

**LAS CAPAS, AZ AA:12:111 (ASM),
CANAL AND FIELD DATA**

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CANAL DATA SPREADSHEET CATEGORIES

Feature Number

Canals were, for the most part, numbered sequentially as they were discovered during excavation. Several canals, for example, 3, 7, 11, 16 and 19, were the original numbers assigned during previous excavations by either Desert Archaeology, Inc., or SWCA. Many of the small canals, however, were numbered as they appeared on excavation progress maps. In those situations, the maps were used to locate what appeared to be canals on stripping surfaces, where they were evaluated regarding potential further work. Many of these, especially small field lateral type canals, were deemed too shallow to obtain meaningful profile information. In these instances, no backhoe trench was dug across the canal or its banks, and the canal was simply assigned a number and no profile drawn. In a few instances, features thought to possibly be canals were assigned a number, but after further investigation, they were determined not to be canals. In this case, most of the canal numbers assigned were simply left vacant.

Profile Number

Profile numbers were also assigned in the field, and the number of profiles selected for each canal depended upon several factors, including the information potential of profiles about the canal, size of the canal, relative importance in the canal system, observed changes in the canals, number of daughter canals, and so on. Thus, larger canals, such as Canal 11, 19, 21, 31, and 42, had multiple profiles drawn along their length, while smaller canals, such as Canal 53, 60, 71, and 100, may have had only one profile drawn. Many others had no profiles drawn at all. This last category consisted primarily of field laterals that were mostly removed during the scraping process or that were considered too shallow or too poorly preserved to have significant information potential.

Canal Type

M : Main canal; SM: Secondary main canal;
D: Distribution canal; FL: Field lateral canal;
H: Historic canal (unclassified)

Stratigraphic Origin

Stratigraphic origin was determined by examination of natural stratigraphy adjacent to the canals.

Ideally, canal bank sediments could be identified, and the lowest undisturbed natural sediments beneath canal bank deposits denote the originating surface. Remodeling complicates determination of stratigraphic origin by disturbing natural sediments adjacent to the canal and may lead to an erroneous identification of canal origin slightly later in time than the actual origin. In some instances, the canal exposure was too short to accurately identify the stratigraphic origin. Origin is characterized by site strata, such as Stratum 504, 506, and so forth. In some instances, the origin could be identified to a specific substratum, for example, Substratum 504.01, 504.04, etc. Where a precise origin could not be determined, the origin was defined as closely as possible, 504.01-.02, U505 (upper 505), L505 (lower 505), etc.

Parent Canal

The canal from which a smaller canal derives its water.

Daughter Canal

A canal that derives its water from a larger canal in the system.

Datum Elevation

A precise reference elevation (datum) was established for most profiled canals to calculate canal gradients, establish correlations more precisely, etc. Datum elevations are presented in two forms: meters below site datum (mbd) and meters above sea level (masl).

Ground Elevation at Origin

Elevation of the ground surface from which the canal was initially constructed. It was not always possible to precisely determine this elevation. Where given, elevations are in meters above sea level.

Ground Elevation at Second Iteration

Canals were occasionally remodeled after deposition of flood surfaces. The ground elevation at the time of remodeling provides useful information regarding flood deposition, requirements for remodeling, and so on. Second iteration ground elevation was rarely possible to determine but is given in meters above sea level when it could be ascertained.

Canal Bottom Iteration Elevations

In some instances, during canal remodeling events, the canal was not reexcavated to its original depth. The remodeled canal bottom (iteration) may provide useful information regarding floodplain deposition during the period of canal use. Where possible, each iteration canal bottom was measured.

Maximum Visible Width and Depth

Because scraping often removed a portion of the upper banks or ground surface adjacent to the canals it was frequently not possible to determine the precise width of canals. In those instances, the maximum canal width that could be recognized in the stratigraphic profile was measured. The figure for maximum visible width is always equal to or lesser than the *actual* maximum canal width. For the same reasons, it was usually not possible to determine the actual maximum depth of canals. Where the actual depth could not be determined, the difference between the highest point of canal banks or ground surface and the bottom of the canal was measured as the maximum visible depth. This figure is also always equal to or lesser than the *actual* canal depth.

Canal Bottom Elevation

The original construction depth and the use-depth sometimes disagree. The figure given for canal bottom elevation represents the lowest point in the canal while it was being used.

Canal Banks Present/Absent

The presence of recognizable canal banks in a stratigraphic profile are important for interpretation of the history of the canal. The nature of canal banks, if present, may provide information on canal capacity, use history, the nature and frequency of maintenance activities, the effects of flood events, etc.

Digouts Present/Absent

Shallow depressions (digouts) from which canal bank construction sediments were derived are present in many canal profiles. The presence/absence of these features informs on canal construction methodology, the effects of irrigation in fields, and the nature of sediment load within the canals.

Ostracod Samples

This column records those canal exposures from which ostracod samples were collected. Ostracods may provide important information about irrigation water source, character of the water, and duration of water residence time in canals.

FIELD SIZE MEASUREMENTS AND VARIATION

Preliminary measurements of field dimensions at Las Capas, AZ AA:12:111 (ASM), shows an unexpected degree of variability in size. This variability appears to be present in different areas of the site at the same time, as well as across the site through time. The reason(s) for variability has/have not yet been determined/proven, but it appears that a number of natural and cultural factors could potentially be involved. To assess the potential significance of these factors in field design, however, several assumptions must be made:

(1) field size is a design function relating to some environmental or cultural factor, such as water, soil, cultural preference, etc.;

(2) fields are not randomly constructed;

(3) fields are not reconstructed after each growing season, that is, the natural or cultural determinant is relatively long-term and expected.

Otherwise the fields, theoretically, would always be designed for the worst conditions that allowed crop production, and the field sizes we see would simply relate to conditions in the previous year. The field size data are paradoxical. In some loci, the fields get larger through time (Locus A), while adjacent contemporary fields seem to get smaller through time (Locus B).

POSSIBLE FACTORS INFLUENCING FIELD SIZE VARIATION

Amount of Available Water

Several natural and cultural features could influence the amount of water available for irrigation. Water availability should be a factor in that, theoretically, the relative ease of uniform irrigation should determine, at least in part, the size of field being irrigated.

Low infiltration rates or large heads of irrigation water should favor larger fields, while high infiltration rates or low water availability should favor smaller fields.

Differences in Natural or Anthropogenic Substrate

Medium- to coarse-sandy substrates: Coarser-grained substrate materials should theoretically favor smaller fields due to higher infiltration rates. A small head of water released into a large field might never reach the end of the field, so uniform irrigation would be very difficult to attain.

Silt/clay substrates: For reasons opposite to those cited in the paragraph above, finer-grained substrate materials should theoretically favor larger fields. Reduced infiltration rates in fine-grained soils allow water to be distributed across fields more rapidly and uniformly. Finer-grained textures could be a product of natural primary sediment differences, or could be caused by anthropogenic modification of substrate, for example, argillization of the soil as a by-product of irrigation.

Distance from Headgate

If this were an important factor, one would expect to see fields decrease in size with distance from the headgate and distance from the larger canals due to infiltration losses from the canals. Thus, if the assumption that Locus D is a part of the same canal system as Locus B is correct, fields in Locus D should be smaller than those of the same age in Locus B. The fact that they are not implies that infiltration losses, while real, were not a significant factor in field size. This could, however, play a role in the number and design of field cells in relation to field laterals. Note that the field laterals are never very long.

Flood Magnitude and Frequency

If there is a large degree of dependence on floodwaters as a source of irrigation water, the nature of floods could potentially influence field size. Flood *magnitude* could potentially influence field size, in that larger floods could conceivably produce a greater head on canal flow, thereby allowing fields to be flooded more rapidly, and consequently, allowing field size to be increased. This assumes that canals were designed to allow larger head on flows. If there is no change in mean (and expected) flood magnitude, then flood frequency could potentially influence field size by allowing fields to be irrigated more regularly, again allowing somewhat larger field sizes. I have trouble with this idea, because the canals and fields would theoretically have been designed to function with the lowest amount of pre-

dictable water (baseflow) that was normally available.

Baseflow Stream Discharge

If the primary source for irrigation water depended primarily on baseflow stream discharge, an increase in stream discharge (presuming the increase is available for diversion to the Las Capas canal system) should allow for larger field sizes, because irrigation head would be increased. This presumes that canal design allows larger instantaneous discharge to compensate for both increased baseflow and flood discharges.

Size of Total Active Irrigated Area

If there were no system of water allocation to ensure equitable distribution of water resources, smaller field sizes might have been favored because of uncertainty of water availability at any given point in time. If comparison of multiple canal/field systems were possible, those fields furthest downstream should be the smallest. (Note: This statement might be true for any given *single canal system*, but would not necessarily apply over the duration of farming at the site.)

Water Allocation

Within the Las Capas canal system, conceivably, some parts of the field/canal system might have been allocated lesser amounts of water than other parts. If this were the case, those fields receiving lesser amounts of water should have been smaller than those parts receiving more water. A number of highly speculative reasons may be posited for these differences in allocation.

(1) Different social groups (clans, families, etc.) or social roles: Different social groups may have had different "ranks," with accompanying privileges, such as access to larger field areas or to field positions in relation to the canal system.

(2) Ownership of field areas: This is an obviously speculative reason for differences in field sizes, but it is possible that some field areas may have been "owned."

River-wide (all canal systems on the Santa Cruz/Rillito/Cañada del Oro drainages): The number of Early Agricultural period sites that have been identified in the Santa Cruz Basin indicate there may have been considerable demand on water resources

for irrigation. This fact bears several implications. Assuming a progressively increasing population with approximately the same per capita water demands for irrigation, water demands would have increased through time. If baseflow discharge remained essentially constant, this would have increased reliance on flood runoff as a source of irrigation water. Climate change, or lack thereof, could have played a major role in the significance of this fact relating to water demand. All other factors being equal, this should theoretically lead to diminished field sizes, if baseflow stream waters are the primary source of irrigation waters. In fact, some fields increased in size through time, while others nearby decreased.

Geometry of Canal Layout

Which came first, the canal system, or fields? Areas closer to canal intersections should theoretically be smaller. Areas nearer canal intersections are often irregularly shaped, and fields are forced to be similarly irregularly shaped to fit in available spaces between canals. Note that this is contrary to the idea that locations closer to larger canals would have more available canal head, and thus, could have had better access to water.

Areas nearer to canal terminations should theoretically be larger. Canals become progressively more parallel to one another with increasing distance from canal intersections. Therefore, the available spaces between canals becomes more regular, and fields become larger and more rectangular.

Labor Requirements

Smaller fields would have required more labor for construction and maintenance. This is somewhat countered by the fact that irrigation operations in

larger fields should theoretically require slightly less labor than smaller fields.

Reliability of Water Delivery

Individual small fields would be easier to “quarantine” during periods of insufficient water availability with minimum loss of production and increased reliability of crop success for some portion of the field area. Smaller field areas would allow an individual or group to more easily isolate an amount of land proportional to the decrease in available water.

Crop Requirements

It is possible that different crops were grown in different sized fields. Corn, for example, requires relatively less water than squash. Similarly, squash and beans are more sensitive to water depletion than corn, requiring more regular, and more frequent, watering. “Garden” crops, such as squash and beans, might be grown closer to houses, with “field” crops, such as corn, further away. Some domestics might not compete effectively with weeds. Such crops might be grown in smaller fields that would be relatively easier to keep free(er) of weeds. There is no evidence of crops other than maize being grown at Las Capas.

Piping

Smaller fields would be easier to isolate in the event of development of piping sinks/vents. This might favor smaller fields in relatively close proximity to irrigation canals, *or in specific areas of the site* where piping is more likely to develop (for example, western Locus D).

Table 1.a. Data on profiled canals, Las Capas, AZ AA:12:111 (ASM).

Feature No.	Profile No.	Canal Type ^a	Trench, Excavation Unit	Stratigraphic Origin	Parent Canal	Daughter Canal	Datum Elevation (MBD)	Datum Elevation (MASL)	Canal Bottom Elevation (MASL)	Ground Elevation at Origin (MASL)	Circa Maximum Visible Width (m)	Circa Maximum Visible Depth (m)	Ostracode Samples (n)	Banks Present (Y/N)	Digouts Present (Y/N)	Ground Elevation 2nd Iteration (MASL)	Canal Bottom Elevation 2nd Iteration (MASL)	Canal Bottom Elevation 3rd Iteration (MASL)	Canal Bottom Elevation 4th Iteration (MASL)	Cross Section Shape (1-8)	Iron/Manganese Stains ^b
3	3.01	M	240	505-506	-	-	-13.07	668.29	667.99	668.08	1.75	0.55-0.60	8	4	Y	-	668.02	668.14	668.22	4	N
11	11.01	SM?	1956	504.02/.01	7?	-	-12.40	668.96	668.67	-	2.00	0.35	-	Y	-	-	-	-	-	4	N
11	11.02	SM?	3125	504.02/.01	7?	52?, 56, 79?	-12.38	668.98	668.38	668.95?	2.30	0.50	4	Y	N	-	-	-	-	3	N
19	19.01	D	103	504.02/.01	21	49, 50, 51, 122, 123, 124,	-13.00	668.36	667.82	?	1.40	0.50	10	N?	N	-	668.04	-	-	5	N
19	19.02	D	104	504.02/.01	21	49, 50, 51, 122, 123, 124,	-12.85	668.51	667.73	668.24	1.25	0.48	-	N?	N	-	667.97	-	-	5	N
19	19.03	D	116	504.02/.01	21	49, 50, 51, 122, 123, 124,	-13.28	668.08	667.56	667.95?	1.55	0.47	-	N	N	-	667.84	-	-	3,5	N
21	21.02	M	104	504.02-.01	42?	36, 48, 27, 153	-12.92	668.44	667.52	?	1.45	0.55	12	N	N	-	-	-	-	2	Y
21	21.03	M	1420	504.02-.01	42?	36, 48, 27, 153	-12.72	668.63	667.40	668.67	5.20	1.13	-	Y	?	-	668.13	668.39	668.23	4,5	Y
21	21.07	M	116	504.02-.01	42?	36, 48, 27, 153	-13.28	668.08	667.16	667.63	1.85	0.89	-	Y?	Y	-	667.04	-	-	2,5	Y
21	21.06	M	4590	504.02-.01	42?	36, 48, 27, 153	-13.61	667.75	666.90	-	1.95	0.60	-	Y	N	-	-	-	-	2,3	Y
21	21.04	M		504.02-.01	42?	36, 48, 27, 153	-13.64	667.72	666.81	-	2.90	0.91	-	Y	Y	-	-	-	-	3	Y
21	21.05	M	1552	504.02-.01	42?	36, 48, 27, 153	-13.61	667.75	666.90	-	1.70	0.85	-	Y	Y	-	-	-	-	2,3	Y
22	22.01	H	103	Historic	H	-	-12.95	668.44	668.06	668.39	0.95	0.28	7	Y	N	-	-	-	-	5	N
23	23.01	H	103	Historic	H	-	-12.95	668.44	668.09	668.39	1.30	0.30	6	Y	N	-	-	-	-	3	N
27	27.01	D	105	504.02	21	-	-13.26	668.1	667.70	668.05	1.60	0.35-0.40	-	N	N	-	-	-	-	2,3	Y, B, S
27	27.02	D	1420	504.02	21	-	-12.72	668.63	668.15	668.60	1.50	0.60-0.65	-	Y	N	668.90	668.52	-	-	2	Y
28	28.01	FL	2063	504.01	7?	-	-13.05	668.31	-	-	-	-	-	-	-	-	-	-	-	-	-
29	29.01	FL	Wall	504.01	7?	-	-12.29	669.07	668.60	668.69?	1.65	0.27	-	Y	N	-	-	-	-	3	N
30	30.01	D	103	U504.01	-	35	-13.07	668.29	667.51	667.89	1.20	0.41	10	N	N	667.94	667.72	-	-	3	N
30	30.02	D	104	U504.01	-	35	-12.82	668.27	667.50	667.02	0.80	0.35	-	N	N	667.07	667.94	-	-	2,3	N
31	31.01	D, SM	1358	504.04	-	135, 181, 136	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31	31.02	D, SM	1358	504.04	-	135, 136, 181	-13.861	667.498	666.54	666.34	1.80	0.30	10	Y	Y?	-	-	-	-	3	Y
31	31.03	D, SM	1376	504.04	-	135, 181, 136	-13.28	668.075	667.115	667.73	1.80-2.00	0.55	-	Y?	Y?	-	-	-	-	3	Y
33	33.01	-	1362	504.02-.01	-	128, 129, 133, 137?	-13.41	667.95	667.42	667.85?	1.40	0.53	5	N	N	-	667.57	667.77	-	2	Y, B, S
33	33.02	FL	1359	504.02-.01	-	128, 129, 133, 137?	-13.38	667.98	667.42	667.78?	1.40	0.25	-	N	N	-	-	-	-	2,5	Y, B, S
34	34.01	FL	1375	505-504.04	132	-	0.00	0.00		0.05(+)	0.60	0.12	-	Y	Y?	-	-	-	-	4	N
36	36.01	D	103	504.02-.01	-	187	-13.35	668.01	667.77	668.00	1.40	0.30	5	N	N	-	-	-	-	4	N
36	36.02	D	1382	504.02-.01	-	-	-13.17	668.19	667.96	668.29?	1.40	0.30-0.35	-	N	N	-	-	-	-	4	N
36	36.03	D	4591	504.02-.01	-	-	-13.21	668.15	667.76	668.03	1.40-1.60	0.25	7	N	N	-	-	-	-	4	N
39	39.01	FL	-	504.02-.01	7?	-	-12.64	668.72	668.54	668.66	0.90	0.28	-	Y	N	-	668.60	-	-	2,3	N
40	40.01	FL	-	504.02-.01	7?	-	-11.81	669.55	668.66	668.87	1.10	0.20-0.25	-	N	N	-	-	-	-	4,5	N
41	41.01	D	3124	504.02/.04	42	63, 64?	-12.277	669.082	668.44	668.56	1.80-1.90	0.55-0.60	-	N	N	-	668.61	668.69	668.69	3	N
41	41.02	D	2005	504.02	42	63, 64?	-12.295	669.064	668.84	668.96	1.50	0.35-0.40	-	Y	N	-	668.94	-	-	3	N
42	42.01	SM?D?	-	504.02-.01	7?	41, 63, 62, 61	-12.337	669.022	668.53	668.82	1.70	0.60	-	N	N	-	-	-	-	3	Y, B, S
42	42.02	SM?D?	-	504.02-.01	7?	-	-12.328	669.03	668.48	668.81	1.80	0.85	17	N	N	-	660.75	669.01	-	3,5	Y, B, S
43	43.01	-	3131?	504.02?	?	-	-12.66	668.70	668.51	-	0.68	0.27	-	N	N	-	-	-	-	2,3	N
46	46.01	-	-	Historic	-	-	-12.75	668.61	-	-	-	-	-	-	-	-	-	-	-	-	-
48	48.01	D	1420	U504.01	21	-	-12.72	668.63	668.45	668.88	1.15	0.40	9	N	N	-	-	-	-	3	N
49	49.01	FL	1457	504.01	19	-	-13.38	667.98	667.61	667.98	1.10	0.30	8	N	N	-	-	-	-	6	N
52	52.01	D	-	504.0 2-.01	11?	-	-12.84	668.52	668.48	668.65?	1.00-1.10	0.15-0.20	1	Y	N	-	668.56	-	-	3,4	N
53	53.01	-	235	504.02	-	-	-12.27	669.09	668.39	668.47	1.50	0.20-0.25	-	Y	Y	-	-	-	-	3,4	N
54	54.02	FL?	3213	504.02-.01	-	-	-	-	-	-	1.00	0.25	-	Y	Y	-	-	-	-	3?	N

Table 1.a. Continued.

Feature No.	Profile No.	Canal Type ^a	Trench, Excavation Unit	Stratigraphic Origin	Parent Canal	Daughter Canal	Datum Elevation (MBD)	Datum Elevation (MASL)	Canal Bottom Elevation (MASL)	Ground Elevation at Origin (MASL)	Circa Maximum Visible Width (m)	Circa Maximum Visible Depth (m)	Ostracode Samples (n)	Banks Present (Y/N)	Digouts Present (Y/N)	Ground Elevation 2nd Iteration (MASL)	Canal Bottom Elevation 2nd Iteration (MASL)	Canal Bottom Elevation 3rd Iteration (MASL)	Canal Bottom Elevation 4th Iteration (MASL)	Cross Section Shape (1-8)	Iron/Manganese Stains ^b
55	55.01	FL	-	504.02-.01	-	-	-13.83	667.53	667.29	667.40	1.10	0.23	-	Y	Y?	-	-	-	-	4	N
56	56.01	H	2006	504.02-.01	11?	57, 58	-12.62	668.74	668.64	668.53	1.22	0.18	-	Y	N	668.70	668.50	-	-	4	N
59	59.01	FL	2007	504.02-.01	42?, 173?	-	-12.49	668.87	668.84	668.85	1.00	0.13	-	Y	Y?	-	-	-	-	4	N
60	60.01	FL	2008	504.02-.01	42	-	-12.51	668.85	668.82	668.92	0.90	0.13	-	Y?	N	-	-	-	-	4	N
61	61.01	FL	2010	504.02-.01	42	-	-12.55	668.81	668.54	668.52?	1.20	0.08	-	Y?	N	-	-	-	-	4	N
62	62.01	FL	2009	504.01	42	-	-12.55	668.81	666.84	668.96	0.85	0.16	-	N	N	-	-	-	-	4	N
63	63.01	FL?	2089	504.01	41	-	-12.68	668.68	668.73	668.75	1.30	0.10	-	N	N	-	-	-	-	4	N
66	66.01	D	2055	U504.04	7?	65, 67, 69	-12.87	668.49	668.26	668.46?	1.25-1.30	0.30	-	Y	Y?	-	668.42	-	-	2,3	N
68	68.01	D	Wall	U504.04	7?	163, 70	-13.14	668.22	668.15	668.59?	1.15	0.15-0.20	-	Y	Y	-	-	-	-	3,4	N
68	68.02	D	Wall	U504.04	7?	163, 70	-12.29	669.07	668.20	668.22?	2.40	0.15	-	N	N	-	-	-	-	4	N
69	69.01	FL	2063	U504.04	66	-	-12.43	668.93	668.46	668.53?	1.00	0.13	-	Y	N	-	-	-	-	4	N
71	71.01	D?	2064	U504.04	-	161	-12.73	668.62	668.27	668.42?	1.10	0.25	-	Y	N?	-	-	-	-	4	N
72	72.01	FL	2055	L504.04	-	-	-12.87	668.49	668.18	667.87	1.37	0.20	-	Y	Y?	-	667.87	-	-	4	N
73	73.01	FL	Wall	L504.04	-	-	-13.14	668.22	667.84	667.87	0.85	0.17	-	Y	?	-	-	-	-	3,5	N
73	73.02		Wall	L504.04	-	-	-12.29	669.07	667.87	667.87	2.00	0.15	-	Y	Y?	-	-	-	-	4	N
79	79.01	D	2084	504.02	11?	80, 170, 171	-12.87	668.49	668.16	667.92	0.90	0.14	-	Y	Y?	-	-	-	-	3,4	N
82	82.01	D	2083	L504.04	-	102, 104, 105, 167?, 168?	-12.89	668.47	667.82	667.85	1.25	0.30-0.35	12	Y	Y?	-	668.04	668.28	-	3,4	N
82	82.02	D	2179	L504.04	-	102, 104, 105, 167?, 168?	-12.93	668.43	667.86	668.06	1.15	0.37	-	Y	Y?	-	667.95	668.12	668.25	3,4	N
84	84.01	FL	2253	505	42?, 11?	-	-12.83	668.53	668.51	668.58	1.20	0.37	-	Y	N?	-	-	-	-	3	N
85	85.01	-	3222	504.02-.01	-	53? 54?	-12.74	668.62	668.32	668.50	1.50	0.35	-	Y?	?	-	-	-	-	3	N
86	86.01	D?	3218	U505	-	-	-12.82	668.54	667.92	668.27	1.75	0.20	-	Y	Y	-	668.10	-	-	3	N
87	87.01	D	Wall	L504.04	-	85?	-12.43	668.93	668.78	DNA	0.75	0.15	-	?	?	-	-	-	-	3	N
95	95.01	D	2202	L504.04	-	-	-13.20	668.16	667.91	668.13	1.45	0.32	-	Y	?	-	-	-	-	5	N
96	96.01	FL	3214	L504.02	-	-	-12.72	668.64	668.27	668.42	2.00	0.25	-	?	?	-	-	-	-	4	N
100	100.01	-	3242	505-506	-	-	13.6	667.76	667.78	667.79	1.05	0.12	-	Y	N	-	-	-	-	4	N
102	102.01	FL	2228	L504.04-505	-	-	-13.55	667.81	667.80	667.82	0.90	0.15	-	Y	N	-	-	-	-	3	N
103	103.01	-	2224	504.02-.01	-	-	-14.9	668.46	668.34	?	0.90	0.25	-	N	N	-	-	-	-	3,4	N
104	104.01	FL	2269	504.04	82	-	-13.58	667.78	667.18	667.83?	0.70	0.25	-	Y	?	668.20	667.95	668.55	668.66	3,4	N
105	105.01	FL	2243	504.04	82	-	-13.43	667.93	667.94	667.95	0.80	0.08	-	Y	Y?	-	-	-	-	4	N
106	106.01	FL	2253	505	116?	-	-14.43	666.93	666.94	666.99	0.90	0.17	-	?	?	-	-	-	-	4	N
107	107.01	FL	2252	505-504.04	116?	-	-14.29	667.07	666.94	667.96	1.00	0.17	-	Y	Y?	-	-	-	-	4	N
110	110.01	FL?	Wall	504.04	?	-	-12.97	668.39	667.98	668.00	1.00	0.20	-	Y	Y?	-	-	-	-	3,4	N
111	111.01	FL	7100	505	116?	-	-14.43	666.93	666.70	666.72	1.00	0.28	-	Y	?	666.88	666.80	666.98	-	4	N
117	117.01	-	Wall	502	-	-	-12.29	669.07	668.95	669.05	2.00	0.20	-	N	N	-	-	-	-	4	N
118	118.01	-	Wall	502	-	-	-12.29	669.07	668.99	669.05	1.00	0.20	-	Y?	Y?	-	-	-	-	3,4	N
119	119.01	-	7100	505	-	-	-14.43	666.93	666.94	666.98?	1.00	0.15	-	?	?	-	666.93	-	-	4	N
124	D3	FL	D 3	504.02-.01	19	125, 126	13.91	667.45	-	-	0.90	0.10	-	Y	?	-	-	-	-	4	N
132	132.01	D	1378	505-504.04	-	-	-	-	-	-	0.95	0.15	-	Y	Y?	-	-	-	-	4	N
136	136.01	FL?	3437	504.04	31	-	-14.09	667.27	667.22	667.25	1.15	0.20	-	?	?	-	-	-	-	3,4	N
140	140.01	FL?	5034	504.04	-	-	-14.03	667.33	667.18	667.29	1.05	0.20-0.25	-	Y	?	-	-	-	-	4	N
142	142.01	-	3305	504.04	-	-	-13.43	667.93	667.72	667.76	1.00-1.10	0.16	-	Y	?	-	667.78	-	-	3,4	N
143	143.01	-	3306	504.04	-	-	-13.67	667.69	667.67	667.69	0.90	0.15	-	Y	N?	-	-	-	-	3	N
144	144.01	D?	7189	U504.04-.02	-	-	-13.49	667.87	667.80	667.85	1.15	0.20	-	Y	Y?	-	667.80	-	-	3,4	N
145	145.01	D?	7190	506.01	-	-	-13.43	667.93	667.76	667.81	1.00-1.15	0.15	-	Y	Y?	-	-	-	-	3,4	N

Table 1.a. Continued.

Feature No.	Profile No.	Canal Type ^a	Trench, Excavation Unit	Stratigraphic Origin	Parent Canal	Daughter Canal	Datum Elevation (MBD)	Datum Elevation (MASL)	Canal Bottom Elevation (MASL)	Ground Elevation at Origin (MASL)	Circa Maximum Visible Width (m)	Circa Maximum Visible Depth (m)	Ostracode Samples (n)	Banks Present (Y/N)	Digouts Present (Y/N)	Ground Elevation 2nd Iteration (MASL)	Canal Bottom Elevation 2nd Iteration (MASL)	Canal Bottom Elevation 3rd Iteration (MASL)	Canal Bottom Elevation 4th Iteration (MASL)	Cross Section Shape (1-8)	Iron/Manganese Stains ^b
153	153.01	-	3433	504.04?	-	-	-13.74	667.62	667.67	667.67	0.80	0.10	-	Y	?	-	-	-	-	4	N
153	153.02	-	3434	504.04	-	-	-13.65	667.71	667.61	667.71	0.50	0.07-0.10	-	N	N	-	-	-	-	4?	N
154	154.01	FL	3315	L505	-	-	-13.21	668.15	667.64	667.77	1.00	0.10	-	Y	N	-	667.80	-	-	4	N
155	155.01	FL	3315	L505	-	-	-13.21	668.15	667.65	667.77	0.70-0.80	0.15	-	Y	N	-	667.75	667.70	-	4	N
157	157.01	FL	3307	504.04	-	-	-13.83	667.53	667.23	667.23	1.20	0.20-0.25	-	Y	Y?	667.20?	667.26	-	-	3,4	N
158	158.01	-	Wall	506.01	-	108?	-12.83	668.53	667.10	666.98	1.10	0.31	-	Y	?	-	-	-	-	3	N
158	158.02	-	Wall	506.01	-	108?	-12.84	668.88	668.47	667.58?	1.10	0.30	-	Y?	N	-	-	-	-	3	N
159	159.01	-	7735	506.01	-	176?	-14.31	667.05	666.32	666.50	1.75	0.35	-	Y	Y?	-	-	-	-	3,4	N
159	159.02	-	7736	506.01	-	176?	-14.90	666.46	666.30	666.56?	1.00	0.25-0.30	-	N	N	-	-	-	-	3	N
160	160.01	-	7735	L505	-	-	-14.31	667.05	666.68	666.82	2.50	0.44	-	Y	N	-	666.68	666.68	666.89	4	N
217	217.01	-	222	Historic	H	-	-	-	-	-	1.21	0.20	-	-	-	-	-	-	-	-	-

^aM = main canal; SM = secondary main canal; D = distribution canal; FL = field lateral canal; H = historic canal (unclassified).

^bN = in; B = below; S = slight; Y = heavy.

Table 1.b. Canals not profiled, Las Capas, AZ AA:12:111 (ASM).

Feature No.	Profile No.	Canal Type ^a	Trench, Excavation Unit	Stratigraphic Origin	Parent Canal	Daughter Canal	Datum Elevation (MBD)	Datum Elevation (MASL)	Ground Elevation at Origin	Circa Maximum Visible Width (m)	Circa Maximum Visible Depth (m)
7	-	M	237	U504.04	-	-	-	-	-	-	-
19	19.04	D	1368	504.02-/01	-	-	-13.68	667.68	-	-	-
20	-	FL?	220	506?	3?	-	-11.74	669.62	-	-	-
21	21.01	M	-	504.02-.01	42?	174	-13.28	668.08	-	-	-
24	-	H	103	Historic	H	173	-13.22	668.14	-	-	-
25	-	H	-	Historic	H	-	-12.17	669.19	-	-	-
26	-	H	-	Historic	H	-	-13.89	667.47	-	-	-
32	-	-	1360	504.04?	-	-	-13.28	668.08	-	-	-
33	33.03	FL	1423	504.02-.01	-	-	-13.64	667.72	-	0.90	0.18
35	35.01	FL?	1423	U504.01-502	-	-	-13.42	667.94	-	-	-
44	-	FL?	222	504.02?	?	-	-	-	-	-	-
45	-	FL?	0	504.02?	-	-	-	-	-	-	-
47	47.01	-	-	504.02-.01	-	-	-	-	-	-	-
50	-	FL	-	504.01	19	-	-	-	-	-	-
51	-	FL	-	504.02-.01	19	-	-	-	-	-	-
53	53.02	-	3124	504.02	-	-	-12.72	668.64	-	-	-
57	-	FL	-	504.02-.01	56	-	-	-	-	-	-
58	58.01	FL	2004	504.02-.01	56	-	-	-	-	0.70-0.80	0.15
64	-	D	2005	U504.04?	-	-	-	-	-	-	-
65	-	FL	Wall	U504.04	66	-	-	-	-	-	-
67	-	FL	-	U504.04	-	-	-	-	-	-	-
70	-	FL	0	U504.04	68	-	-	-	-	-	-
75	-	D?	-	L504.04	-	-	-	-	-	-	-
76	-	-	Wall	L504.04	-	-	-	-	-	-	-
77	-	-	Wall	L504.04	-	-	-	-	-	-	-
78	-	-	2087	504.02-.01	-	-	-	-	-	0.60	0.06
79	79.01	D	2084	504.02	11?, 82?	80, 102, 104, 170, 171	-	-	-	-	-
79	79.02	D	2086	504.02	11?, 82?	80, 102, 104, 170, 171	-	-	-	1.10	0.25
80	80.01	FL	2085	504.02-.01	79	-	-	-	-	0.85	0.07
81	-	D	Wall	505	-	-	-	-	-	-	-
83	-	-	2088	504.01	-	-	-	-	-	0.85	0.04
88	-	FL?	0	506	81?	-	-	-	-	-	-
89	-	FL?	-	506	81?	-	-	-	-	0.60	-

Table 1.b. Continued.

Feature No.	Profile No.	Canal Type ^a	Trench, Excavation Unit	Stratigraphic Origin	Parent Canal	Daughter Canal	Datum Elevation (MBD)	Datum Elevation (MASL)	Ground Elevation at Origin	Circa Maximum Visible Width (m)	Circa Maximum Visible Depth (m)
90	-	FL	2161	506	81?	-	-	-	-	0.55	-
91	-	FL?	2160	506	81?	-	-	-	-	0.55	-
92	-	D?	Wall	506	81?	-	-	-	-	-	-
93	-	D?	0	506?	3?	-	-	-	-	-	-
94	-	FL?	0	506	88?	-	-	-	-	-	-
97	-	FL	-	504.02	-	-	-	-	-	-	-
98	-	-	-	505-506	-	-	-	-	-	1.00	0.15
99	-	-	3258	505-506	-	-	-	-	-	-	-
101	101.01	-	2203	L504.04	-	-	-13.597	667.762	-	0.70	0.03
108	-	FL	2259?	505-506	?	-	-	-	-	1.00	0.10
109	-	2D, FL	-	505-506	-	-	-	-	-	-	-
112	-	FL	6010	505	113	-	-	-	-	-	0.25
113	-	FL	0	L505	?	112	-	-	-	-	-
114	-	FL?	0	L505	?	-	-	-	-	-	-
115	-	FL	0	505	116?	-	-	-	-	0.62	0.05
116	-	D	2312?	505	-	-	-	-	-	-	-
120	-	FL?	0	505	?	-	-	-	-	-	-
121	-	FL?	-	506	0	-	-	-	-	-	-
122	-	2D, FL	-	504.02-.01	19	-	-	-	-	-	-
123	-	FL	-	504.02-.01	19	-	-	-	-	-	-
125	-	FL	-	504.02-.01	19	-	-	-	-	-	-
126	-	FL	-	504.04?	19	-	-	-	-	-	-
127	-	FL	-	505-504.04	-	-	-	-	-	-	-
128	-	2D	3436	505-504.04?	-	-	-	-	-	-	-
129	-	2D?, FL	-	505-504.04?	-	-	-	-	-	-	-
130	-	2D, FL	-	505-504.04	128?	-	-	-	-	-	-
133	-	D	1361	505-504.04	-	-	-	-	-	-	-
134	-	-	-	505-504.04	133	-	-	-	-	-	-
135	-	FL?, 2D?	1312, 3438	505-504.04	31	-	-	-	-	-	-
137	-	D?	1422, 3439	505-504.04	-	-	-	-	-	-	0.20
138	-	FL	-	505-504.04	137	-	-	-	-	-	-
139	-	FL	-	505-504.04	137	-	-	-	-	-	-
147	-	-	235	505-506	-	-	-	-	-	-	-

Table 1.b. Continued.

Feature No.	Profile No.	Canal Type ^a	Trench, Excavation Unit	Stratigraphic Origin	Parent Canal	Daughter Canal	Datum Elevation (MBD)	Datum Elevation (MASL)	Ground Elevation at Origin	Circa Maximum Visible Width (m)	Circa Maximum Visible Depth (m)
192	-	D	-	-	-	194, 195, 196, 197	-	-	-	-	-
193	-	D	-	-	-	-	-	-	-	-	-
194	-	FL	-	-	192/193	-	-	-	-	-	-
195	-	FL	-	-	192/193	-	-	-	-	-	-
196	-	FL	-	-	192/193	-	-	-	-	-	-
197	-	FL	-	-	192/193	-	-	-	-	-	-
198	-	FL	-	-	205	-	-	-	-	-	-
199	-	FL	-	-	205	-	-	-	-	-	-
200	-	FL	-	-	205	-	-	-	-	-	-
201	-	FL	-	-	205	-	-	-	-	-	-
202	-	FL	-	-	205	-	-	-	-	-	-
203	-	FL	-	-	205	-	-	-	-	-	-
204	-	FL	-	-	205	-	-	-	-	-	-
205	-	D	-	-	-	198, 199, 200, 201, 202, 203, 204	-	-	-	-	-
206	-	D	-	-	-	207, 208, 209, 216	-	-	-	-	-
207	-	FL	-	-	206	-	-	-	-	-	-
208	-	FL	-	-	206	-	-	-	-	-	-
209	-	FL	-	-	206	-	-	-	-	-	-
210	-	D	-	-	-	-	-	-	-	-	-
211	-	FL	-	-	-	-	-	-	-	-	-
212	-	FL	-	-	-	-	-	-	-	-	-
213	-	D?	-	-	-	-	-	-	-	-	-
214	-	FL	-	-	-	-	-	-	-	-	-
215	-	FL?	-	-	-	-	-	-	-	-	-
216	-	FL	-	-	206	-	-	-	-	-	-

^aM = main canal; SM = secondary main canal; D = distribution canal; FL = field lateral canal; H = historic canal (unclassified).

Table 1.c. Canal numbers assigned during the Las Capas, AZ AA:12:111 (ASM), excavations, but abandoned when it became evident the features were not canals.

Canal No. Assigned	Disposition
38	Not a canal
74	Not a canal
141	Not a canal
146	Not a canal
177	Not a canal
178	Not a canal
179	Not a canal
180	Not a canal

Table 2. Metric data for the Las Capas, AZ AA:12:111 (ASM), agricultural fields.

Field No.	Map Reference	Geostrat	Length (m)	Width (m)	Field Area	Average	Number Measured	Minimum (m ²)	Maximum (m ²)
AF33	A1	504.01	10.00	8.20	82.0				
AF34	A1	504.01	7.40	7.00	51.8				
AF35	A1	504.01	9.90	7.90	78.2				
						70.7	(n = 3)	51.8	82.0
AF22	A2	U504.04	3.20	3.10	9.9				
AF23	A2	U504.04	5.00	2.70	13.5				
AF24	A2	U504.04	4.50	3.30	14.9				
AF25	A2	U504.04	3.00	3.00	9.0				
AF26	A2	U504.04	4.40	3.20	14.1				
AF27	A2	U504.04	4.40	3.20	14.1				
AF28	A2	U504.04	4.30	3.50	15.1				
AF29	A2	U504.04	3.50	3.40	11.9				
AF30	A2	U504.04	4.20	3.00	12.6				
AF31	A2	U504.04	4.00	2.60	10.4				
AF32	A2	U504.04	3.00	2.50	7.5				
						12.1	(n = 11)	7.5	15.1
AF7	A3	L504.04	3.50	2.70	9.5				
AF8	A3	L504.04	3.80	2.70	10.3				
AF9	A3	L504.04	2.70	2.50	6.8				
AF10	A3	L504.04	4.60	1.70	7.8				
AF11	A3	L504.04	3.40	2.20	7.5				
AF12	A3	L504.04	3.00	2.40	7.2				
AF13	A3	L504.04	3.70	3.00	11.1				
AF14	A3	L504.04	3.80	3.80	14.4				
AF15	A3	L504.04	4.70	2.50	11.8				
A16	A3	L504.04	2.70	2.70	7.3				
A17	A3	L504.04	3.50	2.60	9.1				
AF18	A3	L504.04	4.00	2.90	11.6				
AF19	A3	L504.04	3.20	3.00	9.6				
AF20	A3	L504.04	3.00	2.60	7.8				
AF21	A3	L504.04	3.80	2.90	11.0				
						9.5	(n = 15)	6.8	14.4
AF1	A4	506	2.80	2.70	7.6				
AF2	A4	506	4.90	2.00	9.8				
AF3	A4	506	4.00	1.50	6.0				
AF4	A4	506	3.70	2.15	8.0				
AF5	A4	506	3.00	1.70	5.1				
AF6	A4	506	3.20	2.60	8.3				
						7.5	(n = 6)	5.1	9.8
BF1	B1	504.02/.01	1.60	1.00	1.6				
BF2	B1	504.02/.01	1.60	1.60	2.6				
BF3	B1	504.02/.01	2.20	1.50	3.3				
BF4	B1	504.02/.01	1.60	1.40	2.2				
BF5	B1	504.02/.01	2.00	1.10	2.2				
BF6	B1	504.02/.01	1.60	1.20	1.9				
BF7	B1	504.02/.01	1.40	1.30	1.8				
BF8	B1	504.02/.01	2.00	1.20	2.4				
BF9	B1	504.02/.01	1.70	0.95	1.6				
BF10	B1	504.02/.01	1.20	1.00	1.2				
BF11	B1	504.02/.01	1.20	1.20	1.4				

Table 2. Continued.

Field No.	Map Reference	Geostrat	Length (m)	Width (m)	Field Area	Average	Number Measured	Minimum (m ²)	Maximum (m ²)
BF12	B1	504.02/.01	1.15	1.00	1.2				
BF13	B1	504.02/.01	2.00	1.00	2.0				
BF14	B1	504.02/.01	1.60	1.20	1.9				
BF15	B1	504.02/.01	1.60	1.00	1.6				
						1.9	(n = 15)	1.2	3.3
BF16	B3	L505	1.20	1.00	1.2				
BF17	B3	L505	1.00	1.00	1.0				
BF18	B3	L505	1.15	1.00	1.2				
BF19	B3	L505	1.00	1.00	1.0				
BF20	B3	L505	1.20	0.80	1.0				
						1.1	(n = 5)	1.0	1.2
BF21	B4	L505/506	2.40	1.80	4.3				
BF22	B4	L505/506	2.20	1.20	2.6				
BF23	B4	L505/506	2.00	1.40	2.8				
BF24	B4	L505/506	1.20	1.00	1.2				
BF25	B4	L505/506	1.90	1.40	2.7				
BF26	B4	L505/506	2.50	1.60	4.0				
BF27	B4	L505/506	1.80	1.60	2.9				
BF28	B4	L505/506	2.55	1.50	3.8				
BF29	B4	L505/506	2.20	2.20	4.8				
BF30	B4	L505/506	1.40	1.20	1.7				
						3.1	(n = 10)	1.2	4.8
DF1	D1	504.02/.01	4.00	2.75	11.0				
DF2	D1	504.02/.01	5.90	3.00	17.7				
DF3	D1	504.02/.01	4.75	4.00	19.0				
DF4	D1	504.02/.01	4.50	3.00	13.5				
DF5	D1	504.02/.01	4.50	3.00	13.5				
DF6	D1	504.02/.01	4.00	4.00	16.0				
DF7	D1	504.02/.01	4.00	3.00	12.0				
DF8	D1	504.02/.01	4.90	4.00	19.6				
DF9	D1	504.02/.01	4.00	3.50	14.0				
DF10	D1	504.02/.01	5.00	3.00	15.0				
DF11	D1	504.02/.01	4.00	3.90	15.6				
DF12	D1	504.02/.01	4.00	2.75	11.0				
DF13	D1	504.02/.01	4.00	3.50	14.0				
DF14	D1	504.02/.01	3.00	3.00	9.0				
DF15	D1	504.02/.01	4.00	3.00	12.0				
DF16	D1	504.02/.01	3.75	3.20	12.0				
DF17	D1	504.02/.01	3.75	2.50	9.4				
DF18	D1	504.02/.01	4.40	3.00	13.2				
DF19	D1	504.02/.01	4.50	3.00	13.5				
DF20	D1	504.02/.01	3.00	2.60	7.8				
DF21	D1	504.02/.01	3.60	3.00	10.8				
DF22	D1	504.02/.01	4.40	2.00	8.8				
DF23	D1	504.02/.01	5.00	2.60	13.0				
DF24	D1	504.02/.01	4.20	3.40	14.3				
DF25	D1	504.02/.01	3.80	2.80	10.6				
DF26	D1	504.02/.01	6.00	3.70	22.2				
DF27	D1	504.02/.01	5.00	3.00	15.0				
DF28	D1	504.02/.01	6.00	3.60	21.6				

Table 2. Continued.

Field No.	Map Reference	Geostrat	Length (m)	Width (m)	Field Area	Average	Number Measured	Minimum (m ²)	Maximum (m ²)
DF29	D1	504.02/.01	6.00	4.00	24.0				
DF30	D1	504.02/.01	4.50	3.00	13.5				
DF31	D1	504.02/.01	5.00	4.20	21.0				
DF32	D1	504.02/.01	2.80	2.00	5.6				
DF33	D1	504.02/.01	4.00	3.40	13.6				
DF34	D1	504.02/.01	4.00	2.60	10.4				
DF35	D1	504.02/.01	4.00	2.40	9.6				
DF36	D1	504.02/.01	3.60	3.80	13.7				
DF37	D1	504.02/.01	4.30	3.00	12.9				
DF38	D1	504.02/.01	5.00	2.50	12.5				
DF39	D1	504.02/.01	3.80	3.00	11.4				
DF40	D1	504.02/.01	3.20	2.80	9.0				
						13.6	(n = 40)	5.6	22.2
DF41	D1	504.04/505	3.00	2.00	6.0				
DF42	D1	504.04/505	3.00	2.40	7.2				
DF43	D1	504.04/505	3.00	2.60	7.8				
DF44	D1	504.04/505	4.00	3.00	12.0				
DF45	D1	504.04/505	3.80	3.80	14.4				
DF46	D1	504.04/505	5.40	2.60	14.0				
DF47	D1	504.04/505	3.00	2.80	8.4				
DF48	D1	504.04/505	2.80	2.80	7.8				
DF49	D1	504.04/505	3.50	2.50	8.8				
						9.6	(n = 9)	6.0	14.4
FF1	F2	L505/506	2.80	2.40	6.7				
FF2	F2	L505/506	3.00	1.80	5.4				
FF3	F2	L505/506	3.30	2.30	7.6				
FF4	F2	L505/506	3.40	2.20	7.5				
FF5	F2	L505/506	3.40	2.80	9.5				
FF6	F2	L505/506	3.20	2.80	9.0				
FF7	F2	L505/506	3.00	2.50	7.5				
FF8	F2	L505/506	2.80	2.40	6.7				
FF9	F2	L505/506	2.40	2.00	4.8				
FF10	F2	L505/506	2.40	1.80	4.3				
						6.9	(n = 10)	4.8	9.5

