Settlement and Subsistence Along the Lower Chaco River: The CGP Survey

Archeological Report
of the
Environmental Study
Submitted to the
Battelle Columbus Laboratories
as part of the
Environmental Impact Study
A Proposed Coal Gasification Plant
for
Transwestern Coal Gasification Company,
Pacific Coal Gasification Company
Western Gasification Company
and
The Expansion of a Strip Mine Operation
near Burnham, New Mexico

Owned and operated by
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frequency of different temper usage. A large sample of indented corrugated body sherds indicates strongly that andesitic rock was the primary tempering material employed. The inclusion of sanidine basalt and red dog shale in Mesa Verde Gray Ware indicates that at least some were manufactured locally. The high proportion of red or yellowish-red firing clays found in Mesa Verde Gray Ware from the lease also suggests at least some local production.

One of the largest collections of Mesa Verde Gray Ware came from CGP 54, a Pueblo III site. Analysis of the nonbasaltary culurary from one of the three proveniences revealed little difference from that described above. Andesitic rock (83 percent) and sherd (17 percent) temper were represented in the sample of 65 sherds. It is of interest that 74 percent of the sample was made with red or yellowish-red firing clays, an occurrence also noted for the decorated wares. Association of selected ceramic types on sites yielding Mesa Verde Corrugated reveal the following frequencies:

Crumbled House B/W 35% Mesa Verde B/W 46%
Nava B/W 54% McElmo B/W 81%
Toadlena B/W 81% Mancos B/W 70%
Chuska B/W 81% Cortez B/W 23%
Burnham B/W 35%
Newcomb B/W 46%
Hunter Corrugated 100%
Mancos Corrugated 31%
Blue Shale Corrugated 46%
Captain Tom Corrugated 46%

The small sample represented by Mesa Verde Corrugated and the predominance of Pueblo II pottery on the lease has evidently resulted in some unexpectedly high frequencies.

2.) Mesa Verde White Ware

Chapin Black-on-white and Piedra Black-on-white
Chapin Black-on-white was recovered from a single site. This jar sherd (Fig. 10.26D) was decorated with carbon paint but had crushed andesitic rock temper. Sherds classified as Piedra Black-on-white (not illustrated) were collected from three sites. All contained crushed andesitic rock temper. Sherds of both these types were classified from descriptions by Breternitz, Rohn, and Morris (1974).

Cortez Black-on-white (Fig. 10.22 A)
All 28 sherds from 13 sites were analyzed. With such a small sample, little could be gained by using the usual descriptive format for a type already well documented (Hayes 1964; Breternitz, Rohn, and Morris 1974). A few attributes may be of interest, however. Temper analysis of Cortez Black-on-white from the lease revealed 43 percent with crushed sherds and andesitic rock, 39 percent with andesitic rock, 14 percent with sherds, and 4 percent with sand. Bowl forms (57 percent) were dominant over jar (29 percent) and Jadle forms (14 percent). Oxidation tests revealed a close similarity to Mancos Black-on-white in the use of clays:

4.2 percent from red firing clays
16.6 percent from yellowish-red firing clays
79.2 percent from buff firing clays
Mean color value: 2.37

Cortez Black-on-white, like its cousin to the south, Red Mesa Black-on-white, is poorly represented from the survey.

Mancos Black-on-white (Fig. 10.22 B)
Sample: 161 sherds from 64 sites.

Construction: Coiling.
Firing Method: Nonoxidizing atmosphere.
Core:
Clays: (sample oxidized-141 sherds).
  4.2 percent from red firing clays.
  16.3 percent from yellowish-red firing clays.
  79.5 percent from buff firing clays.
Mean color value: 2.40.
Color: White to dark gray.
Temper: Fine to medium coarse fragments of crushed sherds (22 percent), crushed andesitic rock (40 percent), or sand (3 percent). A combination of crushed sherd and rock comprises 35 percent of the sample. In combinations of sand and sherd or rock, the sand was always of lesser quantities and not recorded as the primary tempering material. Only a single example was observed of sherd crushed for temper containing sanidine basalt.
Texture: Fine to medium coarse.
Thickness: Bowls—range 4.1-6.7 mm, mean 5.1 mm.
  Jars—range 3.5-6.6 mm, mean 5.5 mm.
Lades—range 3.3-7.1 mm, mean 5.5 mm.
Deformation: Noted for less than one percent of sample.
Porosity: Not tested.
Strength: Not tested.
Surface:
Color: White to light gray. Occasionally light brown or dark gray.
Firing Clouds: Present on 15 percent of sample. Bowls—17 percent; jars—12 percent; ladles—13 percent.
Partial Oxidization: Absent.
Finish: Interiors and exteriors scraped smooth. Scraping marks are rarely observed on jar interiors.
Slip: Creamy white to chalky white slip applied to 89 percent of sample. Thin or thin streaky slip (19 percent), thick (29 percent), or thick crackled slip (41 percent). Absent on 11 percent.
Bowls—57 percent slipped on both surfaces. Thirty percent slipped only on interior. Absent on 13 percent.
Jars—92 percent slipped on exterior. Slip also applied a short distance below rim interior on 8 percent. Slip absent on 8 percent.
Polish: Ranges from poor to good. Rarely absent.
Weathering: Paint and slip weather equally. Spalling is rare.
Shapes:
Bowls (58 percent); jars (37 percent); ladles with tubular handles (5 percent).
Rims (59 sherds): Walls—straight (86 percent) or tapered (14 percent). rims—straight (98 percent) or rarely flared (2 percent). Lips—slightly pinched (10 percent), rounded (71 percent), flat (15 percent), beveled on exterior edge (2 percent), or smoothed on the interior edge causing a bevel (2 percent).
Most Common: IA2 (8 percent), IA3 (61 percent), IA4 (14 percent), and IIIA3 (8 percent).
Others: IA5, IC3, IIIA2, IIIA4 and IIIA7.
Decoration:
Pigment: Mineral.
Color: Reddish brown, greenish brown, light to dark brown to black, greenish black, or dense black. Rarely pale green.
Designs: Interiors of bowls and ladles, exteriors of jars and on handles. A single example noted of an exterior bowl decoration.
Major motifs comprising decorations include diagonal hachure between parallel framing lines (37 percent), rarely with the framing lines wider than the hachure lines (2 percent), diagonal squiggle line hachure between parallel
Fig. 10.22 Mesa Verde White Ware: A. Cortez Black-on-white sherds. B. Mancos Black-on-white sherds.
framing lines (7 percent) or cross hachure (5 percent), sawteeth (4 percent), scrolls (1 percent), triangles (3 percent), isolated dots or dots attached on the inside of two parallel lines (3 percent), groups of narrow to medium wide parallel lines (8 percent), and checkerboards (3 percent). Other unidentified solid motifs, primarily broad lines, occur on 30 percent of the sample.

Designs are pendant from the rim (49 percent) or occur just below the rim (46 percent). Five percent could not be classified.

Corrugated exteriors: Present on 9 percent of bowl sherds. Basket impression noted on a single bowl sherd.

Rims (59 sherds): Undecorated—54 percent, painted solid—32 percent, dotted—absent, other or unknown—14 percent.

Time of Manufacture and Distribution:

Period: Pueblo II—early Pueblo III.
Ceramic Group: 4-8 (most common in groups 5-7).
Dates: A.D. 900-1150.
Range: That area described by Breternitz, Rohn, and Morris (1974) and extending south from the San Juan River along the Chaco River and its tributaries to near the Great Bend of the Chaco.

Remarks:

Mancos Black-on-white from the survey appears to be very similar to that described for Mesa Verde (Hayes 1964; Swannack 1969; Breternitz, Rohn, and Morris 1974). An obvious bias exists for the amount of sherd and sand tempered specimens analyzed because of the difficulty in separating this type from comparable Chacoan types. Mancos Black-on-white was found most often with Toadlena, Chuska, and McElmo Black-on-whites on sites with Mancos pottery.

Selected decorated types associated with Mancos occur in the following frequencies:

<table>
<thead>
<tr>
<th>Clay Type</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mesa Verde B/W</td>
<td>36%</td>
</tr>
<tr>
<td>McElmo B/W</td>
<td>73%</td>
</tr>
<tr>
<td>Cortez B/W</td>
<td>14%</td>
</tr>
<tr>
<td>McElmo Black-on-white</td>
<td>10%</td>
</tr>
<tr>
<td>Chaco B/W</td>
<td>10%</td>
</tr>
<tr>
<td>Escavada B/W</td>
<td>10%</td>
</tr>
<tr>
<td>Red Mesa B/W</td>
<td>17%</td>
</tr>
<tr>
<td>Nava B/W</td>
<td>48%</td>
</tr>
<tr>
<td>Toadlena B/W</td>
<td>81%</td>
</tr>
<tr>
<td>Chuska B/W</td>
<td>75%</td>
</tr>
<tr>
<td>Burnham B/W</td>
<td>37%</td>
</tr>
<tr>
<td>Newcomb B/W</td>
<td>44%</td>
</tr>
<tr>
<td>Brimhall B/W</td>
<td>41%</td>
</tr>
<tr>
<td>Taylor B/W</td>
<td>22%</td>
</tr>
<tr>
<td>Naschitti B/W</td>
<td>20%</td>
</tr>
</tbody>
</table>

McElmo Black-on-white (Figs. 10.19 C-D, 10.23)

Sample: 255 sherds from 76 sites.

Construction: Coiling.

Firing Method: Nonoxidizing atmosphere.

Core:

Clays: (sample oxidized-234 sherds).
- 4.3 percent from red firing clays.
- 27.8 percent from yellowish-red firing clays.
- 67.9 percent from buff firing clays.

Mean color value: 2.98.

Color: White to dark gray.

Temper: Fine to medium coarse fragments of crushed sherd (48 percent), crushed andesitic rock (28 percent), or sand (10 percent). Combinations of these three tempering materials include sherd and rock (11 percent), with sherd usually the predominant material, or sherd and sand (3 percent). A minimum of 2 percent of the sherd crushed for temper contained sanidine basalt.

Texture: Fine to medium.

Thickness: Bowls—range 3.9-7.6 mm, mean 5.2 mm.
Jars—range 3.8-7.4 mm, mean 5.1 mm.
Carbon Streak: Present in 28 percent of sample. Bowls—27 percent; jars—28 percent; ladles—33 percent.

Deformation: Absent.
Porosity: Not tested.
Strength: Not tested.

Surface:

Color: White to dark gray.

Firing Clouds: Present on 8 percent of sample. Bowls—9 percent; jars—4 percent; ladles—none.

Partial Oxidization: Occurs with one percent of sample.

Finish: Interiors and exteriors scraped smooth. Fine scraping marks sometimes evident on jar interiors.

Slip: Yellowish-white to pearly-white slip applied to 94 percent of sample: Thin streaky slip (4 percent), thick (46 percent), or thick crackled slip (44 percent). Absent on 6 percent.

Bowls—80 percent slipped on exterior and interior. Nineteen percent slipped only on interior. Absent on 1 percent.

Jars—100 percent slipped on exterior. Slip also applied a short distance below rim on interior (5 percent).

Ladles—slipped on one (33 percent) or both surfaces (67 percent).

Polish: Streaky to well done.

Weathering: Occasional spalling of surface noted.

Shapes:

Bowls (68 percent); jars (31 percent); ladles, with tube or strap-type handles (1 percent).

Rims (78 sherds): Walls—straight (86 percent) or tapered (14 percent).

Lips—A variety of lip forms prevailed, but most were slightly pinched upward (37 percent), rounded (28 percent), or flattened (27 percent). Beveled rims absent.

Most Common: IA2 (26 percent), IA3 (28 percent), and IA4 (27 percent).

Others: IA1, IB2, IB6, IIIA2, IIIA3.

Decoration:

Pigment: Carbon.
Color: Dense black to purplish black.

Designs: Interiors of bowls and ladles, and jar exteriors. Handles often decorated, particularly ladle handles. Designs noted on 3 percent of bowl interiors (Fig. 10.19 C-D).

Most common motifs include broad lines, in Sosi style, often parallel (24 percent), several narrow parallel lines (12 percent), diagonal or cross hatching between parallel framing lines (14 percent), hatched fillers (10 percent), solid triangles, occasionally ticked (6 percent), sawteeth (4 percent), dotted lines (3 percent), and isolated dots or dots between parallel framing lines (3 percent). Others include half terraces, hourglasses, checkerboards, dotted grids, elongated triangles, scrolls, and other solid motifs.

Designs are either pendant from the rim (55 percent of sample) or are drawn as band designs just below the rim (45 percent).

Corrugated Exteriors: Absent.

Rims (78 sherds): Undecorated—62 percent, painted solid—15 percent, or dotted—20 percent. Two examples consist of ticks (3 percent).

Time of Manufacture and Use:

Period: Pueblo III.

Ceramic Group: 7-9.


Range: That area described by Breternitz, Rohn, and Morris (1974) and extending south from the San Juan River to include the Chaco River west to the Chuska Mountains.

Remarks:

McElmo Black-on-white from the lease is basically the same as that described by Abel (1955), Hayes (1964), and Breternitz, Rohn, and Morris (1974). There are some minor differences, however, which may be attributed to regional variability. McElmo Black-on-white from the survey is slightly thinner than its cousins to the north. There is a large difference in the occurrence of fire clouding, which is more prevalent on
Fig. 10.23  Mesa Verde White Ware, McElmo Black-on-white sherds.
sherd from the Mesa Verde district. The occurrence of sand temper in survey sherd is consistent with its previously reported use in the lower San Juan Valley by Breternitz, Kolb, and Morris (1974:37).

The large number of single occurrences of McElmo Black-on-white tabulated for survey sites (34 percent) may be indicative of erroneous identification. Early Pueblo III Chuskan and Tusayan decorated types are similar enough to McElmo Black-on-white to suppose that some misclassification is bound to occur, particularly in those areas outside Mesa Verde. Types most often confused with McElmo Black-on-white are Sosi, Dogoszhi, Chuska, Toadlena, and Nava Black-on-whites.

Toadlena and Chuska Black-on-whites occur most frequently on sites with McElmo Black-on-whites. The many singular tabulations for McElmo Black-on-white apparently has affected its frequency with Mesa Verde Black-on-white. Mesa Verde was found on only 30 percent of the sites with McElmo Black-on-white. However, sites with Mesa Verde Black-on-white also have McElmo in 65 percent of the sample. Selected decorated types recovered from sites with McElmo occur in the following frequencies:

<table>
<thead>
<tr>
<th>Sample Type</th>
<th>Percent</th>
<th>Sample Type</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crumbled House B/W</td>
<td>23%</td>
<td>Mesa Verde B/W</td>
<td>30%</td>
</tr>
<tr>
<td>Nava B/W</td>
<td>41%</td>
<td>Mancos B/W</td>
<td>58%</td>
</tr>
<tr>
<td>Toadlena B/W</td>
<td>84%</td>
<td>Cortez B/W</td>
<td>12%</td>
</tr>
<tr>
<td>Chuska B/W</td>
<td>76%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Burnham B/W</td>
<td>37%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Newcomb B/W</td>
<td>32%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brimhall B/W</td>
<td>30%</td>
<td>Chaco B/W</td>
<td>11%</td>
</tr>
<tr>
<td>Taylor B/W</td>
<td>16%</td>
<td>Gallup B/W</td>
<td>18%</td>
</tr>
<tr>
<td>Naschitti B/W</td>
<td>16%</td>
<td>Escavada B/W</td>
<td>10%</td>
</tr>
<tr>
<td>Red Mesa B/W</td>
<td>16%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Mesa Verde Black-on-white (Figs. 10.24, 10.25)
Sample: 277 sherds from 35 sites.
Construction: Coiling.
Firing Method: Nonoxidizing atmosphere.
Core:
Clay: (sample oxidized-189 sherds; excludes CGP 54 with 69 oxidized sherds, listed in parentheses).
14.3 (50.7) percent from red firing clays.
34.4 (27.5) percent from yellowish-red firing clays.
51.3 (21.7) percent from buff firing clays.
Mean color value: 3.57 (5.06).
Color: White to dark gray.
Temper: Moderate to profuse medium fine to medium coarse fragments of crushed sherds (15 percent), crushed andesite rock (53 percent), or sand (4 percent). Condemned of these three tempering materials include sherd and rock (20 percent), sherd and sand (5 percent), and rock and sand (3 percent). A minimum of 2 percent of the sherds crushed for temper contained sandine basalt. Nine percent of the pottery with sherd and andesite rock temper revealed that the sherds crushed for temper contained rock.
Texture: Medium to coarse.
Thickness: Bowls—range 4.4-8.0 mm, mean 6.1 mm.
Jars—range 4.0-7.7 mm, mean 5.9 mm.
Ladies—range 4.2-6.4 mm, mean 5.7 mm.
Carbon Streak: Present in 31 percent of sample; excludes CGP 54 which revealed a carbon streak in 15 percent of the 74 sherds.
Bowl—32 percent; jars—28 percent; ladles—none. CGP 54: Bowls—13 percent; jars—30 percent; ladles—none.
Deformation: Absent.
Porosity: Not tested.
Strength: Not tested.
Surface:
Color: Brown or white to dark gray.
Firing Clouds: Present on 14 percent of sample. Bowls—15 percent; jars—7 percent; ladies—none.
Partial Oxidation: Occurs with one percent of sample.
Finish: Interiors and exteriors scraped smooth. Scraping marks not evident on vessel surfaces.
Slip: Pearly gray, glossy white, or white slip applied to 99 percent of sample. Thin or thin streaky slip (1 percent), thick (2 percent), or thick crackled slip (96 percent). Absent on 1 percent.
Bowl—97 percent slipped on exterior and interior. One percent slipped only on interior and 2 percent were unknown.
Jars—100 percent slipped on exterior.
Ladles—slipped over entire surface.
Polish: Well done, often to a lustre.
Weathering: Occasional spalling of surface or slip weathers off leaving paint in relief.
Shapes:
Bowls (87 percent); jars (11 percent); ladles, with tube handles (3 percent).
Rims (98 sherds): Walls—straight (93 percent) or tapered (7 percent). Rims—straight (99 percent) with a single example of a sharply everted rim. Lips—broad flat (68 percent), rounded (31 percent), or pinched (1 percent). Beveled rims absent.
Most Common: IA3 (27 percent) and IA4 (63 percent).
Others: ID2, IIIA3, IIIA4.
Decoration:
Pigment: Carbon (a single example with mineral paint was noted).
Color: Dense black to purplish black to reddish black.
Designs: Interiors of bowls in 23 percent of sample. May be much higher because exterior design often is close to the rim and less likely to be exhibited on body sherds. Thirty-nine percent of the 90 bowl rim sherds decorated on both surfaces. Exteriors of jars, handles, and ladle bowl interiors decorated.
Decoration consists primarily of geometric or abstract designs. The most common motif is 2 to 14 parallel banding lines 1.1 to 2.5 mm in width (47 percent). Parallel lines are generally spaced 1.6 to 3.0 mm apart. Other motifs in combination or with banding lines include hatching, or irregular spaces such as fillers between wide lines (20 percent), hatching between parallel framing lines (7 percent), dots pendant from lines or as fillers between parallel lines (8 percent), solid triangles, sometimes ticked or with eye inside triangle (6 percent). Motifs noted on less than 3 percent of sample include dotted grids, sawteeth, checkerboards, rhomboids in a solid band, scrolls, cross hatching, half terraces, and isolated dots. Motifs are frequently opposed.
Designs are either pendant from rim (30 percent) or begin below rim in a typical banded layout (70 percent).

Exterior designs on brushes (Fig. 10.25) are simpler and involve less motifs than on interior. Often a single interior motif is repeated on the exterior. Narrow to medium wide parallel lines predominate (40 percent). Others include rows of dots of between two closely spaced parallel lines (7 percent), opposed triangles or opposed isosceles triangles (11 percent), triangular scrolls or isolated dots (4 percent), hooks pendant from a line, sawteeth, cross hatching, hatching bordered by a solid element, oblique checkerboard, hatching of irregular spaces, and rhomboids in a solid band (2 percent each). Unidentified motifs compose 34 percent of the exterior bowl decorations.
Designs are rarely pendant from rim on bowl exteriors (3 percent).
Corrugated Exteriors: Absent.
Fig. 10.24  Mesa Verde White Ware: Mesa Verde Black-on-white sherds.
Fig. 10.25 Mesa Verde Black-on-white bowl sherd designs. Interior motifs on upper figure; F and G are exterior motifs only.
Verde White and Gray Wares. The Mesa Verde Black-on-white from the survey is essentially the category might have increased the overall frequency of Cibola White Ware to 13 percent, but this would still be far below the frequencies exhibited by Chuska (54 percent) and Mesa Verde (28 percent) White Wares. Because of small samples, most of the Cibola White Ware decorated types were described under a shorter format than was used for other ceramics; only Gallup Black-on-white was recovered in high numbers. Cibola White Ware in this region was indicative of Chacoan ceramics and not of those more commonly found in the Zuni region. Surprisingly, despite the widespread Chacoan settlement of the area just to the south, there was relatively little ceramic evidence for Chacoan use of the lease.

Sand tempered indented corrugated pottery was commonly produced in or around Chaco Canyon (Hawley 1936:33, 45; Judd 1954:181; Vivian 1965:25; Vivian and Mathews 1965:73). However, assigning ceramic tradition status to similar sherds recovered from the lease was fraught with difficulty. Unfortunately, sand tempered indented corrugated pottery from the survey was generally tabulated under Mesa Verde Gray Ware. Further discussion of this problem will be found under the introduction for the Mesa Verde Ceramic Tradition. In summary, however, subsequent evidence suggested that the sand tempered indented corrugated sherds were not part of the Mesa Verde Gray Ware. The scarcity of Tusayan White Ware ceramics also implied that this culinary ware could not be attributed to the Tusayan Gray Ware Tradition. Therefore, it seemed plausible that the sand tempered sherds generally belonged to the Cibola Gray Ware Tradition. On Pueblo II sites within the lease, sand tempered indented corrugated sherds apparently comprised a large proportion of the nonbasalt tempered culinary wares. An oxidized sample of these sherds (Tab. 10.6) revealed a higher incidence of reddish firing pastes than was found for those in Chaco Canyon. The common occurrence of local reddish firing clays on the lease inferred, however, at least some local manufacture of these sand tempered culinary sherds. A large sample of indented corrugated sherds with sand temper was recovered from CGP 537. About 15 percent of the 35 sherds exhibited quartz sand temper from crushed sandstone. However, the sand temper in most of the culinary sherds did not appear to be from crushed sandstone. A clearer understanding of the role of sand tempered culinary ware in the area must await further investigation.

Ceramic descriptions by Roberts (1927), Hawley (1936), Vivian (1959, 1965) and the Cibola White Ware Conference (1958) aided in the classification of the Cibola White Ware. An overall taxonomy and description for ceramics of the Cibola Gray Ware (Chaco Series) has yet to be published.

Shards of Lino and Kama Gray (Fig. 10.26 A B) were rare from the lease. These could be classified as either early Tusayan or early Cibola Gray Ware. A single restorable vessel of sand tempered Tohatchi Banded (Fig. 10.27) was recovered from the lease. This stood 34.0 cm in height and had an approximate diameter of between 29.0 to 31.5 cm. Capacity was measured at 11,700 ml. The jar was recovered from a slab-lined box a few meters from a possible Pueblo III field house (CGP 72). Tohatchi Banded was produced between A.D. 900 and 1000 in the early Pueblo II period (Wendorf, Fox, and Lewis 1965:385-389). No other ceramics of Tohatchi Banded were recovered from the lease.

**C.) Cibola Ceramic Tradition**

Decorated pottery of the Cibola White Ware Tradition was recovered consistently in small numbers from project sites. Cibola White Ware comprised 4 percent of the total decorated wares. Probably many other Cibolan sherds were included under the more general Mesa Verde/Cibola category discussed under the introduction for the Mesa Verde White and Gray Wares. The addition of sherds within this category might have increased the overall frequency of Cibola White Ware to 13 percent, but this would still be far below the frequencies exhibited by Chuska (54 percent) and Mesa Verde (28 percent) White Wares. Because of small samples, most of the Cibola White Ware decorated types were described under a shorter format than was used for other ceramics; only Gallup Black-on-white was recovered in high numbers. Cibola White Ware in this region was indicative of Chacoan ceramics and not of those more commonly found in the Zuni region. Surprisingly, despite the widespread Chacoan settlement of the area just to the south, there was relatively little ceramic evidence for Chacoan use of the lease.

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**Kiatuthlanna Black-on-white (Fig. 10.28 A)**

Only six sherds from six sites were classified as Kiatuthlanna Black-on-white. Five of these were oxidized in a kiln, revealing a buff color paste (Mean color value 1.40). All exhibited sand, sherd, or sand and sherd temper. This type was difficult to separate from Red Mesa Black-on-white. Kiatuthlanna Black-on-white was included, in part, under descriptions by Roberts (1927:144-156) for his early Transitional Painted Wares in Chaco Canyon and from his excavations at Kiatuthlanna (1931:119-149). A more recent description has been given by the Cibola White Ware Conference (1958). Kiatuthlanna Black-on-white is a Pueblo I pottery type.