsidian	ashy obsidian
LA149564	258	174	192	1	Flake	Distal	7.49				0.06	2	0%	No	N/A	No	Unk	Absent	Chert	black/gray
LA149564	259	174	192	1	Flake	Complete		15.38	10.41	1.37	0.29	5+	0%	Yes	Fragmented/Crushed	Yes	BifaceThinning	Absent	Chert	black/gray
LA149564	260	174	192	1	Flake	Lateral	14.87				0.41	2	0%	No	N/A	No	Secondary	Absent	Quartzite	white/clear
LA149564	261	174	193	1	Flake	Distal	8.86				0.08	1	0%	No	N/A	No	Unk	Absent	Chert	tan
LA149564	262	174	193	1	Flake	Distal	7.24				0.06	2	0%	No	N/A	No	Pressure	Absent	Chalcedony	white/clear
LA149564	263	174	193	1	Flake	Proximal	8.34				0.06	3	0%	No	Bifacet	Yes	BifaceThinning	Absent	Chert	gray/white
LA149564	264	174	193	1	Flake	Lateral	8.3				0.04	3	0%	No	N/A	No	Unk	Absent	Chalcedony	clear

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Site	DSN	GRID NORTH	GRID EAST	LEVEL	Class	Condition	Max Dimension	Max Length (mm)	Max Width (mm)	Max Thickness (mm)	Weight (g)	Dorsal Scars	Cortex Amount	Platform Lip	Platform Morphology	Platform Abrasion	Flake Type	Edge Modification	Raw Material	Color
LA149564	265	174	193	1	Flake	Medial	8.33				0.09	3	0%	No	N/A	No	Pressure	Absent	Chert	black/gray
LA149564	266	174	193	1	Flake	Medial	5.89				0.05	3	0%	No	N/A	No	Unk	Absent	Obsidian	black
LA149564	267	174	193	1	Flake	Proximal	10.14				0.13	2	0%	No	Bifacet	Yes	Pressure	Absent	Chert	black/gray
LA149564	268	174	193	1	Flake	Complete		9.47	7.39	1.26	0.09	2	0%	No	Flat	Yes	Pressure	Absent	Chert	black/gray
LA149564	269	174	193	1	Flake	Proximal	10.13				0.11	5	0%	No	Flat	Yes	Pressure	Absent	Chert	tan/pink/gray
LA149564	270	174	193	1	Flake	Distal	10.29				0.1	N/A	0%	No	N/A	No	Unk	Absent	Quartzite	orange
LA149564	271	174	193	1	Flake	Distal	12.91				0.5	N/A	91-99%	No	N/A	No	Primary	Absent	Chert	orange
LA149564	272	174	193	1	Flake	Proximal	24.04				1.58	4	0%	Yes	Bifacet	Yes	BifaceThinning	Absent	Chert	black/gray
LA149564	273	175	190	1	Flake	Complete		3.66	4.23	0.68	0.01	3	0%	No	Fragmented/Crushed	Yes	Pressure	Absent	Obsidian	trans. obs.
LA149564	274	175	190	1	Flake	Lateral	7.9				0.04	2	0%	No	N/A	No	Pressure	Absent	Chalcedony	clear
LA149564	275	175	190	1	Flake	Medial	10.47				0.1	5	0%	No	N/A	No	Unk	Absent	Chert	black/gray
LA149564	276	175	190	1	Flake	Complete		8.75	5.16	0.88	0.04	2	0%	No	Flat	Yes	Pressure	Absent	Chert	black/gray
LA149564	277	175	190	1	Flake	Distal	10.87				0.21	3	0%	No	N/A	No	Unk	Absent	Chert	brown
LA149564	278	175	190	1	Flake	Distal	13.97				0.27	2	0%	No	N/A	No	Unk	Absent	Quartzite	clear
LA149564	279	175	190	2	Flake	Medial	8.05				0.08	3	0%	No	N/A	No	Pressure	Absent	Chert	black/gray
LA149564	280	175	190	2	Flake	Medial	8.94				0.1	3	0%	No	N/A	No	Pressure	Absent	Chert	black/gray
LA149564	281	175	190	2	Flake	Distal	10.26				0.21	3	0%	No	N/A	No	Unk	Absent	Chert	black/gray
LA149564	282	175	190	2	Flake	Medial	8.28				0.08	2	0%	No	N/A	No	Unk	Absent	Chert	black/gray
LA149564	283	175	190	2	Flake	Medial	7.59				0.04	N/A	0%	No	N/A	No	Unk	Absent	Chalcedony	white/clear
LA149564	284	175	190	2	Flake	Proximal	8.13				0.08	2	0%	No	Flat	Yes	Pressure	Absent	Chert	black/gray
LA149564	285	175	190	2	Flake	Proximal	9.27				0.12	4	0%	No	Flat	Yes	Pressure	Absent	Chert	black/gray
LA149564	286	175	190	2	Flake	Lateral	16.43				0.65	3	0%	No	N/A	No	Secondary	Absent	Chert	black
LA149564	287	175	191	1	Flake	Complete		6.04	4.55	0.73	0.03	2	0%	No	Flat	Yes	Pressure	Absent	Chert	white
LA149564	288	175	191	1	Flake	Lateral	9.18				0.08	2	0%	No	N/A	No	Unk	Absent	Chert	black/gray
LA149564	289	175	191	1	Flake	Medial	7.07				0.04	2	0%	No	N/A	No	Unk	Absent	Chert	brown
LA149564	290	175	191	1	Flake	Proximal	7.93				0.09	3	0%	No	Flat	Yes	Pressure	Absent	Chert	black/gray
LA149564	291	175	191	1	Flake	Proximal	8.76				0.08	2	0%	No	Fragmented/Crushed	Yes	Pressure	Absent	Chert	black/gray
LA149564	292	175	191	1	Flake	Lateral	11.54				0.27	2	0%	No	N/A	No	Unk	Absent	Chert	gray/white
LA149564	293	175	191	1	Flake	Lateral	19.93				0.76	2	0%	No	N/A	No	Secondary	Absent	Chert	black/gray
LA149564	294	175	191	2	Flake	Proximal	6.67				0.03	2	0%	No	Bifacet	Yes	BifaceThinning	Absent	Chert	black/gray

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Site	DSN	GRID NORTH	GRID EAST	LEVEL	Class	Condition	Max Dimension	Max Length (mm)	Max Width (mm)	Max Thickness (mm)	Weight (g)	Dorsal Scars	Cortex Amount	Platform Lip	Platform Morphology	Platform Abrasion	Flake Type	Edge Modification	Raw Material	Color
LA149564	295	175	191	2	Flake	Distal	8.2				0.1	2	0%	No	N/A	No	Pressure	Absent	Chert	black/gray
LA149564	296	175	191	2	Flake	Complete		9.88	6.13	1.12	0.07	2	0%	No	Flat	Yes	Pressure	Absent	Chert	black/gray
LA149564	297	175	191	2	Flake	Lateral	10.44				0.17	N/A	91-99%	No	N/A	No	Primary	Absent	Silicified wood	black/gray
LA149564	298	175	191	2	Flake	Lateral	7.98				0.05	2	0%	No	N/A	No	Unk	Absent	Chert	black/gray
LA149564	299	175	191	2	Flake	Distal	9.01				0.17	3	0%	No	N/A	No	Secondary	Absent	Chert	tan
LA149564	300	175	191	2	Flake	Distal	13.72				0.18	3	0%	No	N/A	No	BifaceThinning	Absent	Chalcedony	white/clear
LA149564	301	175	191	2	Flake	Proximal	11.88				0.29	3	0%	No	Fragmented/Crushed	Yes	BifaceThinning	Absent	Quartzite	orange
LA149564	324	175	192	1	Flake	Lateral	7.28				0.09	N/A	0%	No	N/A	No	Unk	Absent	Chert	black/gray
LA149564	325	175	192	1	Flake	Medial	7.87				0.04	1	0%	No	N/A	No	Unk	Absent	Chert	black/gray
LA149564	326	175	192	1	Flake	Medial	6.34				0.05	3	0%	No	N/A	No	Unk	Absent	Chert	black/gray
LA149564	327	175	192	1	Flake	Medial	12.45				0.22	3	0%	No	N/A	No	Pressure	Absent	Chert	black/gray
LA149564	328	175	192	2	Flake	Medial	8.57				0.07	2	0%	No	N/A	No	Pressure	Absent	Chert	black/gray
LA149564	329	175	192	2	Flake	Proximal	9.47				0.13	3	0%	Yes	Flat	Yes	BifaceThinning	Absent	Chert	black/gray
LA149564	330	175	192	2	Flake	Proximal	7.68				0.06	2	0%	No	Flat	Yes	Pressure	Absent	Chert	black/gray
LA149564	331	175	192	2	Flake	Lateral	9.38				0.19	3	0%	No	N/A	No	Unk	Absent	Chalcedony	clear/red-orange
LA149564	332	175	192	2	Flake	Proximal	10.05				0.18	3	0%	No	Fragmented/Crushed	Yes	BifaceThinning	Absent	Obsidian	trans. obs.
LA149564	333	175	192	2	Flake	Proximal	14.47				0.28	2	0%	No	Fragmented/Crushed	No	Secondary	Absent	Chalcedony	clear/black
LA149564	334	175	192	2	Flake	Complete		15.55	14.33	1.66	0.42	3	0%	Yes	Flat	Yes	BifaceThinning	Absent	Chert	tan
LA149564	335	175	193	1	Flake	Distal	7				0.04	2	0%	No	N/A	No	Unk	Absent	Chert	black/gray
LA149564	336	175	193	1	Flake	Lateral	5.57				0.02	N/A	0%	No	N/A	No	Unk	Absent	Chert	black/gray
LA149564	337	175	193	1	Flake	Lateral	7.88				0.06	N/A	0%	No	N/A	No	Unk	Absent	Chert	black/gray
LA149564	338	175	193	1	Flake	Proximal	11.27				0.06	3	0%	Yes	Flat	Yes	BifaceThinning	Absent	Chert	black/gray
LA149564	339	175	193	1	Flake	Distal	8.71				0.09	2	0%	No	N/A	No	Unk	Absent	Chert	black/gray
LA149564	340	175	193	1	Flake	Complete		9.3	8.38	1.18	0.1	5+	0%	Yes	Flat	Yes	BifaceThinning	Absent	Chert	black/gray
LA149564	341	175	193	1	Flake	Proximal	11.99				0.25	5	0%	Yes	Flat	No	BifaceThinning	Absent	Chalcedony	clear/black
LA149564	342	175	193	1	Flake	Proximal	7.38				0.08	4	0%	Yes	Flat	No	Pressure	Absent	Chert	tan/white
LA149564	343	175	193	1	Flake	Lateral	14.98				0.15	N/A	91-99%	No	N/A	No	Primary	Absent	Chert	multi
LA149564	344	175	195	1	Flake	Lateral	10.67				0.08	2	0%	No	N/A	No	Unk	Absent	Obsidian	black
LA149564	345	175	195	1	Flake	Distal	9.72				0.16	5+	0%	No	N/A	No	BifaceThinning	Absent	Chert	tan

El Segundo Debitage

Site	DSN	GRID NORTH	GRID EAST	LEVEL	Class	Condition	Max Dimension	Max Length (mm)	Max Width (mm)	Max Thickness (mm)	Weight (g)	Dorsal Scars	Cortex Amount	Platform Lip	Platform Morphology	Platform Abrasion	Flake Type	Edge Modification	Raw Material	Color
LA149564	346	175	195	1	Flake	Complete		9.44	8.11	1.25	0.1	3	0%	Yes	Fragmented/Crushed	Yes	BifaceThinning	Absent	Chert	black/gray
LA149564	347	175	195	1	Flake	Medial	6.28				0.02	2	0%	No	N/A	No	Unk	Absent	Chalcedony	clear
LA149564	348	175	195	1	Flake	Medial	7.83				0.04	2	0%	No	N/A	No	Unk	Absent	Chert	black/gray
LA149564	349	175	195	1	Flake	Complete		6.08	4.4	0.49	0.02	3	0%	No	Bifacet	Yes	Pressure	Absent	Obsidian	trans. obs.
LA149564	350	176	194	1	Flake	Lateral	11.73				0.19	3	0%	No	N/A	No	Unk	Absent	Chert	orange spot
LA149564	351	176	194	1	Flake	Complete		5.62	6.84	0.94	0.05	4	0%	Yes	Flat	Yes	BifaceThinning	Absent	Chert	white
LA149564	352	176	194	1	Flake	Lateral	14.33				0.52	N/A	0%	No	N/A	No	Unk	Absent	Chert	white/clear
LA149564	353	176	195	1	Flake	Distal	5.58				0.05	3	0%	No	N/A	No	Pressure	Absent	Chert	black/gray
LA149564	354	176	195	1	Flake	Distal	5.79				0.07	1	0%	No	N/A	No	Unk	Absent	Quartzite	white/clear
LA149564	355	176	195	1	Flake	Distal	6.3				0.05	1	0%	No	N/A	No	Unk	Absent	Chert	orange
LA149564	356	176	195	1	Flake	Distal	11.15				0.1	1	0%	No	N/A	No	Unk	Absent	Chert	white/clear
LA149564	357	176	195	1	Angular Debris	N/A (angular)	10.56				0.31	N/A	0%	No	N/A	No	Unk	Absent	Chert	pink/gray
LA149564	358	176	195	1	Flake	Proximal	15.11				0.52	4	0%	Yes	Bifacet	Yes	BifaceThinning	Absent	Quartzite	orange
LA149564	359	176	195	1	Flake	Distal	16.83				0.47	5+	0%	No	N/A	No	BifaceThinning	Edge Scarring	Chert	orange
LA149564	360	177	197	1	Flake	Medial	8.64				0.09	3	0%	No	N/A	No	Pressure	Absent	Chert	black/gray
LA149564	361	177	197	1	Flake	Complete		7.79	7.29	1.56	0.09	3	0%	No	Fragmented/Crushed	Yes	Pressure	Absent	Chert	black/gray
LA149564	362	177	197	1	Flake	Distal	9.46				0.21	3	0%	No	N/A	No	Unk	Absent	Quartzite	orange
LA149564	363	177	197	1	Flake	Complete		11.37	8.25	2.5	0.21	2	0%	No	Fragmented/Crushed	No	Secondary	Absent	Chert	tan
LA149564	364	177	197	1	Flake	Medial	7.82				0.02	2	0%	No	N/A	No	Pressure	Absent	Chert	pink/white
LA149564	365	177	197	2	Flake	Complete		8.29	6.83	0.96	0.06	3	0%	No	Fragmented/Crushed	Yes	Pressure	Absent	Chert	tan/pink/gray
LA149564	366	177	197	2	Flake	Complete		16.17	9.85	3.37	0.48	3	0%	No	Flat	Yes	Secondary	Absent	Chert	tan/pink/gray
LA149564	76	177	197	4	Flake	Medial	13.85				0.21	3	0%	No	N/A	No	Unk	Absent	Quartzite	orange
LA149564	77	178	197	1	Flake	Proximal	10.27				0.11	2	0%	No	Fragmented/Crushed	Yes	BifaceThinning	Absent	Chert	black/gray
LA149564	78	178	197	1	Flake	Medial	8.51				0.07	4	0%	No	N/A	No	Pressure	Absent	Obsidian	transluscent obs
LA149564	79	178	197	2	Angular Debris	N/A (angular)	18.85				1.4		0%	No	N/A	No	Unk	Absent	Chert	pink/tan
LA149564	80	178	197	3	Flake	Complete		17.15	16.01	2.6	0.64	4	0%	Yes	Flat	No	BifaceThinning	Absent	Quartzite	orange
LA149564	81	166	190	1	Flake	Complete		18.34	22.2	5.25	2.35	5+	0%	Yes	Fragmented/Crushed	Yes	BifaceThinning	Absent	Chert	brown

El Segundo Debitage																				
Site	DSN	GRID NORTH	GRID EAST	LEVEL	Class	Condition	Max Dimension	Max Length (mm)	Max Width (mm)	Max Thickness (mm)	Weight (g)	Dorsal Scars	Cortex Amount	Platform Lip	Platform Morphology	Platform Abrasion	Flake Type	Edge Modification	Raw Material	Color
LA149564	82	166	190	1	Flake	Lateral	9.38				0.06	2	0%	No	N/A	No	Unk	Absent	Obsidian	transluscent obs
LA149564	83	166	190	1	Flake	Proximal	11.03				0.17	3	0%	No	Fragmented/Crushed	Yes	Unk	Absent	Chert	pink/gray
LA149564	84	167	191	1	Flake	Medial	8.96				0.04	1	0%	No	N/A	No	Unk	Absent	Chert	black/gray
LA149564	85	168	191	1	Flake	Complete		10.2	7.03	1.45	0.11	2	0%	No	Fragmented/Crushed	Yes	Pressure	Absent	Chert	orange
LA149564	86	168	191	1	Flake	Proximal	31.65				4.02	5+	0%	No	Bifacet	No	Secondary	Absent	Chert	black/gray
LA149564	87	170	188	1	Flake	Distal	6.35			0.61	0.01	1	0%	No	N/A	No	Unk	Absent	Obsidian	transluscent obs
LA149564	88	170	188	1	Angular Debris	N/A (angular)	14.69				0.87		0%	No	N/A	No	Unk	Absent	Chert	brown
LA149564	89	170	188	1	Flake	Lateral	25.65			7.57	3.19	5+	1-10%	No	N/A	No	Primary	Absent	Chert	tan/pink/gray
LA149564	90	170	189	1	Flake	Complete		20.17	15.43	5.26	1.44	4	0%	No	Flat	Yes	Secondary	Absent	Chert	brown
LA149564	91	170	189	1	Flake	Distal	18.49			5.64	1.03	3	0%	No	N/A	No	Secondary	Edge Scarring	Chert	tan/white
LA149564	92	170	189	1	Flake	Medial	25.3			5.2	2.69	5+	0%	No	N/A	No	Secondary	Absent	Chert	tan
LA149564	93	170	189	1	Flake	Lateral	17.43			3.76	0.75	5+	0%	No	N/A	No	Secondary	Absent	Chalcedony	pink
LA149564	94	170	189	1	Flake	Medial	15.59			3.52	1	4	0%	No	N/A	No	Unk	Absent	Silicified wood	brown
LA149564	95	170	189	1	Flake	Medial	9.28			1.24	0.08	3	0%	No	N/A	No	Pressure	Absent	Obsidian	transluscent obs.
LA149564	96	170	189	1	Flake	Proximal	16.14			3.16	0.73	1	11-50%	No	Fragmented/Crushed	Yes	Primary	Absent	Obsidian	transluscent obs.
LA149564	23	173	191	2	Flake	Distal	7.42				0.02	2	0%	No	N/A	No	Pressure	Absent	Chert	
LA149564	24	173	191	2	Flake	Proximal	6.32				0.04	3	0%	No	Bifacet	Yes	Pressure	Absent	Obsidian	
LA149564	25	173	191	2	Angular Debris	N/A (angular)	8.13				0.08	N/A	0%	No	N/A	No	Secondary	Absent	Chert	
LA149564	26	173	191	2	Flake	Complete		8.13	7.75	1.73	0.09	4	0%	No	Flat	Yes	Pressure	Absent	Chert	
LA149564	27	173	191	2	Flake	Distal	6.22				0.04	2	0%	No	N/A	No	Pressure	Absent	Chert	
LA149564	28	173	191	2	Flake	Proximal	6.53				0.06	2	0%	Yes	Bifacet	Yes	Pressure	Absent	Chert	
LA149564	29	173	191	2	Flake	Proximal	6.17				0.07	2	0%	No	Fragmented/Crushed	Yes	Pressure	Absent	Obsidian	
LA149564	33	173	192	2	Flake	Proximal	15.6				0.3	4	0%	Yes	Multifacet	No	Biface Thinning	Absent	Chalcedony	

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LA149564	34	173	192	2	Flake	Lateral	10.01				0.24	2	0%	No	N/A	No	Secondary	Absent	Chert	
LA149564	35	173	192	2	Flake	Medial	6.38				0.05	2	0%	No	N/A	No	Pressure	Absent	Chert	
LA149564	36	173	192	2	Flake	Lateral	8.56				0.05	4	0%	No	N/A	No	Pressure	Absent	Chert	
LA149564	37	173	192	2	Flake	Proximal	14.24				0.5	4	0%	No	Bifacet	No	Biface Thinning	Absent	Chert	
LA149564	30	173	192	2	Flake	Distal	9.32				0.07	3	0%	No	N/A	No	Pressure	Absent	Chert	
LA149564	31	173	192	2	Flake	Lateral	17.58				0.5	3	0%	No	N/A	No	Secondary	Absent	Chalcedony	
LA149564	32	173	192	2	Flake	Proximal	5.38				0.03	1	0%	No	Fragmented/Crushed	No	Pressure	Absent	Chert	
LA149564	38	173	193	2	Flake	Proximal	11.28				0.39	3	0%	No	Multifacet	Yes	Secondary	Absent	Chert	
LA149564	39	173	193	2	Flake	Proximal	5.08				0.05	2	0%	No	Flat	No	Pressure	Absent	Chert	
LA149564	40	173	193	2	Flake	Proximal	5.81				0.06	2	0%	No	Bifacet	Yes	Pressure	Absent	Chert	
LA149564	41	173	193	2	Flake	Medial	7.42				0.08	2	0%	No	N/A	No	Pressure	Absent	Chert	
LA149564	42	173	194	2	Flake	Distal	13.41				0.37	4	0%	No	N/A	No	Secondary	Absent	Chert	
LA149564	43	173	194	2	Angular Debris	N/A (angular)	7.19				0.05		0%	No	N/A	No	Unk	Absent	Chalcedony	
LA149564	44	173	194	2	Flake	Medial	9.14				0.12	3	0%	No	N/A	No	Unk	Absent	Chert	
LA149564	45	173	194	2	Flake	Lateral	16.89				0.36	3	0%	No	N/A	No	Secondary	Absent	Obsidian	
LA149564	46	173	194	2	Flake	Proximal	18.57				0.42	2	0%	No	Bifacet	Yes	BifaceThinning	Absent	Chert	
LA149564	47	173	194	2	Flake	Complete		8.86	3.91	1.35	0.05	3	0%	No	Fragmented/Crushed	Yes	Pressure	Absent	Chalcedony	
LA149564	48	173	194	2	Flake	Distal	6.78				0.03	2	0%	No	N/A	No	Pressure	Absent	Chert	
LA149564	49	173	194	2	Flake	Lateral	6.27				0.01	2	0%	No	N/A	No	Pressure	Absent	Obsidian	
LA149564	50	173	194	2	Flake	Proximal	7.19				0.14	3	0%	No	Fragmented/Crushed	Yes	BifaceThinning	Absent	Chalcedony	
LA149564	51	173	194	2	Angular Debris	N/A (angular)	18.06				1.1		0%	No	N/A	No	Unk	Absent	Chalcedony	
LA149564	52	173	194	2	Flake	Lateral	11.58				0.12	1	0%	No	N/A	No	Unk	Absent	Chert	
LA149564	53	173	194	2	Flake	Proximal	9.63				0.17	3	0%	No	Fragmented/Crushed	Yes	BifaceThinning	Absent	Obsidian	
LA149564	54	175	185	1	Flake	Distal	19.63				1.23	3	1-10%	No	N/A	No	Secondary	Absent	Quartzite	
LA149564	55	175	193	2	Angular Debris	N/A (angular)	7.37				0.1		0%	No	N/A	No	Unk	Absent	Chert	
LA149564	56	175	193	2	Flake	Lateral	9.19				0.12	2	0%	No	N/A	No	Unk	Absent	Chalcedony	
LA149564	57	175	193	2	Flake	Proximal	11.3				0.3	5+	0%	No	Bifacet	Yes	BifaceThinning	Absent	Chert	

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Site	DSN	GRID NORTH	GRID EAST	LEVEL	Class	Condition	Max Dimension	Max Length (mm)	Max Width (mm)	Max Thickness (mm)	Weight (g)	Dorsal Scars	Cortex Amount	Platform Lip	Platform Morphology	Platform Abrasion	Flake Type	Edge Modification	Raw Material	Color
LA149564	58	175	193	2	Flake	Proximal	9.04				0.06	2	0%	No	Fragmented/Crushed	Yes	Pressure	Absent	Chert	
LA149564	59	175	193	2	Flake	Distal	11.94				0.14	1	0%	No	N/A	No	Unk	Absent	Chert	
LA149564	60	175	193	2	Flake	Medial	9.68				0.15	3	0%	No	N/A	No	Pressure	Absent	Quartzite	
LA149564	61	175	193	2	Flake	Proximal	9.3				0.12	2	0%	No	Flat	Yes	Pressure	Absent	Quartzite	
LA149564	62	175	193	2	Flake	Proximal	8.23				0.08	2	0%	No	Flat	No	Pressure	Absent	Chert	
LA149564	63	175	193	2	Flake	Distal	9.54				0.11	3	0%	No	N/A	No	Pressure	Absent	Quartzite	
LA149564	64	175	193	2	Flake	Distal	15				0.46	5	0%	No	N/A	No	BifaceThinning	Absent	Obsidian	
LA149564	65	175	193	2	Flake	Proximal	8.96				0.1	4	0%	No	Fragmented/Crushed	No	Unk	Absent	Obsidian	
LA149564	66	175	193	2	Flake	Proximal	10.12				0.18	3	0%	No	Flat	Yes	BifaceThinning	Absent	Chert	
LA149564	67	175	193	2	Flake	Distal	10.02				0.14	2	0%	No	N/A	No	Unk	Absent	Chert	
LA149564	68	175	193	2	Flake	Proximal	6.42				0.06	4	0%	Yes	Fragmented/Crushed	Yes	BifaceThinning	Absent	Obsidian	
LA149564	69	175	193	2	Flake	Lateral	8.33				0.06	2	0%	No	N/A	No	Pressure	Absent	Chert	
LA149564	70	176	185	1	Flake	Complete		25.72	28.09	8.45	5.85	3	11-50%	No	Fragmented/Crushed	No	Primary	Absent	FGV	
LA149564	71	176	191	2	Flake	Proximal	9.22				0.08	3	0%	No	Fragmented/Crushed	Yes	Pressure	Absent	Chert	
LA149564	72	176	191	2	Flake	Proximal	6.8				0.05	2	0%	No	Fragmented/Crushed	Yes	Pressure	Absent	Chert	
LA149564	73	176	191	2	Flake	Medial	8.72				0.15	5+	0%	No	N/A	No	Unk	Absent	Chalcedony	
LA149564	74	176	191	2	Flake	Medial	10.49				0.15	2	0%	No	N/A	No	Pressure	Absent	Obsidian	
LA149564	75	176	191	2	Flake	Complete		9.78	7.54	1.89	0.11	3	0%	No	Multifacet	No	Pressure	Absent	Chert	
LA149564	1	176	192	2	Flake	Proximal	5.66				0.1	3	0	Yes	Bifacet	No	Biface Thinning	Absent	Chert	
LA149564	2	176	192	2	Flake	Complete		7.34	4.6	0.584	0.02	2	0	Yes	Bifacet	No	Biface Thinning	Absent	Chert	
LA149564	3	176	192	2	Flake	Complete		9.25	5.77	1.14	0.09	4	0	No	Flat	Yes	Pressure	Absent	Chert	
LA149564	4	176	192	2	Flake	Proximal	6.83				0.06	3	0	Yes	Bifacet	No	Pressure	Absent	Chert	
LA149564	5	176	192	2	Flake	Medial	8.23				0.05	2	0	No	N/A	No	Pressure	Absent	Chert	
LA149564	6	176	192	2	Flake	Distal	6.17				0.14	5+	0	No	N/A	No	Biface Thinning	Absent	Chert	
LA149564	7	176	193	2	Flake	Distal	21.46				1.02	3	0	No	N/A	No	Secondary	Edge Scarring	Quartzite	
LA149564	8	176	193	2	Flake	Proximal	24				3.69	5+	1-10%	No	Fragmented/Crushed	Yes	Secondary	Absent	Chert	
LA149564	9	176	193	2	Flake	Complete		7.44	6.22	0.61	0.04	2	0%	No	Fragmented/Crushed	Yes	Pressure	Absent	Obsidian	

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LA149564	10	176	193	2	Flake	Complete		8.76	6.48	1.45	0.09	1	0%	No	Bifacet	Yes	Pressure	Absent	Chert	
LA149564	11	176	193	2	Flake	Distal	5.21				0.02	N/A	0%	No	N/A	No	Pressure	Absent	Chert	
LA149564	12	176	193	2	Flake	Distal	7.19				0.04	2	0%	No	N/A	No	Pressure	Absent	Chert	
LA149564	13	176	193	2	Angular Debris	N/A (angular)	9.32				0.23	N/A	0%	No	N/A	No	Secondary	Absent	Chert	
LA149564	14	176	193	2	Angular Debris	N/A (angular)	12.09				0.24	N/A	0%	No	N/A	No	Secondary	Absent	Chert	
LA149564	15	176	193	2	Flake	Distal	25.27				1.58	3	0%	No	N/A	No	Secondary	Edge Scarring	Chert	
LA149564	16	177	185	1	Flake	Complete		11.33	9.02	1.09	0.14	2	0%	No	Flat	Yes	Unk	Absent	Chert	
LA149564	17	0	0	0	Angular Debris	N/A (angular)	26.24				4.28	N/A	51-90%	No	N/A	No	Primary	Edge Scarring	Quartzite	
LA149564	18	0	0	0	Flake	Proximal	21.92				1.43	4	0%	No	Fragmented/Crushed	No	Secondary	Absent	Obsidian	
LA149564	19	163	189	0	Flake	Distal	13.87			0.86	0.2	2	0%	No	N/A	No	Biface Thinning	Absent	Chert	
LA149564	20	167	182	1	Flake	Proximal	27.48				4.6	3	0%	No	Multifacet	No	Secondary	Absent	Chert	
LA149564	21	167	182	1	Flake	Proximal	16.54				0.79	5+	0%	No	Fragmented/Crushed	No	Secondary	Edge Scarring	Obsidian	
LA149564	22	167	183	1	Flake	Proximal	11.23				0.15	5	0%	No	Bifacet	Yes	Pressure	Absent	Chert	
LA149564	384	167	184	1	Flake	Distal	26.95			5.15	2.15	2	1-10%	No	N/A	No	Secondary	Absent	Chert	tan/pink/gray
LA149564	385	167	184	1	Flake	Lateral	16.39				0.52	2	0%	No	N/A	No	Secondary	Absent	Chert	black/gray
LA149564	386	167	184	1	Flake	Proximal	16.29				0.76	4	0%	Yes	Flat	Yes	BifaceThinning	Absent	Quartzite	red
LA149564	387	167	184	1	Flake	Complete		30.74	25.11	4.84	3.76	5+	0%	No	Bifacet	Yes	Secondary	Absent	Chert	tan/pink/gray
LA149564	388	167	185	1	Angular Debris	N/A (angular)	16.72				0.37	N/A	0%	No	N/A	No	Unk	Absent	Chert	tan
LA149564	389	167	185	1	Flake	Proximal	14.72				0.57	4	0%	Yes	Bifacet	Yes	BifaceThinning	Absent	Quartzite	red
LA149564	397	167	185	1	Flake	Lateral	11.96				0.22	2	0%	No	N/A	No	Unk	Absent	Chert	tan
LA149564	390	167	188	1	Flake	Distal	13				0.21	2	0%	No	N/A	No	Pressure	Absent	Obsidian	ashy obsidian
LA149564	391	167	190	1	Angular Debris	N/A (angular)	7.55				0.11	N/A	0%	No	N/A	No	Unk	Absent	Chalcedony	clear/black
LA149564	392	167	190	1	Flake	Distal	16.08				1.12	3	0%	No	N/A	No	Secondary	Absent	Chalcedony	white/clear
LA149564	431	167	191	2	Flake	Medial	17.62				1.46	1	0%	No	N/A	No	Primary	Absent	Chalcedony	orange

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LA149564	432	167	191	2	Flake	Complete		15.91	9.59	2.84	0.48	4	11-50%	No	Flat	Yes	BifaceThinning	Absent	Obsidian	black
LA149564	393	167	192	2	Flake	Complete		14.7	18.8	3.84	1.01	4	0%	No	Fragmented/Crushed	Yes	BifaceThinning	Absent	Chert	tan
LA149564	394	167	192	2	Flake	Distal	32.7				3.6	5+	0%	No	N/A	No	Secondary	Absent	FGV	black
LA149564	395	167	193	1	Flake	Distal	6.42				0.02	1	0%	No	N/A	No	Pressure	Absent	Quartzite	orange
LA149564	396	167	193	1	Flake	Lateral	6.3				0.06	2	0%	No	N/A	No	Unk	Absent	Obsidian	black
LA149564	398	167	193	1	Flake	Complete		10.8	11.23	1.51	0.23	3	0%	Yes	Multifacet	Yes	BifaceThinning	Absent	Chert	tan
LA149564	367	168	182	1	Flake	Complete		10.03	14.37	1.65	0.3	5+	0%	No	Fragmented/Crushed	Yes	BifaceThinning	Absent	Chalcedony	clear
LA149564	368	168	182	1	Flake	Distal	28.69				2.78	5	0%	No	N/A	No	Secondary	Absent	Quartzite	red
LA149564	369	168	183	1	Flake	Distal	8.68				0.05	3	0%	No	N/A	No	Unk	Absent	Chert	purple
LA149564	370	168	183	1	Flake	Lateral	7.99				0.05	2	0%	No	N/A	No	Unk	Absent	Chert	purple
LA149564	371	168	183	1	Angular Debris	N/A (angular)	7.46				0.24	N/A	0%	No	N/A	No	Unk	Absent	Chalcedony	white/clear
LA149564	372	168	183	1	Flake	Complete		28.74	24.96	3.55	2.3	5+	0%	Yes	Flat	Yes	BifaceThinning	Absent	Quartzite	red
LA149564	373	169	183	1	Flake	Proximal	20.8				3.25	4	0%	No	Flat	Yes	Secondary	Absent	Chert	white
LA149564	374	169	183	1	Flake	Lateral	34.04				4.5	2	0%	No	N/A	No	Secondary	Absent	Chert	gray/white
LA149564	375	169	184	1	Flake	Lateral	44.73				6.89	5+	0%	No	N/A	No	Secondary	Retouch and Scarring	Chert	multi
LA149564	376	169	184	1	Flake	Proximal	12.46				0.2	3	0%	Yes	Bifacet	Yes	BifaceThinning	Absent	Quartzite	red
LA149564	377	169	184	1	Flake	Complete		7.98	4.29	0.96	0.03	2	0%	No	Fragmented/Crushed	Yes	Pressure	Absent	Obsidian	trans. obs.
LA149564	378	170	182	1	Flake	Medial	7.59				0.09	3	0%	No	N/A	No	Pressure	Absent	Obsidian	black
LA149564	379	170	182	1	Flake	Proximal	11.28				0.22	2	0%	No	Flat	Yes	Pressure	Absent	Chert	tan
LA149564	380	170	184	1	Flake	Medial	11.75				0.3	3	0%	No	N/A	No	BifaceThinning	Absent	Quartzite	tan
LA149564	381	170	184	1	Flake	Distal	11.65				0.23	5+	0%	No	N/A	No	BifaceThinning	Absent	Quartzite	red
LA149564	382	171	184	1	Angular Debris	N/A (angular)	25.66				3.4	N/A	0%	No	N/A	No	Secondary	Absent	Chert	multi
LA149564	383	171	184	1	Flake	Distal	19.03				2.6	3	0%	No	N/A	No	Secondary	Absent	Chert	black/gray
LA149564	97	171	190	2	Flake	Distal	7.94			2.33	0.07	2	0%	No	N/A	No	Unk	Absent	Obsidian	tan/white
LA149564	98	171	190	2	Flake	Complete		10.42	5.54	0.97	0.04	5	0%	No	Fragmented/Crushed	Yes	Pressure	Absent	Obsidian	transluscent obs.
LA149564	99	171	190	2	Flake	Proximal	7.49			1.15	0.08	2	0%	No	Fragmented/Crushed	Yes	Pressure	Absent	FGV	black
LA149564	100	171	190	2	Flake	Lateral	9.81			0.72	0.05	1	0%	No	N/A	No	Unk	Absent	FGV	black

El Segundo Debitage

Site	DSN	GRID NORTH	GRID EAST	LEVEL	Class	Condition	Max Dimension	Max Length (mm)	Max Width (mm)	Max Thickness (mm)	Weight (g)	Dorsal Scars	Cortex Amount	Platform Lip	Platform Morphology	Platform Abrasion	Flake Type	Edge Modification	Raw Material	Color
LA149564	101	171	190	2	Flake	Complete		15.01	9.24	2.19	0.33	5	0%	No	Fragmented/Crushed	Yes	Pressure	Absent	Quartzite	brown
LA149564	102	172	182	1	Flake	Medial	16.5			2.47	0.61	3	0%	No	N/A	No	Secondary	Edge Scarring	Quartzite	brown
LA149564	103	172	183	1	Flake	Proximal	12.86			2.38	0.27	3	0%	Yes	Flat	Yes	BifaceThinning	Absent	Quartzite	brown
LA149564	104	172	190	1	Flake	Distal	11.18			2.65	0.15	3	0%	No	N/A	No	Pressure	Absent	Obsidian	transluscent obs.
LA149564	105	172	190	1	Flake	Complete		20.13	17.59	1.75	0.65	5+	0%	Yes	Bifacet	Yes	BifaceThinning	Absent	Chert	black/gray
LA149564	106	172	190	1	Flake	Proximal	20.9			7.9	3.6	4	1-10%	No	Flat	Yes	Primary	Absent	Chert	tan/pink/gray
LA149564	107	172	190	1	Flake	Complete		24.14	16.43	2.42	1	4	0%	Yes	Bifacet	Yes	BifaceThinning	Absent	Quartzite	red
LA149564	108	172	190	1	Flake	Proximal	7.78			0.87	0.06	2	0%	No	Flat	Yes	Pressure	Absent	Chert	black/gray
LA149564	109	172	190	1	Flake	Distal	6.2			0.87	0.04	2	0%	No	N/A	No	Pressure	Absent	Chert	black/gray
LA149564	110	172	190	2	Flake	Medial	8.99			0.86	0.07	1	0%	No	N/A	No	Unk	Absent	Chert	pink/gray
LA149564	111	172	190	2	Flake	N/A (angular)	19.99				0.9		11-50%	No	N/A	No	Unk	Absent	Chert	tan/pink
LA149564	112	172	190	2	Flake	Medial	16.47			2.22	0.34	4	0%	No	N/A	No	BifaceThinning	Absent	Chert	tan/pink/gray
LA149564	113	172	190	2	Flake	Distal	8.69			0.97	0.06	3	0%	No	N/A	No	Unk	Absent	Quartzite	red
LA149564	114	173	183	1	Flake	Distal	7.87			1.1	0.08	3	0%	No	N/A	No	Pressure	Absent	Chert	brown
LA149564	115	173	185	2	Flake	Proximal	7.82			1.3	0.07	4	0%	No	Bifacet	Yes	Pressure	Absent	Chert	pink/gray
LA149564	430	173	185	2	Flake	Proximal	18.44				0.47	3	0%	No	Flat	Yes	Secondary	Absent	Chert	tan
	116				Flake	Medial	7.79			0.53	0.02	1	0%	No	N/A	No	Unk	Absent	Obsidian	transluscent obs.
LA149564	117	173	192	3	Flake	Medial	6.54			0.79	0.04	2	0%	No	N/A	No	Unk	Absent	Chert	black/gray
LA149564	118	173	192	3	Flake	Distal	8.94			1.17	0.08	3	0%	No	N/A	No	Unk	Absent	Chert	pink/gray
LA149564	119	173	192	3	Flake	Complete		12.45	9.88	2.46	0.22	4	0%	No	Fragmented/Crushed	Yes	BifaceThinning	Absent	Chalcedony	clear/red-orange
LA149564	120	173	193	3	Flake	Distal	6.15			1.16	0.04	2	0%	No	N/A	No	Pressure	Absent	Chert	black/gray
LA149564	121	173	193	3	Flake	Lateral	8.74			2.47	0.1	1	0%	No	N/A	No	Unk	Absent	Chert	tan
LA149564	122	173	193	3	Flake	Lateral	5.9			0.89	0.02	2	0%	No	N/A	No	Unk	Absent	Obsidian	black
LA149564	123	173	194	3	Flake	Distal	4.24			0.51	0.01	N/A	0%	No	N/A	No	Pressure	Absent	Chert	black/gray
LA149564	124	173	194	3	Flake	Complete		5.13	4.82	0.68	0.02	N/A	0%	No	Fragmented/Crushed	Yes	Pressure	Absent	Obsidian	transluscent obs.
LA149564	125	173	194	3	Flake	Distal	7.02			0.94	0.03	N/A	0%	No	N/A	No	Pressure	Absent	Chert	black/gray

El Segundo Debitage																				
Site	DSN	GRID NORTH	GRID EAST	LEVEL	Class	Condition	Max Dimension	Max Length (mm)	Max Width (mm)	Max Thickness (mm)	Weight (g)	Dorsal Scars	Cortex Amount	Platform Lip	Platform Morphology	Platform Abrasion	Flake Type	Edge Modification	Raw Material	Color
LA149564	126	173	196	1	Flake	Distal	7.44			1.27	0.06	3	0%	No	N/A	No	Unk	Absent	Obsidian	black
LA149564	127	173	196	1	Flake	Distal	10.59			1.52	0.1	4	0%	No	N/A	No	BifaceThinning	Absent	Obsidian	black
LA149564	128	173	196	1	Flake	Proximal	8.23			1.45	0.09	3	0%	Yes	Flat	Yes	BifaceThinning	Absent	Chert	black/gray
LA149564	129	173	196	1	Flake	Distal	13.42			4.65	0.42	5	0%	No	N/A	No	Secondary	Absent	Obsidian	black
LA149564	130	173	196	1	Flake	Distal	8.4			1.36	0.09	3	0%	No	N/A	No	Pressure	Absent	Obsidian	black
LA149564	131	173	196	1	Flake	Medial	10.79			1.15	0.1	4	0%	No	N/A	No	Unk	Absent	Chert	pink/gray
LA149564	132	173	196	1	Flake	Medial	6.71			0.86	0.02	2	0%	No	N/A	No	Unk	Absent	Chalcedony	orange
LA149564	133	173	196	2	Flake	Medial	10.08			1.16	0.11	N/A	0%	No	N/A	No	Unk	Absent	Chert	black/gray
LA149564	134	173	196	2	Flake	Proximal	18.42			3.75	0.76	2	0%	No	Bifacet	Yes	Secondary	Absent	Quartzite	orange
LA149564	135	173	196	2	Flake	Proximal	14.46			2.01	0.24	5	0%	No	Fragmented/Crushed	Yes	BifaceThinning	Absent	Obsidian	transluscent obs.
LA149564	136	173	196	3	Flake	Complete		8.64	8.56	1.16	0.08	2	0%	No	Fragmented/Crushed	Yes	BifaceThinning	Absent	Obsidian	transluscent obs.
LA149564	137	174	183	1	Flake	Proximal	11.42			2.11	0.18	3	0%	No	Fragmented/Crushed	Yes	Pressure	Absent	Obsidian	black
LA149564	138	174	183	1	Flake	Distal	28.74			7.14	2.08	3	0%	No	N/A	No	Secondary	Absent	Quartzite	brown
LA149564	139	174	183	1	Flake	Complete		23.75	19.33	3.66	1.68	5	0%	Yes	Fragmented/Crushed	Yes	BifaceThinning	Absent	Quartzite	brown
LA149564	140	174	185	1	Flake	Distal	15.51			1.97	0.42	3	0%	No	N/A	No	BifaceThinning	Absent	Quartzite	orange
LA149564	201	174	191	2	Flake	Distal	11.17			4.46	0.42	4	0%	No	N/A	No	Secondary	Absent	Chalcedony	red
LA149564	202	174	191	2	Flake	Distal	8.79			0.81	0.08	3	0%	No	N/A	No	Unk	Absent	Chert	black/gray
LA149564	203	174	191	2	Flake	Medial	8.07			1	0.06	3	0%	No	N/A	No	Pressure	Absent	Obsidian	transluscent obs.
LA149564	204	174	191	2	Flake	Medial	7.3			0.62	0.02	2	0%	No	N/A	No	Unk	Absent	Obsidian	transluscent obs.
LA149564	205	174	191	3	Flake	Distal	4.73			1.04	0.02	N/A	0%	No	N/A	No	Unk	Absent	Chert	black/gray
LA149564	206	174	191	3	Flake	Medial	8.77			2.23	0.17	4	0%	No	N/A	No	Unk	Absent	Chert	white
LA149564	207	174	192	2	Flake	Lateral	17.45			2.26	0.54	2	0%	No	N/A	No	Secondary	Absent	Chert	tan/pink/gray
LA149564	208	174	192	2	Flake	Proximal	7.7			1.05	0.05	2	0%	No	Fragmented/Crushed	Yes	Pressure	Absent	Quartzite	brown
LA149564	209	174	192	2	Flake	Medial	9.14			1.46	0.12	3	0%	No	N/A	No	Unk	Absent	Silicified wood	black/gray
LA149564	210	174	192	2	Flake	Distal	11.05			1.04	0.08	2	0%	No	N/A	No	Unk	Absent	Chert	pink/gray
LA149564	211	174	192	2	Flake	Complete		13.38	8.03	3.54	0.29	3	1-10%	No	Fragmented/Crushed	No	Primary	Absent	Chert	tan

El Segundo Debitage

Site	DSN	GRID NORTH	GRID EAST	LEVEL	Class	Condition	Max Dimension	Max Length (mm)	Max Width (mm)	Max Thickness (mm)	Weight (g)	Dorsal Scars	Cortex Amount	Platform Lip	Platform Morphology	Platform Abrasion	Flake Type	Edge Modification	Raw Material	Color
LA149564	212	174	192	2	Flake	Proximal	8.31			1.39	0.08	4	0%	No	Fragmented/Crushed	Yes	Pressure	Absent	Obsidian	black
LA149564	213	174	193	2	Flake	Medial	24.7			4.51	1.69	3	0%	No	Flat	No	Secondary	Absent	Chert	clear/white
LA149564	214	174	193	2	Flake	Distal	7.65				0.04	2	0%	No	N/A	No	Pressure	Absent	Obsidian	transluscent obs.
LA149564	215	174	193	2	Flake	Distal	8.08				0.1	2	0%	No	N/A	No	Pressure	Absent	FGV	black
LA149564	216	174	193	2	Flake	Proximal	8.78				0.14	3	0%	No	Flat	No	Pressure	Absent	Chert	black/gray
LA149564	217	174	193	2	Flake	Lateral	8.16				0.05	N/A	0%	No	N/A	No	Unk	Absent	FGV	black
LA149564	218	174	193	2	Flake	Distal	7.71				0.07	3	0%	No	Fragmented/Crushed	Yes	Pressure	Absent	Obsidian	ashy obsidian
LA149564	219	174	193	2	Flake	Lateral	10.71				0.22	4	0%	No	N/A	No	Unk	Absent	Chert	black/gray
LA149564	220	174	193	2	Flake	Proximal	9.24				0.2	1	0%	No	Flat	No	Secondary	Absent	Obsidian	clear/red-orange
LA149564	221	174	193	2	Flake	Lateral	5.04				0.05	2	0%	No	N/A	No	Unk	Absent	Chert	black/gray
LA149564	222	174	193	3	Flake	Proximal	6.75				0.08	2	0%	No	Fragmented/Crushed	Yes	Unk	Absent	Chert	black/gray
LA149564	223	174	193	3	Flake	Lateral	6.16				0.02	4	0%	No	N/A	No	Unk	Absent	Obsidian	black
LA149564	224	174	193	3	Flake	Medial	8.6				0.08	3	0%	No	N/A	No	Pressure	Absent	Chert	black/gray
LA149564	225	174	193	3	Flake	Complete		13.17	8.53	1.05	0.13	5+	0%	Yes	Flat	Yes	BifaceThinning	Absent	Chert	gray
LA149564	226	174	193	3	Flake	Lateral	6.51				0.03	1	0%	No	N/A	No	Unk	Absent	Chert	red spot
LA149564	227	174	194	2	Flake	Lateral	8.97				0.07	1	0%	No	N/A	No	Unk	Absent	Chert	yellow spot
LA149564	228	174	194	2	Flake	Proximal	7.58				0.07	2	0%	Yes	Fragmented/Crushed	Yes	BifaceThinning	Absent	FGV	gray
LA149564	229	174	194	2	Flake	Complete		9.45	12.3	1.86	0.26	2	0%	No	Fragmented/Crushed	Yes	BifaceThinning	Absent	Chert	black/gray
LA149564	230	174	194	2	Flake	Proximal	5				0.03	2	0%	No	Flat	Yes	Pressure	Absent	Chert	tan
LA149564	231	174	194	2	Flake	Distal	8.35				0.05	3	0%	No	N/A	No	Unk	Absent	Chert	black/gray
LA149564	232	174	194	2	Flake	Complete		8.78	7.82	1.39	0.11	3	0%	No	Fragmented/Crushed	Yes	BifaceThinning	Absent	Obsidian	ashy obsidian
LA149564	233	174	194	2	Flake	Proximal	8.07				0.07	2	0%	No	Fragmented/Crushed	Yes	BifaceThinning	Absent	Chert	black/gray
LA149564	234	174	194	2	Flake	Medial	13.07				0.27	5	0%	No	N/A	No	Unk	Absent	Chert	black/gray
LA149564	235	174	194	2	Flake	Lateral	13.33				0.24	2	0%	No	N/A	No	Unk	Absent	Silicified wood	black/gray
LA149564	236	174	194	3	Flake	Proximal	7.17				0.04	3	0%	Yes	Bifacet	Yes	BifaceThinning	Absent	Obsidian	black
LA149564	237	174	194	3	Flake	Distal	6.5				0.04	2	0%	No	N/A	No	Pressure	Absent	FGV	black
LA149564	238	174	194	3	Flake	Lateral	8.2				0.01	2	0%	No	N/A	No	Unk	Absent	Obsidian	black
LA149564	239	174	194	3	Flake	Lateral	8.8				0.12	1	0%	No	N/A	No	Unk	Absent	Silicified	white

El Segundo Debitage																				
Site	DSN	GRID NORTH	GRID EAST	LEVEL	Class	Condition	Max Dimension	Max Length (mm)	Max Width (mm)	Max Thickness (mm)	Weight (g)	Dorsal Scars	Cortex Amount	Platform Lip	Platform Morphology	Platform Abrasion	Flake Type	Edge Modification	Raw Material	Color
																			wood	
LA149564	141	174	195	2	Flake	Medial	5.66			5.97	0.03	2	0%	No	N/A	No	Pressure	Absent	Chert	brown
LA149564	142	174	195	2	Flake	Proximal	11.17			1.15	0.1	3	0%	No	Fragmented/Crushed	Yes	Pressure	Absent	Obsidian	transluscent obs.
LA149564	143	174	195	2	Flake	Medial	4.72			0.54	0.01	2	0%	No	N/A	No	Unk	Absent	Obsidian	black
LA149564	144	174	195	2	Flake	Complete		4.71	6.72	0.86	0.03	4	0%	Yes	Flat	Yes	BifaceThinning	Absent	Obsidian	black
LA149564	145	174	195	2	Flake	Complete		5.93	3.91	0.67	0.01	2	0%	No	Fragmented/Crushed	Yes	Pressure	Absent	Obsidian	black
LA149564	146	174	195	2	Flake	Complete		9.6	4.93	1.02	0.06	2	0%	No	Fragmented/Crushed	Yes	Pressure	Absent	Quartzite	brown
LA149564	147	174	195	2	Flake	Complete		6.29	7.98	0.91	0.04	3	0%	No	Fragmented/Crushed	Yes	BifaceThinning	Absent	Chert	black/gray
LA149564	148	174	195	2	Flake	Proximal	12.08			2.18	0.15	4	0%	No	Fragmented/Crushed	Yes	BifaceThinning	Absent	Chalcedony	clear/black
LA149564	149	174	195	2	Angular Debris	N/A (angular)	11.82				0.23	N/A	0%	No	N/A	No	Unk	Absent	Chert	tan
LA149564	150	174	195	2	Angular Debris	N/A (angular)	13.81				0.33	N/A	0%	No	N/A	No	Unk	Absent	Chalcedony	clear/red-orange
LA149564	151	174	195	2	Flake	Proximal	19.99			3.38	1.06	2	0%	No	Bifacet	Yes	Secondary	Absent	Quartzite	orange
LA149564	152	174	195	2	Flake	Proximal	21.2			4.87	1.84	5+	0%	No	Fragmented/Crushed	No	Secondary	Absent	Chalcedony	clear/white
LA149564	153	174	195	3	Flake	Proximal	10.22			1.36	0.1	5+	0%	No	Fragmented/Crushed	Yes	Pressure	Absent	Chalcedony	pink/white
LA149564	154	174	195	3	Flake	Complete		9.24	6.74	0.82	0.08	3	0%	Yes	Fragmented/Crushed	Yes	BifaceThinning	Absent	Chert	black/gray
LA149564	155	174	195	3	Flake	Distal	9.15			1.66	0.13	4	0%	No	N/A	No	Pressure	Absent	Chert	black/gray
LA149564	156	174	195	3	Flake	Distal	6.99			1.04	0.04	1	0%	No	N/A	No	Pressure	Absent	Chalcedony	clear/black
LA149564	157	174	195	3	Flake	Medial	8.3			0.73	0.03	2	0%	No	N/A	No	Pressure	Absent	Chert	yellow
LA149564	158	174	195	3	Flake	Proximal	10.77			1.4	0.17	5	0%	Yes	Fragmented/Crushed	Yes	BifaceThinning	Absent	Chalcedony	clear/black
LA149564	159	175	192	3	Flake	Distal	9.63			1.75	0.08	2	0%	No	N/A	No	Pressure	Absent	Chert	black/gray
LA149564	160	175	192	3	Flake	Distal	7.95			1.07	0.05	3	0%	No	N/A	No	Pressure	Absent	Chert	black/gray
LA149564	161	175	193	3	Flake	Distal	7.37			1.67	0.05	2	0%	No	N/A	No	Unk	Absent	Chert	black/gray
LA149564	162	175	193	3	Flake	Complete		8.45	5.64	1.05	0.06	3	0%	No	Flat	Yes	Pressure	Absent	Chert	black/gray
LA149564	163	175	193	3	Flake	Distal	9.71			1.48	0.14	2	0%	No	N/A	No	Unk	Absent	Chert	black/gray
LA149564	164	175	193	3	Flake	Complete		9.64	6.49	1.43	0.09	4	0%	No	Flat	No	Pressure	Absent	Chalcedony	clear/black
LA149564	165	175	195	2	Flake	Distal	6.82			0.65	0.03	3	0%	No	N/A	No	Pressure	Absent	Chalcedony	clear
LA149564	166	175	195	2	Flake	Distal	12.97			2.47	0.34	5+	0%	No	N/A	No	Unk	Absent	Chalcedony	clear
LA149564	167	175	195	2	Flake	Medial	9.63			1.5	0.11	3	0%	No	N/A	No	Unk	Absent	Obsidian	transluscent

El Segundo Debitage																			
Site	DSN	GRID NORTH	GRID EAST	LEVEL	Class	Condition	Max Dimension	Max Length (mm)	Max Width (mm)	Max Thickness (mm)	Weight (g)	Dorsal Scars	Cortex Amount	Platform Lip	Platform Morphology	Platform Abrasion	Flake Type	Edge Modification	Raw Material	Color
																				obs.
LA149564	168	175	195	2	Flake	Distal	7.85			0.86	0.07	2	0%	No	N/A	No	Unk	Absent	Obsidian	black
LA149564	169	175	195	2	Flake	Proximal	6.92			0.79	0.03	2	0%	Yes	Flat	Yes	Pressure	Absent	Chert	tan
LA149564	170	175	195	2	Flake	Medial	6.65			1.04	0.04	N/A	0%	No	N/A	No	Unk	Absent	Chalcedony	orange
LA149564	171	175	195	2	Flake	Distal	15.17			2.44	0.65	5+	0%	No	N/A	No	Unk	Absent	Chert	tan
LA149564	172	175	195	2	Flake	Distal	19.11			4.14	0.75	4	1-10%	No	N/A	No	Primary	Absent	Chert	orange spot
LA149564	173	175	195	3	Flake	Lateral	5.65			0.86	0.02	N/A	0%	No	N/A	No	Unk	Absent	Obsidian	transluscent obs.
LA149564	174	175	195	3	Flake	Complete		9.74	16.22	2.85	0.37	5+	0%	Yes	Fragmented/Crushed	Yes	BifaceThinning	Absent	Chert	white
LA149564	175	176	192	3	Angular Debris	N/A (angular)	10.01				0.23	N/A	0%	No	N/A	No	Unk	Absent	Chert	tan
LA149564	176	176	192	3	Angular Debris	N/A (angular)	21.91				2.56	N/A	0%	No	N/A	No	Unk	Absent	Chalcedony	tan/white
LA149564	177	176	192	3	Flake	Distal	21.11			2.13	1.02	2	0%	No	N/A	No	Secondary	Absent	Quartzite	orange
LA149564	178	176	193	3	Flake	Lateral	12.3			2.51	0.4	2	0%	No	N/A	No	Secondary	Absent	Chalcedony	clear/white
LA149564	179	176	194	2	Flake	Proximal	8.41			1.78	0.15	5	0%	No	Fragmented/Crushed	Yes	Pressure	Absent	Chert	black/gray
LA149564	180	176	194	2	Flake	Medial	7.75			1.04	0.03	3	0%	No	N/A	No	Pressure	Absent	Chert	black/gray
LA149564	181	176	194	2	Flake	Distal	8.67			1.05	0.06	4	0%	No	N/A	No	Pressure	Absent	Chert	black/gray
LA149564	182	176	194	2	Flake	Lateral	38.74			12.31	6.03	5+	1-10%	No	N/A	No	Primary	Marginal Retouch	Chert	brown
LA149564	183	176	195	2	Flake	Medial	8.61			1.27	0.05	4	0%	No	N/A	No	Unk	Absent	Obsidian	transluscent obs.
LA149564	184	176	195	2	Flake	Proximal	16.87			1.57	0.61	2	0%	No	Fragmented/Crushed	Yes	Secondary	Absent	Chert	clear/white
LA149564	185	176	195	3	Flake	Complete		15.03	11.47	1.94	0.28	5	0%	Yes	Fragmented/Crushed	Yes	BifaceThinning	Absent	Chert	black/gray
LA149564	186	177	193	NR	Flake	Complete		22.87	14.6	4.24	1.3	5+	0%	No	Fragmented/Crushed	No	Secondary	Absent	Chert	tan/pink/gray
LA149564	187	177	194	1	Flake	Complete		8.66	6.67	1.21	0.1	3	0%	No	Flat	Yes	Pressure	Absent	Chert	black/gray
LA149564	188	177	194	1	Flake	Distal	8.57			1.48	0.09	2	0%	No	N/A	No	Pressure	Absent	Chert	black/gray
LA149564	189	177	194	1	Flake	Proximal	11.35			2.39	0.27	3	0%	No	Fragmented/Crushed	No	Unk	Absent	Quartzite	orange
LA149564	190	177	194	2	Flake	Proximal	40.99			10.39	10.31	5+	0%	No	Bifacet	No	Secondary	Absent	Chert	black/gray
LA149564	191	177	194	2	Flake	Distal	9.33			2.68	0.15	2	0%	No	N/A	No	Unk	Absent	Quartzite	orange
LA149564	192	177	194	2	Flake	Medial	12.84			1.58	0.17	4	0%	No	N/A	No	Unk	Absent	Obsidian	transluscent obs.

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Site	DSN	GRID NORTH	GRID EAST	LEVEL	Class	Condition	Max Dimension	Max Length (mm)	Max Width (mm)	Max Thickness (mm)	Weight (g)	Dorsal Scars	Cortex Amount	Platform Lip	Platform Morphology	Platform Abrasion	Flake Type	Edge Modification	Raw Material	Color
LA149564	193	177	195	1	Flake	Medial	5.97			1.1	0.05	2	0%	No	N/A	No	Pressure	Absent	Chert	black/gray
LA149564	194	177	195	1	Flake	Lateral	8.42			3.31	0.14	N/A	0%	No	N/A	No	Unk	Absent	Chert	tan
LA149564	195	177	195	1	Flake	Distal	28.63			5.72	4.1	5+	0%	No	N/A	No	Secondary	Absent	Quartzite	tan
LA149564	196	177	195	2	Flake	Proximal	7.13			0.88	0.06	1	0%	No	Fragmented/Crushed	Yes	Pressure	Absent	Chert	brown
LA149564	197	177	195	2	Flake	Distal	6.39			1.1	0.04	2	0%	No	N/A	No	Pressure	Absent	Chert	black/gray
LA149564	198	177	195	2	Flake	Complete	6.86			1.01	0.05	5	0%	No	Multifacet	No	Pressure	Absent	Obsidian	black
LA149564	199	177	195	2	Angular Debris	N/A (angular)	12.86				0.42	N/A	1-10%	No	N/A	No	Unk	Absent	Chert	red spot
LA149564	200	177	195	2	Flake	Medial	30.87			8.58	4.64	5+	0%	No	N/A	No	Secondary	Absent	Chert	tan/white
LA149564	433	177	195	3	Flake	Complete		17.52	11.41	2.59	0.54	5	0%	No	Bifacet	Yes	BifaceThinning	Absent	Quartzite	orange
LA149564	434	177	195	3	Flake	Lateral	7.44				0.09	2	0%	No	N/A	No	Unk	Absent	Chert	black/gray
LA149564	435	166	186	1	Flake	Complete		13.97	9.93	1.72	0.19	5	0%	No	Fragmented/Crushed	Yes	BifaceThinning	Absent	Obsidian	ashy obsidian
LA149564	436	174	196	1	Flake	Proximal	5.08				0.02	1	0%	No	Flat	Yes	Pressure	Absent	Chert	black/gray
LA149564	437	174	196	1	Flake	Medial	7.57				0.05	2	0%	No	N/A	No	Pressure	Absent	FGV	black
LA149564	438	174	196	1	Flake	Lateral	7.15				0.03	2	0%	No	N/A	No	Unk	Absent	Chert	black/gray
LA149564	439	174	196	1	Flake	Lateral	6.67				0.02	N/A	0%	No	N/A	No	Unk	Absent	Chert	black/gray
LA149564	440	174	196	1	Flake	Medial	4.74				0.01	2	0%	No	N/A	No	Unk	Absent	Obsidian	black
LA149564	441	174	196	1	Flake	Complete		7.63	5.57	0.79	0.03	4	0%	No	Fragmented/Crushed	Yes	Pressure	Absent	Chert	tan
LA149564	442	174	196	1	Flake	Lateral	6.84				0.05	2	0%	No	N/A	No	Pressure	Absent	Obsidian	trans. obs.
LA149564	443	174	196	1	Flake	Distal	9.42				0.09	2	0%	No	N/A	No	Unk	Absent	Chert	black/gray
LA149564	444	174	196	1	Flake	Proximal	11.56				0.17	3	0%	No	Flat	Yes	Pressure	Absent	Chert	yellow
LA149564	445	174	196	1	Flake	Proximal	13.02				0.53	3	0%	No	Flat	Yes	BifaceThinning	Absent	Quartzite	orange
LA149564	446	174	196	2	Flake	Proximal	11.15				0.14	3	0%	Yes	Flat	No	BifaceThinning	Absent	Chert	red
LA149564	447	174	196	3	Flake	Proximal	6.07				0.06	2	0%	Yes	Flat	No	Pressure	Absent	Chert	black/gray
LA149564	448	174	196	3	Flake	Lateral	6.6				0.02	N/A	0%	No	N/A	No	Unk	Absent	Chert	tan/white
LA149564	449	175	196	1	Flake	Complete		13.16	10.17	1.55	0.17	5	0%	Yes	Bifacet	Yes	BifaceThinning	Absent	Obsidian	trans. obs.
LA149564	451	175	196	1	Flake	Proximal	6.98				0.09	N/A	0%	No	Flat	Yes	Unk	Absent	Quartzite	orange
LA149564	453	176	196	2	Flake	Lateral	5.8				0.04	2	0%	No	N/A	No	Unk	Absent	Chert	black/gray
LA149564	454	176	196	2	Flake	Proximal	9.59				0.14	3	0%	Yes	Fragmented/Crushed	Yes	BifaceThinning	Absent	Quartzite	orange
LA149564	457	176	196	2	Flake	Complete		9.06	8.11	1.27	0.12	5+	0%	Yes	Flat	Yes	BifaceThinning	Absent	Chert	tan

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Site	DSN	GRID NORTH	GRID EAST	LEVEL	Class	Condition	Max Dimension	Max Length (mm)	Max Width (mm)	Max Thickness (mm)	Weight (g)	Dorsal Scars	Cortex Amount	Platform Lip	Platform Morphology	Platform Abrasion	Flake Type	Edge Modification	Raw Material	Color
LA149564	459	176	196	3	Flake	Distal	22.61				2.39	5+	0%	No	N/A	No	Secondary	Absent	Chert	white/clear
LA149564	461	176	196	3	Flake	Complete		11.39	6.3	0.64	0.06	4	0%	No	Fragmented/Crushed	Yes	Pressure	Absent	Obsidian	trans. obs.
LA27855	932	150	137	1	Angular Debris	N/A (angular)	51.34				40.45	N/A	51-90%	No	N/A	No	Primary	Absent	Silicified wood	red
LA27855	933	149	138	0	Flake	Proximal	27.43				4.52	3	0%	No	Flat	No	Secondary	Absent	Chalcedony	white/clear
LA27855	934	157	146	1	Flake	Distal	14.94				1.43	2	0%	No	N/A	No	Secondary	Absent	Chert	white
LA27855	979	149	144	2	Angular Debris	N/A (angular)	13.45				0.61	N/A	0%	No	N/A	No	Unk	Absent	Chert	white
LA27855	925	152	137	2	Flake	Medial	33.67				12.8	2	0%	No	N/A	No	Secondary	Absent	Silicified wood	tan/white
LA27855	926	159	141	2	Angular Debris	N/A (angular)	31.91				5.39		11-50%	No	N/A	No	Primary	Absent	Silicified wood	white
LA27855	927	157	135	1	Flake	Medial	28.45			8.52	4.18	1	0%	No	N/A	No	Secondary	Edge Scarring	Chert	white
LA27855	928	157	135	1	Flake	Complete		15.11	15.46	2.78	0.83	2	0%	No	Partial Cortex	No	Secondary	Absent	Chalcedony	clear
LA27855	996	149	138	1	Flake	Proximal	27.23				3.33	2	0%	No	Complete Cortex	No	Secondary	Edge Scarring	Chert	tan/pink
LA27855	997	149	141	1	Flake	Medial	26.5			4.01	1.88	2	0%	No	N/A	No	BifaceThinning	Absent	Chert	pink
LA27855	998	149	137	2	Flake	Lateral	21.63				1.05	1	0%	No	N/A	No	Secondary	Edge Scarring	Silicified wood	white/clear
LA27855	999	149	143	2	Flake	Lateral	24.4				3.59	1	1-10%	No	N/A	No	Primary	Absent	Chalcedony	gray/white
LA27855	973	152	135	2	Angular Debris	N/A (angular)	31.98				8.9	N/A	1-10%	No	N/A	No	Primary	Absent	Chert	tan/pink/gray
LA27855	983	148	135	1	Flake	Distal	21.94				1.84	3	0%	No	N/A	No	Secondary	Absent	Chalcedony	white/clear
LA27855	984	148	136	2	Flake	Lateral	18.87				0.48	N/A	1-10%	No	N/A	No	Secondary	Absent	Silicified wood	white/clear
LA27855	943	150	135	2	Angular Debris	N/A (angular)	14.7				0.62	N/A	0%	No	N/A	No	Unk	Absent	Chalcedony	clear/red-orange
LA27855	944	151	134	1	Angular Debris	N/A (angular)	13.17				0.27	N/A	0%	No	N/A	No	Unk	Absent	Chert	pink
LA27855	945	151	134	1	Flake	Complete		28.29	20.74	7.1	4.09	5+	0%	Yes	Flat	No	BifaceThinning	Absent	Chert	brown
LA27855	1002	148	144	2	Angular Debris	N/A (angular)	36.02				3.48	N/A	0%	No	N/A	No	Secondary	Absent	Chert	white

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Site	DSN	GRID NORTH	GRID EAST	LEVEL	Class	Condition	Max Dimension	Max Length (mm)	Max Width (mm)	Max Thickness (mm)	Weight (g)	Dorsal Scars	Cortex Amount	Platform Lip	Platform Morphology	Platform Abrasion	Flake Type	Edge Modification	Raw Material	Color
LA27855	1003	149	141	1	Flake	Proximal	18.89				1.62	3	0%	No	Flat	Yes	BifaceThinning	Absent	Obsidian	ashy obsidian
LA27855	916	147	140	2	Flake	Complete		33.06	23.41	12.72	8.79	5+	0%	No	Fragmented/Crushed	No	Secondary	Absent	Chalcedony	white/clear
LA27855	985	154	133	1	Flake	Proximal	27.75				2.95	1	11-50%	No	Flat	Yes	Primary	Absent	Chalcedony	white/clear
LA27855	986	153	134	1	Angular Debris	N/A (angular)	27.34				3.59	N/A	0%	No	N/A	No	Secondary	Absent	Chalcedony	clear/red-orange
LA27855	987	153	133	1	Angular Debris	Lateral	24.63				3.01	N/A	0%	No	N/A	No	Unk	Absent	Silicified wood	gray
LA27855	942	153	133	2	Angular Debris	N/A (angular)	28.73				16.8	N/A	51-90%	No	N/A	No	Primary	Absent	Chert	multi
LA27855	1013	160	143	1	Flake	Distal	7.18				0.02	N/A	0%	No	N/A	No	Unk	Absent	Chert	white
LA27855	1014	160	144	1	Flake	Complete		11.78	8.45	2.87	0.23	4	0%	No	Fragmented/Crushed	Yes	Pressure	Absent	Chalcedony	tan
LA27855	1015	147	134	2	Flake	Distal	22.1				3.56	5+	0%	No	N/A	No	Secondary	Absent	Chert	gray/white
LA27855	954	149	134	1	Flake	Complete		12.21	13.78	3.24	0.5	2	0%	No	Flat	No	BifaceThinning	Absent	Chalcedony	clear
LA27855	955	149	134	2	Flake	Complete		25.37	23.15	7	4.01	2	0%	No	Flat	No	Secondary	Absent	Chalcedony	clear
LA27855	956	150	134	2	Flake	Lateral	17.88				0.88	2	0%	No	N/A	No	BifaceThinning	Absent	Chalcedony	white/clear
LA27855	957	156	134	2	Flake	Lateral	10.67				0.49	N/A	0%	No	N/A	No	Unk	Edge Scarring	Chert	white
LA27855	958	149	133	1	Flake	Complete		42.09	48.33	9.35	26.67	2	0%	No	Fragmented/Crushed	No	Secondary	Absent	Sandstone	tan/pink
LA27855	988	148	133	1	Flake	Distal	34.63				4.64	2	0%	No	N/A	No	Secondary	Absent	Chert	brown
LA27855	989	155	134	1	Flake	Proximal	11.3				0.31	1	0%	No	Fragmented/Crushed	No	Unk	Absent	Chalcedony	clear/red-orange
LA27855	962	150	133	1	Flake	Complete		41.02	44.14	55.6	10.34	3	0%	No	Flat	No	Secondary	Absent	Sandstone	tan
LA27855	963	150	133	1	Angular Debris	N/A (angular)	18.1				2.03	N/A	0%	No	N/A	No	Unk	Absent	Chert	gray/white
LA27855	964	161	138	1	Flake	Distal	25.48				6.11	5	0%	No	N/A	No	Secondary	Absent	Obsidian	ashy obsidian
LA27855	965	162	141	2	Flake	Complete		47.34	34.8	7.53	11.22	2	0%	No	Flat	No	Secondary	Absent	Sandstone	orange
LA27855	966	158	143	3	Angular Debris	N/A (angular)	19.43				1.39		1-10%	No	N/A	No	Unk	Absent	Chert	white
LA27855	914	155	142	1	Flake	Complete		36.23	21.52	7.32	6.23	2	0%	No	Flat	No	Secondary		Chert	white/clear
LA27855	915	155	145	2	Flake	Complete		37.58	19.06	7.82	4.58	4	0%	No	Flat	No	Secondary	Absent	Chert	white/clear
LA27855	950	152	146	1	Flake	Distal	47.07			11.07	18.08	2	0%	No	N/A	No	Secondary	Edge Scarring	Chert	orange spot

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LA27855	951	156	144	2	Flake	Distal	32.12				8.19	2	1-10%	No	N/A	No	Primary	Absent	Chalcedony	gray/white
LA27855	952	155	143	0	Flake	Medial	24.51			3.7	2.12	5	0%	No	N/A	No	Secondary	Retouch and Scarring	Obsidian	ashy obsidian
LA27855	953	152	140	2	Flake	Distal	61.22				10.87	3	1-10%	No	N/A	No	Primary	Absent	Chert	white
LA27855	1000	153	140	2	Flake	Complete		32.94	13.86	8.71	1.9	3	1-10%	No	Flat	No	Primary	Absent	Chert	red spot
LA27855	1001	155	143	1	Flake	Proximal	22.22				1.72	4	1-10%	No	Fragmented/Crushed	No	Secondary	Absent	Obsidian	black
LA27855	1006	152	138	2	Flake	Complete		30.41	20.21	5.07	2.63	2	1-10%	No	Flat	Yes	Primary	Absent	Chalcedony	clear/black
LA27855	1007	158	140	1	Flake	Distal	28.74				4.33	3	0%	No	N/A	No	Secondary	Absent	Chalcedony	pink
LA27855	1008	151	139	2	Flake	Lateral	26.95				2.3	N/A	0%	No	N/A	No	Secondary	Absent	Chert	white
LA27855	1009	151	139	2	Flake	Complete		27.11	24.01	4.2	2.82	2	0%	No	Flat	No	Secondary	Absent	Chert	white
LA27855	1010	151	141	2	Flake	Complete		38.39	39.06	7.09	10.62	N/A	0%	No	Flat	No	Secondary	Absent	Sandstone	tan
LA27855	1011	156	138	2	Flake	Distal	24.76				1.21	5	0%	No	N/A	No	Secondary	Absent	Chert	white
LA27855	977	152	144	2	Flake	Distal	21.28				0.86	N/A	0%	No	N/A	No	BifaceThinning	Absent	Chert	black/gray
LA27855	978	152	143	2	Flake	Proximal	30.28				3.17	5+	0%	No	Fragmented/Crushed	Yes	BifaceThinning	Edge Scarring	Chert	white
LA27855	938	154	144	1	Flake	Distal	15.32				0.22	2	1-10%	No	N/A	No	Unk	Absent	Chert	white/clear
LA27855	939	153	137	1	Flake	Proximal	25.21				1.18	5+	0%	No	Fragmented/Crushed	Yes	BifaceThinning	Absent	Chert	pink/gray
LA27855	940	153	137	2	Flake	Distal	17.13				0.61	2	51-90%	No	N/A	No	Primary	Absent	Chert	white/clear
LA27855	941	153	137	2	Flake	Distal	28.16				3.08	5+	0%	No	N/A	No	Secondary	Edge Scarring	Chert	multi
LA27855	931	152	141	1	Flake	Complete		49.21	39.64	14.19	26.69	3	51-90%	No	Bifacet	No	Primary	Edge Scarring	Chert	tan
LA27855	946	153	141	2	Flake	Complete		37.31	29.81	6.44	5.15	4	0%	No	Flat	No	Secondary	Absent	Chalcedony	gray/white
LA27855	947	152	140	1	Flake	Lateral	15.48				1.15	2	0%	No	N/A	No	Unk	Absent	Chert	white
LA27855	948	152	140	1	Flake	Complete		46.89	35.38	7.73	13.55	3	0%	No	Flat	No	Secondary	Absent	Sandstone	tan
LA27855	917	150	139	2	Flake	Complete		25.79	37.78	6.53	7.13	2	0%	No	Complete Cortex	No	Secondary	Absent	Chert	orange
LA27855	918	150	140	2	Flake	Complete		19.7	18.1	2.73	0.76	2	11-50%	No	Fragmented/Crushed	Yes	Primary	Absent	Chalcedony	white/clear
LA27855	919	150	140	2	Flake	Proximal	19.79				0.66	1	51-90%	No	Fragmented/Crushed	No	Primary	Absent	Chert	orange spot
LA27855	920	156	141	2	Flake	Complete		24.63	16.31	5.31	1.92	4	1-10%	Yes	Bifacet	Yes	Primary	Absent	Obsidian	black
LA27855	921	152	144	1	Angular Debris	N/A (angular)	20.75				1.35		0%	No	N/A	No	Secondary	Absent	Chalcedony	gray/white

El Segundo Debitage																				
Site	DSN	GRID NORTH	GRID EAST	LEVEL	Class	Condition	Max Dimension	Max Length (mm)	Max Width (mm)	Max Thickness (mm)	Weight (g)	Dorsal Scars	Cortex Amount	Platform Lip	Platform Morphology	Platform Abrasion	Flake Type	Edge Modification	Raw Material	Color
LA27855	922	155	141	1	Angular Debris	N/A (angular)	18.89				2.26		0%	No	N/A	No	Secondary	Absent	Chert	white
LA27855	923	150	138	1	Flake	Complete		44.83	25.77	7.05	6.85	2	0%	No	Flat	No	Secondary	Absent	Quartzite	pink/gray
LA27855	991	151	139	1	Flake	Medial	34.98				21.63	3	11-50%	No	N/A	No	Primary	Absent	Chalcedony	white/clear
LA27855	992	151	139	1	Flake	Distal	19.52				2.07	2	0%	No	N/A	No	Secondary	Absent	Chert	white
LA27855	993	151	139	1	Flake	Distal	51.84			13.86	27.34	3	0%	No	N/A	No	Secondary	Absent	Sandstone	tan
LA27855	994	155	139	1	Flake	Medial	10.65				0.15	2	0%	No	N/A	No	Unk	Absent	Chert	tan
LA27855	995	155	140	1	Flake	Lateral	22.12				1.33	N/A	0%	No	N/A	No	BifaceThinning	Absent	Chalcedony	clear
LA27855	990	150	143	3	Flake	Complete		34.35	15.84	9.45	6.08	2	0%	No	Flat	Yes	Secondary	Absent	Chert	tan/white
LA27855	974	154	147	3	Flake	Lateral	23.34				1.07	3	0%	No	N/A	No	Secondary	Edge Scarring	Chalcedony	white/clear
LA27855	975	151	147	1	Flake	Medial	46.64				20.91	3	0%	No	N/A	No	Secondary	Absent	Quartzite	purple
LA27855	976	158	144	1	Flake	Lateral	7.75				0.09	N/A	0%	No	N/A	No	Unk	Absent	Chert	white
LA27855	967	159	136	1	Flake	Complete		33.99	25.97	4.57	3.62	2	0%	Yes	Flat	No	BifaceThinning	Absent	Quartzite	black
LA27855	968	159	136	1	Flake	Distal	17.15				0.61	1	0%	No	N/A	No	Unk	Absent	Chalcedony	pink
LA27855	969	151	140	2	Flake	Distal	8.65				0.16	2	0%	No	N/A	No	Pressure	Absent	Chalcedony	white/clear
LA27855	970	151	140	2	Flake	Proximal	22.68				2.38	1	1-10%	No	Flat	No	Primary	Absent	Chert	black
LA27855	971	151	133	0	Flake	Lateral	25.15				4	N/A	0%	No	N/A	No	Secondary	Absent	Chalcedony	white/clear
LA27855	972	157	139	1	Flake	Proximal	27.6				4.03	3	0%	No	Flat	No	Secondary	Edge Scarring	Chert	gray/white
LA27855	935	163	144	2	Flake	Complete		32.6	19.9	5.34	3.53	2	0%	No	Flat	No	Primary	Absent	Sandstone	tan
LA27855	936	151	153	0	Flake	Distal	18.89				0.61	5	0%	No	N/A	No	BifaceThinning	Absent	Chalcedony	tan
LA27855	937	151	134	1	Flake	Lateral	24.87				1.48	N/A	0%	No	N/A	No	Secondary	Absent	Chalcedony	gray/white
LA27855	959	154	146	3	Flake	Complete		36.99	30.39	6	6.01	2	0%	No	Flat	No	Secondary	Absent	Chalcedony	clear/black
LA27855	960	151	145	3	Flake	Complete		29.17	18.52	3.98	2.13	3	0%	No	Fragmented/Crushed	Yes	BifaceThinning	Absent	Chert	white
LA27855	961	150	143	3	Angular Debris	N/A (angular)	12.08				0.55	N/A	0%	No	N/A	No	Unk	Absent	Chalcedony	pink
LA27855	949	148	144	4	Flake	Lateral	26.08				4.63	2	0%	No	N/A	No	Secondary	Absent	Chert	white
LA27855	980	153	140	3	Flake	Medial	28.87		14.33	4.57	1.58	5+	0%	No	Fragmented/Crushed	No	BifaceThinning	Edge Scarring	Chert	white
LA27855	981	163	141	4	Flake	Medial	41.46				15.3	3	11-50%	No	N/A	No	Primary	Absent	Chalcedony	white/clear

El Segundo Debitage

Site	DSN	GRID NORTH	GRID EAST	LEVEL	Class	Condition	Max Dimension	Max Length (mm)	Max Width (mm)	Max Thickness (mm)	Weight (g)	Dorsal Scars	Cortex Amount	Platform Lip	Platform Morphology	Platform Abrasion	Flake Type	Edge Modification	Raw Material	Color
LA27855	982	153	133	2	Angular Debris	N/A (angular)	22.01				1.34	N/A	0%	No	N/A	No	Secondary	Absent	Chert	gray
LA27855	924	0	0	0	Flake	Medial	17.9				1.77	3	0%	No	N/A	No	Secondary	Absent	Chert	white
LA27855	1012	152	138	3	Flake	Complete		77.67	49.17	19.05	61.24	1	11-50%	No	Flat	No	Primary	Absent	Sandstone	tan
LA27855	929	152	132	1	Flake	Complete		29.54	17.71	3.94	2.06	5	1-10%	No	Bifacet	No	Secondary	Edge Scarring	Chert	pink/gray
LA27855	930	153	132	1	Flake	Medial	11.82				0.17	3	0%	No	N/A	No	Unk	Absent	Chert	tan/white
LA27855	1016	153	138	2	Flake	Proximal	24.66				2.23	5+	0%	No	Flat	No	BifaceThinning	Absent	Chert	brown
LA27855	1017	153	138	2	Flake	Proximal	26.68				1.71	2	0%	No	Flat	Yes	BifaceThinning	Absent	Quartzite	purple
LA27855	1018	150	137	3	Flake	Complete		44.69	16.56	8.65	6.23	N/A	100%	No	Fragmented/Crushed	No	Primary	Absent	Sandstone	tan
LA27855	1019	152	131	1	Flake	Lateral	16.07				0.72	2	0%	No	N/A	No	BifaceThinning	Absent	Chalcedony	white/clear
LA27855	1005	158	133	1	Flake	Complete		36.59	16.03	4.12	2.51	5+	0%	No	Flat	Yes	BifaceThinning	Absent	Chert	red spot
LA27855	1004	147	140	4	Flake	Complete		26.16	20.19	2.68	1.23	5+	0%	No	Fragmented/Crushed	Yes	BifaceThinning	Edge Scarring	Chert	white
LA27855	1020	153	137	3	Flake	Medial	42.29				10.34	4	51-90%	No	N/A	No	Primary	Absent	Chert	white
LA27855	1021	153	137	4	Flake	Distal	25.88				2.71	2	51-90%	No	N/A	No	Primary	Absent	Sandstone	tan
LA27855	1022	154	137	4	Flake	Distal	29.28				5.1	2	0%	No	N/A	No	Secondary	Absent	Chalcedony	white/clear
LA27855	1023	154	137	4	Flake	Proximal	27.85				2.14	2	11-50%	No	Fragmented/Crushed	No	Primary	Edge Scarring	Chert	red spot
LA27855	1024	154	137	4	Flake	Proximal	21.2				2.17	5+	0%	No	Fragmented/Crushed	Yes	Secondary	Retouch and Scarring	Obsidian	trans. obs.
LA27855	1025	154	137	4	Flake	Medial	21.38				0.9	2	0%	No	N/A	No	BifaceThinning	Absent	Obsidian	trans. obs.
LA27855	1026	154	137	5	Flake	Distal	40.82				18.96	3	0%	No	N/A	No	Secondary	Absent	Sandstone	gray
LA27855	1027	153	138	5	Flake	Complete		43.46	26.54	13.52	14.23	2	0%	No	Flat	No	Secondary	Absent	Sandstone	gray
LA27855	1028	154	138	3	Flake	Proximal	29.85				2.21	2	0%	No	Flat	No	Secondary	Absent	Chert	white
LA27855	1029	154	138	4	Flake	Proximal	25.52				3.89	4	0%	No	Flat	No	Secondary	Edge Scarring	Chert	white
LA27855	1030	154	138	4	Flake	Distal	16.63				0.87	3	0%	No	N/A	No	Unk	Absent	Chert	black/gray
LA27855	1031	154	138	4	Angular Debris	N/A (angular)	17.06				0.49	N/A	1-10%	No	N/A	No	Unk	Absent	Chert	white/clear
LA27855	1032	154	138	5	Flake	Proximal	49.76				9.02	3	0%	No	Partial Cortex	No	Secondary	Absent	Chert	white
LA27855	1033	155	137	6	Flake	Medial	13.65				0.38	N/A	100%	No	N/A	No	Primary	Absent	Chert	white

El Segundo Debitage

Site	DSN	GRID NORTH	GRID EAST	LEVEL	Class	Condition	Max Dimension	Max Length (mm)	Max Width (mm)	Max Thickness (mm)	Weight (g)	Dorsal Scars	Cortex Amount	Platform Lip	Platform Morphology	Platform Abrasion	Flake Type	Edge Modification	Raw Material	Color
LA27855	1034	155	137	6	Angular Debris	N/A (angular)	19.67				1.6	N/A	11-50%	No	N/A	No	Primary	Absent	Chert	white
LA27855	1035	150	142	4	Flake	Complete		26.67	40.12	11.3	7.96	5+	0%	No	Fragmented/Crushed	Yes	Secondary	Absent	Chert	gray/white
LA27855	1036	153	139	5	Flake	Medial	14.74				0.35	N/A	0%	No	N/A	No	BifaceThinning	Absent	Chalcedony	white/clear
LA27855	1037	153	150	2	Flake	Medial	21.49				2.61	2	0%	No	N/A	No	Secondary	Edge Scarring	Chert	pink/white
LA27855	1038	154	140	3	Flake	Complete		48.79	68.14	17.16	64.43	1	91-99%	No	Complete Cortex	No	Primary	Marginal Retouch	Sandstone	gray
LA27855	1039	155	138	3	Flake	Distal	18.8				0.84	3	0%	No	N/A	No	Unk		Chalcedony	gray/white
LA27855	1040	156	140	3	Flake	Proximal	31.09				4.58	2	11-50%	No	Flat	No	Secondary	Edge Scarring	Silicified wood	brown
LA135517	657	240	186	2	Angular Debris	N/A (angular)	15.76				1.64	N/A	1-10%	No	N/A	No	Primary	Absent	Chert	tan/pink/gray
LA135517	645	240	186	2	Flake	Distal	12.31				0.18	2	0%	No	N/A	No	Unk	Absent	Chert	gray/white
LA135517	646	240	186	1	Flake	Medial	18.7				0.71	3	0%	No	N/A	No	Secondary	Absent	Obsidian	trans. obs.
LA135517	647	240	186	1	Flake	Complete		10.61	6	2.45	0.17	3	0%	No	Flat	Yes	Pressure	Absent	Chert	pink/white
LA135517	648	240	186	1	Flake	Complete		9.95	7.01	1.6	0.12	3	0%	No	Fragmented/Crushed	Yes	Pressure	Absent	Chert	pink/white
LA135517	649	242	186	2	Flake	Proximal	27.01				3.31	1	1-10%	No	Bifacet	Yes	Primary	Absent	Chert	tan/pink
LA135517	650	240	200	5	Flake	Complete		22.17	28.77	7.3	5.05	N/A	100%	No	Flat	No	Primary	Absent	Quartzite	tan
LA135517	651	244	186	1	Flake	Complete		11.97	9.87	1.38	0.21	3	0%	No	Fragmented/Crushed	Yes	BifaceThinning	Absent	Chalcedony	white/clear
LA135517	652	244	186	2	Angular Debris	Lateral	19.99				0.15	N/A	0%	No	N/A	No	Unk	Absent	Chert	white
LA135517	653	244	186	2	Flake	Proximal	26.38				1.63	2	0%	No	Fragmented/Crushed	Yes	Secondary	Absent	Silicified wood	multi
LA135517	654	244	186	2	Flake	Proximal	38.22				7.35	4	0%	No	Multifacet	Yes	Secondary	Absent	Chert	black/gray
LA135517	655	244	186	3	Flake	Proximal	21.04				1.38	4	0%	No	Flat	No	BifaceThinning	Absent	Chert	black/gray
LA135517	656	244	186	3	Flake	Lateral	13.14				0.33	2	0%	No	N/A	No	Unk	Absent	Chert	gray
LA135517	623	244	186	4	Flake	Lateral	24.24				2.05	3	0%	No	N/A	No	Secondary	Absent	Chert	white
LA135517	624	244	186	4	Flake	Complete		9	9.84	1.24	0.12	3	0%	Yes	Bifacet	Yes	BifaceThinning	Absent	Chert	gray/white
LA135517	625	244	186	4	Flake	Lateral	7.34				0.04	N/A	0%	No	N/A	No	Unk	Absent	Chert	pink
LA135517	626	244	186	4	Angular Debris	Lateral	16.04				0.2	N/A	0%	No	N/A	No	Unk	Absent	Chert	pink/gray

El Segundo Debitage																					
Site	DSN	GRID NORTH	GRID EAST	LEVEL	Class	Condition	Max Dimension	Max Length (mm)	Max Width (mm)	Max Thickness (mm)	Weight (g)	Dorsal Scars	Cortex Amount	Platform Lip	Platform Morphology	Platform Abrasion	Flake Type	Edge Modification	Raw Material	Color
LA135517	627	246	186	3	Flake	Complete		13.26	8.2	1.83	0.21	2	0%	No	Fragmented/Crushed	Yes	Pressure	Absent	Chert	white
LA135517	628	249	190.9	1	Flake	Complete		23.33	19.72	2.87	1.16	5+	0%	No	Flat	Yes	BifaceThinning	Absent	Chert	tan/white
LA135517	629	249	190.9	1	Flake	Complete		11.39	8.63	0.96	0.12	2	0%	No	Fragmented/Crushed	No	Pressure	Absent	Chalcedony	clear
LA135517	630	246	186	2	Flake	Medial	15.04				0.93	2	1-10%	No	N/A	No	Primary	Absent	Chalcedony	clear/red-orange
LA135517	631	246	186	2	Flake	Complete		32.44	34.02	14.6	14.02	5+	1-10%	No	Multifacet	No	Primary	Retouch and Scarring	Chert	gray
LA135517	632	246	186	1	Flake	Medial	15.21				0.64	1	1-10%	No	N/A	No	Primary	Absent	Quartzite	red
LA135517	633	248	188	2	Angular Debris	N/A (angular)	31.49				6.99	N/A	0%	No	N/A	No	Secondary	Absent	Mud/silt stone	light blue
	634				Flake	Complete		32	36.49	11.21	20.39	1	1-10%	No	Flat	No	Primary	Absent	Quartzite	red
LA135517	635	246	186	3	Flake	Complete		11.52	11.18	2.22	0.27	5	0%	No	Bifacet	No	BifaceThinning	Absent	Chert	pink/white
LA135517	636	246	186	3	Flake	Complete		19.09	14.81	3.05	0.7	5+	0%	Yes	Bifacet	Yes	BifaceThinning	Absent	Chert	yellow
LA135517	637	246	186	4	Flake	Distal	15.02				0.73	2	0%	No	N/A	No	Secondary	Absent	Chert	black/gray
LA135517	638	246	186	4	Flake	Complete		66.25	34.6	12.12	33.24	N/A	0%	No	Flat	No	Secondary	Absent	Sandstone	gray
LA135517	639	248	188	4	Flake	Proximal	21.32				1.55	3	0%	No	Partial Cortex	No	Secondary	Absent	Chert	black/gray
LA135517	640	248	188	5	Flake	Complete		19.28	12.82	4.9	1.16	2	0%	No	Flat	Yes	Secondary	Absent	Chert	gray/white
LA135517	641	248	188	6	Flake	Complete		22.57	12.63	3.86	0.94	3	0%	No	Fragmented/Crushed	No	BifaceThinning	Absent	Quartzite	gray
LA135517	642	248	188	6	Flake	Distal	10.8				0.21	3	0%	No	N/A	No	Unk	Absent	Obsidian	ashy obsidian
LA135517	643	248	188	7	Angular Debris	N/A (angular)	30.41				5.73	N/A	0%	No	N/A	No	Secondary	Absent	Silicified wood	black/gray
LA135517	644	244	186	4	Flake	Complete		20.27	9.47	2.14	0.47	5	0%	Yes	Fragmented/Crushed	Yes	BifaceThinning	Absent	Chert	yellow
LA135517	658	248	188	7	Angular Debris	N/A (angular)	15.04				1.39	N/A	0%	No	N/A	No	Unk	Absent	Chert	pink/gray
LA135517	659	248	186	3	Angular Debris	N/A (angular)	20.18				0.88	N/A	0%	No	N/A	No	Unk	Absent	Chert	white/clear
LA135517	660	248	184	3	Angular Debris	N/A (angular)	13.42				0.8	N/A	0%	No	N/A	No	Unk	Absent	Chert	white/clear
LA135517	661	252	184	1	Flake	Medial	8.02				0.06	2	0%	No	N/A	No	Pressure	Absent	Obsidian	ashy obsidian
LA135517	662	252	184	2	Flake	Distal	6.63				0.06	2	0%	No	N/A	No	Pressure	Absent	Chalcedony	clear/red-orange
LA135517	663	252	184	2	Flake	Distal	21.85				1.43	1	0%	No	N/A	No	Secondary	Absent	Chalcedony	clear/red-

El Segundo Debitage																				
Site	DSN	GRID NORTH	GRID EAST	LEVEL	Class	Condition	Max Dimension	Max Length (mm)	Max Width (mm)	Max Thickness (mm)	Weight (g)	Dorsal Scars	Cortex Amount	Platform Lip	Platform Morphology	Platform Abrasion	Flake Type	Edge Modification	Raw Material	Color
																				orange
LA135517	664	244	195	1	Flake	Proximal	22.5				1.38	2	0%	Yes	Bifacet	No	Secondary	Absent	Quartzite	tan
LA135517	665	244	192	2	Angular Debris	N/A (angular)	24.91				3.32	N/A	0%	No	N/A	No	Unk	Absent	Chalcedony	multi
LA135517	666	244	190	2	Angular Debris	N/A (angular)	15				0.27	N/A	0%	No	N/A	No	Unk	Absent	Chert	gray/white
LA135517	667	244	190	3	Flake	Distal	16.07				0.26	3	0%	No	N/A	No	BifaceThinning	Absent	Obsidian	ashy obsidian
LA135517	668	244	190	3	Flake	Complete		10.06	19.22	1.91	0.35	1	0%	No	Fragmented/Crushed	No	BifaceThinning	Absent	Chert	pink/gray
LA135517	669	244	188	2	Angular Debris	N/A (angular)	21.49				2.12	N/A	0%	No	N/A	No	Secondary	Absent	Chert	tan/white
LA135517	670	244	188	3	Angular Debris	N/A (angular)	31.07				2.14	N/A	1-10%	No	N/A	No	Primary	Absent	Chalcedony	yellow
LA135517	671	244	188	4	Flake	Lateral	15.32				0.29	2	0%	No	N/A	No	Unk	Absent	Chert	white
LA135517	672	244	188	4	Angular Debris	N/A (angular)	18.99				2.42	N/A	0%	No	N/A	No	Secondary	Absent	Chalcedony	gray/white
LA135517	673	244	188	4	Flake	Complete		26.79	13.39	3.6	0.83	5	0%	No	Flat	Yes	BifaceThinning	Absent	Chert	white/clear
LA135517	674	244	188	4	Flake	Distal	14.83				0.37	3	0%	No	N/A	No	Unk	Absent	Obsidian	trans. obs.
LA135517	675	250	196	5	Flake	Medial	13.67				0.76	1	1-10%	No	N/A	No	Primary	Absent	Chert	tan/pink/gray
LA135517	676	250	196	6	Angular Debris	N/A (angular)	18				0.74	N/A	0%	No	N/A	No	Secondary	Absent	Chert	red
LA135517	677	244	192	2	Flake	Distal	28.36				6.91	1	1-10%	No	N/A	No	Primary	Absent	Chert	pink/gray
LA135517	614	250	196	7	Flake	Proximal	26.92				4.83	4	0%	No	Complete Cortex	No	Secondary	Absent	Chert	tan/white
LA135517	615	250	196	7	Flake	Proximal	23.42				2.58	2	0%	No	Fragmented/Crushed	No	Secondary	Absent	Chert	white/clear
LA135517	616	250	196	8	Flake	Complete		10.4	9.14	1.88	0.16	5	0%	No	Fragmented/Crushed	Yes	BifaceThinning	Absent	Obsidian	trans. obs.
LA135517	617	246	192	6	Flake	Distal	26.36				2.7	1	1-10%	No	N/A	No	Primary	Absent	Chert	tan/pink/gray
LA135517	618	246	184	1	Flake	Distal	15.87				0.46	2	0%	No	N/A	No	BifaceThinning	Absent	Chert	tan/white
LA135517	619	252	184	6	Angular Debris	N/A (angular)	21.25				1.42	N/A	0%	No	N/A	No	Secondary	Absent	Chert	gray
LA135517	620	252	184	6	Flake	Proximal	22.94				0.63	2	0%	No	Fragmented/Crushed	Yes	Secondary	Absent	Chert	pink/gray
LA135517	621	252	184	7	Flake	Distal	7.75				0.03	2	0%	No	N/A	No	Pressure	Absent	Obsidian	trans. obs.
LA135517	622	252	192	8	Flake	Complete		27.11	19.33	19.33	3.03	2	0%	No	Flat	No	Secondary	Absent	Chert	gray/white
LA135517	755	240	188	1	Flake	Lateral	17.07				0.88	2	0%	No	N/A	No	Secondary	Edge	Chalcedony	clear/red-

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Site	DSN	GRID NORTH	GRID EAST	LEVEL	Class	Condition	Max Dimension	Max Length (mm)	Max Width (mm)	Max Thickness (mm)	Weight (g)	Dorsal Scars	Cortex Amount	Platform Lip	Platform Morphology	Platform Abrasion	Flake Type	Edge Modification	Raw Material	Color
																		Scarring		orange
LA135517	756	240	188	1	Flake	Distal	15.11				0.4	1	0%	No	N/A	No	Unk	Absent	Chalcedony	white/clear
LA135517	757	246	178	2	Flake	Proximal	8.52				0.07	N/A	0%	No	Fragmented/Crushed	Yes	Pressure	Absent	Chalcedony	pink
LA135517	681	246	182	2	Angular Debris	N/A (angular)	40.1				5.06	N/A	0%	No	N/A	No	Secondary	Absent	Chert	tan/white
LA135517	682	246	184	3	Flake	Proximal	23.52				3.95	4	0%	No	Flat	Yes	Secondary	Absent	Chert	white
LA135517	735	246	184	3	Flake	Complete		46.24	23.44	9.24	10.12	2	51-90%	No	Bifacet	No	Primary	Absent	Chert	black/gray
LA135517	736	246	184	4	Angular Debris	N/A (angular)	10.09				0.17	N/A	0%	No	N/A	No	Unk	Absent	Chalcedony	clear/red-orange
LA135517	737	246	184	4	Flake	Distal	6.93				0.08	N/A	0%	No	N/A	No	Unk	Absent	Chert	white
LA135517	738	246	184	4	Angular Debris	N/A (angular)	12.17				0.5	N/A	0%	No	N/A	No	Unk	Absent	Chert	white
LA135517	798	248	190	6	Flake	Complete		13.86	16.37	1.64	0.28	5	0%	No	Fragmented/Crushed	Yes	BifaceThinning	Absent	Chert	tan
LA135517	786	250	192	2	Flake	Proximal	10.67				0.14	3	0%	No	Fragmented/Crushed	Yes	BifaceThinning	Absent	Obsidian	ashy obsidian
LA135517	787	246	180	1	Flake	Lateral	13.18				0.4	N/A	0%	No	N/A	No	Unk	Absent	Chert	red spot
LA135517	788	246	180	2	Flake	Proximal	13.85				0.39	2	0%	No	Fragmented/Crushed	Yes	Secondary	Absent	Chalcedony	clear
LA135517	789	246	182	5	Flake	Proximal	9.43				0.35	2	0%	No	Flat	Yes	BifaceThinning	Absent	Chert	pink/gray
LA135517	790	246	182	5	Flake	Proximal	17.84				14.3	4	0%	No	Flat	Yes	Secondary	Absent	Chert	tan/white
LA135517	791	246	182	6	Flake	Distal	14.56				0.38	2	0%	No	N/A	No	Secondary	Absent	Chalcedony	white/clear
LA135517	792	248	188	4	Flake	Distal	8.45				0.12	N/A	0%	No	N/A	No	Unk	Absent	Obsidian	black
LA135517	793	248	188	4	Flake	Lateral	14.96				0.61	N/A	0%	No	N/A	No	Secondary	Absent	Chalcedony	white/clear
LA135517	794	248	188	6	Angular Debris	N/A (angular)	14.05				16.6	N/A	0%	No	N/A	No	Secondary	Absent	Chert	brown
LA135517	795	250	192	5	Flake	Complete		21.22	13.2	3.02	0.94	N/A	0%	No	Flat	No	Secondary	Absent	Silicified wood	brown
LA135517	678	250	192	6	Flake	Proximal	7.54				0.13	3	0%	No	Fragmented/Crushed	Yes	BifaceThinning	Absent	Chalcedony	brown
LA135517	679	240	190	1	Flake	Complete		19.72	19.27	5.27	2.03	5	0%	No	Fragmented/Crushed	Yes	BifaceThinning	Absent	Chert	black/gray
LA135517	680	240	190	1	Angular Debris	N/A (angular)	28.24				3.09	N/A	0%	No	N/A	No	Secondary	Absent	Chert	pink/gray
LA135517	796	244	186	4	Flake	Complete		18.4	19.15	3.35	1.32	2	0%	No	Bifacet	Yes	BifaceThinning	Absent	Chert	white/clear
LA135517	797	238	190	2	Flake	Lateral	20.88				1.39	3	0%	No	N/A	No	Secondary	Edge Scarring	Chert	gray/white

El Segundo Debitage																				
Site	DSN	GRID NORTH	GRID EAST	LEVEL	Class	Condition	Max Dimension	Max Length (mm)	Max Width (mm)	Max Thickness (mm)	Weight (g)	Dorsal Scars	Cortex Amount	Platform Lip	Platform Morphology	Platform Abrasion	Flake Type	Edge Modification	Raw Material	Color
LA135517	778	238	188	1	Flake	Complete		13.15	16.97	4.6	0.9	4	0%	No	Flat	No	Secondary	Absent	Chert	gray
LA135517	779	238	188	1	Flake	Lateral	18.01				0.87	3	1-10%	No	N/A	No	Primary	Absent	Chalcedony	clear/red-orange
LA135517	780	238	188	1	Flake	Complete		18.15	18.13	2.8	0.76	5	0%	No	Bifacet	Yes	BifaceThinning	Absent	Chert	pink/gray
LA135517	694	248	186	6	Flake	Distal	24.03				4.8	3	11-50%	No	N/A	No	Primary	Absent	Chert	gray
LA135517	695	248	186	6	Flake	Medial	39.45				11.29	5+	0%	No	N/A	No	Secondary	Absent	Chert	gray/white
LA135517	696	248	186	5	Flake	Proximal	12.58				0.14	N/A	0%	No	Flat	Yes	Unk	Absent	Chalcedony	clear/red-orange
LA135517	697	248	186	5	Flake	Lateral	16.71				0.88	2	0%	No	N/A	No	Secondary	Absent	Chert	black
LA135517	781	248	184	6	Flake	Complete		28.39	16.16	5.11	1.51	N/A	0%	No	Complete Cortex	No	Secondary	Absent	Chert	white
LA135517	782	244	178	2	Angular Debris	N/A (angular)	19.62				2.28	N/A	0%	No	Fragmented/Crushed	No	Secondary	Absent	Chalcedony	red
LA135517	783	248	184	5	Flake	Complete		15.56	14.03	3.64	0.81	4	0%	No	Flat	Yes	BifaceThinning	Absent	Chert	pink/gray
LA135517	784	248	184	7	Flake	Medial	10.61				0.08	N/A	0%	No	N/A	No	Unk	Absent	Obsidian	trans. obs.
LA135517	785	248	186	7	Flake	Medial	6.72				0.02	1	0%	No	N/A	No	Unk	Absent	Chalcedony	clear
LA135517	683	248	186	7	Flake	Complete		62.14	69.23	30.01	93.57	4	91-99%	No	Multifacet	Yes	Primary	Absent	Quartzite	gray
LA135517	684	244	178	2	Angular Debris	N/A (angular)	33.47				14.62	N/A	51-90%	No	N/A	No	Primary	Absent	Chalcedony	clear/black
LA135517	739	244	178	3	Angular Debris	N/A (angular)	20.31				2.54	N/A	0%	No	N/A	No	Secondary	Absent	Silicified wood	multi
LA135517	740	244	178	3	Angular Debris	N/A (angular)	22.05				5.02	N/A	11-50%	No	N/A	No	Primary	Absent	Silicified wood	multi
LA135517	741	244	182	5	Angular Debris	N/A (angular)	17.07				0.51	N/A	11-50%	No	N/A	No	Primary	Absent	Silicified wood	black
LA135517	742	246	190	5	Flake	Medial	5.62				0.01	1	0%	No	N/A	No	Unk	Absent	Chert	orange
LA135517	743	246	190	6	Flake	Medial	31.1				6.88	5+	0%	No	N/A	No	Secondary	Edge Scarring	Chert	gray/white
LA135517	744	252	186	1	Flake	Medial	15.81				0.36	2	0%	No	N/A	No	BifaceThinning	Absent	Chalcedony	tan/white
LA135517	690	252	186	1	Angular Debris	N/A (angular)	10.38				0.23	N/A	0%	No	N/A	No	Unk	Absent	Chert	white
LA135517	691	244	180	1	Angular Debris	N/A (angular)	15.83				1.19	N/A	0%	No	N/A	No	Unk	Absent	Chalcedony	red

El Segundo Debitage																				
Site	DSN	GRID NORTH	GRID EAST	LEVEL	Class	Condition	Max Dimension	Max Length (mm)	Max Width (mm)	Max Thickness (mm)	Weight (g)	Dorsal Scars	Cortex Amount	Platform Lip	Platform Morphology	Platform Abrasion	Flake Type	Edge Modification	Raw Material	Color
LA135517	692	244	190	1	Flake	Medial	14.62				0.35	4	0%	No	N/A	No	Unk	Absent	Chalcedony	black/gray
LA135517	693	244	190	1	Flake	Proximal	30.21				2.76	5	0%	No	Flat	Yes	Secondary	Absent	Chert	tan/pink/gray
LA135517	685	244	190	1	Flake	Distal	16.68				0.14	2	0%	No	N/A	No	Unk	Absent	Chert	white
LA135517	686	244	190	3	Angular Debris	N/A (angular)	22.25				1.01	N/A	11-50%	No	N/A	No	Primary	Absent	Chert	pink
LA135517	687	244	190	3	Flake	Medial	4.57				0.01	2	0%	No	N/A	No	Unk	Absent	Chert	tan
LA135517	688	252	186	4	Flake	Complete		47.3	43.03	9.41	16.06	3	0%	No	Multifacet	No	Secondary	Absent	Quartzite	pink/gray
LA135517	745	244	180	3	Flake	Distal	21.95				2.13	2	91-99%	No	N/A	No	Primary	Edge Scarring	Chert	white
LA135517	746	244	188	2	Flake	Proximal	15				0.47	3	0%	Yes	Flat	Yes	BifaceThinning	Absent	Quartzite	gray
LA135517	747	244	188	2	Flake	Medial	10.1				0.22	2	0%	No	N/A	No	Unk	Absent	Quartzite	gray
LA135517	748	244	188	2	Flake	Proximal	10.57				0.15	2	0%	No	Fragmented/Crushed	Yes	BifaceThinning	Absent	Chalcedony	clear/red-orange
LA135517	749	244	188	3	Flake	Distal	7.92				0.08	3	0%	No	N/A	No	Unk	Absent	Chert	tan/pink/gray
	750				Flake	Complete		11.22	8.74	1.17	0.06	5+	0%	No	Flat	Yes	BifaceThinning	Absent	Silicified wood	brown
LA135517	751	244	188	4	Flake	Complete		17.41	21.86	2.43	0.95	3	0%	Yes	Bifacet	Yes	BifaceThinning	Absent	Obsidian	black
LA135517	752	244	188	4	Flake	Complete		11.51	19.87	5.95	1.31	5	0%	No	Fragmented/Crushed	No	Secondary	Absent	Chert	black/gray
LA135517	753	244	188	5	Flake	Medial	10.26				0.11	4	0%	No	N/A	No	Unk	Absent	Obsidian	ashy obsidian
LA135517	754	244	188	5	Angular Debris	N/A (angular)	8.41				0.04	N/A	0%	No	N/A	No	Unk	Absent	Chalcedony	white/clear
LA135517	771	244	190	4	Angular Debris	N/A (angular)	17.59				1.02	N/A	0%	No	N/A	No	Secondary	Absent	Chert	orange
LA135517	772	250	184	3	Flake	Lateral	15.82				0.34	3	0%	No	N/A	No	Unk	Absent	Chert	brown
LA135517	774	252	186	8	Flake	Complete		37.6	32.23	13.05	16.69	4	0%	No	Flat	No	Secondary	Edge Scarring	Quartzite	white
LA135517	775	252	186	4	Angular Debris	N/A (angular)	22.44				13.9	N/A	11-50%	No	N/A	No	Primary	Absent	Chert	gray/white
LA135517	776	252	186	7	Angular Debris	N/A (angular)	28.32				15.8	N/A	11-50%	No	N/A	No	Primary	Absent	Silicified wood	white
LA135517	777	244	180	2	Angular Debris	N/A (angular)	26.83				2.95	N/A	1-10%	No	N/A	No	Primary	Absent	Chert	multi

El Segundo Debitage																				
Site	DSN	GRID NORTH	GRID EAST	LEVEL	Class	Condition	Max Dimension	Max Length (mm)	Max Width (mm)	Max Thickness (mm)	Weight (g)	Dorsal Scars	Cortex Amount	Platform Lip	Platform Morphology	Platform Abrasion	Flake Type	Edge Modification	Raw Material	Color
LA135517	768	244	180	2	Flake	Proximal	7.38				0.07	3	0%	No	Flat	Yes	Pressure	Absent	Chert	pink
LA135517	769	244	180	2	Flake	Lateral	17.91				1.08	2	0%	No	N/A	No	Secondary	Absent	Chalcedony	clear/red-orange
LA135517	770	244	180	2	Flake	Complete		20.93	20.13	3.85	1.5	5+	0%	Yes	Fragmented/Crushed	Yes	BifaceThinning	Absent	Obsidian	ashy obsidian
	773				Flake	Medial	9.21				0.15	N/A	0%	No	N/A	No	Unk	Absent	Chalcedony	clear
LA135517	721	250	184	1	Flake	Distal	8.71				0.11	2	0%	No	N/A	No	Unk	Absent	Chert	tan
LA135517	722	250	184	1	Flake	Medial	13.76				0.49	1	0%	No	N/A	No	Secondary	Absent	Chert	pink/gray
LA135517	723	250	184	2	Flake	Lateral	9.51				0.09	N/A	1-10%	No	N/A	No	Primary	Absent	Chalcedony	clear/red-orange
	689				Angular Debris	N/A (angular)	7.66				0.06	N/A	0%	No	N/A	No	Unk	Absent	Chert	pink
LA135517	903	250	184	5	Flake	Medial	16.06				0.27	2	0%	No	N/A	No	Unk	Absent	Obsidian	ashy obsidian
LA135517	860	244	184	1	Flake	Proximal	15.78				2.1	2	0%	No	Bifacet	No	Secondary	Absent	Chert	red
LA135517	861	244	184	2	Angular Debris	N/A (angular)	26.26				1.74	N/A	0%	No	N/A	No	Secondary	Absent	Chert	tan
LA135517	862	246	188	2	Flake	Lateral	18.49				0.57	N/A	0%	No	N/A	No	Secondary	Absent	Chert	red spot
LA135517	863	246	188	2	Flake	Medial	11.81				0.15	2	0%	No	N/A	No	Pressure	Absent	Chert	white/clear
LA135517	864	246	188	4	Flake	Lateral	24.69				0.86	3	0%	No	N/A	No	Secondary	Absent	Chert	black/gray
LA135517	865	246	188	2	Angular Debris	N/A (angular)	7.4				0.03	N/A	0%	No	N/A	No	Unk	Absent	Mud/silt stone	light blue
LA135517	866	244	184	3	Angular Debris	N/A (angular)	18.36				1.64	N/A	0%	No	N/A	No	Secondary	Absent	Chert	brown
LA135517	867	244	184	3	Flake	Complete		13.23	19.22	2.48	0.66	3	0%	No	Fragmented/Crushed	Yes	BifaceThinning	Absent	Quartzite	purple
LA135517	868	244	184	3	Angular Debris	N/A (angular)	27.65				2.12	3	0%	No	N/A	No	Secondary	Absent	Chert	gray
LA135517	890	246	188	6	Flake	Complete		20.98	19.5	3.56	1.45	4	0%	No	Fragmented/Crushed	No	BifaceThinning	Absent	Quartzite	gray
LA135517	891	246	188	5	Flake	Complete		22.2	23.21	4.72	1.86	2	0%	No	Fragmented/Crushed	No	BifaceThinning	Absent	Chert	tan/white
LA135517	892	250	184	6	Flake	Distal	12.53				0.18	3	0%	No	N/A	No	BifaceThinning	Absent	Chert	tan/pink
LA135517	893	244	184	4	Flake	Complete		36.49	17.19	8.93	6.23	1	51-90%	No	Bifacet	No	Primary	Absent	Silicified wood	white/clear
LA135517	894	250	190	4	Angular Debris	N/A (angular)	9.93				0.26	N/A	0%	No	N/A	No	Unk	Absent	Chert	white

El Segundo Debitage																				
Site	DSN	GRID NORTH	GRID EAST	LEVEL	Class	Condition	Max Dimension	Max Length (mm)	Max Width (mm)	Max Thickness (mm)	Weight (g)	Dorsal Scars	Cortex Amount	Platform Lip	Platform Morphology	Platform Abrasion	Flake Type	Edge Modification	Raw Material	Color
LA135517	895	250	190	4	Angular Debris	N/A (angular)	11.98				0.16	N/A	0%	No	N/A	No	Unk	Absent	Chalcedony	white/clear
LA135517	896	250	186	1	Flake	Medial	8.98				0.08	4	0%	No	N/A	No	Unk	Absent	Obsidian	ashy obsidian
LA135517	897	250	186	2	Flake	Distal	15.71				0.83	3	0%	No	N/A	No	BifaceThinning	Absent	Chert	pink/white
LA135517	898	250	186	2	Flake	Proximal	29.76				7.58	2	1-10%	No	Partial Cortex	No	Primary	Absent	Chert	black/gray
LA135517	899	252	192	11	Flake	Proximal	11.48				0.11	2	0%	No	Flat	Yes	Pressure	Absent	Chalcedony	white/clear
LA135517	900	252	192	11	Flake	Proximal	12.13				0.18	3	0%	Yes	Flat	Yes	Pressure	Absent	Chalcedony	white/clear
LA135517	901	252	192	11	Flake	Distal	7.76				0.04	1	0%	No	N/A	No	Pressure	Absent	Chalcedony	white/clear
LA135517	902	252	192	11	Flake	Proximal	13.17				0.18	3	0%	No	Fragmented/Crushed	Yes	Pressure	Absent	Chalcedony	white/clear
LA135517	859	250	190	7	Angular Debris	N/A (angular)	16.65				0.84	N/A	0%	No	N/A	No	Unk	Absent	Chalcedony	white/clear
LA135517	698	242	188	1	Flake	Complete		7.42	8.27	1.13	0.08	4	0%	Yes	Flat	Yes	Pressure	Absent	Chert	black
LA135517	699	242	188	1	Flake	Distal	7.35				0.05	3	0%	No	N/A	No	Unk	Absent	Chert	tan/white
LA135517	700	242	188	1	Flake	Medial	9.52				0.06	1	0%	No	N/A	No	Unk	Absent	Chert	white/clear
LA135517	701	242	188	1	Flake	N/A (angular)	7.29				0.07	N/A	0%	No	N/A	No	Unk	Absent	Chert	tan/white
LA135517	765	244	192	3	Flake	Lateral	15.76				0.23	5+	0%	No	N/A	No	BifaceThinning	Absent	Obsidian	ashy obsidian
LA135517	766	248	194	4	Flake	Complete		5.12	8.69	0.88	0.04	3	0%	No	Partial Cortex	No	Pressure	Absent	Chert	white
LA135517	767	248	194	4	Angular Debris	N/A (angular)	4.06				0.01	N/A	0%	No	N/A	No	Unk	Absent	Quartzite	tan
LA135517	703	248	194	5	Flake	Lateral	12.72				0.16	N/A	0%	No	N/A	No	Unk	Absent	Chert	brown
LA135517	702	250	186	2	Angular Debris	N/A (angular)	43.17				35.11	N/A	11-50%	No	N/A	No	Primary	Absent	Silicified wood	brown
LA135517	724	242	188	1	Flake	Proximal	20.38				1.04	2	0%	No	Bifacet	No	Secondary	Absent	Chalcedony	tan/white
LA135517	725	242	188	1	Flake	Complete		20.36	11.24	3.67	0.8	5	0%	No	Flat	No	BifaceThinning	Absent	Quartzite	gray
LA135517	726	242	188	1	Flake	Proximal	11.56				0.09	N/A	0%	No	Flat	Yes	BifaceThinning	Absent	Obsidian	black
LA135517	727	242	188	1	Flake	Proximal	16.93				0.28	3	0%	Yes	Bifacet	Yes	BifaceThinning	Absent	Quartzite	black
LA135517	728	242	188	1	Flake	Complete		21.43	10.98	4.54	0.98	3	0%	No	Flat	No	Secondary	Absent	Quartzite	gray
LA135517	729	242	188	1	Flake	Complete		17.49	12.18	4.57	0.86	5+	0%	No	Flat	No	Secondary	Absent	Quartzite	gray
LA135517	730	242	188	1	Flake	Medial	10.49				0.28	3	0%	No	N/A	No	BifaceThinning	Absent	Chert	gray/white
LA135517	731	242	188	2	Flake	Medial	5.54				0.01	1	0%	No	N/A	No	Unk	Absent	Obsidian	trans. obs.

El Segundo Debitage																				
Site	DSN	GRID NORTH	GRID EAST	LEVEL	Class	Condition	Max Dimension	Max Length (mm)	Max Width (mm)	Max Thickness (mm)	Weight (g)	Dorsal Scars	Cortex Amount	Platform Lip	Platform Morphology	Platform Abrasion	Flake Type	Edge Modification	Raw Material	Color
LA135517	732	242	188	2	Angular Debris	N/A (angular)	31.21				5.1	N/A	0%	No	N/A	No	Secondary	Absent	Mud/silt stone	light blue
LA135517	733	244	194	2	Flake	Medial	10.15				0.05	N/A	0%	No	N/A	No	Unk	Absent	Obsidian	trans. obs.
LA135517	734	244	194	2	Flake	Complete		6.83	5.39	1.5	0.05	2	0%	No	Bifacet	Yes	Pressure	Absent	Chert	white
LA135517	758	244	194	2	Angular Debris	N/A (angular)	22.78				1.99	N/A	0%	No	N/A	No	Secondary	Absent	Chert	pink/gray
LA135517	715	246	178	2	Flake	N/A (angular)	31.03				6.27	N/A	0%	No	N/A	No	Secondary	Absent	Chert	tan/white
LA135517	716	246	192	3	Flake	Distal	22.72				0.44	5+	0%	No	N/A	No	BifaceThinning	Absent	Obsidian	trans. obs.
LA135517	717	246	192	3	Flake	Lateral	14.22				0.15	1	0%	No	N/A	No	Pressure	Absent	Quartzite	tan
LA135517	718	246	192	4	Flake	Lateral	8.63				0.06	2	0%	No	N/A	No	Unk	Absent	Chalcedony	clear
LA135517	719	246	192	4	Flake	Medial	8.3				0.2	2	0%	No	N/A	No	Unk	Absent	Chert	gray/white
LA135517	720	246	192	4	Flake	Distal	7.12				0.06	N/A	0%	No	N/A	No	BifaceThinning	Absent	Chert	tan/white
LA135517	759	242	184	1	Flake	Distal	24.45				1.39	2	0%	No	N/A	No	Secondary	Absent	Chert	gray/white
LA135517	760	242	184	1	Flake	Lateral	13.75				0.25	N/A	0%	No	N/A	No	Unk	Absent	Chert	gray
LA135517	761	242	184	2	Flake	Proximal	8.99				0.08	2	0%	Yes	Flat	Yes	BifaceThinning	Absent	Chert	tan/pink/gray
LA135517	762	242	188	2	Flake	Proximal	36.84				8	4	0%	No	Flat	No	Secondary	Absent	Quartzite	gray
LA135517	763	242	188	2	Flake	Distal	8.33				0.08	2	0%	No	N/A	No	Unk	Absent	Chert	tan/white
LA135517	764	242	188	2	Flake	Proximal	11.53				0.13	2	0%	No	Fragmented/Crushed	Yes	BifaceThinning	Absent	Chert	white
LA135517	704	242	188	2	Flake	Distal	19.19				0.65	3	0%	No	N/A	No	Secondary	Absent	Quartzite	gray
LA135517	705	242	188	2	Flake	Proximal	19.68				0.96	2	0%	Yes	Flat	Yes	Secondary	Absent	Quartzite	gray
LA135517	706	242	188	2	Flake	Proximal	15.24				0.49	N/A	0%	No	N/A	No	BifaceThinning	Absent	Quartzite	black
LA135517	707	242	190	1	Angular Debris	N/A (angular)	24.94				3.55	N/A	0%	No	N/A	No	Secondary	Absent	Chert	gray/white
LA135517	708	242	190	1	Flake	Complete	11.56				0.35	5	0%	No	Fragmented/Crushed	Yes	BifaceThinning	Absent	Obsidian	black
LA135517	709	242	190	1	Flake	Distal	23.37				2.98	2	1-10%	No	N/A	No	Primary	Absent	Quartzite	pink
LA135517	710	242	190	1	Flake	Distal	6.61				0.14	3	0%	No	N/A	No	Unk	Absent	Chert	tan/white
LA135517	711	242	190	1	Flake	Lateral	8.61				0.06	1	1-10%	No	N/A	No	Primary	Absent	Chert	tan/white
LA135517	712	244	194	4	Angular Debris	N/A (angular)	5.47				0.06	N/A	0%	No	N/A	No	Unk	Absent	Chert	white
LA135517	713	244	194	4	Flake	Distal	11.77				0.11	2	0%	No	N/A	No	BifaceThinning	Absent	Chalcedony	brown

El Segundo Debitage																					
Site	DSN	GRID NORTH	GRID EAST	LEVEL	Class	Condition	Max Dimension	Max Length (mm)	Max Width (mm)	Max Thickness (mm)	Weight (g)	Dorsal Scars	Cortex Amount	Platform Lip	Platform Morphology	Platform Abrasion	Flake Type	Edge Modification	Raw Material	Color
LA135517	714	246	180	2	Flake	Proximal	6.94				0.04	N/A	0%	No	Flat	Yes	Pressure	Absent	Chalcedony	white/clear
LA135517	875	0	0	0	Flake	Distal	22.59				3.81	2	1-10%	No	N/A	No	Secondary	Absent	Chert	black/gray
LA135517	876	0	0	0	Flake	Proximal	28.44				2.09	3	0%	No	Fragmented/Crushed	No	Secondary	Absent	Chert	pink/gray
LA135517	877	240	182	3	Flake	Proximal	31.79				5.24	4	0%	No	Flat	Yes	Secondary	Absent	Chert	gray
LA135517	878	242	182	4	Flake	Distal	35.95				8.5	2	0%	No	N/A	No	Secondary	Absent	Obsidian	black
LA135517	879	242	188	5	Flake	Medial	10.76				0.15	2	0%	No	N/A	No	Unk	Absent	Chalcedony	brown
LA135517	880	242	190	3	Flake	Proximal	17.69				0.68	N/A	0%	No	Fragmented/Crushed	No	BifaceThinning	Absent	Quartzite	purple
LA135517	881	242	190	3	Flake	Proximal	12.39				0.21	2	0%	No	Fragmented/Crushed	Yes	BifaceThinning	Absent	Obsidian	black
LA135517	882	244	190	5	Angular Debris	N/A (angular)	32.59				5.8	N/A	0%	No	N/A	No	Secondary	Absent	Quartzite	gray
LA135517	883	244	190	6	Flake	Lateral	15.96				0.51	3	0%	No	N/A	No	BifaceThinning	Absent	Chert	brown
LA135517	884	244	190	5	Flake	Proximal	16.18				0.69	2	0%	No	Flat	Yes	BifaceThinning	Absent	Chert	tan
LA135517	885	244	192	5/6	Angular Debris	N/A (angular)	20.27				1.45	N/A	1-10%	No	N/A	No	Primary	Absent	Chalcedony	white/clear
LA135517	886	244	192	5/6	Flake	Lateral	8.6				0.1	2	0%	No	N/A	No	Unk	Absent	Obsidian	ashy obsidian
LA135517	887	246	188	4	Flake	Complete		34.71	29.39	10.72	10.65	3	0%	No	Flat	Yes	Secondary	Absent	Chert	red spot
LA135517	888	246	188	3	Flake	Medial	12.15				0.21	3	0%	No	N/A	No	BifaceThinning	Absent	Chert	white
LA135517	889	246	188	3	Angular Debris	N/A (angular)	11.89				0.11	N/A	0%	No	N/A	No	Unk	Absent	Chert	white/clear
LA135517	869	246	194	6	Angular Debris	N/A (angular)	13.84				0.2	N/A	0%	No	N/A	No	Unk	Absent	Chalcedony	white
LA135517	870	250	194	8	Angular Debris	N/A (angular)	21.62				2.1	N/A	0%	No	N/A	No	Secondary	Absent	Chert	tan/pink/gray
LA135517	871	250	182	0	Angular Debris	N/A (angular)	14.35				0.87	N/A	0%	No	N/A	No	Unk	Absent	Chert	white
LA135517	872	254	190	0	Flake	Medial	17.25				0.5	2	1-10%	No	N/A	No	Primary	Absent	Chert	tan/pink/gray
LA135517	873	256	192	0	Flake	Proximal	14.4				0.38	5	0%	No	Fragmented/Crushed	Yes	BifaceThinning	Absent	Chert	gray
LA135517	874	238	198	3	Flake	Distal	7.91				0.07	4	0%	No	N/A	No	Pressure	Absent	Chert	tan
LA135517	827	246	180	3	Flake	Distal	12.08				0.13	2	0%	No	N/A	No	Pressure	Absent	Chert	tan
LA135517	828	246	192	7	Flake	Medial	21.98				1.07	2	0%	No	N/A	No	BifaceThinning	Absent	Quartzite	gray
LA135517	807	246	184	1	Angular Debris	N/A (angular)	26.022				2.12	N/A	0%	No	N/A	No	Secondary	Absent	Chert	orange

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Site	DSN	GRID NORTH	GRID EAST	LEVEL	Class	Condition	Max Dimension	Max Length (mm)	Max Width (mm)	Max Thickness (mm)	Weight (g)	Dorsal Scars	Cortex Amount	Platform Lip	Platform Morphology	Platform Abrasion	Flake Type	Edge Modification	Raw Material	Color
LA135517	808	242	190	2	Flake	Medial	7.82				0.05	1	0%	No	N/A	No	Unk	Absent	Chert	tan
LA135517	809	246	182	2	Flake	Lateral	10.52				0.13	N/A	1-10%	No	N/A	No	Unk	Absent	Chert	gray
LA135517	810	246	182	4	Flake	Distal	36.11				6.99	2	0%	No	N/A	No	Secondary	Absent	Chert	gray/white
LA135517	811	246	184	4	Angular Debris	N/A (angular)	12.8				0.29	N/A	0%	No	N/A	No	Unk	Absent	Chalcedony	clear/red-orange
LA135517	812	248	182	2	Angular Debris	N/A (angular)	20.43				1.92	N/A	0%	No	N/A	No	Secondary	Absent	Chert	white
LA135517	813	248	182	2	Flake	Proximal	20.23				0.99	4	0%	Yes	Fragmented/Crushed	Yes	BifaceThinning	Absent	Chert	gray
LA135517	814	248	182	3	Flake	Proximal	28.63				6.22	2	51-90%	No	Complete Cortex	No	Primary	Absent	Chalcedony	orange
LA135517	815	246	180	4	Flake	Complete		46.94	37.64	12.13	21.7	N/A	100%	No	Bifacet	No	Primary	Absent	Chert	gray
LA135517	816	242	184	2	Flake	Medial	5.89				0.01	N/A	0%	No	N/A	No	Unk	Absent	Chert	white
LA135517	817	242	184	2	Flake	Distal	12.95				0.2	2	0%	No	N/A	No	Unk	Absent	Chert	white/clear
LA135517	818	242	190	2	Flake	Complete		44.79	22.96	8.77	6.82	4	0%	No	Partial Cortex	No	Secondary	Absent	Quartzite	gray
LA135517	819	242	190	2	Flake	Complete		25.6	16.75	3.62	1.55	4	0%	No	Flat	No	BifaceThinning	Absent	Quartzite	gray
LA135517	820	246	184	5	Flake	Proximal	22.39				2.32	2	0%	No	Fragmented/Crushed	No	Secondary	Absent	Chert	tan
LA135517	821	240	184	2	Flake	Proximal	17.58				0.27	1	0%	No	Flat	No	Secondary	Absent	Chert	white
LA135517	822	240	184	2	Flake	Distal	11.57				0.25	N/A	0%	No	N/A	No	Unk	Absent	Chert	white
LA135517	823	242	182	2	Flake	Distal	17.54				1	2	0%	No	N/A	No	Secondary	Absent	Chalcedony	brown
LA135517	824	242	182	2	Flake	Proximal	17.17				0.32	2	0%	No	Flat	No	BifaceThinning	Absent	Chert	gray
LA135517	825	242	182	2	Flake	Complete		18.61	19.98	5.14	2.14	5	0%	No	Flat	No	BifaceThinning	Absent	Chalcedony	tan
LA135517	826	242	182	2	Flake	Complete		15.46	15.66	1.93	0.47	5	0%	No	Multifacet	No	BifaceThinning	Absent	Chert	yellow
LA135517	839	248	194	2	Flake	Medial	11.03				0.18	3	0%	No	N/A	No	BifaceThinning	Absent	Obsidian	ashy obsidian
LA135517	840	250	194	6	Flake	Complete		18.09	11.41	2.47	0.35	5	0%	No	Fragmented/Crushed	Yes	BifaceThinning	Absent	Obsidian	black
LA135517	841	242	184	4	Flake	Medial	5.79				0.01	N/A	0%	No	N/A	No	Unk	Absent	Chalcedony	clear
LA135517	842	242	184	4	Flake	Distal	6.19				0.04	N/A	0%	No	N/A	No	Unk	Absent	Chert	gray
LA135517	843	242	184	4	Flake	Distal	16.67				1.32	2	0%	No	N/A	No	Secondary	Absent	Chert	white/clear
LA135517	844	242	184	5	Flake	Complete		8.5	9.8	1.52	0.12	4	0%	No	N/A	No	BifaceThinning	Absent	Obsidian	ashy obsidian
LA135517	845	248	182	5	Flake	Distal	9.17				0.08	2	0%	No	N/A	No	Pressure	Absent	Chert	white/clear
LA135517	829	248	182	4	Flake	Distal	29.49				9.92	4	0%	No	N/A	No	Secondary	Edge Scarring	Silicified wood	brown
LA135517	830	250	186	6	Flake	Complete		7.29	8.76	1.65	0.1	3	0%	No	Fragmented/Crushed	No	Pressure	Absent	Chert	gray

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Site	DSN	GRID NORTH	GRID EAST	LEVEL	Class	Condition	Max Dimension	Max Length (mm)	Max Width (mm)	Max Thickness (mm)	Weight (g)	Dorsal Scars	Cortex Amount	Platform Lip	Platform Morphology	Platform Abrasion	Flake Type	Edge Modification	Raw Material	Color
LA135517	831	250	186	6	Flake	Medial	8.5				0.04	3	0%	No	N/A	No	Unk	Absent	Chalcedony	clear
LA135517	832	250	186	6	Flake	Complete		12.52	13.38	2.32	0.37	4	0%	No	Flat	Yes	BifaceThinning	Absent	Chalcedony	brown
LA135517	833	246	182	5	Flake	Complete		8.9	5.66	1.64	0.05	2	0%	No	Flat	Yes	Pressure	Absent	Chert	tan
LA135517	834	246	182	5	Angular Debris	N/A (angular)	18.79				0.67	N/A	0%	No	N/A	No	Secondary	Absent	Chert	white
LA135517	835	250	188	6	Flake	Complete		14.94	10.64	3.79	0.39	N/A	91-99%	No	Complete Cortex	No	Primary	Absent	Mud/silt stone	blue
LA135517	836	250	188	6	Flake	Distal	7.24				0.05	2	0%	No	N/A	No	Pressure	Absent	Chert	tan
LA135517	837	250	186	5	Angular Debris	N/A (angular)	12.27				0.37	N/A	0%	No	N/A	No	Unk	Absent	Chert	tan
LA135517	838	250	186	5	Flake	Proximal	15.02				0.77	1	91-99%	No	Fragmented/Crushed	No	Primary	Absent	Chert	pink
LA135517	846	244	188	4	Flake	Proximal	23.8				2.67	2	0%	No	Flat	No	Secondary	Absent	Chalcedony	gray/white
LA135517	847	242	180	3	Flake	Distal	8.71				0.1	2	11-50%	No	N/A	No	Primary	Absent	Chert	tan
LA135517	848	242	180	2	Flake	Distal	8.03				0.02	2	0%	No	N/A	No	Pressure	Absent	Obsidian	trans. obs.
LA135517	849	242	180	2	Flake	Lateral	8.29				0.09	3	1-10%	No	N/A	No	Primary	Absent	Obsidian	ashy obsidian
LA135517	850	242	180	2	Flake	Distal	9.36				0.07	1	1-10%	No	N/A	No	Primary	Absent	Mud/silt stone	light blue
LA135517	851	240	184	3	Flake	Lateral	27.28				1.77	1	11-50%	No	N/A	No	Primary	Absent	Chert	pink/gray
LA135517	852	248	194	6	Angular Debris	N/A (angular)	25.37				5.68	N/A	1-10%	No	N/A	No	Primary	Absent	Chert	gray/white
LA135517	799	248	194	5	Flake	Complete		9.97	9.56	1.54	0.17	3	0%	Yes	Flat	Yes	BifaceThinning	Absent	Chert	black
LA135517	800	248	194	4	Flake	Proximal	11.11				0.12	3	0%	No	Fragmented/Crushed	Yes	BifaceThinning	Absent	Obsidian	ashy obsidian
LA135517	801	248	194	4	Flake	Complete		32.34	46.39	14.48	18.66	2	0%	No	Multifacet	No	Secondary	Absent	Chert	gray
LA135517	806	242	182	2	Flake	Distal	30.56			3.47	1.98	3	0%	No	N/A	No	Secondary	Edge Scarring	Obsidian	ashy obsidian
LA135517	802	242	182	3	Flake	Proximal	26.81				1.95	3	0%	No	Flat	No	Secondary	Absent	Chert	black/gray
LA135517	803	242	182	3	Flake	Medial	18.4				0.69	2	0%	No	N/A	No	BifaceThinning	Absent	Chert	black/gray
LA135517	804	242	182	3	Flake	Proximal	22.66				2.9	2	1-10%	No	Fragmented/Crushed	No	Primary	Absent	Chert	pink/gray
LA135517	805	244	186	5	Angular Debris	N/A (angular)	20.47				2.34	N/A	1-10%	No	N/A	No	Primary	Absent	Chalcedony	brown
LA135517	853	242	188	3	Flake	Proximal	7.93				0.08	2	0%	No	Flat	No	Pressure	Absent	Chert	gray/white
LA135517	854	242	190	2	Angular	N/A	22.07				1.06	N/A	0%	No	N/A	No	Secondary	Absent	Quartzite	gray

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Site	DSN	GRID NORTH	GRID EAST	LEVEL	Class	Condition	Max Dimension	Max Length (mm)	Max Width (mm)	Max Thickness (mm)	Weight (g)	Dorsal Scars	Cortex Amount	Platform Lip	Platform Morphology	Platform Abrasion	Flake Type	Edge Modification	Raw Material	Color
					Debris	(angular)														
LA135517	855	242	180	3	Flake	Distal	6.81				0.03	N/A	0%	No	N/A	No	Unk	Absent	Chalcedony	white
LA135517	856	242	180	3	Flake	Proximal	4.54				0.03	2	0%	No	Flat	Yes	Pressure	Absent	Chalcedony	pink
LA135517	857	242	180	2	Flake	Complete		28.21	32.23	7.96	6.21	1	91-99%	No	Flat	No	Primary	Absent	Chert	tan/white
LA135517	858	244	186	5	Angular Debris	N/A (angular)	63.67				77.49	N/A	51-90%	No	N/A	No	Primary	Absent	Quartzite	red
LA135517	913	240	182	5	Flake	Distal	20.26				2.04	2	0%	No	N/A	No	Secondary	Absent	Chert	black
LA135517	904	241.75	182.18	5	Flake	Distal	44.5			11.61	11.5	4	0%	No	N/A	No	Secondary	Absent	Obsidian	ashy obsidian
LA135517	905	242	180	4	Flake	Distal	30.42				8.24	4	11-50%	No	N/A	No	Primary	Absent	Chert	pink/gray
LA135517	906	244	186	7	Flake	Distal	9.92				0.12	2	0%	No	N/A	No	Unk	Absent	Chert	pink
LA135517	907	244	186	7	Angular Debris	N/A (angular)	12.62				2.25	N/A	0%	No	N/A	No	Unk	Absent	Chert	pink/gray
LA135517	908	244	186	7	Flake	Distal	14.86				0.26	2	0%	No	N/A	No	BifaceThinning	Absent	Chert	pink
LA135517	909	244	204	5	Flake	Distal	8.84				0.12	3	0%	No	N/A	No	Pressure	Absent	Chert	pink/white
LA135517	910	246	184	0	Flake	Distal	13.31				1.43	2	0%	No	N/A	No	Secondary	Absent	Chert	pink/gray
LA135517	911	246	184	0	Angular Debris	N/A (angular)	36.74			4.48	5.88	4	0%	No	N/A	No	Secondary	Absent	Chalcedony	clear
LA135517	912	246	180	5	Flake	Medial	18.11				0.32	2	0%	No	N/A	No	BifaceThinning	Absent	Chert	gray
	1574				Flake	Medial	15.37				0.92	5	0%	No	N/A	No	BifaceThinning		Chert	gray/white
LA27900	1569			0	Flake	Complete		17.26	11.87	2.11	0.41	4	0%	Yes	Multifacet	Yes	BifaceThinning		Chalcedony	white
LA27900	1570			0	Flake	Complete		26.6	19.3	5.04	2.55	2	1-10%	No	Flat	No	Primary		Chert	multi
LA27900	1571			0	Angular Debris	N/A (angular)	25.23				3.12		0%	No	N/A	No	Secondary		Obsidian	trans. obs.
LA27900	1572			0	Flake	Distal	16.85				0.78	2	0%	No	N/A	No	BifaceThinning		Chert	gray/white
LA27900	1573			0	Flake	Proximal	24.84				24.4	2	1-10%	No	N/A	No	Primary		Chalcedony	white/clear
LA27900	1575			0	Flake	Proximal	15.8				0.66	5+	0%	No	Fragmented/Crushed	Yes	BifaceThinning		Chalcedony	tan/white
LA27900	1576			0	Angular Debris	N/A (angular)	19.88				3.49		0%	No	N/A	No	Secondary		Chalcedony	multi
LA27900	1577			0	Flake	Distal	31.17				6.17	5+	0%	No	N/A	No	Secondary		Obsidian	black
LA27900	1578			0	Flake	Proximal	29.34				2.48	3	1-10%	No	N/A	No	Primary		Chert	white
LA27900	1579			0	Flake	Complete		18.69	15.34	3	0.97	4	0%	No	Bifacet	Yes	BifaceThinning		Chert	white

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LA27900	1048	100	192	1	Flake	Distal	9.4				0.17	N/A	0%	No	N/A	No	Unk		Chalcedony	clear/red-orange
LA27900	1049	100	192	1	Flake	Lateral	7.07				0.05	2	0%	No	N/A	No	Unk		Obsidian	trans. obs.
LA27900	1050	108	98	1	Flake	Distal	6.11				0.04	2	0%	No	N/A	No	Pressure		Chalcedony	clear
LA27900	1051	108	98	1	Flake	Lateral	7.29				0.04	3	0%	No	N/A	No	Unk		Obsidian	trans. obs.
LA27900	1052	108	98	1	Flake	Lateral	7.6				0.06	2	0%	No	N/A	No	Unk		Obsidian	trans. obs.
LA27900	1053	108	98	1	Flake	Medial	7.55				0.04	2	0%	No	N/A	No	Pressure		Obsidian	trans. obs.
LA27900	1054	108	98	2	Flake	Distal	5.35				0.01	2	0%	No	N/A	No	Unk		Obsidian	trans. obs.
LA27900	1540	114	102	1	Flake	Medial	7.74				0.08	4	0%	No	N/A	No	Unk		Obsidian	trans. obs.
LA27900	1541	114	102	1	Flake	Proximal	18.67				0.79	5+	0%	No	Bifacet	Yes	BifaceThinning		Obsidian	ashy obsidian
LA27900	1542	114	102	1	Angular Debris	N/A (angular)	7.9				0.04	N/A	0%	No	N/A	No	Unk		Obsidian	trans. obs.
LA27900	1543	114	102	2	Flake	Distal	6.27				0.02	2	0%	No	N/A	No	Pressure		Obsidian	trans. obs.
LA27900	1544	114	102	2	Flake	Proximal	7.01				0.05	3	0%	No	Fragmented/Crushed	Yes	Primary		Obsidian	trans. obs.
LA27900	1545	114	102	2	Flake	Medial	8.52				0.07	3	0%	No	N/A	No	Pressure		Obsidian	trans. obs.
LA27900	1546	114	102	2	Flake	Lateral	16.45				0.62	1	0%	No	N/A	No	Secondary		Obsidian	ashy obsidian
LA27900	1547	114	102	2	Flake	Medial	9.97				0.21	1	0%	No	N/A	No	BifaceThinning		Chert	tan
LA27900	1548	114	102	2	Flake	Lateral	7.65				0.25	N/A	0%	No	N/A	No	Unk		Chert	tan
LA27900	1549	114	102	2	Angular Debris	N/A (angular)	11.67				0.19		0%	No	N/A	No	Unk		Chalcedony	clear/red-orange
LA27900	1550	114	102	3	Flake	Lateral	9.69				0.11	N/A	0%	No	N/A	No	Unk		Obsidian	ashy obsidian
LA27900	1551	114	102	3	Flake	Distal	11.03				0.09	5+	0%	No	N/A	No	BifaceThinning		Obsidian	ashy obsidian
LA27900	1552	114	102	3	Flake	Medial	12.11				0.12	3	0%	No	N/A	No	Pressure		Obsidian	ashy obsidian
LA27900	1553	114	102	3	Flake	Medial	11.19				0.17	4	0%	No	N/A	No	BifaceThinning		Obsidian	trans. obs.
LA27900	1554	114	102	3	Flake	Distal	16.13				0.48	1	0%	No	N/A	No	Secondary		Mud/silt stone	tan
LA27900	1555	114	102	3	Flake	Lateral	10.77				0.12	1	0%	No	N/A	No	Unk		Mud/silt stone	tan
LA27900	1556	114	102	3	Angular Debris	N/A (angular)	16.55				0.49	2	0%	No	N/A	No	Secondary		Chert	white
LA27900	1557	114	102	3	Flake	Distal	9.38				0.17	1	0%	No	N/A	No	BifaceThinning		Chert	white
LA27900	1558	114	102	3	Flake	Medial	6.86				0.07	2	0%	No	N/A	No	Pressure		Chert	brown

El Segundo Debitage																				
Site	DSN	GRID NORTH	GRID EAST	LEVEL	Class	Condition	Max Dimension	Max Length (mm)	Max Width (mm)	Max Thickness (mm)	Weight (g)	Dorsal Scars	Cortex Amount	Platform Lip	Platform Morphology	Platform Abrasion	Flake Type	Edge Modification	Raw Material	Color
LA27900	1559	114	102	3	Flake	Complete		20.31	8.42	4.47	0.45	1	0%	No	Bifacet	Yes	Secondary		Mud/silt stone	pink
LA27900	1560	114	102	3	Flake	Lateral	27.58				1.53	3	0%	No	N/A	No	Secondary		Mud/silt stone	tan
LA27900	1561	114	102	3	Flake	Distal	22.65				4.23	3	0%	No	N/A	No	Secondary		Mud/silt stone	gray
LA27900	1562	114	102	3	Flake	Lateral	26.54				5.36	3	0%	No	N/A	No	Secondary		Chert	tan
LA27900	1563	114	102	3	Flake	Lateral	24.72				4.01	4	0%	No	N/A	No	Secondary		Chert	tan
LA27900	1564	114	102	3	Flake	Distal	16.83				0.51	N/A	0%	No	N/A	No	BifaceThinning		Chert	tan
LA27900	1565	114	102	3	Flake	Lateral	17.08				0.56	N/A	0%	No	N/A	No	Secondary		Mud/silt stone	tan
LA27900	1566	114	102	3	Flake	Complete		15.62	15.82	3.31	0.7	3	0%	No	Multifacet	Yes	BifaceThinning		Obsidian	trans. obs.
LA27900	1567	114	102	3	Flake	Distal	20.86				0.83	2	0%	No	N/A	No	BifaceThinning		Obsidian	trans. obs.
LA27900	1568	114	102	3	Flake	Distal	37.17				10.62	5+	0%	No	N/A	No	Secondary		Chert	pink/white
LA27900	1302	116	102	1	Flake	Distal	6.08				0.04	N/A	0%	No	N/A	No	Unk		Obsidian	trans. obs.
LA27900	1303	116	102	1	Flake	Medial	20.55				1.34	2	0%	No	N/A	No	Secondary		Obsidian	trans. obs.
LA27900	1304	116	102	2	Flake	Lateral	13.79				0.93	4	0%	No	N/A	No	Secondary		Mud/silt stone	tan
LA27900	1305	116	102	2	Flake	Lateral	16.84				0.47	2	0%	No	N/A	No	Secondary		Mud/silt stone	tan
LA27900	1306	116	102	2	Flake	Distal	18.97				0.69	3	0%	No	N/A	No	BifaceThinning		Chert	tan/white
LA27900	1307	116	102	2	Flake	Medial	27.42				6.95	5	0%	No	N/A	No	Secondary		Chert	tan/white
LA27900	1308	116	102	2	Flake	Lateral	7.86				0.06	N/A	0%	No	N/A	No	Unk		Obsidian	trans. obs.
LA27900	1309	116	102	2	Flake	Complete		11.58	14.53	2.63	0.43	4	0%	No	Flat	Yes	BifaceThinning		Chalcedony	clear/red-orange
LA27900	1134	116	102	3	Flake	Distal	9.33				0.05	3	0%	No	N/A	No	Unk		Obsidian	trans. obs.
LA27900	1135	116	102	3	Flake	Complete		7.24	6.22	0.98	0.04	3	0%	No	Fragmented/Crushed	Yes	Pressure		Obsidian	trans. obs.
LA27900	1136	116	102	3	Flake	Proximal	10.47				0.12	2	0%	No	Bifacet	Yes	BifaceThinning		Obsidian	trans. obs.
LA27900	1137	116	102	3	Angular Debris	N/A (angular)	9.76				0.1	N/A	0%	No	N/A	No	Unk		Obsidian	trans. obs.
LA27900	1138	116	102	3	Flake	Distal	8.97				0.1	3	0%	No	N/A	No	Pressure		Obsidian	trans. obs.
LA27900	1139	116	102	3	Flake	Distal	8.04				0.11	1	0%	No	N/A	No	Unk		Chert	tan

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Site	DSN	GRID NORTH	GRID EAST	LEVEL	Class	Condition	Max Dimension	Max Length (mm)	Max Width (mm)	Max Thickness (mm)	Weight (g)	Dorsal Scars	Cortex Amount	Platform Lip	Platform Morphology	Platform Abrasion	Flake Type	Edge Modification	Raw Material	Color
LA27900	1140	116	102	3	Flake	Lateral	11.84				0.19	N/A	0%	No	N/A	No	Unk		Chert	tan
LA27900	1141	116	102	3	Flake	Medial	8.5				0.06	3	0%	No	N/A	No	Pressure		Chert	tan
LA27900	1142	116	102	3	Flake	Distal	7.97				0.03	2	0%	No	N/A	No	Unk		Obsidian	trans. obs.
LA27900	1143	116	102	3	Flake	Lateral	8.86				0.06	3	0%	No	N/A	No	Unk		Obsidian	trans. obs.
LA27900	1144	116	102	3	Flake	Lateral	6.97				0.05	N/A	0%	No	N/A	No	Unk		Chalcedony	white/clear
LA27900	1145	116	102	3	Flake	Medial	17.66				0.62	1	0%	No	N/A	No	Secondary		Mud/silt stone	tan
LA27900	1146	116	102	3	Flake	Lateral	14.65				0.77	N/A	0%	No	N/A	No	Secondary		Mud/silt stone	tan
LA27900	1147	116	102	3	Angular Debris	N/A (angular)	26.65				3.13	N/A	0%	No	N/A	No	Secondary		Mud/silt stone	tan
LA27900	1148	116	102	3	Flake	Complete		24.2	15.57	8.19	1.99	4	0%	No	Multifacet	No	Secondary		Mud/silt stone	pink/gray
LA27900	1149	116	102	3	Flake	Lateral	25.47				2.93	3	0%	No	N/A	No	Secondary		Mud/silt stone	pink/gray
LA27900	1150	116	102	3	Angular Debris	N/A (angular)	25.79				1.37	N/A	0%	No	N/A	No	Secondary		Mud/silt stone	tan
LA27900	1151	116	102	3	Angular Debris	N/A (angular)	12.83				0.44	N/A	0%	No	N/A	No	Unk		Mud/silt stone	gray
LA27900	1152	116	102	3	Flake	Complete		19.28	13.74	2.71	0.64	5	0%	Yes	Flat	No	BifaceThinning		Chert	tan
LA27900	1153	116	102	3	Flake	Medial	19.76				0.72	4	0%	No	N/A	No	BifaceThinning		Chert	tan
LA27900	1233	118	102	1	Flake	Medial	7.67				0.04	3	0%	No	N/A	No	Pressure		Obsidian	trans. obs.
LA27900	1234	118	102	1	Flake	Proximal	20.31				1	5+	0%	No	Fragmented/Crushed	Yes	BifaceThinning		Obsidian	trans. obs.
LA27900	1235	118	102	2	Angular Debris	N/A (angular)	11.02				0.22	N/A	1-10%	No	N/A	No	Unk		Obsidian	ashy obsidian
LA27900	1236	118	102	2	Flake	Medial	9.87				0.17	2	0%	No	N/A	No	BifaceThinning		Obsidian	ashy obsidian
LA27900	1237	118	102	2	Flake	Medial	5.52				0.02	2	0%	No	N/A	No	Pressure		Obsidian	trans. obs.
LA27900	1238	118	102	2	Flake	Proximal	13.81				0.51	5+	0%	No	Bifacet	Yes	BifaceThinning		Obsidian	trans. obs.
LA27900	1239	118	102	2	Angular Debris	N/A (angular)	12.9				0.33	N/A	0%	No	N/A	No	Secondary		Mud/silt stone	tan
LA27900	1240	118	102	2	Flake	Medial	10.6				0.24	1	0%	No	N/A	No	BifaceThinning		Mud/silt stone	gray

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Site	DSN	GRID NORTH	GRID EAST	LEVEL	Class	Condition	Max Dimension	Max Length (mm)	Max Width (mm)	Max Thickness (mm)	Weight (g)	Dorsal Scars	Cortex Amount	Platform Lip	Platform Morphology	Platform Abrasion	Flake Type	Edge Modification	Raw Material	Color
LA27900	1241	118	102	2	Angular Debris	N/A (angular)	13.59				0.78	N/A	0%	No	N/A	No	Secondary		Mud/silt stone	gray
LA27900	1242	118	102	2	Flake	Medial	11.41				0.17	2	0%	No	N/A	No	Unk		Chert	tan
LA27900	1243	118	102	2	Flake	Medial	10.72				0.19	3	0%	No	N/A	No	BifaceThinning		Chert	tan
LA27900	1244	118	102	2	Flake	Proximal	16.73				0.81	5+	0%	No	Flat	Yes	BifaceThinning		Chert	tan
LA27900	1245	118	102	2	Flake	Proximal	15.58				0.62	4	0%	No	Fragmented/Crushed	Yes	BifaceThinning		Chert	white
LA27900	1246	118	102	2	Flake	Lateral	20.14				0.77	5	0%	No	N/A	No	BifaceThinning		Chert	white
LA27900	1247	118	102	2	Flake	Proximal	14.59				0.55	4	0%	No	Multifacet	No	BifaceThinning		Chert	white
LA27900	1248	118	102	2	Flake	Lateral	22.33				2.05	3	0%	No	N/A	No	Secondary		Chert	pink/gray
LA27900	1249	118	102	2	Flake	Complete		15.63	19.88	2.1	0.65	5+	0%	No	Bifacet	Yes	BifaceThinning		Chalcedony	clear/black
LA27900	1250	118	102	2	Flake	Lateral	13.21				0.53	3	0%	No	N/A	No	Unk		Chalcedony	clear
LA27900	1251	118	102	3	Flake	Medial	7.91				0.04	N/A	0%	No	N/A	No	Pressure		Mud/silt stone	tan
LA27900	1252	118	102	3	Flake	Medial	7.15				0.03	1	0%	No	N/A	No	Pressure		Mud/silt stone	tan
LA27900	1253	118	102	3	Angular Debris	N/A (angular)	7.89				0.08	N/A	0%	No	N/A	No	Unk		Obsidian	black
LA27900	1254	118	102	3	Flake	Proximal	11.66				0.19	5	0%	No	Fragmented/Crushed	Yes	BifaceThinning		Obsidian	ashy obsidian
LA27900	1255	118	102	3	Flake	Proximal	11.37				0.71	4	0%	No	Fragmented/Crushed	Yes	BifaceThinning		Obsidian	trans. obs.
LA27900	1256	118	102	3	Flake	Distal	8.83				0.15	3	0%	No	N/A	No	BifaceThinning		Obsidian	trans. obs.
LA27900	1257	118	102	3	Flake	Distal	15.5				0.56	5+	0%	No	N/A	No	BifaceThinning		Obsidian	trans. obs.
LA27900	1258	118	102	3	Flake	Proximal	12.39				0.19	5+	0%	No	Bifacet	Yes	BifaceThinning		Obsidian	trans. obs.
LA27900	1259	118	102	3	Flake	Medial	17.59				0.48	4	0%	No	N/A	No	BifaceThinning		Obsidian	ashy obsidian
LA27900	1260	118	102	3	Flake	Medial	9.06				0.07	3	0%	No	N/A	No	Unk		Obsidian	ashy obsidian
LA27900	1261	118	102	3	Flake	Distal	9.21				0.13	2	0%	No	N/A	No	BifaceThinning		Mud/silt stone	gray
LA27900	1262	118	102	3	Flake	Medial	8.13				0.06	N/A	0%	No	N/A	No	Unk		Mud/silt stone	gray
LA27900	1263	118	102	3	Flake	Medial	17.82				0.29	3	0%	No	N/A	No	BifaceThinning		Chert	white
LA27900	1264	118	102	3	Flake	Proximal	22.5				0.98	3	0%	Yes	Flat	Yes	BifaceThinning		Chert	white
LA27900	1348	118	102	1	Flake	Complete		9.62	9.1	1.84	0.18	5	0%	Yes	Flat	Yes	BifaceThinning		Chert	tan
LA27900	1349	118	102	1	Flake	Lateral	8.04				0.14	2	0%	No	N/A	No	Unk		Obsidian	ashy obsidian

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Site	DSN	GRID NORTH	GRID EAST	LEVEL	Class	Condition	Max Dimension	Max Length (mm)	Max Width (mm)	Max Thickness (mm)	Weight (g)	Dorsal Scars	Cortex Amount	Platform Lip	Platform Morphology	Platform Abrasion	Flake Type	Edge Modification	Raw Material	Color
LA27900	1350	118	102	1	Flake	Complete		13.61	12.57	1.97	0.29	5+	0%	No	Multifacet	Yes	BifaceThinning		Obsidian	trans. obs.
LA27900	1351	118	102	2	Flake	Lateral	19.56				0.85	4	0%	No	N/A	No	BifaceThinning		Obsidian	trans. obs.
LA27900	1352	118	102	6	Flake	Lateral	13.14				0.14	2	0%	No	N/A	No	Unk		Obsidian	trans. obs.
LA27900	1353	118	102	6	Flake	Medial	6.85				0.06	N/A	0%	No	N/A	No	Unk		Obsidian	trans. obs.
LA27900	1354	118	102	6	Flake	Medial	8.03				0.12	2	0%	No	N/A	No	Pressure		Obsidian	trans. obs.
LA27900	1355	118	102	6	Flake	Distal	11.82				0.16	1	0%	No	N/A	No	BifaceThinning		Obsidian	ashy obsidian
LA27900	1356	118	102	6	Flake	Proximal	10.67				0.23	3	0%	No	Fragmented/Crushed	Yes	BifaceThinning		Obsidian	ashy obsidian
LA27900	1357	118	102	6	Angular Debris	N/A (angular)	11.36				0.26	N/A	0%	No	N/A	No	Unk		Mud/silt stone	light blue
LA27900	1216	118	102	2	Angular Debris	N/A (angular)	20.96				0.8	N/A	0%	No	N/A	No	Secondary		Mud/silt stone	pink/gray
LA27900	1217	118	102	2	Angular Debris	N/A (angular)	15.59				0.51	N/A	0%	No	N/A	No	Secondary		Obsidian	trans. obs.
LA27900	1218	118	102	2	Flake	Lateral	8.09				0.04	2	0%	No	N/A	No	Unk		Obsidian	ashy obsidian
LA27900	1219	118	102	2	Flake	Lateral	7.51				0.1	4	0%	No	N/A	No	Unk		Obsidian	ashy obsidian
LA27900	1220	118	102	2	Flake	Medial	9.3				0.09	3	0%	No	N/A	No	BifaceThinning		Obsidian	ashy obsidian
LA27900	1221	118	102	2	Flake	Proximal	17.06				0.45	5+	0%	No	Fragmented/Crushed	Yes	BifaceThinning		Obsidian	ashy obsidian
LA27900	1222	118	102	2	Flake	Lateral	16.92				0.49	3	0%	No	N/A	No	BifaceThinning		Obsidian	ashy obsidian
LA27900	1223	118	102	2	Flake	Complete		13.77	12.6	1.78	0.23	5	0%	Yes	Bifacet	Yes	BifaceThinning		Obsidian	trans. obs.
LA27900	1224	118	102	2	Flake	Proximal	19.65				0.72	5+	0%	No	Fragmented/Crushed	Yes	BifaceThinning		Obsidian	ashy obsidian
LA27900	1225	118	102	2	Flake	Medial	17.32				0.47	4	0%	No	N/A	No	BifaceThinning		Chert	white
LA27900	1226	118	102	3	Flake	Complete		6.72	5.9	1	0.04	1	0%	No	Fragmented/Crushed	Yes	Pressure		Obsidian	trans. obs.
LA27900	1227	118	102	3	Flake	Proximal	8.11				0.09	4	0%	Yes	Bifacet	Yes	BifaceThinning		Obsidian	trans. obs.
LA27900	1228	118	102	3	Flake	Medial	8.2				0.08	2	0%	No	N/A	No	Pressure		Obsidian	trans. obs.
LA27900	1229	118	102	3	Flake	Complete		8.62	7.06	1.09	0.07	4	0%	No	Multifacet	Yes	Pressure		Obsidian	trans. obs.
LA27900	1230	118	102	3	Flake	Lateral	13.45				0.28	5+	0%	No	N/A	No	BifaceThinning		Chert	pink/gray
LA27900	1231	118	102	3	Flake	Medial	15.17			0.49	0.49	3	0%	No	N/A	No	BifaceThinning		Chert	white
LA27900	1232	118	102	3	Flake	Distal	20.64				0.53	2	0%	No	N/A	No	Secondary		Chert	tan
LA27900	1274	118	102	2	Flake	Proximal	12.01				0.17	1	0%	No	Flat	Yes	BifaceThinning		Mud/silt stone	gray
LA27900	1275	118	102	2	Flake	Distal	15.67				0.38	2	0%	No	N/A	No	Secondary		Mud/silt	gray

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Site	DSN	GRID NORTH	GRID EAST	LEVEL	Class	Condition	Max Dimension	Max Length (mm)	Max Width (mm)	Max Thickness (mm)	Weight (g)	Dorsal Scars	Cortex Amount	Platform Lip	Platform Morphology	Platform Abrasion	Flake Type	Edge Modification	Raw Material	Color
																			stone	
LA27900	1276	118	102	2	Flake	Lateral	11.51				0.28	2	0%	No	N/A	No	BifaceThinning		Mud/silt stone	gray
LA27900	1277	118	102	2	Flake	Distal	9.69				0.26	4	0%	No	N/A	No	Unk		Chert	white
LA27900	1278	118	102	2	Flake	Medial	15.2				0.58	5+	0%	No	N/A	No	BifaceThinning		Obsidian	trans. obs.
LA27900	1279	118	102	2	Flake	Distal	17.68				0.82	4	0%	No	N/A	No	BifaceThinning		Obsidian	trans. obs.
LA27900	1280	118	102	2	Flake	Distal	7.99				0.09	3	0%	No	N/A	No	Pressure		Obsidian	trans. obs.
LA27900	1281	118	102	2	Flake	Lateral	13.66				0.17	2	0%	No	N/A	No	Unk		Obsidian	trans. obs.
LA27900	1282	118	102	2	Flake	Proximal	13.49				0.27	5+	0%	No	Bifacet	Yes	BifaceThinning		Obsidian	ashy obsidian
LA27900	1283	118	102	2	Flake	Medial	17.42				0.57	3	0%	No	N/A	No	BifaceThinning		Obsidian	trans. obs.
LA27900	1284	118	102	3	Flake	Distal	9.86				0.21	2	0%	No	N/A	No	Pressure		Obsidian	trans. obs.
LA27900	1285	118	102	3	Flake	Complete		6.3	6.26	1.2	0.05	1	0%	No	Flat	Yes	Pressure		Obsidian	trans. obs.
LA27900	1286	118	102	3	Flake	Proximal	9.84				0.14	2	0%	No	Flat	Yes	BifaceThinning		Chalcedony	white/clear
LA27900	1287	118	102	3	Flake	Distal	11.39				0.21	2	0%	No	N/A	No	BifaceThinning		Chert	tan
LA27900	1201	122	98	1	Flake	Proximal	8.98				0.16	4	0%	Yes	Multifacet	Yes	BifaceThinning		Obsidian	trans. obs.
LA27900	1202	122	98	1	Flake	Medial	7.61				0.06	2	0%	No	N/A	No	Unk		Chert	tan
LA27900	1203	122	98	1	Flake	Proximal	9.35				0.1	3	0%	No	Bifacet	Yes	Pressure		Obsidian	trans. obs.
LA27900	1204	122	98	1	Flake	Medial	14.04				0.23	3	0%	No	N/A	No	Unk		Obsidian	trans. obs.
LA27900	1205	122	98	1	Flake	Complete		20.02	14.33	4.15	1.16	5+	0%	No	Flat	Yes	BifaceThinning		Chert	black
LA27900	1206	122	98	3	Flake	Medial	10.03				0.1	3	0%	No	N/A	No	Unk		Obsidian	trans. obs.
LA27900	1207	122	98	4	Flake	Proximal	9.89				0.12	3	0%	No	Flat	Yes	BifaceThinning		Obsidian	trans. obs.
LA27900	1392	124	102	2	Flake	Proximal	10.97				0.24	3	0%	No	Fragmented/Crushed	Yes	BifaceThinning		Obsidian	ashy obsidian
LA27900	1393	124	102	2	Flake	Medial	6.29				0.06	3	0%	No	N/A	No	Unk		Obsidian	trans. obs.
LA27900	1394	124	102	2	Flake	Distal	16.99				0.41	3	0%	No	N/A	No	BifaceThinning		Obsidian	trans. obs.
LA27900	1395	124	102	3	Flake	Complete		22.75	15.02	4.8	0.96	3	0%	Yes	Bifacet	No	BifaceThinning		Quartzite	gray
LA27900	1396	124	102	2	Flake	Proximal	8.93				0.09	1	0%	No	Bifacet	Yes	Pressure		Obsidian	trans. obs.
LA27900	1397	124	102	3	Flake	Complete		6.31	7.24	1.01	0.04	3	0%	No	Fragmented/Crushed	Yes	Pressure		Obsidian	trans. obs.
LA27900	1198	124	112	1	Flake	Lateral	6.6				0.02	1	0%	No	N/A	No	Unk		Obsidian	trans. obs.
LA27900	1199	124	112	2	Flake	Medial	5.73				0.05	2	0%	No	N/A	No	Pressure		Obsidian	trans. obs.
LA27900	1200	124	112	2	Flake	Complete		7.54	5.24	0.98	0.04	3	0%	No	Flat	Yes	Pressure		Obsidian	trans. obs.

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Site	DSN	GRID NORTH	GRID EAST	LEVEL	Class	Condition	Max Dimension	Max Length (mm)	Max Width (mm)	Max Thickness (mm)	Weight (g)	Dorsal Scars	Cortex Amount	Platform Lip	Platform Morphology	Platform Abrasion	Flake Type	Edge Modification	Raw Material	Color
LA27900	1265	130	108	1	Flake	Medial	4.5				0.02	2	0%	No	N/A	No	Unk		Obsidian	trans. obs.
LA27900	1266	130	108	1	Flake	Distal	7.4				0.03	N/A	0%	No	N/A	No	Unk		Obsidian	trans. obs.
LA27900	1267	130	108	2	Flake	Medial	6.65				0.11	1	0%	No	N/A	No	Unk		Chert	tan
LA27900	1268	130	108	1	Flake	Lateral	5.74				0.03	N/A	0%	No	N/A	No	Unk		Obsidian	trans. obs.
LA27900	1269	130	108	1	Flake	Lateral	4.57				0.04	N/A	0%	No	N/A	No	Unk		Obsidian	trans. obs.
LA27900	1270	130	108	2	Flake	Complete		8.04	5.85	1.13	0.05	3	0%	Yes	Multifacet	Yes	Pressure		Obsidian	trans. obs.
LA27900	1271	130	108	2	Flake	Lateral	9.09				0.05	1	0%	No	N/A	No	Unk		Obsidian	trans. obs.
LA27900	1272	130	108	1	Angular Debris	N/A (angular)	17.2				0.64	N/A	0%	No	N/A	No	Secondary		Chalcedony	clear/red-orange
LA27900	1273	130	108	2	Flake	Distal	8.57				0.08	2	0%	No	N/A	No	Secondary		Obsidian	ashy obsidian
LA27900	1078	132	100	1	Flake	Complete		13.71	9.57	1.81	0.19	4	0%	No	Flat	Yes	BifaceThinning		Chert	black/gray
LA27900	1079	132	100	1	Flake	Complete		9.21	9.55	1.57	0.15	5+	0%	No	Fragmented/Crushed	Yes	BifaceThinning		Obsidian	trans. obs.
LA27900	1080	132	100	1	Flake	Proximal	8.55				0.06	5	0%	No	Multifacet	Yes	Pressure		Obsidian	trans. obs.
LA27900	1081	132	100	1	Flake	Lateral	10.35				0.11	3	0%	No	N/A	No	BifaceThinning		Obsidian	ashy obsidian
LA27900	1082	132	100	2	Flake	Proximal	9.82				0.11	3	0%	No	Bifacet	No	Pressure		Obsidian	ashy obsidian
LA27900	1083	132	100	2	Flake	Lateral	9.3				0.14	2	0%	No	N/A	No	Unk		Obsidian	trans. obs.
LA27900	1084	132	100	2	Flake	Medial	9.44				0.11	3	0%	No	N/A	No	BifaceThinning		Obsidian	black
LA27900	1085	132	100	2	Flake	Distal	8.39				0.04	1	0%	No	N/A	No	Unk		Chalcedony	white/clear
LA27900	1086	132	100	2	Flake	Lateral	7.08				0.02	1	0%	No	N/A	No	Unk		Obsidian	trans. obs.
LA27900	1087	132	100	3	Flake	Distal	6.48				0.03	2	0%	No	N/A	No	Pressure		Obsidian	trans. obs.
LA27900	1088	132	100	4	Flake	Complete		4.19	4.18	0.74	0.01	3	0%	No	Flat	Yes	Pressure		Obsidian	ashy obsidian
LA27900	1089	132	100	5	Flake	Distal	8.18				0.06	2	0%	No	N/A	No	Unk		Chert	white
LA27900	1501	126	100	2	Flake	Complete		10.03	9.27	2.61	0.2	3	0%	No	Flat	Yes	Pressure		Obsidian	ashy obsidian
LA27900	1502	126	102	2	Flake	Distal	10.62				0.17	2	0%	No	N/A	No	Unk		Chert	tan
LA27900	1503	126	102	2	Flake	Lateral	14.19				0.19	3	0%	No	N/A	No	BifaceThinning		Obsidian	trans. obs.
LA27900	1504	126	102	2	Flake	Complete		13.84	10.64	2.64	0.44	5	0%	No	Flat	Yes	BifaceThinning		Chert	multi
LA27900	1505	126	102	2	Flake	Distal	11.14				0.11	3	0%	No	N/A	No	BifaceThinning		Obsidian	trans. obs.
LA27900	1506	126	100	3	Flake	Medial	8.41				0.07	2	0%	No	N/A	No	Pressure		Chert	white
LA27900	1507	126	100	3	Flake	Distal	11.35				0.15	2	0%	No	N/A	No	BifaceThinning		Obsidian	trans. obs.
LA27900	1508	126	102	3	Flake	Distal	13.38				0.54	5	0%	No	N/A	No	BifaceThinning		Obsidian	ashy obsidian

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Site	DSN	GRID NORTH	GRID EAST	LEVEL	Class	Condition	Max Dimension	Max Length (mm)	Max Width (mm)	Max Thickness (mm)	Weight (g)	Dorsal Scars	Cortex Amount	Platform Lip	Platform Morphology	Platform Abrasion	Flake Type	Edge Modification	Raw Material	Color
LA27900	1154	114	102	1	Flake	Distal	10.02				0.06	2	0%	No	N/A	No	Unk		Chalcedony	clear
LA27900	1155	114	102	2	Flake	Medial	8.34				0.06	N/A	0%	No	N/A	No	Unk		Chert	tan
LA27900	1156	114	102	2	Flake	Complete		7.51	4.96	0.59	0.02	N/A	0%	No	Multifacet	Yes	Pressure		Chert	pink/white
LA27900	1157	114	102	2	Flake	Distal	10.89				0.24	4	0%	No	N/A	No	BifaceThinning		Obsidian	black
LA27900	1158	114	102	2	Flake	Proximal	9.43				0.19	5	0%	No	Flat	Yes	BifaceThinning		Obsidian	ashy obsidian
LA27900	1159	114	102	2	Flake	Distal	6.26				0.02	2	0%	No	N/A	No	Pressure		Chert	gray/white
LA27900	1160	114	102	2	Flake	Lateral	12.93				0.19	2	0%	No	N/A	No	BifaceThinning		Chert	tan
LA27900	1161	114	102	2	Flake	Proximal	9.4				0.05	3	0%	No	Fragmented/Crushed	Yes	Unk		Obsidian	trans. obs.
LA27900	1162	114	102	2	Flake	Distal	23.77				0.55	3	0%	No	N/A	No	Secondary		Chert	tan
LA27900	1163	116	102	1	Flake	Proximal	8.71				0.07	4	0%	No	Bifacet	Yes	Pressure		Obsidian	ashy obsidian
LA27900	1164	116	102	1	Flake	Lateral	9.16				0.12	2	0%	No	N/A	No	Pressure		Obsidian	trans. obs.
LA27900	1165	116	102	1	Flake	Distal	12.11				0.17	1	0%	No	N/A	No	Unk		Obsidian	trans. obs.
LA27900	1166	116	102	1	Flake	Complete		9.03	4.64	2.22	0.09	3	0%	Yes	Bifacet	No	BifaceThinning		Chert	red
LA27900	1167	116	102	1	Flake	Medial	8.38				0.11	1	0%	No	N/A	No	Pressure		Chert	gray
LA27900	1168	116	102	1	Flake	Distal	18.32				1.02	4	0%	No	N/A	No	Secondary		Chert	tan
LA27900	1169	116	102	1	Flake	Complete		17.11	10.72	1.85	0.28	5+	0%	No	Flat	Yes	BifaceThinning		Chert	black
LA27900	1170	116	102	1	Flake	Distal	22.49				2.11	5	0%	No	N/A	No	Secondary		Obsidian	black
LA27900	1171	116	102	2	Flake	Distal	13.06				0.29	N/A	0%	No	N/A	No	BifaceThinning		Chert	tan
LA27900	1172	116	102	2	Flake	Lateral	7.37				0.06	N/A	0%	No	N/A	No	Unk		Obsidian	trans. obs.
LA27900	1173	116	102	2	Flake	Distal	7.36				0.06	3	0%	No	N/A	No	Pressure		Obsidian	trans. obs.
LA27900	1174	116	102	2	Flake	Distal	13.96				0.57	3	0%	No	N/A	No	BifaceThinning		Obsidian	trans. obs.
LA27900	1175	116	102	2	Flake	Lateral	4.78				0.01	N/A	0%	No	N/A	No	Unk		Obsidian	trans. obs.
LA27900	1176	116	102	2	Flake	Medial	7.14				0.07	3	0%	No	N/A	No	Unk		Chert	tan/white
LA27900	1177	116	102	2	Angular Debris	N/A (angular)	7.68				0.02	N/A	0%	No	N/A	No	Unk		Obsidian	trans. obs.
LA27900	1178	116	102	2	Flake	Lateral	5				0.02	2	0%	No	N/A	No	Unk		Obsidian	trans. obs.
LA27900	1179	116	102	2	Flake	Lateral	15.71				0.69	2	0%	No	N/A	No	Secondary		Mud/silt stone	tan
LA27900	1180	116	102	2	Flake	Lateral	17.84				1.05	4	0%	No	N/A	No	Secondary		Chert	tan
LA27900	1181	116	102	2	Flake	Medial	18.3				0.7	2	0%	No	N/A	No	Secondary		Chert	tan/white
LA27900	1182	116	102	2	Flake	Proximal	17.88				1	4	0%	No	Fragmented/Crushed	Yes	BifaceThinning		Chert	tan

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Site	DSN	GRID NORTH	GRID EAST	LEVEL	Class	Condition	Max Dimension	Max Length (mm)	Max Width (mm)	Max Thickness (mm)	Weight (g)	Dorsal Scars	Cortex Amount	Platform Lip	Platform Morphology	Platform Abrasion	Flake Type	Edge Modification	Raw Material	Color
LA27900	1183	116	102	2	Flake	Complete		16	17.56	3.67	1.07	5	0%	No	Fragmented/Crushed	Yes	BifaceThinning		Chert	white
LA27900	1184	116	102	2	Flake	Distal	15.48				0.46	4	0%	No	N/A	No	Unk		Obsidian	trans. obs.
LA27900	1185	116	102	2	Flake	Complete		17.8	19.58	3.47	1	5	0%	No	Fragmented/Crushed	Yes	BifaceThinning		Obsidian	ashy obsidian
LA27900	1186	116	102	2	Flake	Distal	10.62				0.29	3	0%	No	N/A	No	BifaceThinning		Chalcedony	clear/red-orange
LA27900	1187	116	102	3	Flake	Lateral	8.95				0.03	3	0%	No	N/A	No	Unk		Obsidian	ashy obsidian
LA27900	1188	116	102	3	Flake	Proximal	9.42				0.03	2	0%	No	Fragmented/Crushed	Yes	BifaceThinning		Obsidian	ashy obsidian
LA27900	1189	116	102	3	Flake	Complete		8.21	5.98	0.68	0.03	3	0%	No	Flat	Yes	Pressure		Obsidian	ashy obsidian
LA27900	1190	116	102	3	Flake	Proximal	8.23				0.09	2	0%	No	Fragmented/Crushed	Yes	Unk		Obsidian	ashy obsidian
LA27900	1191	116	102	3	Flake	Medial	10.38				0.19	5	0%	No	N/A	No	BifaceThinning		Obsidian	ashy obsidian
LA27900	1192	116	102	3	Flake	Complete		15.3	11.07	1.68	0.28	5+	0%	No	Multifacet	Yes	BifaceThinning		Obsidian	ashy obsidian
LA27900	1193	116	102	3	Flake	Distal	23.57				1.48	5+	0%	No	N/A	No	BifaceThinning		Obsidian	ashy obsidian
LA27900	1194	116	102	3	Flake	Lateral	10.33				0.19	2	0%	No	N/A	No	Secondary		Chert	gray
LA27900	1195	116	102	3	Flake	Proximal	6.57				0.03	1	0%	No	Flat	Yes	Pressure		Obsidian	trans. obs.
LA27900	1196	116	102	3	Flake	Proximal	15.07				0.71	5+	0%	No	Flat	Yes	BifaceThinning		Obsidian	ashy obsidian
LA27900	1197	116	102	3	Flake	Distal	29.87				2.01	4	0%	No	N/A	No	BifaceThinning		Chert	gray
LA27900	1398	118	100	1	Flake	Proximal	9.08				0.18	4	0%	No	Multifacet	Yes	BifaceThinning		Obsidian	trans. obs.
LA27900	1399	118	100	1	Flake	Lateral	9.96				0.12	2	0%	No	N/A	No	Pressure		Obsidian	trans. obs.
LA27900	1400	118	100	1	Flake	Proximal	11.38				0.23	3	0%	Yes	Bifacet	Yes	BifaceThinning		Obsidian	trans. obs.
LA27900	1401	118	100	1	Angular Debris	N/A (angular)	17.7				0.26	N/A	0%	No	N/A	No	Unk		Obsidian	trans. obs.
LA27900	1402	118	100	1	Angular Debris	N/A (angular)	16.68				0.44	N/A	0%	No	N/A	No	Unk		Obsidian	trans. obs.
LA27900	1403	118	100	1	Flake	Distal	11.79				0.15	3	0%	No	N/A	No	BifaceThinning		Chert	white
LA27900	1404	118	100	1	Flake	Medial	15.52				0.61	3	0%	No	N/A	No	Secondary		Obsidian	ashy obsidian
LA27900	1405	118	100	1	Angular Debris	N/A (angular)	7.12				0.05	N/A	0%	No	N/A	No	Unk		Obsidian	ashy obsidian
LA27900	1406	118	100	1	Flake	Proximal	17.49				0.93	2	0%	No	Flat	No	Secondary		Obsidian	trans. obs.
LA27900	1407	118	100	2	Flake	Distal	6.29				0.03	N/A	0%	No	N/A	No	Unk		Chert	white
LA27900	1408	118	100	2	Flake	Medial	6.43				0.04	N/A	0%	No	N/A	No	Unk		Chert	white
LA27900	1409	118	100	2	Flake	Medial	6.83				0.03	N/A	0%	No	N/A	No	Unk		Chert	white

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Site	DSN	GRID NORTH	GRID EAST	LEVEL	Class	Condition	Max Dimension	Max Length (mm)	Max Width (mm)	Max Thickness (mm)	Weight (g)	Dorsal Scars	Cortex Amount	Platform Lip	Platform Morphology	Platform Abrasion	Flake Type	Edge Modification	Raw Material	Color
LA27900	1410	118	100	2	Flake	Lateral	13.64				0.22	1	0%	No	N/A	No	Unk		Chert	white
LA27900	1411	118	100	2	Flake	Distal	23.55				0.96	3	0%	No	N/A	No	Secondary		Chert	white
LA27900	1412	118	100	2	Flake	Lateral	4.62				0.02	2	0%	No	N/A	No	Unk		Obsidian	trans. obs.
LA27900	1413	118	100	2	Angular Debris	N/A (angular)	6.75				0.05	N/A	0%	No	N/A	No	Unk		Obsidian	trans. obs.
LA27900	1414	118	100	2	Flake	Medial	10.12				0.08	2	0%	No	N/A	No	Unk		Obsidian	trans. obs.
LA27900	1415	118	100	2	Angular Debris	N/A (angular)	9.67				0.1	N/A	0%	No	N/A	No	Unk		Obsidian	trans. obs.
LA27900	1416	118	100	2	Flake	Proximal	10.31				0.13	4	0%	Yes	Fragmented/Crushed	Yes	BifaceThinning		Obsidian	trans. obs.
LA27900	1417	118	100	2	Angular Debris	N/A (angular)	6.83				0.1	N/A	0%	No	N/A	No	Unk		Obsidian	trans. obs.
LA27900	1418	118	100	2	Flake	Proximal	12.76				0.19	5	0%	No	Multifacet	No	BifaceThinning		Obsidian	ashy obsidian
LA27900	1419	118	100	2	Flake	Lateral	14.83				0.29	4	0%	No	N/A	No	BifaceThinning		Obsidian	ashy obsidian
LA27900	1420	118	100	2	Flake	Proximal	13.44				0.29	2	0%	No	Multifacet	Yes	BifaceThinning		Obsidian	trans. obs.
LA27900	1421	118	100	2	Flake	Proximal	14.95				0.21	5	0%	No	Fragmented/Crushed	Yes	BifaceThinning		Obsidian	trans. obs.
LA27900	1422	118	100	2	Flake	Medial	15.91				0.2	4	0%	No	N/A	No	BifaceThinning		Obsidian	ashy obsidian
LA27900	1423	118	100	2	Angular Debris	N/A (angular)	5.22				0.01	N/A	0%	No	N/A	No	Unk		Obsidian	trans. obs.
LA27900	1424	118	100	2	Flake	Medial	6.45				0.06	3	0%	No	N/A	No	Unk		Obsidian	trans. obs.
LA27900	1425	118	100	2	Flake	Lateral	4.84				0.02	N/A	0%	No	N/A	No	Unk		Chalcedony	white/clear
LA27900	1426	118	100	2	Flake	Medial	8.16				0.04	N/A	0%	No	N/A	No	Unk		Chert	tan
LA27900	1427	118	100	2	Flake	Proximal	8.49				0.08	2	0%	No	Flat	Yes	Pressure		Chert	tan
LA27900	1428	118	100	2	Flake	Proximal	9.94				0.08	2	0%	No	Flat	Yes	BifaceThinning		Chert	tan/white
LA27900	1429	118	100	3	Flake	Lateral	7.4				0.04	2	0%	No	N/A	No	Unk		Chert	tan/white
LA27900	1430	118	100	3	Angular Debris	N/A (angular)	6.93				0.03	1	0%	No	N/A	No	Unk		Obsidian	trans. obs.
LA27900	1431	118	100	3	Flake	Lateral	6.09				0.03	1	0%	No	N/A	No	Unk		Obsidian	trans. obs.
LA27900	1432	118	100	3	Flake	Lateral	7.73				0.03	N/A	0%	No	N/A	No	Unk		Obsidian	trans. obs.
LA27900	1433	118	100	3	Flake	Medial	8.24				0.04	2	0%	No	N/A	No	Pressure		Obsidian	trans. obs.
LA27900	1434	118	100	3	Flake	Distal	6.97				0.04	2	0%	No	N/A	No	Pressure		Obsidian	trans. obs.
LA27900	1435	118	100	3	Flake	Lateral	6.84				0.03	N/A	0%	No	N/A	No	Unk		Obsidian	trans. obs.

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Site	DSN	GRID NORTH	GRID EAST	LEVEL	Class	Condition	Max Dimension	Max Length (mm)	Max Width (mm)	Max Thickness (mm)	Weight (g)	Dorsal Scars	Cortex Amount	Platform Lip	Platform Morphology	Platform Abrasion	Flake Type	Edge Modification	Raw Material	Color
LA27900	1436	118	100	3	Angular Debris	N/A (angular)	9.25				0.04	N/A	0%	No	N/A	No	Unk		Obsidian	trans. obs.
LA27900	1437	118	100	3	Flake	Medial	9.58				0.08	3	0%	No	N/A	No	Pressure		Obsidian	trans. obs.
LA27900	1438	118	100	3	Flake	Complete		11.3	7.53	1	0.07	5+	0%	No	Multifacet	Yes	Pressure		Obsidian	trans. obs.
LA27900	1439	118	100	3	Flake	Complete		9.63	6.53	1.41	0.08	3	0%	No	Multifacet	Yes	Pressure		Obsidian	black
LA27900	1440	118	100	3	Flake	Proximal	12.75				0.18	3	0%	No	Fragmented/Crushed	Yes	BifaceThinning		Obsidian	trans. obs.
LA27900	1441	118	100	3	Flake	Distal	15.41				0.4	3	0%	No	N/A	No	BifaceThinning		Obsidian	ashy obsidian
LA27900	1442	118	100	3	Flake	Distal	17.83				0.34	2	0%	No	N/A	No	Secondary		Obsidian	trans. obs.
LA27900	1443	118	100	3	Flake	Proximal	22.01				1.1	3	0%	No	Fragmented/Crushed	Yes	Secondary		Obsidian	trans. obs.
LA27900	1444	118	100	1	Flake	Distal	4.59				0.02	1	0%	No	N/A	No	Unk		Obsidian	trans. obs.
LA27900	1445	118	100	1	Flake	Proximal	13.54				0.24	2	0%	No	Fragmented/Crushed	No	Secondary		Obsidian	trans. obs.
LA27900	1446	118	100	1	Flake	Lateral	7.35				0.04	N/A	0%	No	N/A	No	Unk		Obsidian	trans. obs.
LA27900	1447	118	100	2	Flake	Complete		13.18	7.62	1.3	0.13	3	0%	No	Fragmented/Crushed	Yes	Pressure		Obsidian	trans. obs.
LA27900	1448	118	100	2	Flake	Distal	14.29				0.56	2	0%	No	N/A	No	Secondary		Chert	tan
LA27900	1449	118	100	2	Flake	Distal	22.56				1.61	3	0%	No	N/A	No	Secondary		Obsidian	trans. obs.
LA27900	1450	118	100	2	Flake	Distal	25.93				1.07	3	0%	No	N/A	No	Secondary		Chert	purple
LA27900	1451	118	100	2	Flake	Distal	8.51				0.04	2	0%	No	N/A	No	Pressure		Chalcedony	clear/red-orange
LA27900	1452	118	100	2	Flake	Proximal	8.94				0.06	2	0%	No	Bifacet	Yes	Pressure		Obsidian	trans. obs.
LA27900	1453	118	100	2	Flake	Medial	15.53				0.48	3	0%	No	N/A	No	BifaceThinning		Obsidian	trans. obs.
LA27900	1454	118	100	2	Flake	Distal	11.39				0.46	3	0%	No	N/A	No	Secondary		Chert	tan
LA27900	1455	118	100	2	Flake	Lateral	20.23				1.07	2	0%	No	N/A	No	Secondary		Silicified wood	red
LA27900	1456	118	100	3	Angular Debris	N/A (angular)	7.94				0.05	N/A	0%	No	N/A	No	Unk		Obsidian	trans. obs.
LA27900	1457	118	100	3	Angular Debris	N/A (angular)	3.48				0.01	1	0%	No	N/A	No	Unk		Obsidian	trans. obs.
LA27900	1458	118	100	3	Angular Debris	N/A (angular)	6.1				0.02	1	0%	No	N/A	No	Unk		Obsidian	trans. obs.
LA27900	1459	118	100	3	Flake	Distal	4.75				0.01	1	0%	No	N/A	No	Pressure		Obsidian	trans. obs.
LA27900	1460	118	100	3	Flake	Medial	7.03				0.03	2	0%	No	N/A	No	Pressure		Obsidian	trans. obs.
LA27900	1461	118	100	3	Flake	Medial	6.76				0.03	3	0%	No	N/A	No	Pressure		Obsidian	trans. obs.

El Segundo Debitage																					
Site	DSN	GRID NORTH	GRID EAST	LEVEL	Class	Condition	Max Dimension	Max Length (mm)	Max Width (mm)	Max Thickness (mm)	Weight (g)	Dorsal Scars	Cortex Amount	Platform Lip	Platform Morphology	Platform Abrasion	Flake Type	Edge Modification	Raw Material	Color
LA27900	1462	118	100	3	Flake	Medial	7.7				0.03	3	0%	No	N/A	No	Pressure		Obsidian	trans. obs.
LA27900	1463	118	100	3	Flake	Proximal	6.89				0.02	3	0%	No	Bifacet	Yes	Pressure		Obsidian	ashy obsidian
LA27900	1464	118	100	3	Flake	Medial	5.18				0.01	3	0%	No	N/A	No	Pressure		Obsidian	ashy obsidian
LA27900	1465	118	100	3	Flake	Proximal	6.23				0.02	2	0%	No	Fragmented/Crushed	Yes	Pressure		Obsidian	trans. obs.
LA27900	1466	118	100	3	Flake	Medial	8.21				0.03	3	0%	No	N/A	No	Unk		Obsidian	trans. obs.
LA27900	1467	118	100	3	Flake	Lateral	7.41				0.03	2	0%	No	N/A	No	Unk		Obsidian	trans. obs.
LA27900	1468	118	100	3	Flake	Medial	6.76				0.03	2	0%	No	N/A	No	Pressure		Obsidian	trans. obs.
LA27900	1469	118	100	3	Flake	Proximal	8.6				0.05	3	0%	No	Multifacet	Yes	Pressure		Obsidian	trans. obs.
LA27900	1470	118	100	3	Flake	Medial	6.35				0.04	2	0%	No	N/A	No	Unk		Obsidian	trans. obs.
LA27900	1471	118	100	3	Flake	Distal	8.75				0.05	2	0%	No	N/A	No	Pressure		Obsidian	trans. obs.
LA27900	1472	118	100	3	Flake	Proximal	6.38				0.03	2	0%	No	Fragmented/Crushed	No	Pressure		Obsidian	trans. obs.
LA27900	1473	118	100	3	Flake	Complete		6.64	5.31	1.09	0.04	3	0%	No	Bifacet	Yes	Pressure		Obsidian	trans. obs.
LA27900	1474	118	100	3	Flake	Medial	9.5				0.09	N/A	0%	No	N/A	No	Unk		Obsidian	trans. obs.
LA27900	1475	118	100	3	Flake	Complete		7.83	7.23	1.96	0.1	5	0%	No	Multifacet	Yes	Pressure		Obsidian	trans. obs.
LA27900	1476	118	100	3	Flake	Lateral	15.41				0.3	2	0%	No	N/A	No	Secondary		Obsidian	trans. obs.
LA27900	1477	118	100	3	Flake	Medial	9.38				0.17	3	0%	No	N/A	No	Pressure		Obsidian	trans. obs.
LA27900	1478	118	100	3	Flake	Lateral	4.55				0.01	N/A	0%	No	N/A	No	Unk		Chert	tan/white
LA27900	1479	118	100	3	Flake	Lateral	6.68				0.03	2	0%	No	N/A	No	Unk		Chert	tan
LA27900	1480	118	100	3	Flake	Lateral	7.67				0.11	1	0%	No	N/A	No	Unk		Chert	white
LA27900	1481	118	100	3	Flake	Complete		5.58	5.63	1.02	0.03	2	0%	No	Bifacet	Yes	Pressure		Chalcedony	white/clear
LA27900	1482	118	100	3	Flake	Medial	5.06				0.02	N/A	0%	No	N/A	No	Pressure		Chalcedony	white/clear
LA27900	1483	118	100	3	Flake	Complete		9.08	6.99	1.33	0.08	5	0%	No	Multifacet	Yes	Pressure		Obsidian	trans. obs.
LA27900	1484	118	100	3	Angular Debris	N/A (angular)	6.4				0.03	N/A	0%	No	N/A	No	Unk		Chalcedony	white/clear
LA27900	1485	118	100	3	Flake	Distal	20.18				0.5	2	0%	No	N/A	No	Secondary		Mud/silt stone	gray
LA27900	1486	118	104	1	Flake	Distal	12.42				0.3	2	0%	No	N/A	No	BifaceThinning		Chert	tan
LA27900	1487	118	104	2	Flake	Distal	7.45				0.1	1	0%	No	N/A	No	Pressure		Mud/silt stone	tan
LA27900	1488	118	104	2	Flake	Medial	9.4				0.09	2	0%	No	N/A	No	Unk		Obsidian	ashy obsidian
LA27900	1489	118	104	2	Flake	Medial	13.95				0.34	4	0%	No	N/A	No	BifaceThinning		Obsidian	trans. obs.

El Segundo Debitage																				
Site	DSN	GRID NORTH	GRID EAST	LEVEL	Class	Condition	Max Dimension	Max Length (mm)	Max Width (mm)	Max Thickness (mm)	Weight (g)	Dorsal Scars	Cortex Amount	Platform Lip	Platform Morphology	Platform Abrasion	Flake Type	Edge Modification	Raw Material	Color
LA27900	1490	118	104	2	Flake	Medial	23.23				0.83	4	0%	No	N/A	No	BifaceThinning		Chert	white
LA27900	1491	118	104	2	Angular Debris	N/A (angular)	20.5				1.7		0%	No	N/A	No	Secondary		Obsidian	trans. obs.
LA27900	1492	118	104	3	Angular Debris	N/A (angular)	7.15				0.09	N/A	0%	No	N/A	No	Unk		Chert	white
LA27900	1493	118	104	3	Flake	Complete		8.72	7.39	1.16	0.08	3	0%	No	Bifacet	Yes	Pressure		Obsidian	trans. obs.
LA27900	1494	118	104	3	Flake	Proximal	6.76				0.07	3	0%	No	Fragmented/Crushed	Yes	Pressure		Obsidian	trans. obs.
LA27900	1495	118	104	3	Flake	Lateral	13.83				0.41	2	0%	No	N/A	No	Secondary		Obsidian	trans. obs.
LA27900	1496	118	104	3	Flake	Lateral	7.4				0.1	2	0%	No	N/A	No	Pressure		Obsidian	trans. obs.
LA27900	1497	118	104	3	Flake	Proximal	7.91				0.06	3	0%	No	Multifacet	Yes	Pressure		Obsidian	trans. obs.
LA27900	1498	118	104	3	Flake	Proximal	8.25				0.09	4	0%	No	Multifacet	Yes	Pressure		Obsidian	trans. obs.
LA27900	1499	118	104	3	Flake	Proximal	13.53				0.49	3	0%	No	Fragmented/Crushed	No	BifaceThinning		Chert	tan/white
LA27900	1500	118	104	3	Flake	Distal	26.26				2.54	4	0%	No	N/A	No	Secondary		Silicified wood	brown
LA27900	1090	120	104	1	Flake	Distal	17.55				0.78	4	0%	Yes	Multifacet	Yes	BifaceThinning		Chert	tan
LA27900	1091	120	104	1	Flake	Lateral	6.7				0.04	N/A	0%	No	N/A	No	Unk		Chert	tan
LA27900	1092	120	104	1	Flake	Proximal	6.7				0.05	3	0%	No	Bifacet	Yes	Pressure		Obsidian	trans. obs.
LA27900	1093	120	104	2	Flake	Medial	10.15				0.28	N/A	0%	No	N/A	No	Unk		Mud/silt stone	tan
LA27900	1094	120	104	2	Flake	Proximal	8.6				0.11	2	0%	No	Fragmented/Crushed	Yes	Pressure		Obsidian	trans. obs.
LA27900	1095	120	104	2	Flake	Proximal	7.72				0.07	4	0%	No	Flat	Yes	Pressure		Chert	pink/gray
LA27900	1096	120	104	2	Flake	Complete		8.87	4.71	1.1	0.06	4	0%	No	Multifacet	Yes	Pressure		Chalcedony	white/clear
LA27900	1097	120	104	2	Flake	Medial	9.34				0.08	2	0%	No	N/A	No	Unk		Obsidian	trans. obs.
LA27900	1098	122	104	1	Flake	Lateral	8.7				0.05	N/A	0%	No	N/A	No	Unk		Obsidian	trans. obs.
LA27900	1099	122	104	1	Flake	Distal	9.92				0.06	4	0%	No	N/A	No	BifaceThinning		Obsidian	trans. obs.
LA27900	1100	122	104	1	Flake	Proximal	10.77				0.15	5	0%	No	Fragmented/Crushed	Yes	BifaceThinning		Obsidian	trans. obs.
LA27900	1101	122	104	2	Flake	Distal	8.87				0.09	2	0%	No	N/A	No	Pressure		Obsidian	ashy obsidian
LA27900	1102	122	104	2	Flake	Distal	12.06				0.16	4	0%	No	N/A	No	BifaceThinning		Chert	tan
LA27900	1103	122	104	2	Flake	Lateral	7.61				0.04	N/A	0%	No	N/A	No	Unk		Chert	tan
LA27900	1104	122	104	2	Flake	Medial	14.54				0.18	5+	0%	No	N/A	No	BifaceThinning		Obsidian	trans. obs.
LA27900	1105	122	104	2	Angular	N/A	9.58				0.16	N/A	0%	No	N/A	No	Unk		Obsidian	ashy obsidian

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Site	DSN	GRID NORTH	GRID EAST	LEVEL	Class	Condition	Max Dimension	Max Length (mm)	Max Width (mm)	Max Thickness (mm)	Weight (g)	Dorsal Scars	Cortex Amount	Platform Lip	Platform Morphology	Platform Abrasion	Flake Type	Edge Modification	Raw Material	Color
					Debris	(angular)														
LA27900	1106	122	104	2	Flake	Medial	10.24				0.26	5	0%	No	N/A	No	BifaceThinning		Obsidian	trans. obs.
LA27900	1107	122	104	2	Flake	Distal	10.68				0.06	3	0%	No	N/A	No	Pressure		Obsidian	trans. obs.
LA27900	1108	122	104	2	Flake	Distal	6.52				0.05	3	0%	No	N/A	No	Pressure		Obsidian	trans. obs.
LA27900	1109	122	104	2	Flake	Distal	3.48				0.02	3	0%	No	N/A	No	Pressure		Obsidian	trans. obs.
LA27900	1110	122	104	2	Flake	Lateral	5.06				0.03	2	0%	No	N/A	No	Unk		Obsidian	trans. obs.
LA27900	1111	122	104	2	Flake	Proximal	7.71				0.06	3	0%	No	Multifacet	Yes	Pressure		Obsidian	trans. obs.
LA27900	1112	122	104	2	Flake	Proximal	12.09				0.15	4	0%	No	Multifacet	Yes	BifaceThinning		Obsidian	trans. obs.
LA27900	1113	122	104	3	Flake	Distal	13.04				0.21	3	0%	No	N/A	No	BifaceThinning		Chert	gray/white
LA27900	1114	122	104	3	Flake	Lateral	8.55				0.12	1	0%	No	N/A	No	Unk		Obsidian	trans. obs.
LA27900	1115	122	104	3	Flake	Distal	13.01				0.14	5	0%	No	N/A	No	BifaceThinning		Obsidian	black
LA27900	1116	122	104	3	Flake	Medial	9.19				0.12	2	0%	No	N/A	No	Pressure		Obsidian	ashy obsidian
LA27900	1518	124	100	1	Flake	Complete		11.08	9.01	1.6	0.13	4	0%	No	Flat	Yes	Pressure		Obsidian	ashy obsidian
LA27900	1519	124	100	1	Flake	Complete		14.75	7.21	3.05	0.24	3	0%	Yes	Multifacet	Yes	Pressure		Obsidian	trans. obs.
LA27900	1520	124	100	1	Flake	Medial	8.47				0.06	2	0%	No	N/A	No	Pressure		Obsidian	trans. obs.
LA27900	1521	124	100	1	Flake	Medial	9.44				0.08	3	0%	No	N/A	No	Unk		Obsidian	trans. obs.
LA27900	1522	124	100	1	Angular Debris	N/A (angular)	14.01				0.2	N/A	0%	No	N/A	No	Unk		Obsidian	trans. obs.
LA27900	1523	124	100	2	Flake	Distal	9.6				0.07	2	0%	No	N/A	No	Pressure		Chert	tan
LA27900	1524	124	100	2	Flake	Distal	8.13				0.08	3	0%	No	N/A	No	Pressure		Obsidian	trans. obs.
LA27900	1525	124	100	2	Angular Debris	N/A (angular)	9.03				0.14	N/A	0%	No	N/A	No	Unk		Obsidian	trans. obs.
LA27900	1526	124	100	2	Flake	Lateral	9.34				0.1	2	0%	No	N/A	No	Unk		Chert	tan
LA27900	1527	124	100	2	Flake	Distal	8.8				0.07	3	0%	No	N/A	No	Pressure		Obsidian	black
LA27900	1528	124	100	2	Flake	Medial	5.44				0.02	2	0%	No	N/A	No	Pressure		Chert	tan
LA27900	1529	124	100	2	Flake	Lateral	9.23				0.12	N/A	0%	No	N/A	No	Unk		Obsidian	trans. obs.
LA27900	1530	124	100	2	Flake	Medial	11.66				0.13	4	0%	No	N/A	No	BifaceThinning		Obsidian	trans. obs.
LA27900	1531	124	100	3	Flake	Distal	13.75				0.27	2	0%	No	N/A	No	BifaceThinning		Obsidian	trans. obs.
LA27900	1532	124	102	1	Angular Debris	N/A (angular)	7.79				0.07	2	1-10%	No	N/A	No	Primary		Obsidian	trans. obs.
LA27900	1533	124	102	1	Flake	Lateral	10.96				0.16	1	0%	No	N/A	No	Unk		Obsidian	trans. obs.

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Site	DSN	GRID NORTH	GRID EAST	LEVEL	Class	Condition	Max Dimension	Max Length (mm)	Max Width (mm)	Max Thickness (mm)	Weight (g)	Dorsal Scars	Cortex Amount	Platform Lip	Platform Morphology	Platform Abrasion	Flake Type	Edge Modification	Raw Material	Color
LA27900	1534	124	102	1	Flake	Distal	10.63				0.18	4	0%	No	N/A	No	BifaceThinning		Obsidian	trans. obs.
LA27900	1535	124	102	1	Flake	Distal	16.42				0.62	3	51-90%	No	N/A	No	Primary		Obsidian	trans. obs.
LA27900	1536	124	102	1	Flake	Proximal	9.62				0.11	3	0%	No	Fragmented/Crushed	Yes	Pressure		Obsidian	black
LA27900	1537	124	102	2	Flake	Distal	8.4				0.2	2	0%	No	N/A	No	Secondary		Chert	tan
LA27900	1538	124	102	2	Flake	Complete		10.31	5.44	1.68	0.09	3	0%	No	Fragmented/Crushed	No	Pressure		Chalcedony	white/clear
LA27900	1539	124	102	2	Angular Debris	N/A (angular)	5.17				0.03	N/A	0%	No	N/A	No	Unk		Obsidian	trans. obs.
LA27900	1509	126	104	1	Flake	Distal	4.55				0.01	1	0%	No	N/A	No	Pressure		Obsidian	trans. obs.
LA27900	1510	126	104	1	Flake	Medial	9.09				0.11	3	0%	No	N/A	No	Pressure		Obsidian	black
LA27900	1511	126	104	1	Flake	Distal	16.15				0.29	4	0%	No	N/A	No	BifaceThinning		Obsidian	trans. obs.
LA27900	1512	126	104	1	Flake	Medial	10.29				0.13	4	0%	No	N/A	No	Pressure		Obsidian	ashy obsidian
LA27900	1513	126	104	1	Flake	Medial	8.63				0.07	2	0%	No	N/A	No	Pressure		Obsidian	trans. obs.
LA27900	1514	126	104	2	Angular Debris	N/A (angular)	5.03				0.01	N/A	0%	No	N/A	No	Unk		Obsidian	trans. obs.
LA27900	1515	126	104	2	Flake	Complete		8.68	9.82	2.32	0.23	3	0%	Yes	Flat	Yes	BifaceThinning		Chert	pink/gray
LA27900	1516	126	104	2	Flake	Distal	9.19				0.18	2	0%	No	N/A	No	BifaceThinning		Chert	tan
LA27900	1517	126	104	2	Flake	Distal	9.18				0.11	2	00	No	N/A	No	BifaceThinning		Obsidian	trans. obs.
LA27900	1066	128	100	1	Flake	Proximal	8.53				0.08	2	0%	No	Fragmented/Crushed	Yes	Primary		Obsidian	trans. obs.
LA27900	1067	128	100	2	Flake	Proximal	8.19				0.07	3	0%	No	Fragmented/Crushed	Yes	BifaceThinning		Obsidian	trans. obs.
LA27900	1068	128	100	2	Flake	Medial	9.79				0.05	N/A	0%	No	N/A	No	Unk		Obsidian	trans. obs.
LA27900	1069	128	100	2	Flake	Lateral	8.26				0.08	4	0%	No	N/A	No	Unk		Chert	pink
LA27900	1070	128	100	2	Flake	Medial	12.23				0.16	3	0%	No	N/A	No	BifaceThinning		Obsidian	trans. obs.
LA27900	1071	128	100	2	Flake	Complete		32.48	7.84	5.14	0.66	2	0%	No	Flat	Yes	Secondary		Obsidian	ashy obsidian
LA27900	1072	128	100	2	Flake	Lateral	6.29				0.04	2	0%	No	N/A	No	Pressure		Obsidian	trans. obs.
LA27900	1073	128	100	2	Flake	Complete		7.73	5.27	1.12	0.05	2	0%	No	Bifacet	Yes	Pressure		Obsidian	trans. obs.
LA27900	1074	128	100	3	Flake	Proximal	9.59				0.12	4	0%	Yes	Bifacet	Yes	BifaceThinning		Obsidian	black
LA27900	1075	128	100	3	Flake	Medial	6.85				0.05	3	0%	No	N/A	No	BifaceThinning		Obsidian	black
LA27900	1076	128	100	3	Flake	Distal	9.85				0.06	2	0%	No	N/A	No	BifaceThinning		Obsidian	ashy obsidian
LA27900	1077	128	100	3	Flake	Lateral	7.07				0.05	3	0%	No	N/A	No	Unk		Obsidian	trans. obs.
LA27900	1055	128	104	1	Flake	Lateral	9.42				0.06	2	0%	No	N/A	No		Marginal Retouch	Obsidian	ashy obsidian

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Site	DSN	GRID NORTH	GRID EAST	LEVEL	Class	Condition	Max Dimension	Max Length (mm)	Max Width (mm)	Max Thickness (mm)	Weight (g)	Dorsal Scars	Cortex Amount	Platform Lip	Platform Morphology	Platform Abrasion	Flake Type	Edge Modification	Raw Material	Color
LA27900	1056	128	104	1	Angular Debris	N/A (angular)	8.4				0.08	3	0%	No	N/A	No			Chert	tan
LA27900	1057	128	104	1	Flake	Complete		19.92	13.28	4.2	0.87	4	0%	No	Fragmented/Crushed	Yes	BifaceThinning		Chalcedony	clear/red-orange
LA27900	1058	128	104	1	Flake	Proximal	11.32				0.49	5	0%	No	Fragmented/Crushed	Yes	BifaceThinning		Chalcedony	gray
LA27900	1059	128	104	1	Flake	Proximal	12.29				0.2	3	0%	No	Fragmented/Crushed	Yes	BifaceThinning		Obsidian	trans. obs.
LA27900	1060	128	104	1	Flake	Complete		5.3	5.06	0.61	0.02	4	0%	Yes	Bifacet	Yes	Pressure		Obsidian	trans. obs.
LA27900	1061	128	104	2	Flake	Complete		18.69	8.14	2.97	0.33	3	0%	No	Fragmented/Crushed	Yes	BifaceThinning		Obsidian	ashy obsidian
LA27900	1062	128	104	2	Flake	N/A (angular)	7.35				0.06	2	0%	No	N/A	No	Unk		Chalcedony	white
LA27900	1063	128	104	2	Flake	Complete		8.66	11.46	1.83	0.13	2	0%	No	Fragmented/Crushed	Yes	BifaceThinning		Chert	pink/gray
LA27900	1064	128	104	2	Flake	Medial	6.7				0.06	2	0%	No	N/A	No	Pressure		Chert	gray/white
LA27900	1065	128	104	2	Angular Debris	N/A (angular)	23.08				3.3		0%	No	N/A	No	Secondary		Chert	tan/pink/gray
LA27900	1358	116	104	1	Flake	Distal	10.68				0.16	3	0%	No	N/A	No	BifaceThinning		Chalcedony	white/clear
LA27900	1359	116	104	1	Flake	Distal	10.81				0.11	3	0%	No	N/A	No	BifaceThinning		Chert	gray
LA27900	1360	116	104	1	Flake	Complete		9.1	4.23	0.51	0.01	2	0%	No	Fragmented/Crushed	Yes	Pressure		Obsidian	trans. obs.
LA27900	1361	116	104	1	Flake	Complete		26.42	14.02	3.8	1.17	5+	0%	Yes	Flat	Yes	BifaceThinning		Chert	tan
LA27900	1362	116	104	1	Flake	Lateral	17.79				0.56	3	0%	No	N/A	No	BifaceThinning		Chert	white
LA27900	1363	116	104	1	Flake	Complete		4.45	6.18	0.96	0.03	N/A	0%	Yes	Flat	Yes	Pressure		Chert	pink/gray
LA27900	1364	116	104	2	Flake	Lateral	27.71				3.79	5	0%	No	N/A	No	Secondary		Chert	purple
LA27900	1365	116	104	2	Flake	Medial	30.89				1.62	3	0%	No	N/A	No	Secondary		Chert	purple
LA27900	1366	116	104	2	Angular Debris	N/A (angular)	14.58				1.3	N/A	0%	No	N/A	No	Secondary		Chert	tan
LA27900	1367	116	104	2	Flake	Complete		14.36	9.31	4.19	0.41	2	0%	No	Flat	No	Secondary		Chert	tan
LA27900	1368	116	104	2	Flake	Medial	24.07				1.24	4	0%	No	N/A	No	Secondary		Mud/silt stone	tan
LA27900	1369	116	104	2	Flake	Medial	18.48				0.42	5	0%	No	N/A	No	BifaceThinning		Chert	white
LA27900	1370	116	104	2	Flake	Lateral	16.9				0.53	2	0%	No	N/A	No	Secondary		Chert	white
LA27900	1371	116	104	2	Flake	Proximal	12.6				0.38	3	0%	Yes	Multifacet	Yes	BifaceThinning		Chert	white
LA27900	1372	116	104	2	Flake	Lateral	9.49				0.08	N/A	0%	No	N/A	No	Unk		Chert	white
LA27900	1373	116	104	2	Flake	Medial	6.71				0.09	2	0%	No	N/A	No	Unk		Chert	pink

El Segundo Debitage																			
Site	DSN	GRID NORTH	GRID EAST	LEVEL	Class	Condition	Max Dimension	Max Length (mm)	Max Width (mm)	Max Thickness (mm)	Weight (g)	Dorsal Scars	Cortex Amount	Platform Lip	Platform Morphology	Platform Abrasion	Flake Type	Edge Modification	Raw Material	Color
LA27900	1374	116	104	2	Flake	Distal	10.81				0.18	3	0%	No	N/A	No	BifaceThinning		Chert	pink/gray
LA27900	1375	116	104	2	Flake	Lateral	11.61				0.14	2	0%	No	N/A	No	Unk		Chert	white
LA27900	1376	116	104	2	Flake	Complete		11.06	6.19	0.89	0.07	4	0%	No	Fragmented/Crushed	Yes	Pressure		Obsidian	black
LA27900	1377	116	104	2	Flake	Complete		9.82	6.02	0.92	0.05	3	0%	No	Fragmented/Crushed	Yes	Pressure		Obsidian	trans. obs.
LA27900	1378	116	104	2	Angular Debris	N/A (angular)	10.85				0.19	N/A	0%	No	N/A	No	Unk		Obsidian	trans. obs.
LA27900	1379	116	104	2	Flake	Medial	7.54				0.06	2	0%	No	N/A	No	Pressure		Obsidian	trans. obs.
LA27900	1380	116	104	2	Flake	Medial	12.89				0.34	3	0%	No	N/A	No	BifaceThinning		Obsidian	trans. obs.
LA27900	1381	116	104	2	Flake	Medial	6.91				0.07	2	0%	No	N/A	No	Pressure		Obsidian	trans. obs.
LA27900	1382	116	104	2	Flake	Lateral	28.37				5.13	5+	0%	No	N/A	No	Secondary		Chert	purple
LA27900	1383	116	104	2	Flake	Distal	17.42				0.52	2	0%	No	N/A	No	Secondary		Chert	purple
LA27900	1384	116	104	2	Flake	Medial	10.6				0.2	N/A	0%	No	N/A	No	BifaceThinning		Mud/silt stone	pink
LA27900	1385	116	104	2	Flake	Distal	12.39				0.09	2	0%	No	N/A	No	Unk		Chert	white
LA27900	1386	116	104	2	Flake	Lateral	8.14				0.05	2	0%	No	N/A	No	Unk		Chert	gray
LA27900	1387	116	104	2	Flake	Distal	8.2				0.04	N/A	0%	No	N/A	No	Pressure		Chalcedony	white/clear
LA27900	1388	116	104	2	Flake	Complete		6.54	6.36	0.88	0.04	3	0%	No	Fragmented/Crushed	Yes	Pressure		Obsidian	trans. obs.
LA27900	1389	116	104	2	Flake	Lateral	7.16				0.05	1	0%	No	N/A	No	Unk		Obsidian	trans. obs.
LA27900	1390	116	104	2	Flake	Medial	11.35				0.24	4	0%	No	N/A	No	BifaceThinning		Obsidian	ashy obsidian
LA27900	1391	116	104	2	Flake	Complete		11.49	10.04	1.64	0.22	5+	0%	Yes	Multifacet	Yes	BifaceThinning		Obsidian	trans. obs.
LA27900	1310	120	100	1	Flake	Distal	6.42				0.04	2	0%	No	N/A	No	Unk		Obsidian	trans. obs.
LA27900	1311	120	100	1	Flake	Lateral	7.52				0.14	N/A	0%	No	N/A	No	BifaceThinning		Obsidian	trans. obs.
LA27900	1312	120	100	1	Flake	Lateral	9.4				0.07	N/A	0%	No	N/A	No	Unk		Obsidian	trans. obs.
LA27900	1313	120	100	1	Flake	Distal	16.78				0.32	3	0%	No	N/A	No	BifaceThinning		Obsidian	trans. obs.
LA27900	1314	120	100	1	Flake	Proximal	14.21				0.31	5+	0%	No	Bifacet	Yes	BifaceThinning		Obsidian	trans. obs.
LA27900	1315	120	100	1	Flake	Proximal	8.75				0.05	3	0%	No	Bifacet	Yes	Pressure		Chalcedony	white/clear
LA27900	1316	120	100	1	Flake	Distal	17.29				0.36	2	0%	No	N/A	No	Secondary		Obsidian	ashy obsidian
LA27900	1317	120	100	1	Flake	Lateral	16.12				0.99	5+	0%	No	N/A	No	Unk		Obsidian	trans. obs.
LA27900	1318	120	100	1	Flake	Medial	6.83				0.04	3	0%	No	N/A	No	Pressure		Obsidian	trans. obs.
LA27900	1319	120	100	1	Flake	Lateral	10.71				0.07	N/A	0%	No	N/A	No	Unk		Obsidian	trans. obs.
LA27900	1320	120	100	2	Flake	Medial	10.02				0.08	2	0%	No	N/A	No	Pressure		Obsidian	trans. obs.

El Segundo Debitage																					
Site	DSN	GRID NORTH	GRID EAST	LEVEL	Class	Condition	Max Dimension	Max Length (mm)	Max Width (mm)	Max Thickness (mm)	Weight (g)	Dorsal Scars	Cortex Amount	Platform Lip	Platform Morphology	Platform Abrasion	Flake Type	Edge Modification	Raw Material	Color
LA27900	1321	120	100	2	Angular Debris	N/A (angular)	10.31				0.14	N/A	0%	No	N/A	No	Unk		Obsidian	trans. obs.
LA27900	1322	120	100	2	Flake	Proximal	6.52				0.05	2	0%	No	Fragmented/Crushed	No	Unk		Obsidian	trans. obs.
LA27900	1323	120	100	2	Flake	Distal	6.69				0.06	3	0%	No	N/A	No	Unk		Obsidian	trans. obs.
LA27900	1324	120	100	2	Flake	Proximal	9.94				0.12	4	0%	No	Bifacet	No	Unk		Obsidian	ashy obsidian
LA27900	1325	120	100	2	Flake	Proximal	10.6				0.14	3	0%	Yes	Bifacet	Yes	BifaceThinning		Obsidian	trans. obs.
LA27900	1326	120	100	2	Flake	Medial	11.1				0.23	4	0%	No	N/A	No	BifaceThinning		Obsidian	ashy obsidian
LA27900	1327	120	100	2	Flake	Proximal	14.7				0.69	5	0%	No	Multifacet	Yes	BifaceThinning		Obsidian	ashy obsidian
LA27900	1328	120	100	2	Flake	Complete		13.96	9.15	1.6	0.21	3	0%	No	Fragmented/Crushed	Yes	BifaceThinning		Chert	white
LA27900	1329	120	100	2	Flake	Complete		5.76	6.95	1.08	0.04	N/A	0%	No	Bifacet	No	Pressure		Chert	tan
LA27900	1330	120	100	2	Flake	Distal	12.42				0.16	3	0%	No	N/A	No	Pressure		Chert	white
LA27900	1331	120	100	2	Flake	Complete		14.07	8.4	2.45	0.29	3	0%	No	Multifacet	Yes	BifaceThinning		Obsidian	ashy obsidian
LA27900	1332	120	100	2	Flake	Lateral	10.19				0.15	2	0%	No	N/A	No	BifaceThinning		Obsidian	black
LA27900	1333	120	100	2	Flake	Proximal	15.81				0.48	4	0%	No	Fragmented/Crushed	Yes	BifaceThinning		Obsidian	trans. obs.
LA27900	1334	120	100	2	Flake	Medial	14.46				0.46	5+	0%	No	N/A	No	BifaceThinning		Obsidian	trans. obs.
LA27900	1335	120	100	2	Angular Debris	N/A (angular)	11.85				0.43	N/A	0%	No	N/A	No	Unk		Obsidian	trans. obs.
LA27900	1336	120	100	2	Flake	Medial	7.29				0.12	3	0%	No	N/A	No	Unk		Chalcedony	clear/red-orange
LA27900	1117	122	100	1	Flake	Medial	9.1				0.12	2	0%	No	N/A	No	BifaceThinning		Obsidian	trans. obs.
LA27900	1118	122	100	1	Flake	Medial	7.24				0.03	2	0%	No	N/A	No	Unk		Obsidian	trans. obs.
LA27900	1119	122	100	1	Flake	Medial	17.63				0.49	5+	0%	No	N/A	No	BifaceThinning		Obsidian	trans. obs.
LA27900	1120	122	100	2	Flake	Medial	9.24				0.13	4	0%	No	N/A	No	Pressure		Obsidian	trans. obs.
LA27900	1121	122	100	2	Flake	Distal	9.05				0.1	2	0%	No	N/A	No	Unk		Obsidian	trans. obs.
LA27900	1122	122	100	2	Flake	Proximal	12.76				0.27	3	0%	No	Flat	Yes	BifaceThinning		Obsidian	ashy obsidian
LA27900	1123	122	100	2	Flake	Proximal	14.15				0.28	5+	0%	No	Fragmented/Crushed	No	BifaceThinning		Obsidian	trans. obs.
LA27900	1124	122	100	2	Flake	Distal	14.64				0.25	2	0%	No	N/A	No	BifaceThinning		Obsidian	ashy obsidian
LA27900	1125	122	100	2	Flake	Medial	13.26				0.35	5	0%	No	N/A	No	BifaceThinning		Obsidian	trans. obs.
LA27900	1126	122	100	2	Flake	Distal	6.61				0.05	2	0%	No	N/A	No	Pressure		Chert	tan
LA27900	1127	122	100	2	Flake	Medial	12.1				0.14	2	0%	No	N/A	No	BifaceThinning		Chert	tan
LA27900	1128	122	100	2	Flake	Proximal	19.69				0.59	4	0%	No	Flat	Yes	BifaceThinning		Chalcedony	clear/red-

El Segundo Debitage

Site	DSN	GRID NORTH	GRID EAST	LEVEL	Class	Condition	Max Dimension	Max Length (mm)	Max Width (mm)	Max Thickness (mm)	Weight (g)	Dorsal Scars	Cortex Amount	Platform Lip	Platform Morphology	Platform Abrasion	Flake Type	Edge Modification	Raw Material	Color
																				orange
LA27900	1129	122	100	2	Flake	Distal	10.42				0.13	2	1-10%	No	N/A	No	Unk		Chalcedony	white/clear
LA27900	1130	122	100	3	Flake	Medial	17.29				0.6	3	0%	No	N/A	No	BifaceThinning		Obsidian	ashy obsidian
LA27900	1131	122	100	3	Flake	Complete		14.45	12.91	2.9	0.42	5	0%	Yes	Bifacet	Yes	BifaceThinning		Obsidian	black
LA27900	1132	122	100	3	Flake	Medial	8.41				0.09	2	0%	No	N/A	No	Unk		Obsidian	trans. obs.
LA27900	1133	122	100	3	Flake	Complete		3.99	6.28	0.99	0.03	N/A	0%	No	Fragmented/Crushed	Yes	Pressure		Obsidian	ashy obsidian
LA27900	1288	122	102	1	Flake	Complete		14.77	10.91	1.74	0.24	5+	0%	No	Multifacet	Yes	BifaceThinning		Obsidian	ashy obsidian
LA27900	1289	122	102	1	Flake	Proximal	13.8				0.24	3	0%	No	Fragmented/Crushed	Yes	BifaceThinning		Obsidian	ashy obsidian
LA27900	1290	122	102	2	Flake	Medial	11.55				0.14	2	0%	No	N/A	No	Unk		Chert	white
LA27900	1291	122	102	2	Flake	Distal	7.39				0.08	2	0%	No	N/A	No	Unk		Chert	trans. obs.
LA27900	1292	122	102	2	Flake	Distal	13.15				0.22	4	0%	No	N/A	No	BifaceThinning		Obsidian	ashy obsidian
LA27900	1293	122	102	2	Flake	Lateral	11.44				0.11	3	0%	No	N/A	No	Unk		Obsidian	trans. obs.
LA27900	1294	122	102	2	Flake	Distal	17.38				1.06	5+	0%	No	N/A	No	Unk		Obsidian	trans. obs.
LA27900	1295	122	102	2	Flake	Proximal	18.12				1.32	5	0%	No	Flat	No	Secondary		Chalcedony	tan
LA27900	1296	122	102	3	Flake	Distal	4.88				0.02	2	0%	No	N/A	No	Unk		Obsidian	trans. obs.
LA27900	1297	122	102	3	Flake	Lateral	4.32				0.02	N/A	0%	No	N/A	No	Unk		Obsidian	trans. obs.
LA27900	1298	122	102	3	Flake	Medial	6.08				0.03	N/A	0%	No	N/A	No	Unk		Obsidian	trans. obs.
LA27900	1299	122	102	3	Flake	Distal	8.48				0.08	2	0%	No	N/A	No	Pressure		Obsidian	ashy obsidian
LA27900	1300	122	102	3	Flake	Lateral	9.52				0.1	2	0%	No	N/A	No	Unk		Obsidian	ashy obsidian
LA27900	1301	122	102	3	Flake	Lateral	4.57				0.02	2	0%	No	N/A	No	Unk		Obsidian	trans. obs.
LA27900	1208	124	102	2	Flake	Lateral	9.92				0.11	2	0%	No	N/A	No	BifaceThinning		Obsidian	black
LA27900	1209	124	102	2	Flake	Distal	8.57				0.08	3	0%	No	N/A	No	BifaceThinning		Obsidian	ashy obsidian
LA27900	1210	124	102	2	Flake	Complete		12.01	7.91	1.71	0.16	2	0%	No	Fragmented/Crushed	No	Pressure		Chert	black/gray
LA27900	1211	124	104	2	Flake	Proximal	8.02				0.04	3	0%	No	Bifacet	Yes	Pressure		Obsidian	ashy obsidian
LA27900	1212	124	104	2	Flake	Distal	8.23				0.06	2	0%	No	N/A	No	Pressure		Obsidian	trans. obs.
LA27900	1213	124	104	2	Flake	Distal	7.4				0.04	4	0%	No	N/A	No	Pressure		Chert	white
LA27900	1214	124	104	2	Flake	Distal	9.66				0.04	N/A	0%	No	N/A	No	Unk		Obsidian	black
LA27900	1215	126	106	1	Flake	Proximal	9.14				0.21	3	0%	Yes	Bifacet	Yes	BifaceThinning		Obsidian	ashy obsidian
LA27900	1337	130	104	1	Flake	Medial	18.91				0.89	1	0%	No	N/A	No	Secondary		Silicified wood	white/clear

El Segundo Debitage

Site	DSN	GRID NORTH	GRID EAST	LEVEL	Class	Condition	Max Dimension	Max Length (mm)	Max Width (mm)	Max Thickness (mm)	Weight (g)	Dorsal Scars	Cortex Amount	Platform Lip	Platform Morphology	Platform Abrasion	Flake Type	Edge Modification	Raw Material	Color
LA27900	1338	130	104	1	Flake	Medial	7.13				0.03	2	0%	No	N/A	No	Pressure		Chert	tan
LA27900	1339	130	104	1	Flake	Medial	9.32				0.13	2	0%	No	N/A	No	Pressure		Obsidian	trans. obs.
LA27900	1340	130	104	1	Flake	Complete		7.91	6.89	0.82	0.06	2	0%	No	Fragmented/Crushed	Yes	Pressure		Obsidian	trans. obs.
LA27900	1341	130	104	1	Flake	Proximal	6.08				0.07	2	0%	No	Fragmented/Crushed	No	Pressure		Obsidian	trans. obs.
LA27900	1342	130	104	2	Flake	Lateral	9.79				0.06	N/A	0%	No	N/A	No	Unk		Chert	white
LA27900	1343	130	104	2	Angular Debris	N/A (angular)	9.91				0.27		0%	No	N/A	No	Unk		Chert	pink/gray
LA27900	1344	130	104	2	Flake	Distal	13.29				0.3	4	0%	No	N/A	No	BifaceThinning		Chert	white
LA27900	1345	130	104	3	Flake	Distal	7.22				0.08	2	0%	No	N/A	No	Unk		Obsidian	ashy obsidian
LA27900	1346	130	104	3	Flake	Proximal	14.76				0.52	5	0%	No	Bifacet	Yes	BifaceThinning		Obsidian	ashy obsidian
LA27900	1347	130	104	3	Flake	Medial	17.02				0.36	3	0%	No	N/A	No	BifaceThinning		Obsidian	ashy obsidian

Appendix B: El Segundo Lithic Tool Data

El Segundo Tools																	
Site	DSN	GRID NORTH	GRID EAST	LEVEL	Type	Condition	Haft Element	Base	Flaking Pattern	Serration	Raw Material	Max Dimension	Max Length	Max Width	Max Thickness	Weight	Color
LA135515	13	390	268	4	Projectile	Complete	corner notched	convex	Convergent (chevron)	No	Chert		26.62	19.18	5.6	2.31	white
LA135515	14	392	260	1	Projectile	Proximal	corner notched	slightly convex	Random	No	Silicified wood	19.61		15.83	3.88	1.34	brown
LA135515	15	388	262	2	Side Scraper	Complete	N/A	N/A	N/A	No	Chert		43.44	30.43	13.3	15.50	tan/pink/gray
LA135515	16	388	264	1	Projectile	Complete	corner notched	convex	Random	Yes	Chert		27.22	15.73	4.81	1.73	brown
LA135517	17	246	186	4	Biface	Lateral	N/A	N/A	Random	No	Chert	25.44				4.19	gray/white
LA135517	18	244	182	3	Biface	Proximal	N/A	straight	Random	No	Chert	25.48			5.74	1.96	pink
LA135517	19	248	186	4	Projectile	Complete	corner notched	convex	Random	Yes	Obsidian		20.59	12.6	3.38	.70	ashy obsidian
LA135517	20	250	186	4	Projectile	Missing tip	corner notched	slightly convex	Random	No	Chert		20.98	13.68	5.28	1.36	pink/gray
LA135517	21	242	188	2	Projectile	Complete	corner notched	convex	Random	No	Chert		33.32	16.17	4.11	2.44	white
LA135517	22	246	180	5	Projectile	Missing tip	corner notched	slightly concave	Random	No	Obsidian		21.73	13.21	4.54	.98	ashy obsidian
LA135517	23	246	186	4	Projectile	Complete	corner notched	slightly concave	Random	Yes	Obsidian		30.24	18.3	4.33	1.95	transl. obsidian
LA135517	24	246	184	5	Projectile	Complete	corner notched	convex	Random	Yes	FGV		21.46	12.84	3.26	.74	black
LA135517	25	242	184	5	Projectile	Missing tip	side notched	straight	Random	No	Obsidian		18.42	13.76	4.07	1.08	black
LA135517	26	242	182	3	Biface	Lateral	N/A	N/A	Random	No	Chert	21.13				2.46	tan/pink/gray
LA135517	27	250	192	6	Projectile	Proximal	stemmed	concave	Parallel	No	Obsidian	16.7			5.72	1.26	transl. obsidian
LA135517	28	244	184	3	Biface	Complete	N/A	N/A	Random	No	Silicified		69.33	39.97	10.84	39.24	brown

El Segundo Tools																	
Site	DSN	GRID NORTH	GRID EAST	LEVEL	Type	Condition	Haft Element	Base	Flaking Pattern	Serration	Raw Material	Max Dimension	Max Length	Max Width	Max Thickness	Weight	Color
											wood						
LA135517	30	248	192	7	Projectile	Complete	side notched	straight	Random	No	Chert		33.93	22.53	4.56	3.39	tan
LA135517	31	246	182	1	Biface	Medial	N/A	N/A	Random	No	Chert	31.88				8.10	pink/gray
LA135517	32	244	184	1	Biface	Distal	N/A	N/A	Random	No	Chert	30.49				7.03	pink/gray
LA135517	33	252	192	8	Biface	Distal	N/A	N/A	Random	No	Chert	20.25				1.89	brown
LA135517	34	246	180	2	Multi Core	Complete	N/A	N/A	Random	No	Chert	54.15				126.33	gray/white
LA135517	35	242	184	3	End Scraper	Complete	N/A	N/A	Random	No	Chert		41.18	24.45	7.4	8.08	pink
LA135517	36	242	184	2	Multi Core	Complete	N/A	bifurcated	Random	No	Chert		44.17	31.52	21.91	29.29	black/gray
LA27855	37	0	0	1	Projectile	Distal	corner notched	N/A	Random	No	Obsidian		18.21	12.96	2.14	.42	ashy obsidian
LA27855	38	152	137	2	Projectile	Proximal	stemmed	convex	Random	Yes	Chert	31.1			5.65	4.57	gray/white
LA27855	39	152	140	2	Projectile	Complete	side notched	straight	Random	No	Obsidian		25.02	18.43	5.63	2.11	black
LA27855	40	154	137	2	Side Scraper	Lateral	N/A	N/A	N/A	No	Chert	38.1				5.72	black
LA27855	41	156	145	0	Uniface	Complete	N/A	N/A	N/A	No	Silicified wood		43.98	27.06	10.04	14.17	brown
LA27855	42	154	138	4	Projectile	Proximal	stemmed	straight	Parallel	No	Chert	23.91			7.87	4.65	clear/red-orange
LA27855	43	146	137	1	Projectile	Complete	corner notched	convex	Random	No	Obsidian		26.56	12.99	3.77	.96	ashy obsidian
LA27855	44	160	144	4	Projectile	Complete	corner notched	N/A	Random	No	Chalcedony		29.24	18.13	3.13	1.25	white/clear
LA27855	45	156	141	1	Projectile	Complete	stemmed	straight	Parallel	No	Chert		48.46	19.69	7.64	6.16	pink

El Segundo Tools																	
Site	DSN	GRID NORTH	GRID EAST	LEVEL	Type	Condition	Haft Element	Base	Flaking Pattern	Serration	Raw Material	Max Dimension	Max Length	Max Width	Max Thickness	Weight	Color
LA135515	8	390	264	2	Multi Core	Complete	N/A	N/A	N/A	No	Quartzite		51.64	48.87	34.48	55.12	pink
LA135515	9	390	260	2	Multi Core	Complete	N/A	N/A	N/A	No	Chert		52.06	37.33	22.76	71.70	gray
LA135515	10	390	264	1	Biface	Distal	N/A	N/A	Random	No	Chert	23.24			4.01	1.50	brown
LA135515	11	388	274	2	Biface	Lateral	N/A	N/A	Random	No	Chert	22.65			7.12	1.78	white
LA135515	12	388	264	3	Projectile	Proximal	corner notched	slightly concave	Random	No	Obsidian	17.39			3.46	.84	ashy obsidian
LA27855	46	150	132	1	Projectile	Complete	corner notched	slightly convex	Oblique	No	Obsidian		18.96	8.54	2.49	.33	black
LA27855	47	152	132	2	Projectile	Proximal	side notched	straight	Random	No	Chert	28.73			4.63	2.86	red
LA27855	48	155	138	5	Drill	Proximal	N/A	N/A	Random	No	Chert	34.84		32.06	8.72	7.77	pink/gray
LA27855	49	154	146	4	Projectile	Distal	N/A	N/A	Random	No	Obsidian	33.02		20.21	4.53	3.10	black
LA27855	50	153	142	1	Projectile	Distal	N/A	N/A	Random	Yes	Chert	36.17		26.51	5.78	5.41	tan
LA27855	51	159	141	2	Side Scraper	Complete	stemmed	N/A	Parallel	No	Chert		44.21	16.38	7.58	6.58	black/gray
LA27855	52	152	133	3	Projectile	Distal	corner notched	N/A	Parallel	No	Chert	17.03		12.04	3.7	.62	white/clear
LA27855	53	157	137	3	Biface	Lateral	N/A	N/A	Random	No	Obsidian	28.69			4.59	3.38	transl. obsidian
LA27855	54	152	135	2	Biface	Lateral	N/A	N/A	Random	No	Obsidian	13.13				.10	transl. obsidian
LA27855	55	151	136	2	Biface	Medial	N/A	N/A	Random	No	Chert	36.8			6.6	6.79	yellow spotted
LA27855	56	152	132	2	Multi Core	N/A	N/A	N/A	N/A	No	Chert	39.26				43.83	black/gray
LA27855	57	161	140	2	Multi	N/A	N/A	N/A	N/A	No	Chert		76.53			84.07	pink

El Segundo Tools																	
Site	DSN	GRID NORTH	GRID EAST	LEVEL	Type	Condition	Haft Element	Base	Flaking Pattern	Serration	Raw Material	Max Dimension	Max Length	Max Width	Max Thickness	Weight	Color
					Core												
LA27855	58	154	140	1	Multi Core	N/A	N/A	N/A	N/A	No	Chalcedony	33.79				25.46	clear/red-orange
LA27855	59	153	139	2	Biface	Complete	N/A	N/A	Random	No	Chalcedony		52.86	36.42	9.81	24.59	white/clear
LA27855	60	160	141	4	Multi Core	N/A	N/A	N/A	N/A	No	Chert	73.62				269.90	black/gray
LA27855	61	150	137	2	Multi Core	N/A	N/A	N/A	N/A	No	Sandstone		108.98	118.26	54.58	>5.2 lb	tan
LA27855	62	153	142	2	Multi Core	N/A	N/A	N/A	N/A	No	Chert	39.13				23.51	white
LA149564	63	172	186	1	Projectile	Missing tip	side notched	convex	Parallel	No	Chert	34.55		19.8	4.68	3.05	brown
LA149564	64	0	0	0	Projectile	Lateral	side notched	convex	Random	No	Chalcedony	28.31			3.36	2.23	orange
LA27855	65	151	138	2	Biface	Complete	N/A	slightly concave	Random	No	Chert		37.28	28.14	5.77	5.85	tan/pink
LA27855	66	160	141	1	Projectile	Complete	corner notched	straight	Random	No	Obsidian		27.52	12.88	3.17	.85	transl. obsidian
LA27900	67	116	102	3	Biface	Proximal	N/A	N/A	Random	No	Obsidian	31.63			9.24	6.15	black
LA27900	68	116	102	3	Biface	Lateral	N/A	N/A	Random	No	Chert	33.84			10.26	7.91	tan/white
LA27900	69	116	102	3	Biface	Distal	N/A	N/A	Random	No	Chert	28.13			7.36	5.99	gray/white
LA135515	7	382	260	2	Uniface	Complete	N/A	N/A	Random	No	Quartzite		57.48	30.38	10.07	15.50	pink
LA27900	70	116	102	3	Biface	Distal	N/A	N/A	Random	No	Chert	27.4			7.32	6.09	purple
LA27900	71	116	102	3	Biface	Proximal	N/A	N/A	Random	No	Chert	39.71			8.17	7.75	red
LA27900	72	116	102	3	Biface	Proximal	N/A	N/A	Random	No	Chert	34.21			6.92	6.39	gray/white
LA27900	73	116	102	3	Biface	Lateral	N/A	N/A	Random	No	Chert	29.87			9.17	5.17	purple
LA27900	74	114	102	2	Biface	Distal	N/A	N/A	Random	No	Obsidian	29.26			8.28	4.12	black

El Segundo Tools																	
Site	DSN	GRID NORTH	GRID EAST	LEVEL	Type	Condition	Haft Element	Base	Flaking Pattern	Serration	Raw Material	Max Dimension	Max Length	Max Width	Max Thickness	Weight	Color
LA27900	75	114	102	2	Uniface	Medial	N/A	N/A	Random	No	Chert	35.02			8.45	9.78	purple
LA27900	76	116	102	1	Biface	Distal	N/A	N/A	Random	No	Chert	26.75			6.8	4.16	purple
LA27900	77	116	102	1	Biface	Lateral	N/A	N/A	Random	No	Chert	29.8			8.7	3.85	gray
LA27900	78	116	102	2	Uniface	Distal	N/A	N/A	Random	No	Chert	37.71			8.56	8.64	purple
LA27900	79	118	102	2	Projectile	Proximal	stemmed	convex	Convergent (chevron)	No	Chert	18.32		19.58	4.14	1.19	purple
LA27900	80	118	102	2	Uniface	Lateral	N/A	N/A	Parallel	No	Chert	17.9			6.75	1.00	pink/gray
LA27900	81	118	102	2	Uniface	Lateral	N/A	N/A	Random	No	Mud/Silt stone	22.55			6.69	1.88	tan
LA27900	82	118	102	2	Biface	Lateral	N/A	N/A	Random	No	Mud/Silt stone	15.41			5.51	.87	pink/gray
LA149564	1	176	192	2	Uni Core	Proximal	N/A	N/A	N/A	No	Chert		37.31	28.61	23.01	32.17	yellow spotted
LA149564	2	176	194	2	Multi Core	Complete	N/A	N/A	N/A	No	Chert		45.06	47.8	37.84	91.22	tan/pink/gray
LA149564	3	170	183	1	Multi Core	Complete	N/A	N/A	N/A	No	Chert		88	64.62	33.55	196.23	clear/black
LA149564	4	169	188	1	Biface	Distal	N/A	N/A	Random	No	Chert		29.32	27.32	5.48	4.73	tan/pink/gray
LA149564	5	167	185	1	Side Scraper	Complete	N/A	N/A	Random	No	Chert		44.64	23.05	9.88	11.11	orange
LA149564	6	167	186	1	Biface	Lateral	N/A	N/A	parallel	No	Chert	17.35			4.58	.68	pink
LA27900	83	118	102	3	Projectile	Complete	side notched	convex	Random	Yes	Chert		32.44	15.16	5.54	2.28	gray/white
LA27900	84	114	102	3	Side Scraper	Complete	N/A	N/A	N/A	No	Chalcedony		49.38	23.97	10.16	11.31	white/clear
LA27900	85	114	102	3	Biface	Lateral				No	Mud/Silt stone	34.37			5.65	2.31	tan

El Segundo Tools																	
Site	DSN	GRID NORTH	GRID EAST	LEVEL	Type	Condition	Haft Element	Base	Flaking Pattern	Serration	Raw Material	Max Dimension	Max Length	Max Width	Max Thickness	Weight	Color
LA27900	86	114	102	3	Biface	Distal				No	Chert	20.08			7.25	2.07	gray
LA27900	87	114	102	3	Biface	Lateral				No	Chert	19.81			8.41	2.94	gray
LA27900	88	114	102	3	Biface	Proximal				No	Mud/Silt stone	31.22			9.04	5.98	tan
LA27900	89	114	102	3	Biface	Medial				No	Chert	16.88			6.57	1.33	gray
LA27900	90	116	104	2	Projectile	Distal			Parallel	No	Obsidian	13.79			2.74	.26	ashy obsidian
LA27900	91	116	104	2	Biface	Distal				No	Chert	46.21			7.48	10.29	white
LA27900	92	116	104	2	Projectile	Proximal	side notched	straight	Random	No	Chert			20.6	6.23	1.94	tan
LA27900	93	116	104	3	Biface	Distal				No	Mud/Silt stone	41.44			7.51	4.59	purple
LA27900	94	0	0	0	Uni Core					No	Chert	82.37				235.7	tan
LA27900	95	0	0	0	Projectile	Complete	stemmed	slightly concave	Convergent (chevron)	No	Obsidian		32.88	17.28	7.81	37.5	ashy obsidian
LA27900	96	0	0	0	Projectile	Proximal	side notched	straight	Random	No	Obsidian			29.62	6.49	2.66	transl. obsidian
LA27900	97	0	0	0	Uni Core					No	Chalcedony	39.01				24.00	gray/white

Appendix C: Letter of Permission for Use of Site Maps and Photographs

Southwest Archaeological Consultants, Inc.
1200 Don Diego Avenue
P.O. Box 5586
Santa Fe, New Mexico 87502-5586
Business/FAX (505) 984-1151

Cherie L. Scheick
Program Director

February 23, 2015

Kasey M. Flavin
Northern Arizona University
Department of Anthropology
575 E. Pine Knoll Drive
P.O. Box 15200
Flagstaff, Arizona 86001-5200

Dear Ms. Flavin,

After consultation with Ms. Cherie Scheick, owner and program director of Southwest Archaeological Consultants (Southwest), I grant you permission to use figures (site plans and profiles) and photographs from the preliminary reports of investigations prepared by Southwest personnel for the Lee Ranch Coal Company, provided the original author and source are credited. This permission applies only to the use of the materials for your Master's thesis.

Sincerely,

Steven Mack

Steven Mack
Project Manager
El Segundo Archaeology Project