THE MCCOY FLUTED POINT DISCOVERY IN CONTEXT WITH THE SOLAR DEVELOPMENT OF THE CHUCKWALLA VALLEY: CA-RIV-23891

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On a hike to the McCoy Springs site in April of 2012, a fluted point base was discovered at the base of the McCoy Mountains. This find and many new discoveries in the Chuckwalla Valley are building a huge database in an area that, until recently, was a blank slate as far as pre-late period archaeology was concerned. Prior to 2009, little was known of this area outside of the trails and petroglyph sites. This report outlines the extent of the work that has been recently performed, new important discoveries, and what is coming up.

THE DISCOVERY

In April 2012, I had the privilege, and luck, to happen across another Paleo-Indian find. I was guiding a small group of visitors into the McCoy Springs petroglyph site on a beautiful spring day. The hike in and out from the site followed a day of light rain, so everything was washed off clean, and the desert smelled fresh. The ephemeral pools and *tinajas* retained fresh, clear water, accentuating the nearby archaeological site's raison d'être. The hike in from where we parked was about 3½ mi., so when considering all of the meandering within the site we had probably hiked about 8 to 10 mi. that day.

On the return trip that afternoon, and within eyeshot of the waiting vehicles, I spotted a bit of color on the ground. Like a typical archaeologist, my eyes rarely leave the ground except to stay on a reasonably direct course and (mostly) not bump into obstacles. I stopped dead in my tracks. Tired, but curious, I took a knee. There before me lay a beautiful piece of red chert, or jasper, shaped curiously like a fluted point base (Figure 1). Being a hopeless skeptic, I tossed my backpack to the side and picked up the specimen in hand for a more detailed inspection. I dug into my pocket for my hand lens and, still skeptical, I saw that it had the right shape and was definitely a purposely shaped artifact, and I noted that it obviously had a broken-off distal end. I hollered on to my accompanying hikers, stating that I found something important and had to take a few minutes here to have a closer look. A few came back to see what I had stumbled across, while the rest of the group continued on toward the awaiting vehicles (likely they were feeling as tired as myself).

First, I mentally tabulated the point's characteristics. From the shape, I knew that it was likely of Paleo-Indian origin. I could not discern any flute scars, with my limited experience with fluted points; the concave base and reasonably straight sides still didn't definitively reveal its antiquity. It was a shiny red chert/jasper with no patina, and it appeared to be heat-treated.

I needed to deal with this now, even though I was really tired and parched, and wanted to get to the ice chest and its cold liquid contents about ¼ mi. ahead of me. I pulled out my camera and shot the few digital photos in macro with a scale bar, and GPS'd the location. I considered collecting it but decided to come back later to possibly collect and fully document the find, pending an email and conference with colleagues on the photos. I snapped some more photos and figured the artifact was in a safe place (it had probably sat there on desert pavement for 10,000 years) and was within the wilderness, many miles from any human presence. It would be there a few weeks longer. I returned without it and sent an email off to Mike Rondeau to get his initial input. His reply was brief: "I hope you collected it." Slapping my forehead, I knew that I had to get back out there and bring it in for analysis.

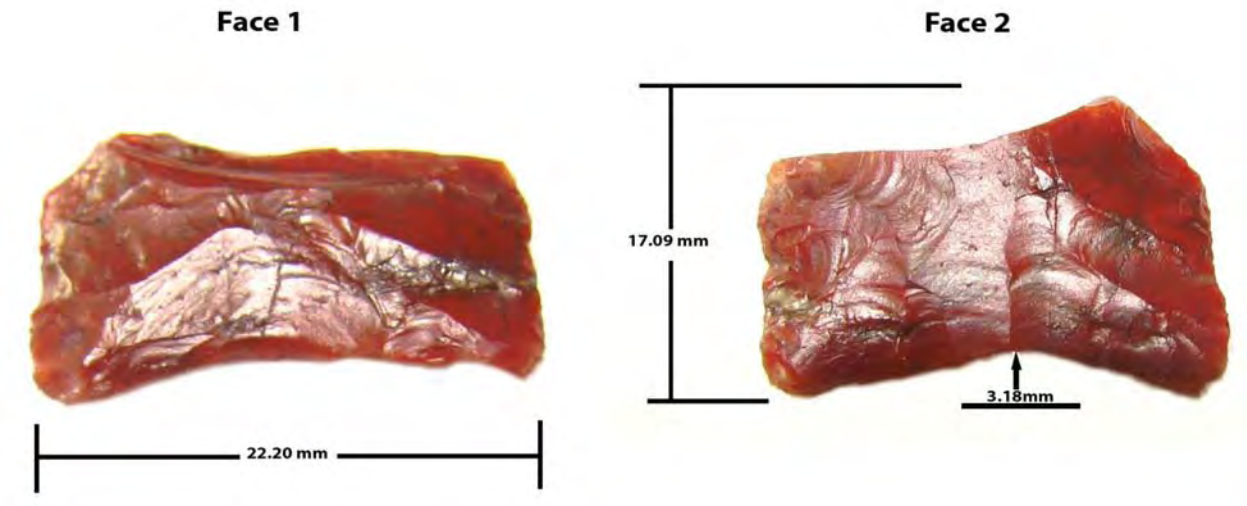

Figure 1. Photograph showing both faces of the point. Face 1 shows the terminal flute scar. Face 2 shows basal thinning flake scars.

Within a few days I was back out there with additional boots and eyes, to have a look around the local area to see what other evidence, if any, might be there. After an hour or so of meandering and combing the area, I concluded that the specimen was indeed an isolated find. I documented the artifact's provenience, gathered all necessary data, and bagged the point.

The McCoy Mountains are just west of the Colorado River near Blythe, in eastern Riverside County (Figure 2). This area is in the low-lying northeastern Colorado Desert where the elevation gradually increases to the north and becomes the Mojave Desert. To the east, the Sonoran Desert begins at the Colorado River and the Arizona border. The Chuckwalla Valley is the setting for several small mountain ranges, including the Chuckwalla, Eagle, eastern Coxcomb, Palen, McCoy, and northern Mule mountains. Chuckwalla Valley's lowest point is Ford Dry Lake at about 350 ft. above mean sea level. The highest point of the valley is about 1,000 ft., where the valley ends and the surrounding bajadas begin. The highest of the local mountain peaks reach just over 4,000 ft. The valley is quite pleasant during the cooler months of the year but can reach extreme highs near 120˚F in the hot, dry summer months. The mountain ranges are typically very rocky, with sparse vegetation. The McCoy Mountains are a small metamorphosed sedimentary range with very steep slopes and deeply incised canyon-like washes radiating out away from the pediment. The bajadas and alluvium that make up the mountain's apron are mostly desert pavements separated by washes, and these stable surfaces often feature archaeological sites and features that have remained mostly unaltered for millennia. Many of these washes feature *tinajas* at the point where the pediment meets the bajada and where the flowing water begins to lose energy. Prehistoric trails, cleared circles, isolated artifacts, and pot drops are still easily discernable, paralleling the base of the mountain range and radiating out from highly visited sites such as McCoy Spring.

THE ANALYSIS

Upon collecting the specimen, I shipped it to Mike Rondeau for his focused technological analysis. His technical analysis (Rondeau 2012) found that the artifact had been rebased and exhibited a limited number of other diagnostic fluted point attributes. Under 16X hand lens magnification, he documented a remnant terminal flute scar and the concave shaped base. The basal cross-section is biconcave, and the specimen appears to have been generally of a lanceolate form. The combination of these attributes place this point within the Paleo-Indian timeframe.

Figure 2. Map aerial image, from Google Earth 2014.

The point has no apparent edge grinding. Rondeau concluded that while this specimen is clearly a reworked fluted point, its reflaked and fragmentary condition make its placement as a Clovis-like specimen or possibly as a post-Clovis fluted point unclear. In spite of such uncertainties, it adds additional data to the information base of the CalFLUTED project and the study of fluted points in the Far West.

Rondeau also noted that only one other fluted point had thus far been found in Riverside County, by the Campbells in 1935, in Pinto Wash in Joshua Tree National Park (Campbell and Campbell 1935). That find was at the far western and opposite end of this same watershed. The lowest point or basin of the watershed is Ford Dry Lake.

THE CONTEXT

After a bit of reflection on what I have learned over the last four years of large-scale, utility solar development, a fluted point discovery should come as no real surprise. The only surprise is in the fact that I was the one to find it. Thousands of acres have been scrutinized by several CRM teams, surveying, monitoring, discovering, and documenting literally thousands of artifacts and hundreds of sites. Taking into account the many Archaic and Paleo-Archaic finds they documented, adding a fluted point was logically the next step in completing the menu.

The Genesis Solar Electric Project at Ford Dry Lake was expected to reveal significant archaeological finds due to its siting near a dry lake playa at the lowest point of a huge watershed. There were several extensive late prehistoric sites along the current, albeit occasional, shoreline, but the earlier geomorphology report revealed the highest shoreline at a significantly higher contour. The developer, NextEra Energy, sited their project as far away from the lakeshore as possible to the north, up against the wilderness boundary, and downsized to avoid a large site to the west and as many other cultural resources as possible. The site to the west, CA-RIV-9072, extends well over 300 acres, and it features surface deposits of numerous ground stone and flaked stone artifacts but no ceramics. This absence suggested its antiquity, but there were three diagnostic points revealing the Archaic period presence. The site's visual surface portion was revealed on only about one-half to two-thirds of what we now realize is the site area, including the buried portions.

Alluvium from the Palen Mountains to the northwest and the McCoy Mountains to the northeast combine mid-valley and drains south toward the western end of the project. Over time, this alluvial action buried a large portion of the site with low-energy sheet-wash gravels, sands, and silts to a varying depth – deeper towards the north, to minimal, if at all, to the south. Some stable early Holocene surfaces revealed portions of the site and appeared similar to developing desert pavement. Referring back to the geomorphological report (Kenney 2010), it suggested their origins as wind- and wave-formed longitudinal beach terraces that lie perpendicular to the prevailing wind and in line with the erosional direction of the alluvium. Between these stable terraces lie soft wind-blown sand, silt, and dust, with materials originating in the west, which obscured much of the cultural evidence on the surface. The post-survey outlook told of several separated sites spanning the high shoreline from west to east, when in reality we had one huge archaeological deposit covering about 500 acres along that ancient buried shoreline.

When a plethora of shovel test pits were placed within artifact concentrations in the sites to define the subsurface presence, they came up negative. Those stable beach-terrace surfaces were composed of compacted sand, almost like sandstone. The subsurface component of the sites was later found to be hidden from view in the soft sand areas, and therefore those areas were not tested.

Data recovery of surface collections and the prior year's surface survey identified two Pinto series projectile points, an Elko, a large lanceolate-lozenge-shaped point, and a Lake Mojave point. This led to a determination of the site as eligible for the National Register of Historic Places. Before this endeavor, together with several other nearby large-scale investigations, no significant Archaic-age sites were known. These discoveries had the potential to compose a new chapter in the archaeological record of the Chuckwalla Valley and the Colorado Desert where it blends into the Mojave Desert to the north and the Sonoran Desert to the east.

When the heavy equipment began its maneuvers to terrace the land for the solar arrays, numerous large artifacts such as metates began to turn up in the trenches. Monitors called in the lead archaeologist, and I was notified by phone. I made my way out to the site and stopped the equipment for what turned out to be about six months. The site was vast, and buried. Determining the extent of the cultural deposit necessitated a large and complex testing plan.

The new buried finds essentially filled in the areas between the visually identified surface sites (as recorded), creating one large deposit in the western quarter of the project APE. As mitigation measures were developed and the construction work resumed, hundreds of ground stone artifacts were unearthed, mostly metates and manos, but also hammer stones and flakes. These methods and coarse sampling, inherent with large earthmoving equipment, made it almost impossible for monitors to safely spot smaller examples, such as flaked stone artifacts and lithic debitage.

Subsequent discoveries from my own visits added a stemmed point in the McCoy Springs site and other evidence of an Archaic presence when considering the very dark desert varnish on some of the petroglyphs at McCoy Springs and other local rock art sites that are as dark as the remainder of the rock surfaces.

THE ENVIRONMENT

The summer months in these times are inhospitable at best. Summer temperatures approaching 120°F are expected within the three months of daytime highs above 110°F. This added to the chances of summer thunderstorms with high humidity, flash floods, and the filling of the lake bed, adding to the challenges for the construction workers as well as the monitors. This normal summer climate likely persisted for several millennia. The rest of the year, however, can be quite pleasant. Late spring and fall can get quite hot but not nearly as extreme as July and August. Winds are another factor. Fifty mi. per hour sustained winds are not rare in this area of open, dry, flat, sandy valleys, and the many small mountain ranges tend more to focus and direct than to block or diffuse.

Flora in the mid valley is mostly creosote bush with other lesser grasses and semi-seasonal wildflowers dependent on precipitation events. Washes are lined with ironwood and palo verde trees, with occasional cacti at higher elevations on the bajada. As the elevation increases toward the upper mountain bajadas, ocotillo, cholla, and barrel cactus become obvious. Yucca and Joshua trees enter the stage as the Colorado Desert morphs into the Mojave. The upper reaches of the washes are normally carved somewhat deeper into the alluvium and are often scoured down to the exposed bedrock, creating *tinajas,* and there mesquite trees become more common.

Fauna abound in the area but are not evident to the casual observer. Kit fox burrows are common out in the valley center where sediments are soft and deep, allowing a retreat from the heat of the day. Many reptilian species also live in burrows across the valley floor. Other mammals present are those that typically burrow below ground to escape the summer's daytime heat, including small rodents and lagomorphs. Desert iguanas, Mojave fringe-toed lizards, geckos, and snakes, both diurnal and nocturnal, skitter and slither from burrow to burrow, creosote bush to creosote bush. Where the valley floor meets the lower mountain pediment, collard lizards, chuckwallas, and desert tortoise are more numerous. And of course, coyotes are everywhere. Tracks, scat, and the nocturnal songs reveal their presence where they are not seen directly. Avian species are surprisingly common. Raptors, roadrunners, and songbirds are not unusual and are expected to be present in small numbers. Avian kills within the solar plants have accentuated the presence of waterfowl. It seems that this valley is a part of an east/west flyway between the Colorado River and the Salton Sea. Unbelievably, I observed a brown pelican flying over Ford Dry Lake.

PALEOENVIRONMENTS?

The discoveries of hundreds of metates and manos in an area of minimal vegetation suggest that the climate has not always been as we now see it. Geoarchaeological trenching and artifactual evidence imply that vegetation was somewhat different when the discovered implements were being used, likely in Archaic and/or Paleo-Indian times. Several of the best examples of the buried metates are slated to go through residue and pollen analysis, and coring in the lake bed is taking place as of this writing. Sampling of trench walls will also be analyzed to determine what flora were present, at what time in the past they flourished, and when they disappeared from the record.

Paleontological discoveries in the area also tell a very different story from today's climate. About 4 mi. north of Desert Center, within the fenced-off area of another solar project under construction, a camelid fossil fragment and a *Smilodon* forepaw and distal ulna fragment were revealed. Along the mesa floodplain of the Colorado River near Blythe, several fragments of ivory from possible Pleistocene pachyderms have been discovered, suggesting a much cooler and wetter climate.

CONCLUSIONS

It was once thought that the absence of an Archaic presence in the Colorado Desert was due to the inhospitable climate and lack of carrying capacity of the land. The Campbells' (1935) discovery of a fluted point base in the Pinto Basin, together with this new find, and the recent paleontological finds tell of an environment wildly different from what we see today. In spite of the modern summer's hellish temperatures, the winter months are extremely pleasant. We should consider that this area throughout time was at the very least seasonally visited, and that the east/west trails were the thoroughfare for trade and travel from the river to the coast throughout the Holocene, down to the present.

Why haven't more fluted points come out of this part of the Colorado Desert? I believe now that it is only a matter of sampling error. The lack of previous surveys and the few projects to drive (fund) the investigations until now have kept the data hidden. There is a wealth of data now in the lab going through the curation process as well as ongoing studies to fuel research and more discoveries, which will fill in the developing picture of the past in this part of the northern Colorado Desert. New large-scale, utility solar energy projects are still being proposed, so the work continues. Presentations at the next years'

archaeological conferences should be prime times to present a new chapter in California's Colorado Desert archaeology.

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