THE ARTHUR PATTERSON SITE

A MID-NINETEENTH CENTURY SITE

SAN JACINTO COUNTY, TEXAS

Prepared by

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pump was used to draw water from the slough at the bottom of the hill. Washing the loam and clay through window screen was many times faster than just screening the soil matrix mechanically.

Features

Burial 1

Burial 1 was located between two potholes. A large lateral root, from a tree growing adjacent to the burial pit, protected the grave from collectors. The pit outline could not be defined either in profile or on a flat horizontal surface in the sandy loam. The first indication of a possible burial pit was the appearance of clay mixed in the sandy loam. With an approximate location of the pit's perimeter, the pit was arbitrarily divided into three units for more control of the bead distributions. The units, very fortunately, coincided with the body parts: that is, from the feet to hips, hips to neck, neck and skull. The bone was in very poor condition because of the acidic soil. A portion of the cranium, distal end of the femur and the petella were the only identifiable bones.

The burial pit measured 1.52 meters long and 0.58 meters wide, with parallel sides and rounded corners. In cross section the pit walls sloped inward to a rounded bottom. The geographical middle of the pit was the lowest point; the ends of the pit were 5 to

Figure 2

"Seed" Beads From Burial #1

	Feet	Torso	Head	Total
Small				
white		19		19
yellow	38	179	136	353
Medium				
tiger			1	1
red/white			1	1
red	1	1	2	4
white	267	1,833	200	2,432
yellow	93	1,510	248	1,950
wine	215	1,210	122	1,650
green	158	560	79	822
blue	5	42	7	62
black	12	191	16	225
turquoise		2		2
Large				
tiger		1	2	3
red/white	4	31	4	39
red		1		1
white	845	4,543	701	6,089
yellow	375	1,120	133	1,628
wine	507	2,030	410	2,947
green	16	49	19	84
blue	12	300	89	401
black	10	6	13	29
turquoise		12		12
	2,555	13,640	2,183	18,753*

Bead Design

Medium	
black	6
blue	8
yellow	99
green	25
wine	103
white	132
clear hex.	1
	374

Sizes: Small - less than 2 mm. diameter
Medium - 2.00 to 2.38 mm.
Larger - 2.38 to 3.00 mm.

*Total includes the bead design.

7 cm. higher. The long axis was oriented a few degrees south of magnetic east-west with the head to the west.

The deceased was buried in elaborately decorated garment(s) and hat. None of the clothing was intact; however, a few fragments of the hat were recovered. The fabric, probably woven by an Indian, was made from either hemp or palmetto; both plants are native to the area. It was dyed red.

The clothing was decorated with small glass beads, probably sewn in geometric designs. Silver, feathers of small birds and small glass beads were sewn to the hat. An estimated 18,750 beads, by weight (Fig. 2), were individually sewn to the garments.

From the length of burial pit and the recovery of beads in all parts of the pit, the body was either in an extended or a semi-flexed position; in either event the body filled the pit.

Burial 2

Burial 2 was located northeast of burial 1 and was the only burial that was totally undisturbed. The burial pit, oriented roughly east-west, was 1.70 m. long, 0.375 m. wide and 0.65 m. at the deepest portion. The end where the head was placed was undercut approximately 8 cm.

The body was in a fully extended position with the back of the head raised and the chin resting upon the chest. Skeletal preservation was poor; only the cranium and portions of the long bones were recoverable. The skeleton belonged to an upper middle age (35-50) female (Barbara Butler, personal communication). The right arm was extended alongside the body; the left forearm and hand were placed across the abdomen. Dentition wear was minimal, indicating the person was probably eating processed foods, rather than stone-ground meal.

Grave goods included a bone handled knife, small glass medicine bottle, and a small metal can. Food, or at least symbols of food, was placed in the grave; three non-human food bones were found in association. An unidentifiable rib was placed to the right of the skull; a horse calcaneum was to the left of the skull, and a horse astragulum was on the chest. These bones were exposed and the soil discarded; at that time I was unaware that certain nuclear chemical tests on the surrounding soil could possibly determine if flesh was on the bone at the time of deposit in the grave.

The deceased was dressed in cotton fabric garment(s) and wore one ring on each hand. Six small white glass buttons

were recovered, but they were not in any recognizable pattern to indicate style of garment(s). A beaded collar with silver pendants, silver dangles and a domestic pig canine was worn around the neck. Four large silver conchos, with the largest nearest the head and the smallest nearest the feet, were on the lower portion of the chest cavity. A small silver concho, probably used as a button, was under the middle pendant. The metal salts preserved the red cotton fabric on the back of the large conchos. The red fabric, perhaps a sash worn around the neck, had the silver conchos sewn or pinned on. The sash may have been part of the bead collar, the beaded collar may have been part of the garment, the sash may be part of the garment, or all three may have been separate items.

Burial 3

Burial 3, with the most grave goods, was partially disturbed by previous excavations. A large tree protected the west half of the pit; the east half had been previously excavated and a large rodent had burrowed in the area. The pit, oriented NW-SE, was approximately 1.70 m. long, 0.55 m. wide and 0.65 m. deep.

It was probably made from two sheets of metal, one forming the body and one the base; a solder seam can be seen on the body. A wire attaches to the bucket by means of two ears. The ears, one stradling the seam, are riveted to the body approximately 3/4 inch below the rim. The bucket has a volume of approximately one gallon.

Tin cans: A large tin can found in Burial No. 3 measures 6 inches in diameter and 4 1/4 inches in height and has a volume of approximately 1 1/2 quarts. It has solder seam joints; there is no apparent solder hole in the one remaining end.

A small tin can in Burial No. 3 measures 1 1/4 inches in diameter and 1 1/2 inches in height. There are two solder seams, one the body and the other seals the base to the body. A slip-on lid closes the top. It may originally have contained snuff or paste ointment.

Glass Beads

All the glass beads from the site were manufactured in Europe. They can be typed according to size, color, shape and construction. Some beads can be dated and place of manufacture pinpointed. Many types have popular names such as pony bead, seed bead, Russian bead, etc.; these names do not reflect size,

shape, color, construction, age or place of manufacture. A chronology, based upon seriation of many types is being established, but it is difficult to date a site by one type of bead.

Bead manufacturing can be broken down into six steps; every bead does not necessarily proceed through all the steps.

Step No. 1 is the manufacturing of molten glass; the recipe of ingredients varies from location to location; chemical analysis of the glass can help determine location of manufacture because there is a certain degree of latitude as to what elements can be substituted for one another in the making of glass (Van der Sleen, 1967: 96-102). The location of natural resources and availability of exotic resources determined the recipe for glass in any particular area. Colored glass is made by adding copper, iron, gold and other minerals to the recipe.

Step No. 2 is the method or technique used in the construction of the bead. There are three major techniques: drawing, winding and blowing. The drawn bead is made by taking a mass of molten glass with an air bubble in it and drawing it out into a tube. A wound bead is made by winding a thin rod of glass in a plastic state around a wire to the desired size. The blown bead, as the name implies, is blown individually, then perforated.

The drawn and wound beads can be subdivided into simple, compound and complex. Simple beads are constructed from one layer of glass. Compound drawn beads have two or more concentric layers of glass; each layer may be of a different color or some may be the same color. Compound wound beads are simple wound beads decorated by inlaying or overlaying glass rods or tubes of a different color. Complex wound beads are of two or more colors. Complex drawn beads may be either simple or compound with rods or tubes of two or more colors inlaid or overlaid.

The basic form of wound or blown beads is complete with Step No. 2. Drawn beads go through at least two more steps before the bead is a finished product.

Step No. 3 is the altering of the profile of drawn tube from circular to polygonal; square, hexagonal and octagonal are common shapes. The tube, in a plastic state, can be either pulled through a mold or pressed with hand tools.

Step No. 4 is cutting the tube into the desired length which ranges from 1 mm. long to 1 meter long. The long tubes were sold to Indians who broke them into desired lengths.

Step No. 5 is finishing the shape of the bead. Some tube beads are heated again and pressed to form polyhedron; wound beads are heated either to flatten ends and/or obliterate the coil lines.

Step No. 6 is smoothing the beads, especially the beads cut from long tubes. The beads are placed in a heated drum and tumbled; this action erodes the sharp rough edges. Often the drum was heated too high, causing some beads to fuse together or warp.

The beads, in this study, are divided into major types according to method of construction and general configuration. Major types will then be subdivided into varieties according to complexity of construction, color, size and shape.

Subdividing beads into varieties based upon size may be another example of an artificial category invented by the investigator. It is very understandable that a drawn tube may have a wide range of diameter thickness along its length because of the method of manufacture. Beads or any product made by a number of individuals would have a wider range of variability than mold or machine made items. Several methods of typing beads according to size has been used by other investigators. Harris, Jelks and others use an arbitrary scale of small (0-2 cm.), medium (2-4 cm.), large (4-6 cm.) and extra large (6+ cm.). Sprague has suggested an absolute scale using a knitting needle scale as a standard. Many investigators have visited European bead factories and obtained

ledgers of fur traders and trading posts to find information on bead types, names and sizes. Thus far, no one has found any records that have enlightened us on bead sizes.

Four measurements, length, outside diameter, oriface diameter, and glass thickness were made on this collection. None of the measurements used, either singly or in any combination of two or three measurements, proved to be meaningful. Beads manufactured by the wire winding method presumably would have a constant oriface diameter; however, each craftsman may have used a wire of a slightly different diameter and the chances of several beads from the same craftsman occurring in a site are very remote. If the bead was wound on a mandrel, the odds are even smaller as the oriface diameter depends on the location of the bead on the mandrel.

The hexagonal tube beads were traded as long tubes and broken to desired lengths by the Indians. The ends were sharp and jagged, and the lengths varied considerably. These beads were hand pressed as they had an asymmetrical cross section. Several of these beads have one diameter exactly the same, indicating that they may have been part of the same tube; however, the other diameters and measurements do not correspond.

Type 1 (Fig. 14, A, 1st row): Simple, hexagonal, tube bead; Bugle or straw bead (Woodward, 1965: 10).

This type has an asymmetrical, hexagonal cross section made by hand marvelling of the glass tube while in a plastic state. Thin, clear lines, possibly air bubbles, run the length of the bead. The glass is thin and can be either transparent or translucent. The range of measurements varies considerably with no discrete clusters.

	Length	Maximum Diameter	Oriface Diameter
	(All measurements in mm.)		
Variety 1a, blue, transparent; 40 specimens	3.5-35.	3.65-4.32	1.86 2.95
Variety 1b, green, transparent; 37 specimens	3.5-35.	3.03-4.47	1.56 3.12
Variety 1c, clear, transparent; 69 specimens	3.0-35. (most under 10.)	3.26-5.15	1.89 2.48
Variety 1d, amber, transparent; 8 specimens	3.0-20.	2.77-3.71	1.51 2.39
Variety 1e, blue, translucent; 10 specimens	5.-35.	3.43-4.07	1.92 2.60
Variety 1f, clear, translucent; 1 specimen	4.63	2.81	1.35

Type 2 (Fig. 14, A, top row): Compound, hexagonal tube bead. This type has the same physical appearance as Type 1; the only difference is the number of layers of glass used in the manufacturing process.

	Length	Maximum Diameter	Oriface Diameter
	(All measurements in mm.)		
Variety 2a, blue-white;* translucent; 2 specimens	3.5-27.9	4.20-4.44	2.18 3.49
Variety 2b, dark blue, light blue, dark blue, translucent; 7 specimens	4.5-37.2	3.95-5.02	2.00 3.49
Variety 2c, clear, white, clear, translucent; 3 specimens	4.3-6.8	4.45-5.46	2.18 2.55
Variety 2d, dark blue, light blue, dark blue, light blue, translucent; 3 specimens	23.2-36.5	3.90-4.19	1.99 2.46
Variety 2e, clear-white, clear-white, translucent; 2 specimens	5.17-5.67	5.63-6.23	2.12 2.30
Variety 2f, dark blue, light blue, dark blue, light blue, white, translucent; 2 specimens	33.6-37.5	3.95-4.10	1.50 2.09

*Color described from exterior to interior.

Type 3 (Fig. 14, A, top row): Simple, faceted, tube bead. This type is basically a hexagonal tube bead that was faceted by hand marvelling the bead while it was in a plastic state. There is a misleading indication of uniformity in this type; beads tend to cluster in one measurement, but an entirely different population clusters in another measurement.

The number of facets are not always in multiples of 6, or as even numbers. The glass is relatively thick and may be transparent, translucent or opaque.

	Length	Maximum Diameter	Oriface Diameter
	(All measurements in mm.)		
Variety 3a, dark blue, translucent, 16-19 facets; 21 specimens	4.84-7.46	6.40-8.23	2.37 4.26
Variety 3b, blue-green, translucent, 19-20 facets; 2 specimens	5.34-5.97	6.16-6.56	1.78 1.84
Variety 3c, black, opaque, 18 facets; 1 specimen	6.34	7.44	3.31

Type 4 (Fig. 14, A, top row): Compound, faceted, tube bead. This type is identical to Type 3, except for the number of components. The outer layer of glass is the thickest and only the outer layer was altered by the faceting process.

Variety 4a, light blue-white, translucent, 12-20 facets; 6 specimens	3.5-6.2	4.40-7.85	1.26 2.84
Variety 4b, dark blue, light blue-white, translucent, 15-facets; 1 specimen	3.86	4.82	1.69
Variety 4c, dark blue, light blue, dark blue, light blue, translucent, 18 facets; 1 specimen	7.55	7.96	3.01
Variety 4d, clear, white-clear, translucent, 15-facets; 1 specimen	5.77	5.17	1.79
Variety 4e, dark blue-light blue-grey, dark blue, light blue, opaque, 19-facets; 1 specimen	4.56	6.50	2.23
Variety 4f, dark blue, light blue, dark blue, light blue-white, translucent, 36-facets; 1 specimen	7.89	9.44	2.53
Variety 4g, dark blue, translucent, 38-facets; 1 specimen	8.06	10.81	4.0

Type 5: Simple, faceted, wound, spherical bead. This type is essentially the same as Types 3 and 4, except the basic bead was a wound sphere.

	Length	Maximum Diameter	Oriface Diameter
	(All measurements in mm.)		
Variety 5a, amber, transparent, 25 facets; 1 specimen	6.34	7.45	1.16

Type 6 (Fig. 14, A, 2nd row): Simple, wound, spherical bead. This type was wire wound; the oriface diameter appears to be uniform throughout the bead. The manufacturing process is quite apparent on most of the beads as there is an indentation at the end where the process began and a nipple where it ended. A few have been warped as a result of too high a temperature in the tumbler. The beads vary from translucent to opaque.

Variety 6a, blue, translucent; 2 specimens	5.80-7.70	7.71-7.98	1.36 1.90
Variety 6b, blue, translucent, 32 specimens	6.0-9.32	8.01-9.7	1.66 2.86
Variety 6c, blue, translucent; 8 specimens	7.40-11.15	10.03-12.55	1.29 3.75
Variety 6d, black, opaque; 2 specimens	4.44-4.71	4.95-5.31	3.24 4.05
Variety 6e, black, opaque; 3 specimens	6.64-7.36	7.51-7.94	1.01 1.60
Variety 6f, black, opaque; 7 specimens	5.94-9.93	8.34-9.39	1.46 2.66
Variety 6g, clear, translucent; 2 specimens	6.48-6.84	7.80-8.01	1.58 1.99

	Length	Maximum Diameter	Oriface Diameter
	(All measurements in mm.)		
Variety 6h, amber, translucent; 2 specimens	6.19-7.23	7.49-8.29	2.29 2.30
Variety 6i, black, opaque; 6 specimens	7.53-11.60	10.27-13.50	1.95 2.73

Type 7 (Fig. 14, A, bottom row): Simple, donut, tube bead. This type of bead has also been called pony, embroidery, necklace and seed beads, depending upon diameter size. Seed beads generally are less than 2 mm. in diameter; necklace or embroidery beads 2 mm. to 4 mm. in diameter, and pony beads were 4 mm. to 6 mm. in diameter. The popular names do not necessarily imply the function that the bead played.

Variety 7a, white, opaque; 22 specimens	less than 1 mm.	less than 2 mm.	less than 1 mm.
Variety 7b, yellow, opaque; 399 specimens	"	"	"
Variety 7c, white, opaque; 2500+ specimens	less than 2 mm.	2.00-2.38	"
Variety 7d, yellow, translucent; 1000+ specimens	"	"	"
Variety 7e, burgandy, translucent; 1700+ specimens	"	"	"
Variety 7f, green, translucent; 850+ specimens	"	"	"
Variety 7g, blue, translucent; 65 specimens	"	"	"
Variety 7h, turquoise, translucent; 2 specimens	"	"	"
Variety 7i, black, opaque; 230+ specimens	"	"	"
Variety 7j, black and cream mottled, opaque; 1 specimen	"	"	"

	Length	Maximum Diameter	Oriface Diameter
	(All measurements in mm.)		
Variety 7k, red translucent; 4 specimens	less than 2 mm.	2.00-2.38	less than 1 mm.
Variety 7L, white, opaque; 6500+ specimens	"	"	less than 1.5 mm.
Variety 7m, yellow, opaque; 800+ specimens	"	"	"
Variety 7n, yellow, translucent; 800+ specimens	"	"	"
Variety 7o, burgandy, translucent; 3000+ specimens	"	"	"
Variety 7p, green, translucent; 863 specimens	"	"	"
Variety 7q, blue, translucent, 6000+ specimens	"	"	"
Variety 7r, turquoise, translucent; 12 specimens	"	"	"
Variety 7s, black, opaque; 29 specimens	"	"	"
Variety 7t, black and cream mottled,opaque; 3 specimens	"	"	"
Variety 7u, red translucent; 1 specimen	"	"	"
Variety 7v, white, opaque; 1 specimen	2.70	3.56	1.36
Variety 7w, clear, translucent; 4 specimens	1.87-2.10	3.60-3.88	1.06 1.35
Variety 7x, black, opaque; 1 specimen	3.0	3.66	0.99
Variety 7y, white, opaque; 24 specimens	2.55-4.66	4.1-5.87	1.31 2.16
Variety 7z, black, opaque; 20 specimens	2.65-4.90	4.04-5.40	1.04 2.18
Variety 7a', amber, translucent; 1 specimen	2.99	4.1	2.73
Variety 7b', white, opaque; 7 specimens	2.85-3.91	6.03-6.26	1.64 2.55

Type 8 (Fig. 14, A, bottom row): Compound, donut, tube bead. This type is identical in shape to Type 7, except for number of constituent parts.

	Length	Maximum Diameter	Oriface Diameter
	(All measurements in mm.)		
Variety 8a, red (translucent, white (opaque); 1 specimen	less than 2 mm.	2.00-2.38	less than 1.0 mm.
Variety 8b, red (translucent), white (opaque); 39 specimens	"	2.38-3.00	less than 1.5 mm.
Variety 8c, red (translucent), white (opaque); 2 specimens	2.60-2.81	4.43-4.77	1.30 1.46
Variety 8d, green, white, opaque; 1 specimen	4.93	5.69	1.96

Type 9 (Fig. 14, A, 3rd row): Simple, wound, cylindrical bead. This type of bead is shaped like a cylinder with rounded ends. The diameter at the center is usually slightly larger than at the ends.

Variety 9a, light blue, translucent; 1 specimen	7.84	5.14	1.25
Variety 9b, light blue, opaque; 1 specimen	8.47	5.23	1.45
Variety 9c, red, translucent; 1 specimen	8.86	5.39	1.85
Variety 9d, blue, translucent; 1 specimen	20.70	10.04	2.77
Variety 9e, black, opaque; 5 specimens	19.30-20.00	7.43-8.61	2.10 2.73

Type 10 (Fig. 14, A, 3rd row): Simple, wound, ovoid bead. This type covers all the shapes that cannot be fitted into the other types. They are basically egg or teardrop-shaped with one end being larger than the other.

Variety 10a, white, opaque, porcelain (Woodward, 1965: 9); 6 specimens	6.10-10.07	5.83-6.25	1.23 1.71
Variety 10b, black, opaque; 1 specimen	13.84	8.53	1.84
Variety 10c, blue, translucent; 1 specimen	16.24	9.25	2.1

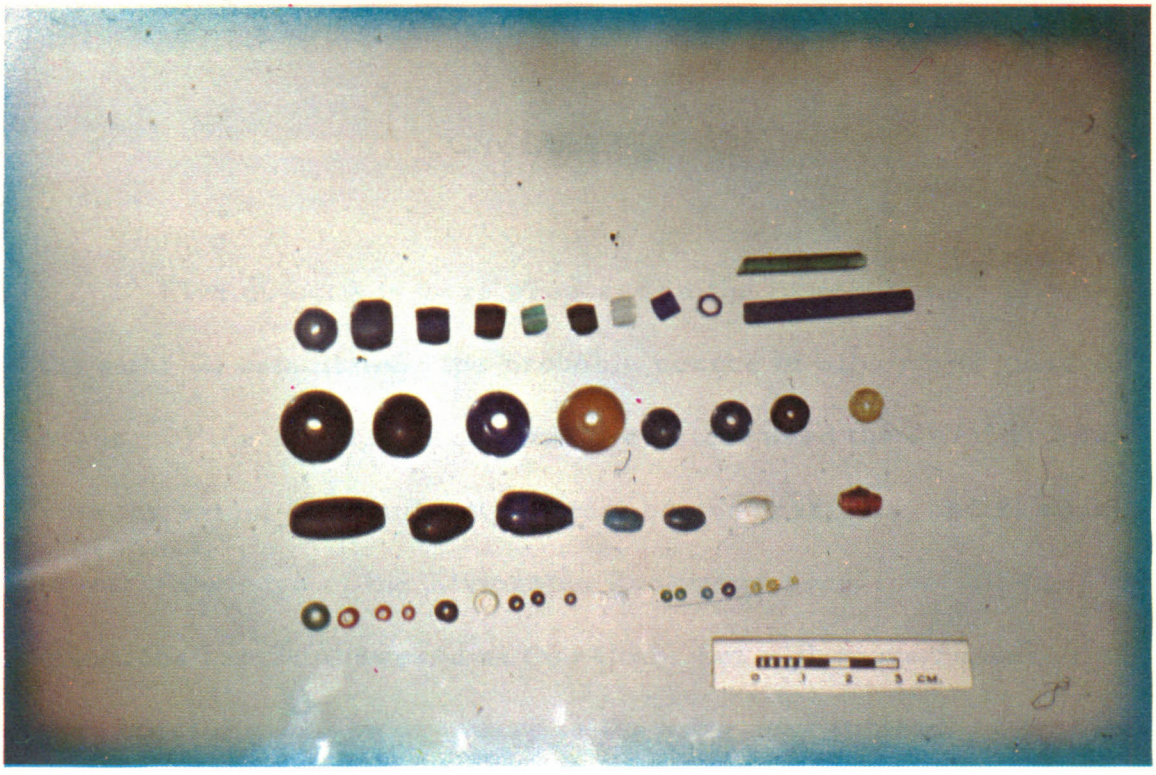
Figure 14, A. Top row. Drawn, faceted, tubular and drawn, hexagonal, tubular beads.

2nd row. Wound spherical beads.

3rd row. Wound cylindrical and ovoid beads.

Bottom row. Simple, donut, tube beads.

14, B. Stoneware dinner plate.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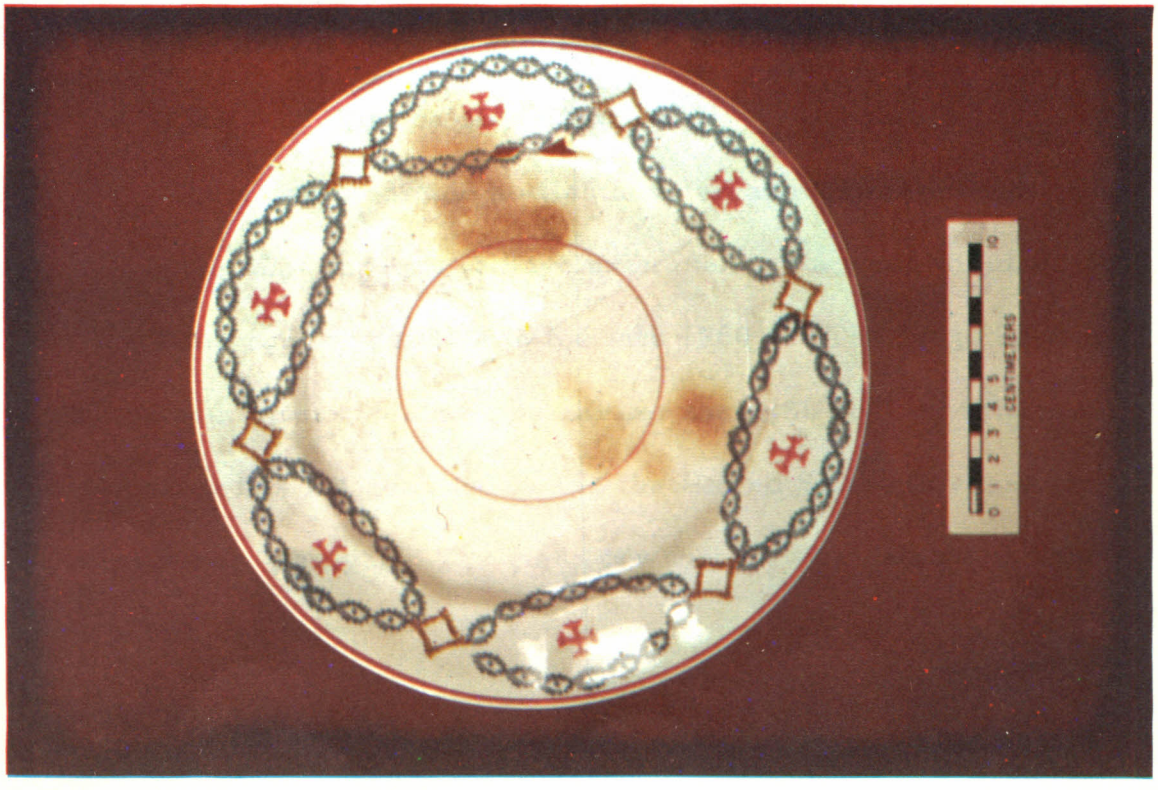
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