

ARCHAEOLOGICAL INVESTIGATIONS AT CA-IMP-7911/H, THE NORTH STALLARD LOCALITY ON THE LOWER COLORADO RIVER, CALIFORNIA

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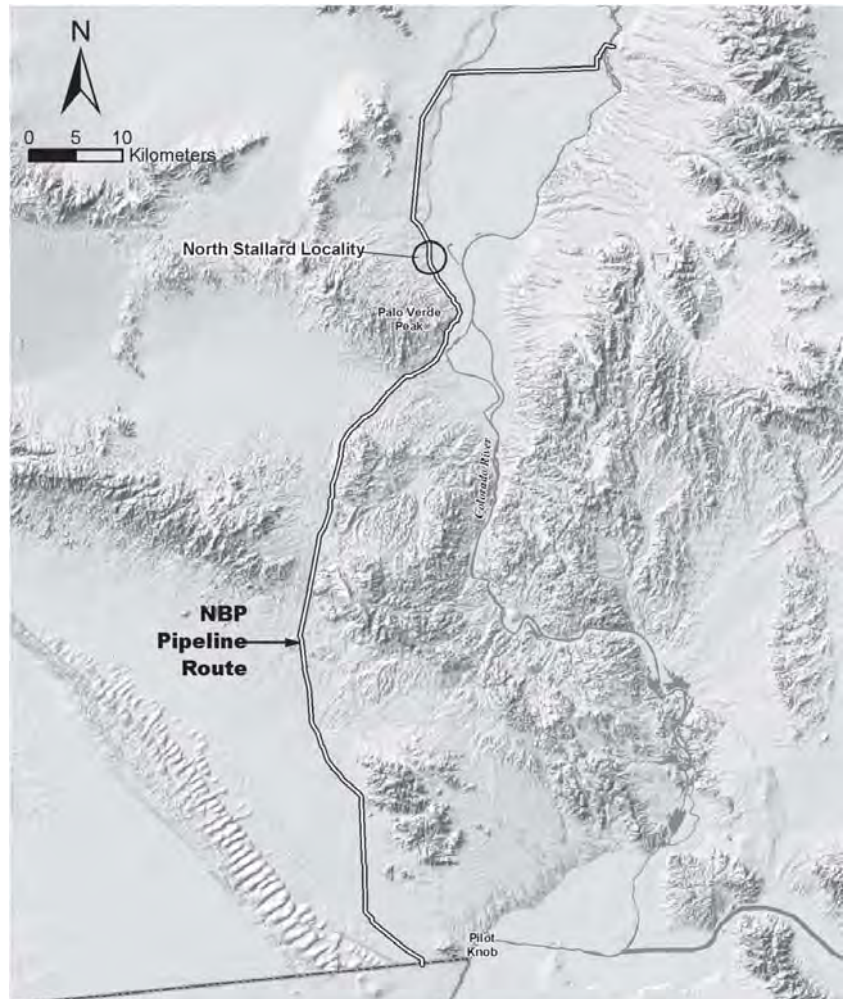
During construction monitoring for the North Baja Pipeline project, EDAW archaeologists discovered buried Patayan-period habitation sites on the California side of the Colorado River about 30 km south of Blythe. Twenty-one radiocarbon dates bracket at least three successive occupation phases between A.D. 50 and 1650, based on 2-sigma calibrations. Artifact and ecofact assemblages are presented briefly, and the potential for investigating cultural change within the Patayan period is discussed.

This paper will focus on the archaeological investigations at IMP-7911/H, also known as the North Stallard Locality (Figure 1), which was discovered by archaeologists from EDAW, Inc. during pipeline trenching (Cleland and Apple 2003). The site is potentially very significant for a number of reasons, including the following:

- It is a subsurface Patayan site immediately adjacent to the floodplain. Virtually no comparable sites have been excavated using modern methods (see Schaefer 1994). Cultural deposits reached at least 150 cm below surface and span the entire Patayan period.
- The site has produced one of the earliest radiocarbon dates for ceramics in the lower Colorado region.
- As discussed by John Hildebrand (2003), the vertical distribution of ceramics suggests there may be some problems with the current seriation of some of the lower Colorado ceramic types.
- Very little is known archaeologically about culture change along the Colorado River within the Patayan period. This is a time when floodplain horticulture was introduced and reportedly came to represent up to 50 percent of the diet (Castetter and Bell 1951).

Of course, the potential importance of the site is contingent in a very large way on the quality of stratigraphic associations there. As will be seen, the exigencies of pipeline construction preclude a definitive appraisal of stratigraphic relationships. Nonetheless, the data do support the conclusion that

Figure 1: Site location, CA-IMP-7911/H.



additional excavation at the site could address a multiplicity of important topics.

The site is located on a low bench overlooking the Colorado River floodplain at the foot of Palo Verde Mesa. The eastern edge of this bench is only about 3 m above the active floodplain. The bench slopes upward to the west at about a 5 percent to 7.5 percent grade. Natural deposition at the site appears to be largely the result of sheet-wash delivering sediments from Palo Verde Mesa to the west, supplemented by aeolian materials (Bornyasz 2003). The matrix is primarily fine silty sand with pockets of gravels marking the location of shallow runoff channels. Over-bank flooding of the site by the Colorado River does not appear to have occurred with any frequency during the period that the site was occupied. Hence, it would probably have been habitable even during the high water season, May to June.

Prior to modern reclamation programs, a former channel of the Colorado River passed immediately east of the site. Aerial photographs taken in 1953 (before reclamation of the area was complete) show the channel system quite clearly (Figure 2). The 1952 U.S.G.S. 7.5-minute quadrangle shows a remnant oxbow in this location. In the early twentieth century, therefore, there was a Colorado River overflow channel adjacent to the site. In earlier times the main course of the river may have flowed by the site. Alternatively, the site was aboriginally adjacent to an overflow channel that was seasonally inundated. The latter situation may have been ideal for floodplain horticulture (see Stone 1991) or for fishing (see Stewart 1957; Wallace 1955).

The EDAW monitoring crew identified a total of 58 charcoal-rich features at IMP-7911/H, arrayed in three spatially distinct areas along the pipeline trench (Figure 3). Some of the features may represent brush-fire episodes, while others may have resulted from campfires used for domestic purposes. Features ranged from 30 cm to over 14 m in length and from 2 cm to over 60 cm thick. During pipeline construction, EDAW conducted manual excavations at 25 of these 58 feature locations (Table 1). Fifteen of these yielded substantial cultural deposits. Manual excavations were conducted at the locations that appeared to have the best potential for cultural associations. A series of excavation units, oftentimes in blocks, were excavated and screened manually, yielding a total excavation area of 37.75 m².

A suite of 21 radiocarbon assays chronicles the prehistoric sequence of IMP-7911/H (Table 2). All radiocarbon samples were either single pieces of charred material (charcoal) or a very few pieces of closely associated material; hence, they are best seen as



Figure 2: 1953 aerial photograph of the North Stallard Locality.

“single-episode” dates rather than samples spanning multiple charcoal-generating events. Features stratigraphically associated with cultural materials ranged in date from 1530±40 B.P. to 340±40 B.P., representing the entire expected range of the Patayan period. Two-sigma calibrations place two cultural features firmly within the Patayan I phase, three at the transition between PI and PII, two in the middle of PII, and two in the terminal PII or PIII. It is important to note that these dates represent the age of the charcoal itself, not necessarily the age of associated cultural materials.

We were not fortunate enough to find many instances of clearly superimposed cultural strata. Features 15h and 15i provide one good example from the northernmost area (Figure 4). Feature 15h was encountered at a depth of 60 to 80 cm below ground surface (bgs) and yielded a radiocarbon date of 670±40 B.P. Feature 15i lies at about 30 to 40 cm bgs and is stratigraphically similar to Feature 15b, which yielded dates of 390 and 420±40 B.P. Both of these are extensive charcoal-rich lenses that appear to maintain very good stratigraphic integrity. No stratigraphic problems were identified in Area 1, which yielded abundant cultural materials dating to PII and the PII-PIII interface.

The exigencies of working on opposite sides of a 2.4-m-wide pipeline trench make interpretation of Area 2 somewhat difficult. Geomorphologist Mitch

Table 1: Summary of excavated features at CA-IMP-7911/H. Note: * includes debitage and cores.

Feature	EUs(m ²)	Ceramics	FlakedStone*	Bone(g)	Other	Radiocarbon Date
14a	2.50	7	185	2.5	floral, eggshell	920±60 B.P., 920±40 B.P., 980±40 B.P.
15a	1.00	14	53	16.9	floral	
15b	6.25	44	255	63.3	floral, hammerstone	390±40 B.P., 420±40 B.P.
15c	2.00	1	267	2.1		
15h <i>i</i>	3.00	8	238	20.6	floral, eggshell	
15j	2.00	21	6	0.5	hammerstone	590±40 B.P., 600±40 B.P.
15m	1.00	6	9	0.9		670±40 B.P.
16a	1.00	1	2	0		340±40 B.P.
16c	1.00	0	0	0		
16d	1.00	0	1	0		
16h <i>i</i>	0.25	0	11	0		
16j	1.00	0	0	0		
18a	1.00	0	7	0.2	hammerstone	
18b	1.00	0	0	0	eggshell	
18d	1.00	1	9	0.1		
18f	2.00	19	45	0.2	incised stone	1030±40 B.P., 1110±40 B.P.
19b	0.50	0	0	0		1630±40 B.P.
19d	1.00	1	132	0.5	core	1240±60 B.P., 1780±90 B.P.
19i	0.50	0	0	0		
19l	1.00	0	1	0		
19n	1.00	0	0	0		
19o, oa	1.00	0	1	0.2		
19u	2.75	10	79	0.1	groundstone	350±40 B.P., 400±40 B.P.
19x	2.00	0	184	0.1	eggshell	1000±40 B.P.
19y	1.00	9	9	0		1530±40 B.P.
Total	37.75	142	1494	108.2		

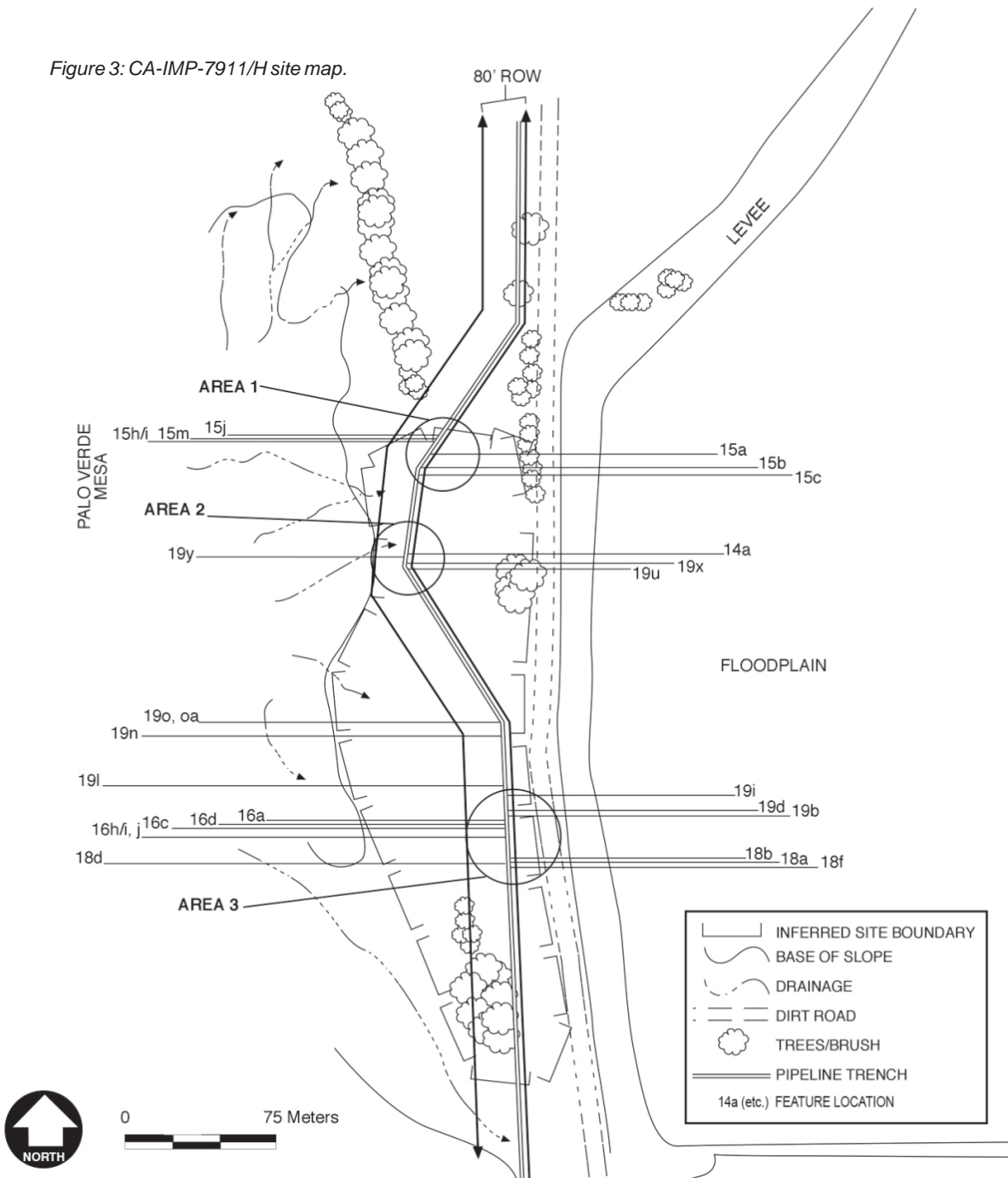
Table 2: C14 results at CA-IMP-7911/H. Note: * estimated C13/C12 value.

Beta No.	Feature	Unit/Level (below datum)	Material	Dating Method	13C/12C Ratio	Conventional Radiocarbon	Calibrated2-Sigma
176895	14a	1/20-30 cm	charred material	AMS	-26.8 o/oo	980±40 B.P.	A.D. 990 to 1160
175301	14a	2/30-40 cm	charred material	AMS	-27.8 o/oo	920±40 B.P.	A.D. 1020 to 1210
169215	14a	trench wall sample	charred material	radiometric, extended count	-27.0 o/oo	920±60 B.P.	A.D. 1000 to 1250
175302	15b	6/30-40 cm	charred material	AMS	-24.2 o/oo	390±40 B.P.	A.D. 1430 to 1530, A.D. 1550 to 1630
171461	15b	6/40-50 cm	charred material	AMS	-10.8 o/oo	420±40 B.P.	A.D. 1425 to 1515, A.D. 1590 to 1620
184474	15h	1/32-33 cm	charred material	AMS	-24.1 o/oo	670±40 B.P.	A.D. 1270 to 1400
175303	15j	2/30-40 cm	charred material	AMS	-23.6 o/oo	590±40 B.P.	A.D. 1300 to 1420
171460	15j	3/10-20 cm	charred material	AMS	-24.2 o/oo	600±40 B.P.	A.D. 1295 to 1420
171455	15m	1/50-60 cm	charred material	AMS	-24.6 o/oo	670±40 B.P.	A.D. 1270 to 1325, A.D. 1345 to 1395
175304	16a	1/10-20 cm	charred material	AMS	-22.7 o/oo	340±40 B.P.	A.D. 1450 to 1650
175759	18f	2/50-60 cm	charred material	AMS	-23.8 o/oo	1110±40 B.P.	A.D. 870 to 1010
171456	18f	2/unk	charred material	AMS	-25.8 o/oo	1030±40 B.P.	A.D. 970 to 1040
183547	19ab	deep feature, 1.85 m	charred material	AMS	-23.7 o/oo	1620±40 B.P.	A.D. 370 to 540
171457	19b	1/50-60 cm	charred material	AMS	-25.8 o/oo	1630±40 B.P.	A.D. 365 to 540
175305	19d	1/10-20 cm	charred material	radiometric, extended count	-23.4 o/oo	1780±90 B.P.	A.D. 50 to 430
171459	19d	2/0-10 cm	charred material	radiometric, extended count	-25.0* o/oo	1240±60 B.P.	A.D. 660 to 910, A.D. 920 to 960
183548	19s	deep feature, 1.98 m	charred material	AMS	-25.7 o/oo	590±40 B.P.	A.D. 1300 to 1420
171462	19u	2/20-30 cm	charred material	AMS	-23.9 o/oo	350±40 B.P.	A.D. 1445 to 1645
175306	19u	3/50 cm	charred material	AMS	-23.5 o/oo	400±40 B.P.	A.D. 1430 to 1530, A.D. 1560 to 1630
175307	19x	2/50-60 cm	charred material	AMS	-26.9 o/oo	1000±40 B.P.	A.D. 980 to 1060, A.D. 1080 to 1150
175308	19y	1/10-20 cm	charred material	AMS	-26.6 o/oo	1530±40 B.P.	A.D. 430 to 620

Table 3: Stratigraphic relationships in Area 2.

West Side of Trench (Distance South/Depth)	Radiocarbon Date	East Side of Trench (Distance South/Depth)	Radiocarbon Date
88 m south (Fea. 19y)		80-90 m south (Fea. 14a and 19x)	
75 cm bgs	-	75 cm bgs	920±40 B.P.
90 cm bgs	1530±40 B.P.	90 cm bgs	1000±40 B.P.
105 m south		105 m south (Fea. 19u)	
75 cm bgs	-	75 cm bgs	350±40 B.P.

Figure 3: CA-IMP-7911/H site map.



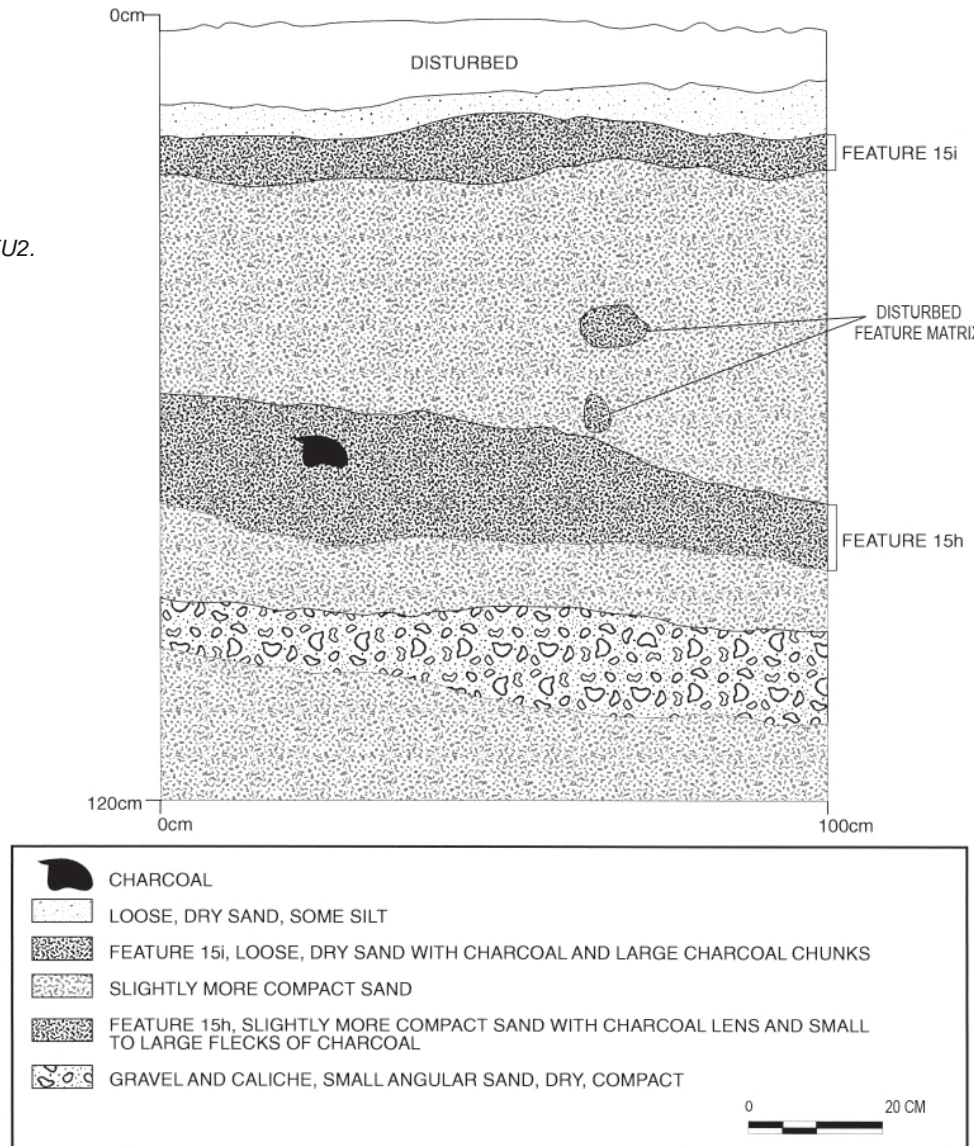
Bornyas studied the stratigraphy in this area and determined it to be largely intact; however, Table 3 illustrates that the stratigraphy is not straightforward. At Feature 19y there is a 1,500-year-old date immediately across the trench from a 1,000-year-old date at a comparable level. Feature 14a at a depth of 75 cm in the same general vicinity yielded three consistent dates between 920 and 980 radiocarbon years, but 15 to 20 m to the south there is a 350-year-old date at Feature 19u at a level comparable to Feature 14a. These relationships could be quite explainable without recourse to stratigraphic mixing. Feature 19y, for example, appears quite intact in cross-section (Figure 5). Yet, more controlled excavation would be necessary to sort out the stratigraphy with confidence.

Subsistence information is relatively abundant for features dating from late PII or PIII, and some data are available for the PI-PII transition. The organic

assemblage indicates a generally consistent set of subsistence activities at the site. The faunal assemblage is dominated by fish and cottontail to the near exclusion of other meat sources (Wake 2003). Large mammal bone is virtually absent. The presence of bird eggshell at several features suggests the possible gathering of eggs of migratory waterfowl. Flotation yielded abundant burnt mesquite pods and seeds, along with burnt mesquite wood. On-site processing of mesquite pods for food is suggested (Puseman et al. 2003). Although groundstone tools are exceedingly rare, ethnographic sources document the processing of mesquite pods with wooden tools (Castetter and Bell 1951; Forde 1931; Gifford 1931).

Neither flotation nor pollen analysis yielded any evidence of maize or other agricultural products (Puseman et al. 2003). This is true also for the South Stallard Locality, which was dated to PII. This absence

Figure 4: Features 15h and 15i section drawing of west wall of EU2.



is worth further consideration, as the site's location appears to have been close to a geomorphic feature thought to have been favored for planting.

Overall, the assemblage is consistent with what would be expected at a relatively long-term seasonal base camp occupied by a social group that focused subsistence activities on the exploitation of relatively predictable and localized food resources. Mid to late-summer occupation is suggested by the abundance of fish and mesquite; early-spring occupation might be indicated by the prevalence of bird egg remains. IMP-7911/H does not, however, appear to be a good candidate to be put forward as a "village" location. It lacks the variety of artifacts that would be expected – very few groundstone tools were found, virtually no formal flaked stone tools, and no evidence of cultigens. In all, the excavations at this site raise as many questions as they have answered. Further investigations, particularly manually excavated block exposures, would be warranted to tap the full potential of this intriguing site.

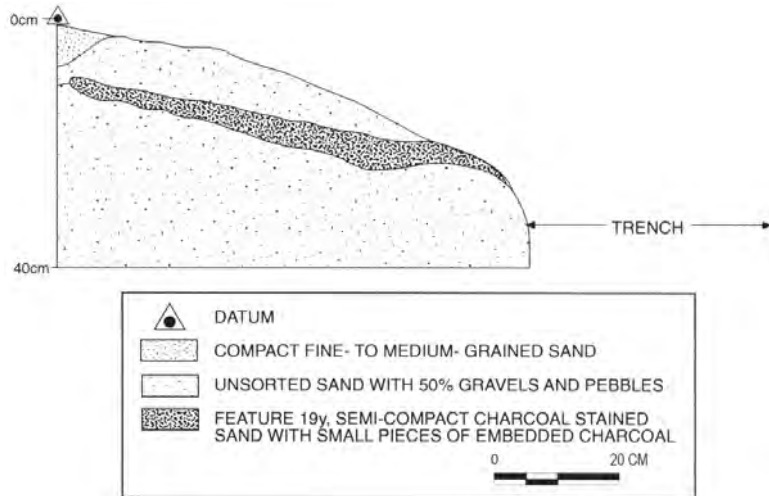


Figure 5: Feature 19y section drawing of north wall of EU1.

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