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AN ASSESSMENT OF DISMAL RIVER CERAMICS IN COLORADO

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ABSTRACT

Eastern Colorado was an important area for the movement of people and goods for centuries prior to European colonization. One group to occupy the area in the Protohistoric period is known as the Dismal River archaeological complex. Dismal River people occupied not only parts of eastern Colorado, but also the Central High Plains of Wyoming, Nebraska, and Kansas. The ceramics from 22 Colorado Dismal River sites were recently reanalyzed as part of a larger project aimed at better understanding their identity, foodways, and technology. Although some previous researchers have had difficulty identifying and categorizing Dismal River ceramics, new comparisons to ceramics recovered from eastern sites (Nebraska and Kansas) show that existing ceramic type classifications, while general, may successfully be applied to Colorado collections. Dismal River groups living in Colorado likely used and discarded fewer vessels than their eastern counterparts; however, they also maintained a more exacting set of manufacturing guidelines as vessels here exhibit far less variation than seen in other Dismal River assemblages.

INTRODUCTION

Recent research regarding the Athapaskan migration south through Colorado has led to a renewed interest in Protohistoric and early Historic sites in eastern Colorado, including those attributed to Dismal River groups (Gilmore and Larmore 2012; Hill 2012; Seymour 2012). Although Dismal River sites are found across the Central High Plains, research interest in this group, at least outside of Colorado, had grown stagnant with very few reports or publications appearing in print since the 1980s (Cara Gulley's 2000 MA thesis is one exception). Researchers working in Colorado, however, had maintained research interest with publications and reports appearing from Brunswig (1995), Ellwood (2002), Gilmore and Larmore (2012), Hill (2012), and Kalasz et al. (1999). To date, no one has systematically analyzed the collections from Dismal River sites across the Central High Plains since Gunnerson's work in the mid-twentieth century (Gunnerson 1959), and many questions regarding the technology and identity of this group remain unaddressed.

As part of a larger project aimed at better understanding the identity, foodways, and technology of Dismal River groups as well as their involvement in broader exchange networks, I chose to reanalyze the ceramic assemblages from 43 Dismal River sites across the Central High Plains. Preliminary results from the reanalysis of ceramics from sites in western Kansas indicated that Puebloan migrants were likely joining some Dismal River communities in the seventeenth century as they left their homeland to escape Spanish persecution (Beck and Trabert 2014; Trabert 2015). I was specifically interested in whether Puebloan migrants joined other Dismal River groups living outside of western Kansas or if Puebloan technological and social influences at least spread to other Dismal River populations. To address these questions, I reanalyzed Dismal River ceramic assemblages collecting data on manufacturing practices, vessel forms, and

vessel use, as these practices differed considerably between potters living in the northern Rio Grande pueblos and those living on the Central High Plains. As part of this larger analysis, 252 ceramics from 22 sites in Colorado (an additional 13 sites with Dismal River cultural affiliation were inspected but these did not have identifiable Dismal River ceramics in their assemblages) were examined and compared to data collected on 5,568 ceramics from 24 sites in Wyoming, Nebraska, and Kansas. A full summary of these results and conclusions can be found in Trabert (2014, 2015).

During the course of this analysis, it became clear that the Dismal River occupation of Colorado differed significantly from sites in Kansas and Nebraska and that previous researchers in Colorado had difficulty identifying Dismal River sites. Ceramics are considered culturally diagnostic for this group, yet archaeologists classify a wide range of ceramics as “Dismal River” that stray from the type descriptions used elsewhere for the classification of this pottery. My analysis of Dismal River ceramics from Colorado offered the opportunity to reconsider how these ceramics are classified and how sites are defined in this state. In this article, I discuss relevant background information on Dismal River, how sites have been attributed to this group in Colorado specifically, and the sites that I included in my analysis. This is followed by a summary of the results from the reanalysis of the Dismal River ceramics sample, suggestions for more accurately identifying Dismal River ceramics in Colorado, and a discussion of how the eastern Colorado sites fit into broader questions regarding social and technological exchange and the nature of the Dismal River occupation in the larger region.

CULTURAL AND SITE BACKGROUND

The Dismal River Aspect

The Dismal River Aspect is an archaeological complex (A.D. 1675-1725) on the High Plains of eastern Colorado, southeastern Wyoming, western Kansas, and western Nebraska (Gunnerson 1968; Scheiber 2006). This taxonomic unit was originally defined by Hill and Metcalf (1941: 206-209) after the excavation of the Lovitt Site (25CH1) in Nebraska. Since then, the term “aspect” has fallen out of favor by many Plains archaeologists as we know more about the geographic and temporal ranges for these archaeological cultures. Although I have suggested elsewhere to replace “aspect” with “phase” for this group (Trabert 2015), for the remainder of this discussion I have dropped the cumbersome taxonomic classifications and will simply refer to this archaeological culture as Dismal River.

Researchers first estimated, using dendrochronology, that Dismal River groups occupied Nebraska sometime between AD 1674 and 1706 (Champe 1949; Hill and Metcalf 1941), but recent efforts to re-date eastern Dismal River sites has yielded a new estimation of AD 1600 to AD 1750 (Hill et al. 2014; Trabert 2015). Additionally, Gilmore and Laramore (2012:46) have expanded the possible period of Dismal River occupation of sites in Colorado to AD 1300-1650 (using ¹⁴C and AMS dating). It is very likely that the earliest Dismal River sites are located in Colorado and Wyoming, but only 11 (of more than the 250 sites) have been chronometrically dated (Trabert 2015).

Dismal River semi-permanent village or campsites have been found on the High Plains, the western part of the Nebraska sandhills, near rivers, and on the Colorado Piedmont (Cassells 1997; Gunnerson 1959; Strong 1935). Houses are generally circular with several base posts and

a central hearth. External roasting pits are often found at sites. There is evidence for a mixed subsistence strategy, dominated by bison and supplemented with horticulture (Gunnerson 1968). Chipped-stone assemblages, groundstone, and worked bone assemblages are all similar to other groups of people living on the Plains during this period and are not considered diagnostic (Gunnerson 1959; Wedel 1959). The ceramics, however, differ from those from surrounding groups in form, surface treatment, temper, and decoration and are considered the most diagnostic cultural marker for Dismal River (Brunswig 1995; Schieber 2006; Wedel 1959).

Variation in Dismal River ceramics, house forms, site layout, reliance on horticulture, and the number of artifacts recovered from sites led some researchers to divide Dismal River territory into a number of variants. Most researchers recognize an eastern (sites in Kansas and Nebraska) and a western (Colorado and Wyoming) variant for Dismal River groups based on ceramic traits and the types of sites and structures that were occupied (Brunswig 1995; Gilmore and Laramore 2012; Gunnerson 1968; Wedel 1959). Eastern Dismal River sites show evidence of semi-permanent occupation, a mixed horticultural and hunting lifeway, and the use and discard of multiple ceramic vessels (described in this article) (Brunswig 1995; Gunnerson 1968; Trabert 2015). Western Dismal River sites present evidence for more mobile groups of hunter-foragers living in expedient short-term structures such as tepees or rockshelters, and these groups discarded a very small number of ceramic vessels (Brunswig 1995; Cassells 1997; Gunnerson 1959).

Dismal River people occupied a territory with a rich history of previous and contemporaneous occupations by various cultural groups. In Kansas, Nebraska, Colorado, and Wyoming, 26 reported Dismal River sites also have an Upper Republican component and/or artifacts attributed to this group. The term Upper Republican refers to an archaeological culture

describing a group of people who lived in small horticultural villages in Nebraska and Kansas. Members of this group also traveled farther west to Colorado and Wyoming where they occupied more ephemeral campsites and rockshelters while hunting bison and other large game. One such site in Colorado, 5WL31 or the McEndaffer Rockshelter, is an excellent example of Upper Republican and Dismal River groups utilizing the same space over several different occupations. Located in Weld County, the large rockshelter (100-meter-long overhang, 4 to 10 meters deep, and 1 to 3+ meters high) contained thin occupation levels marked by hearths, groundstone tools, and some pottery (Wood 1967). Not present were characteristic Upper Republican diamond-shaped knives, pipes, polished stone celts, bison scapulae hoes, metapodial fleshers, and fish hooks typically found at Upper Republican sites farther east. Wood (1967) states that it is common for Upper Republican sites in this region to be “impoverished” compared to village sites farther east as their lifeway focused on hunting rather than horticulture (no evidence of cultigens were recovered at 5WL31). Parallels can be found in the Dismal River occupation of eastern Colorado as sites tend to be more ephemeral with lower artifact densities than to the east.

Dismal River Ceramics

Sites in western Nebraska have yielded the highest volume of Dismal River ceramics. Following work at the Lovitt (25CH1) and Ash Hollow Cave (25GD2) sites, Metcalf concluded that there are three pottery types for Dismal River: Lovitt Plain, Lovitt Simple Stamped, and Lovitt Mica Tempered (Metcalf 1949). For simplicity’s sake, I have combined the Lovitt Plain and Lovitt Simple Stamped types into a Dismal River Gray Ware category and will refer to the

bulk of Dismal River ceramics as Gray Ware. Gray Ware ceramics have a paste that is fine, compact, thin, smooth or simple stamped, and dark in color, with fine sand temper. Surfaces may be lightly burnished, but not polished, and slipped and/or painted surfaces are not typical. Slightly flaring rims dominated the assemblage and decoration is confined to the lip. Vessels were constructed using the paddle and anvil technique, leaving rounded finger anvil impressions on vessel interiors and scraped surfaces (Shepard 1956; Wedel 1959). Reconstructed vessels from the Lovitt site and a Dismal River component at the Scott County Pueblo site (14SC1) in western Kansas are all small to medium in size with approximately a one-gallon capacity. These globular jars are wide-mouthed with sloping shoulders, straight to flaring rims, and moderately constricted necks (Hill and Metcalf 1941; Wedel 1959). No short-upright or short-inverted vessels, similar in form to Puebloan painted or polychrome pots, had been identified in Dismal River assemblages prior to this project.

Ceramics from Colorado have been described somewhat differently from those found in Kansas and Nebraska. Ceramics are divided into two wares, Dismal River Gray (divided by Brunswig 1995 into Lovitt Plain and Lovitt Simple Stamped) and Sangre de Cristo Micaceous (a ware originating in northern New Mexico; see Eiselt and Ford 2007). Brunswig (1995) describes the pastes of both wares as compact, friable, with a sandy granular texture. Paste inclusions are coarse to medium in size with some mica inclusions. Brunswig (1995) reported that simple stamping was not found in the western Dismal River area and that micaceous sherds were more common here than in eastern sites. I argue here and elsewhere (Trabert 2015; Trabert et al. 2016) that the micaceous ceramics recovered from these sites, many of which are attributed to Sangre de Cristo Micaceous, are more likely locally produced ceramics that did not in fact originate in New Mexico.

Micaceous ceramics appear in small numbers at many Dismal River sites and most previous researchers have hypothesized that micaceous wares were acquired by Dismal River people, not through local production, but by trade with the Jicarilla and/or Taos and Picuris pueblos (Brugge 1982; Brunswig 1995; Gunnerson 1968; Wedel 1959). Several publications concerning Dismal River ceramic typologies by Gunnerson (1968), Brugge (1982), and Baugh and Eddy (1987) argue that micaceous sherds should not be considered indigenous to the Plains. Instead, Baugh and Eddy (1987) attribute the Lovitt Micaceous to Ocate and Peñasco Micaceous Wares, a practice repeated by other researchers such as Clark (1999:312), while Brunswig (1995) classifies many as Sangre de Cristo Micaceous. These researchers suggested that all of the aforementioned wares were commonly made in northeastern New Mexico and then purportedly traded to the Plains. Wedel (1959) noted that micaceous sherds were more common in the southern Dismal River sites than in the north and hypothesized a Southwestern origin (specifically from Taos and/or Picuris pueblos), indicative of trade between the upper Rio Grande and Central Plains. Brugge (1982) took this idea one step further and suggested that following the 1680 Pueblo Revolt, people from Taos and Picuris pueblos traveled to El Cuartelejo (specifically 14SC1) and taught the Dismal River people there to make pottery. He suggested that pottery technology, as well as the use of micaceous pottery, then spread from western Kansas to Nebraska and other Dismal River sites (Brugge 1982:282-283).

As part of this larger research project, Trabert and co-authors (2016) subjected a sample of micaceous ceramics from the Lovitt (25CH1) and Scott County Pueblo (14SC1) sites for mineral (petrography) (n = 10) and chemical (instrumental neutron activation analysis) (n = 49) compositional analyses. They found that the “micaceous” ceramics recovered from these sites were not manufactured with micaceous clays (such as those available in northern New Mexico),

but were instead tempered with mica-rich granites (available in New Mexico, Colorado, and Wyoming). Additionally, the chemical composition of these ceramics showed that a majority of the sample (n = 42) fell outside of known micaceous clay source areas in New Mexico (Eiselt 2006; Trabert et al. 2016). While they were fairly certain that the mica-granite-tempered Dismal River sherds did not originate in New Mexico, they were unable to say with great certainty where the ceramics originated. In an earlier study, Trabert (2015) stated that these ceramics were likely manufactured from materials available in the Front Range of Colorado and Laramie Mountains of Wyoming, but future work is needed to characterize these raw material sources.

Given this more recent work, I disagree with Brugge's (1982) statements that Puebloan potters taught Dismal River people how to make pottery. The early dates Gilmore and Laramore (2012) have for Dismal River pottery in Colorado paired with evidence for the early manufacture of micaceous vessels during earlier periods in Colorado (Ellwood and Parker 1995), the prevalence of manufacturing techniques and vessel forms similar to other Great Plains ceramics, and the likelihood that these ceramics were made from materials available on the Central High Plains, all point to the local and independent development of ceramic technology. It is more likely that Dismal River people developed their own ceramic manufacturing practices as a result of their interactions with their neighbors (Plains Village and Puebloan peoples), and their need for more permanent storage and cooking containers following the adoption of a semi-sedentary lifestyle supplemented with horticulture. Dismal River people would have had access to micaceous materials in Nebraska, Colorado, and Wyoming, and it is very likely that a combination of seasonal mobility patterns and social exchange within the region led to the spread of these "micaceous" vessels across Dismal River territory.

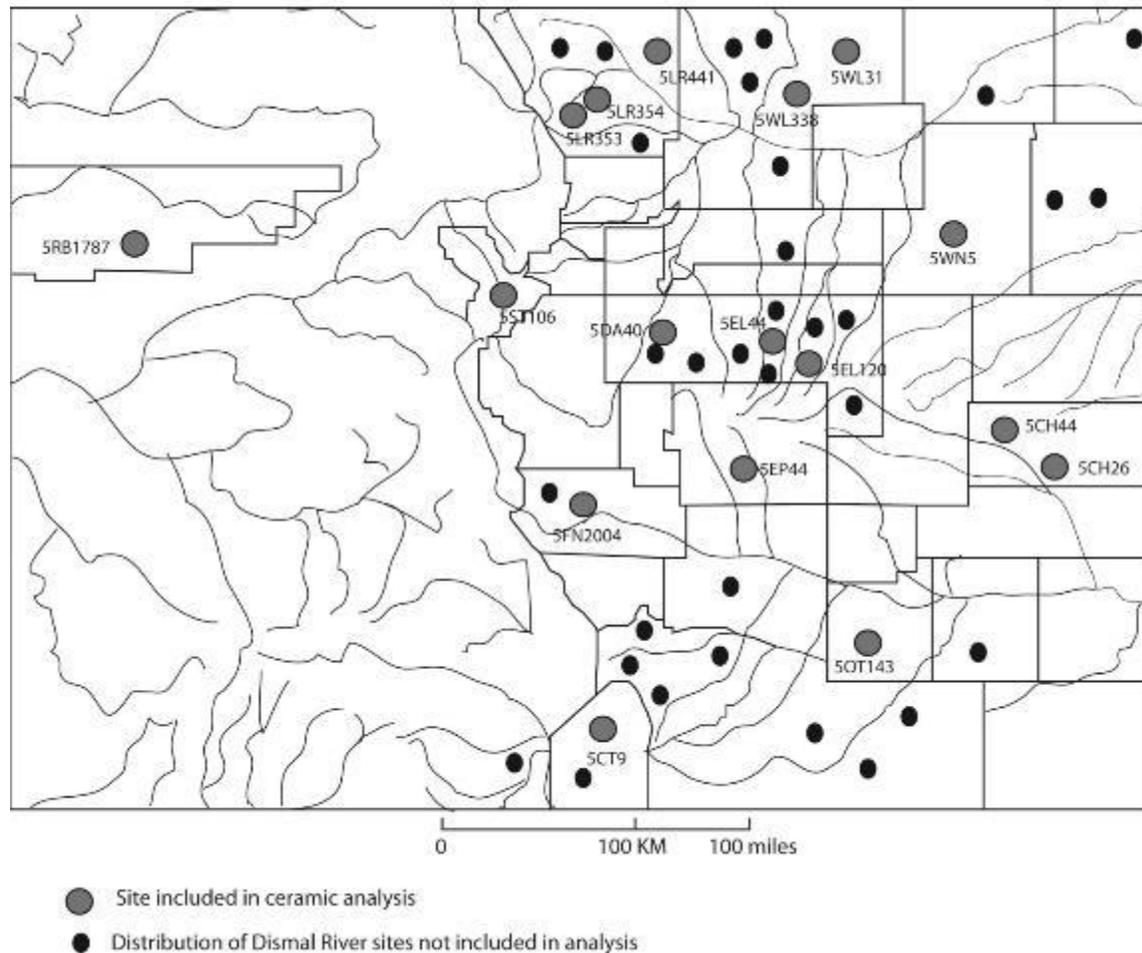


Figure 1. Location (to county level) of major river drainages and known Dismal River sites in Colorado

Previous Research in Colorado

Dismal River sites can be found scattered across eastern Colorado (Figure 1) and most are surface scatters with thin, well-fired, dark-colored pottery. Brunswig (1995) stated that these ephemeral surface scatters could be problematic because very small numbers of ceramics (sometimes only one or two) were used to assign a Dismal River affiliation. A recent search of the site files yielded 58 sites that were given a Dismal River identification. After examining collections from 35 of these sites, however, I argue that only 22 had Dismal River ceramics

present in their collections. I believe that the ceramics from the remaining 13 “Dismal River” sites are more likely Woodland, Upper Republican, and/or Puebloan in origin (Table 1). While it is true that Dismal River ceramics from sites in Colorado differ somewhat from similar ceramics found farther east, they still share similarities in manufacturing practices, paste characteristics, surface treatment, decoration, and form. These traits largely make Dismal River collections distinct from the ceramics of other neighboring groups. However, it is difficult to assign a cultural affiliation based on a small amount of material culture, and archaeologists working in eastern Colorado have often struggled with whether a handful of sherds should be considered diagnostic. In some cases, such as 5DA40, the original excavators were reluctant to assign a cultural affiliation (Windmiller 1974), but a Dismal River classification was given to the site in the state’s site files. This classification proved accurate as diagnostic Dismal River pottery was identified in the collections (Table 1).

Table 1. All sites with a Dismal River identification in the History Colorado archaeological site files and from published literature examined for the project

Site	Location of Collection	Number of Ceramics	Ceramic ID
5CH26	DU	5	Dismal River
5CH44	CU	1	Dismal River
5CT23/25	DU	12	Dismal River
5DA40	CU	1	Dismal River
5EL1	DU	11	Dismal River and Upper Republican
5EL44	DU	7	Dismal River
5EL120	DU	1	Dismal River
5EP44	DU	1 Partial vessel	Dismal River
5FN2004	History CO	2 vessels	Dismal River

5HF213	DU	1	Dismal River
5JF92	DU	3	Dismal River
5LA1685	DU	4	Dismal River
5LR353	DU	1	Dismal River
5LR354	DU	2	Dismal River
5LR441	CU	1	Dismal River
5OT143	DU	1	Dismal River
5RB1787	CU	11	Dismal River
5ST106	DU	77	Dismal River
5WL31	CU	32	Dismal River
5WL325	DU	2	Dismal River
5WL338	DU	78	Dismal River
5WN5	DU	1	Dismal River
TOTAL DISMAL RIVER SITES: 22			
TOTAL CERAMICS SHERDS IN SAMPLE: 252			
TOTAL RECONSTRUCTED VESSELS: 3			
5CT9	DU	16	Puebloan
5CT26	DU	2	Unknown
5DA41	CU	0	NA
5EL50	DU	1	Woodland
5EL53	DU	6	Unknown
5HF74	DU	7	Puebloan
5HF207	DU	3	Unknown
5WL194	DU	2	Woodland
5WL353	DU	1	Woodland
5YM18	DU	Not recorded	Woodland
5YM20	DU	3	Unknown
5YM31	DU	Not recorded	Woodland
CO Z:6:1	DU	Not recorded	Puebloan
TOTAL SITES WITHOUT DISMAL RIVER CERAMICS: 13			

Professional interest in the archaeology of eastern Colorado began after 1920 and has continued through the present with intensive surveys, testing, and excavation, largely by contract archaeologists. The large number of individuals, contract firms, and academic institutions conducting work in Colorado makes locating collections a challenge as there is no central repository for archaeological materials for the state. Dismal River collections can be found at many of the major universities in the state (University of Denver, Colorado State, University of Colorado Boulder, and Fort Lewis College), at the Colorado History museum, in private collections, and in repositories for collections found on lands managed by the U.S. military, National Park Service, and U.S. Army Corp of Engineers.

The Dismal River artifacts reanalyzed for this project came from several sources, some of which were collected from the early part of the twentieth century by two researchers, E. B. Renaud and Arnold Moore Withers, at the University of Denver. Etienne Bernardeau Renaud arrived at the University of Denver in 1916 and quickly took a keen interest in the archaeology of eastern Colorado as no systematic archaeological work had been conducted in the region (Spilka 2006). He began surveying eastern Colorado in 1930 and covered more than 10,000 miles in 28 counties during 10 weeks in the summer. He received funding by the Smithsonian Institution, the University of Denver, and the Colorado Museum of Natural History, which allowed him to visit and record 332 sites in the region (Renaud 1931). Although he published more than 125 papers on his work (Spilka 2006), he kept his own system of site numbering, and it is difficult to connect with certainty his description of sites and artifacts with the actual collections housed at the University of Denver today. Arnold Moore Withers arrived at the University of Denver in 1948 with a background in geology and the archaeology of the Great

Plains and the Southwest. He explored more than 2,000 sites and collected more than 15,000 archaeological specimens, but did not publish much of his work (Spilka 2006).

RESEARCH DESIGN AND METHODOLOGY

Research Objectives

Previous research has largely focused on eastern Dismal River sites and I argue that studying how vessels were made and used across Dismal River territory is a vital first step in understanding this archaeological complex as a whole. A sample of ceramics from 22 Colorado Dismal River sites were reanalyzed to address the following questions:

1. What is the extent of ceramic variability within the Dismal River culture area? Did the people who occupied the Colorado Dismal River sites have the same ceramics as other Dismal River groups in Kansas, Nebraska, and Wyoming?
2. If extensive variability exists, such as between eastern and western sites, what is the source of the variation, and does that relate to temporal and/or geographic differences?
3. To what extent, if any, was Dismal River ceramic technology influenced by contact with potters from neighboring groups? Is it possible to pinpoint these influences and determine the nature and extent of influence from groups such as Puebloan people living along the northern Rio Grande?

Analytical Sample

Although Dismal River collections are curated in institutions across the state, due to issues related to time and permission constraints, I chose to analyze collections from the University of Denver, History Colorado, and University of Colorado Boulder repositories. I selected 22 sites with Dismal River ceramics present in their collections for inclusion in this analysis. The number of ceramics in each assemblage was low, with an average number of just 11 sherds per site across eastern Colorado (Table 1). Small collection sizes necessitated the analysis of all sherds larger than 1 cm²; although many data points could not be collected on the smallest sherds. In addition to the ceramic sherd sample, one complete vessel and two partially reconstructed vessels were available for analysis. Less than a dozen whole or partially constructed vessels have been recovered from Dismal River sites across the Central High Plains, and most interpretations of vessel form and function have been extrapolated from rim sherds.

Analytical Methods

The ceramic assemblages from the sampled sites were examined by recording measurements and observations for body and rim sherds with a focus on rim and neck forms, vessel forms, and manufacturing techniques as these types of data are most useful for studying a group's foodways, interactions, and influences. All sherds were first assigned to classes based on size of surface area; with Class I representing 0 to 5 cm², Class II 6 to 16 cm², Class III 17 to 49 cm², and Class IV 50 to 100 cm². Data collected from body sherds included paste composition and temper, surface treatment, and decoration location and type; while data on rim sherds included temper, surface treatment, decoration, rim form, rim height, and rim diameter.

Each sherd was examined macroscopically, with the aid of a 10x hand lens, to identify the type of temper used. Tempers are non-plastic materials that were intentionally added to the ceramic paste to increase workability such as sand or grit, and mica (a silicate, lamellar, glossy, mineral) (Rice 1987; Wedel 1959). Surface treatments included simple stamped, smooth, burnished, and/or polished. Polishing has not been described in publications on Dismal River collections and is more commonly associated with northern Rio Grande pottery (Metcalf 1949; Ellis and Brody 1964; Wedel 1959). Decorative treatments were recorded and consisted largely of tool incising along the lip and upper rim.

Rim form was recorded utilizing similar methodology as Beck and Trabert (2014) emphasizing rim/neck angles and included upright, everted, flaring, or inverted. Upright rims will be angled nearly upright with an angle between 95° to 85° , everted and flaring rims will have an angle less than 85° , and inverted rims will have an angle greater than 95° . Vessel forms could be determined from sherds large enough to suggest a general vessel shape as bowls have roughly equal maximum vessel diameters and heights while jars are restricted vessels with a maximum diameter less than their height (Beck and Trabert 2014; Shepard 1956).

A small sample of reconstructed vessels was also included in this analysis. Rim height, throat diameter, shoulder diameter, shoulder height, vessel height, base thickness, and lip thickness were all recorded. The diameters of the throat and shoulders of each vessel were recorded to calculate constriction ratios and vessel shape. Generally, the higher the rim:throat ratio the more flaring the vessel is, and the higher the shoulder:throat ratio the more constricted the vessel is. These measurements can be used to infer vessel use, and these along with observations on overall vessel form and manufacture were a focus of this analysis.

CERAMIC RESULTS

I examined the ceramics from 35 sites in Colorado that were identified as Dismal River in the History Colorado archaeological site files and in published literature. Of these 35 sites, I found that only 22 had identifiable Dismal River ceramics in their assemblages (total of 240 body and 12 rim sherds). The remaining 13 sites yielded ceramics that are either too small for a positive type classification (n = 5) or ceramics that appeared to be Woodland (n = 4), Upper Republican (n = 1), or Puebloan (n = 3) in origin (Table 1). The Woodland and Upper Republican ceramics are typically much thicker than Dismal River ceramics and have a coarse paste with large quartz inclusions and cord-roughened exteriors. The Puebloan ceramics are slipped with highly polished surfaces and very fine temper and paste. While *individual* Dismal River ceramics, especially body sherds, may resemble the ceramics of other neighboring groups, a Dismal River *assemblage* presents a set of characteristics, which, when taken together, are diagnostic. The western Dismal River ceramics recovered from sites in Colorado are dark in color (black, gray, and sometimes brown), thin (7 to 9 mm), well-fired, with a compact paste and fine- to medium-sized quartz-feldspar sand temper. Surfaces may be simple stamped, but most are smooth, and burnished or lightly polished exteriors are seen. While there are some minor differences in thickness and temper size between western and eastern Dismal River ceramics (see Brunswig 1995:180-190 for full discussion), the western Dismal River ceramics compare favorably with those recovered farther east and are distinct from the Woodland, Upper Republican, and Puebloan ceramics found in eastern Colorado.

Reconstructed Vessels

One complete (2004.40.1) and two partially reconstructed vessels (2004.40.2 and EP44) from eastern Colorado were available for analysis. Two of these vessels (2004.40.1 and 2004.40.2) were recovered from site 5FN2004 (the Sara site), located between Sixmile and Eightmile creeks in Fremont County, Colorado. Local residents found the two vessels nestled among large boulders and donated the vessels to History Colorado. The third “vessel” is only the upper portion of a reconstructed vessel, recovered from site 5EP44 (CO S:1:4), located north of the Pike Vera Coal Mine in El Paso, County. 5EP44 is an open campsite, and the land owner recovered the partial vessel and a number of flakes on the surface.

Vessel one (2004.40.1) is a large (21.5-cm orifice diameter, 35-cm shoulder diameter, and 35-cm vessel height) pot with a conical base, flaring rim, and smooth surfaces (Figure 2). The vessel was tempered with coarse grit and sand and a few fine gold flecks of mica were visible in a fresh break along the lip. Coil joints are visible on the interior of the vessel but no slips, paints, or decoration was applied. Ratio calculations show that this vessel has a fairly open orifice, a constricted throat/neck, and the shoulder is as wide as it is tall (Table 2). This vessel’s larger size, constriction, and flaring rim indicate that this vessel was used for dry storage or possibly for cooking.



Figure 2. Vessel 1, 5FN2004, History Colorado collections

Table 2: Measurements for whole vessels analyzed by author

Vessel ID	2004.40.1	2004.40.2	5EP44	Koshare*	25CH1**
Rim Diameter (cm)	21.5	11	18	Not specified	16
Shoulder diameter (cm)	35	13.7	29.5	21.1	22.5
Vessel Height (cm)	35	9	NA	24.5	28
Rim:throat ratio	11:10	11:10	1:1	NA	16:17
Shoulder:throat ratio	7:4	7:5	5:3	3:2	23:17
Shoulder diameter: shoulder height ratio	35:18	2:1	NA	NA	2:1

*Vessel measurements from Ellwood (2002:59:Figure 78)

**Vessel from Dismal River type site (25CH1); used here for comparisons for dimension and size; vessel form shown in Figure 5A. Measurements from Trabert (2015)



Figure 3. Vessel 2, 5FN2004, History Colorado collections

Vessel one has a low dropped shoulder that differs from other Dismal River pots and is larger than any other reported finds for this group. It is difficult to say with any certainty whether this vessel is in fact Dismal River in origin or if it was made by potters from a different group. While the smooth surfaces, temper size and quantity, rim shape, and vessel thickness fit expectations for Dismal River vessels; the use of coiling, shoulder location and shape, and the large size do not. This vessel may be the product of several pottery traditions merging in southeastern Colorado.

Vessel two (2004.40.2) is partially complete (only one complete side is present) and smaller (rim diameter is 11 cm, shoulder diameter is 13.7 cm, and vessel height is 9 cm) than vessel one. Vessel two was constructed using a paddle and anvil, has a flaring rim, and smoothed-over simple stamping is visible near the upper shoulder and neck (Figure 3). It is also

tempered with coarse grit and sand, and mica flecks are visible in broken sections. It is globular in shape with a fairly open orifice and throat (only slightly constricted) with shoulders twice as wide as it is tall (Table 2). This small vessel may have been used for cooking, but is more likely a storage or transport vessel used to hold and/or carry a small amount of material. This vessel, although found side by side with vessel one, is much more characteristic of Dismal River ceramics, and is likely why this Dismal River cultural affiliation was recorded for the site.

The third vessel (number CO S:1:4), from 5EP44, has a flaring rim and a finer paste than the other two vessels from Colorado (Figure 4). Although only partially complete (Figure 4 shows only the top half of the pot), some measurements on vessel size were possible. Vessel three had an 18-cm rim diameter, 4.5-cm rim height, 29.5-cm shoulder diameter, and an estimated 12-cm shoulder height. It was tempered with grit and sand with fine silver mica flecks throughout the paste. Vessel three was constructed using a wrapped paddle and has smoothed-over simple stamping extending from the broken portion of the shoulder up to the rim. This vessel is fairly open with little constriction (Table 2) and may have been used for cooking, but the missing lower half precludes further inferences regarding vessel use. Vessel three, while smaller than vessel one and larger than vessel two, is similar in size to Dismal River vessels and sherds recovered in Nebraska (Hill and Metcalf 1941; Trabert 2015).



Figure 4. Vessel 3, 5EP44, Denver University Museum of Anthropology collections

While only three vessels were available for analysis, limited data from one additional Dismal River vessel was available for comparison from the published literature. A fourth Colorado Dismal River vessel is described by Ellwood (2002:58-60, Figure 77) and is curated at the Koshare Indian Museum in La Junta, Colorado. Ellwood (2002) describes this pot as a globular jar with a conical base, low shoulder, constricted neck, and slightly flaring rim (Figure 5C). The Koshare vessel is 24.5 cm in height, with a 21.1-cm maximum diameter, and 4.5-mm rim thickness (Ellwood 2002:59). This vessel was constructed from clays and temper containing some mica and was coiled. Ellwood consulted with James Gunnerson and both agreed that this vessel was Dismal River in origin rather than later Apache because it is thicker and rudimentary in appearance than later vessels (Ellwood 2002:59-60). Using the photo provided, I was able to calculate that this pot has a 3:2 shoulder:throat ratio (Table 2). This vessel is remarkably similar

to vessel one described above from 5FN2004 in terms of vessel size, shoulder position and shape, and coiled construction.

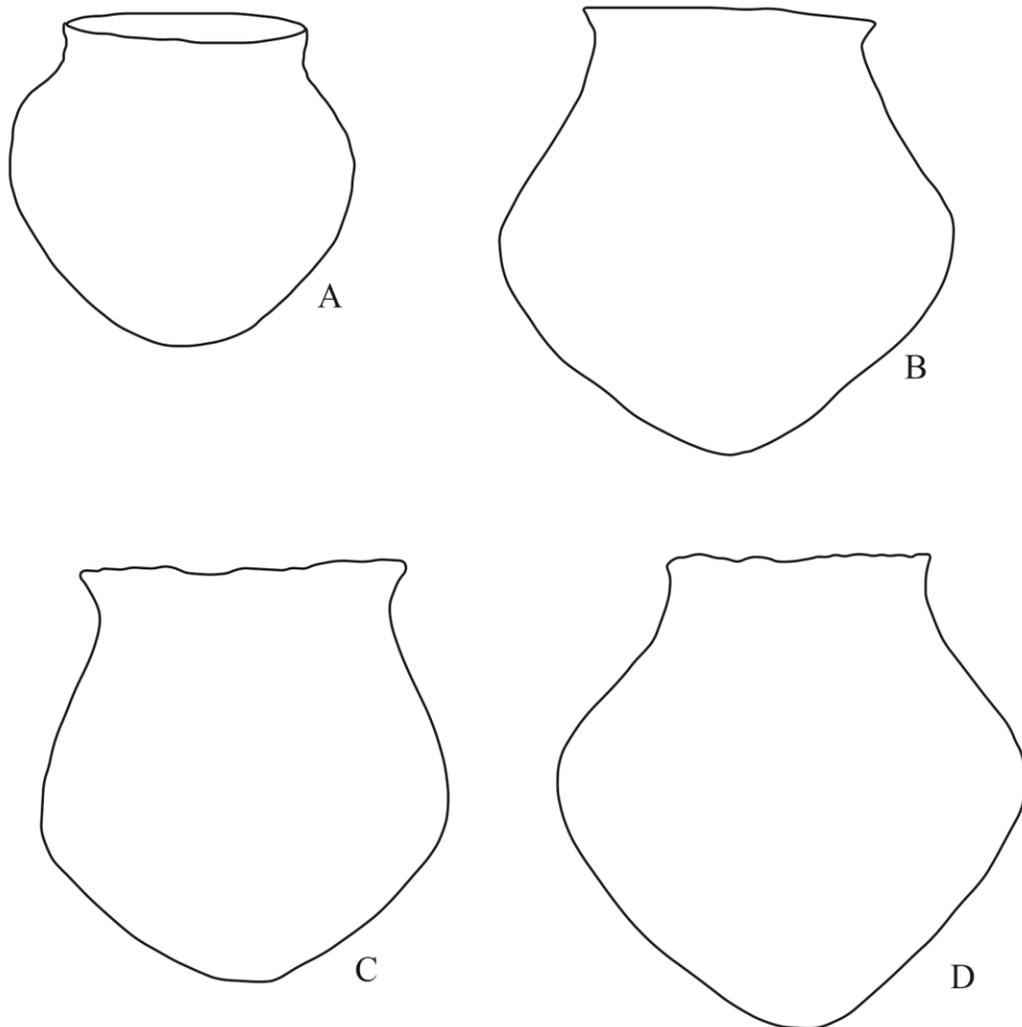


Figure 5. Vessels discussed in text. A. “Typical” Dismal River Vessel from 25CH1, Nebraska State Historical Society collections; B., Vessel one in this study, a vessel from 5FN2004 (#2004.40.1), History Colorado collections; C. Vessel from Koshare Indian Museum, La Junta, Colorado, outline adapted from photo in Ellwood (2002: Figure 77); D. Chiricahua vessel from upper Mimbres Rivers area, New Mexico, outline adapted from photo in Ferg (2004: Figure 15). Line drawings by the author to show shapes; drawings not to relative or exact scale (see Table 2 for size measurements)

Ceramic Sherd Analysis

Although the sample of sherds examined in this study is small (n = 240 body and 12 rims), it is nonetheless representative of Dismal River ceramics in Colorado, and data collected from these assemblages can be compared to what is known from other Dismal River sites. Some issues common to eastern Colorado sites, however, such as a lack of ceramics collected from subsurface excavations, mixed provenience (and multiple occupations), and the high degree of fragmentation of collections, do pose some challenges. The mean ceramics assemblage size for Colorado Dismal River sites is just 13 sherds, and 90 percent of the 252 sherds examined for this project were smaller than 16 cm² (50 percent of those were smaller than 5 cm²). Data related to overall vessel shape, size, and use were difficult to collect, making comparisons to reconstructed vessels difficult. However, data on paste composition, manufacturing practices, surface treatments, decoration, and rim form and orifice diameter were collected.

These ceramics were largely tempered with rounded quartz-feldspar sands (62 percent, n = 15), but sherds tempered with micaceous sands (38 percent, n = 95), and mica (<1 percent, n = 2) were also present. These sands were generally fine to medium in size (0.25 to 0.5 mm; based on measurements from a sand grain sizing folder), well-rounded, and well-sorted with few inclusions of coarser-sized materials. Evidence of hand building (paddle-and-anvil technique) was the most common manufacturing technique with only two body sherds exhibiting coil breaks. Sherds were generally well-fired, but pastes ranged from compact to friable, often based on the amount of temper present.

Exterior surfaces were commonly smooth (84 percent, n = 212) with simple stamped or smoothed-over simple stamping only present on five sherds. Some sherd surfaces were lightly

polished (or burnished) (9 percent, n = 23) with an additional 12 sherds exhibiting a high polish, something more commonly observed in northern Rio Grande assemblages than Dismal River ceramics (Trabert 2015). Frequencies were similar for interior surface treatments with the majority exhibiting smooth surfaces without polish (96 percent, n = 241) and only 11 (4 percent) were burnished. One distinct rim sherd (from 5WL31) had a simple-stamped exterior and a red-washed interior. A wash differs from a slip because it is added post-firing and is often a pigment-based stucco (Rice 1987). Although simple-stamped surfaces are common to Dismal River ceramics, vessels with simple-stamped exteriors *and* red-washed interiors are more commonly associated with Great Bend aspect groups in eastern Kansas (Hawley et al. 2008). Decoration, when found in Dismal River assemblages, is generally confined to the lip, and with only 12 rims in the sample, it is not surprising that only three sherds were decorated. One had fine incised lines running around the lip (from 5WL31) and the other two (from 5EL120 and 5OT143) bore small rectangular tool marks on the top of the lip (see Gunnerson 1959:165 or Trabert 2015: Table 5, for illustrations of decorative motifs).

It was possible to record information on rim and vessel form for all 12 rim sherds in the sample, but only six of the sherds were large enough to estimate orifice diameter. Jar forms were the most common vessel type represented in this sample (four flaring jar rim and four upright jar rim sherds). One rim sherd (from site 5WL338) is likely from a short-upright jar (rim height only 2.9 mm compared to median of 32.5 mm for rest of sample). Beck and Trabert (2014) state that this form is not common to Great Plains assemblages and argue that short-necked jars are more typically from northern Rio Grande assemblages and, therefore, provide evidence for Puebloan influence at Dismal River sites. Thus far, this short-upright rim form has only been observed in ceramics from the Scott County Pueblo Site (14SC1) in western Kansas. 14SC1 includes a

Puebloan and Dismal River contemporary occupation and approximately four percent of identified jar sherds from the site originated from short-upright vessels (Beck and Trabert 2015:327). This form has not been observed in other Dismal River ceramic assemblages except for this one example from site 5WL338 (Trabert 2015). No bowl forms were identified in this sample. The orifice diameter from the six rims indicate that these vessels were from small- to medium-sized vessels (range of 8 cm to 16 cm in diameter) likely for cooking or storing foodstuffs for small groups of people.

Comparisons to Other Dismal River Ceramics

A focus of the larger research project was to better understand the ceramics from across Dismal River territory; therefore, data was collected on an additional 1,030 rim and 4,538 body sherds from sites in Kansas (n = 6), Nebraska (n = 9), and Wyoming (n = 16). In general, ceramic assemblages from the eastern Dismal River sites (Kansas and Nebraska) are much larger (mean assemblage size is 2,545 ceramics per site) but the sherds are also highly fragmented, as approximately 88 percent of sherds were smaller than 16 cm². Eastern Dismal River sites are typically much larger and likely represent more intense occupations than the ephemeral camp sites commonly found to the west. While many of the Dismal River Colorado ceramic assemblages likely represent the discard of one or two vessels, considerably more were discarded at sites in Nebraska and Kansas (for example, at least 37 vessels were discarded at the Dismal River type site, 25CH1 in Nebraska) (Trabert 2014).

Ceramics recovered from Dismal River sites in Colorado are similar to other Dismal River ceramics in terms of the use of quartz-feldspar sands as temper, the use of paddle-and-anvil

construction, leaving vessel surfaces smooth and largely undecorated, and the preference for small- to medium-sized jar vessel forms. Additionally, ceramics made from micaceous materials represent a minor ware commonly found across Dismal River sites. Although ceramics tempered with mica-rich granites are found in greater numbers in eastern sites, they appear more commonly at sites farther west, like Colorado, and were found at 7 of the 22 sites in this sample (5CT23/25, 5EL1, 5EL44, 5LA1685, 5ST106, 5WL338, and 5WN5). This higher frequency supports the findings of Trabert and others (2016) that indicate a local, rather than northern Rio Grande, origin for these ceramics.

Despite many overall similarities in Dismal River ceramics assemblages across the region, there are some notable differences observed in the Colorado assemblages. Overall, I observed far less variation in the appearance of Dismal River vessels from Colorado than elsewhere. Dismal River potters here commonly smoothed over simple-stamped surfaces leaving little evidence for the use of cord-wrapped paddles, and the surfaces of their vessels are more uniformly smooth than what is seen in other Dismal River assemblages. Additionally, potters here did not decorate the majority of their vessels, and motifs are restricted to lines and rectangular tool marks. In contrast, eastern Dismal River assemblages such as those in Nebraska yielded 12 distinct decorative motifs.

There are less than a dozen reconstructed or partial vessels known for all of Dismal River, four of which are from sites in Colorado (5FN2004, n = 2; 5EP44; and the vessel from Koshare Indian Museum described in Elwood 2002). To highlight the unique elements of the Colorado vessels, Figure 5 includes line drawings of the Colorado vessels forms described here and vessels from the Dismal River type site in Nebraska (site 25CH1; Figure 5A), and a Chiricahua Apache vessel (Figure 5D). In general, Dismal River vessels trend towards globular

shapes with moderate constriction, open orifices, and flaring to upright rims. However, two of the four vessels from Colorado discussed in this article (vessel one, Figures 2 and 5B; and the pot described by Ellwood 2002; Figure 5C) seem to fall outside of the “norm” for “typical” Dismal River vessels, which tend to be smaller in size, with a higher shoulder, and rounded base. Instead, the shape of these two Colorado vessels compares more favorably to the size and shape of Apache vessels, such as the Chiricahua vessel shown in Figure 5D.

Previous researchers (Ellwood 2002; 5FN2004 site file) had difficulty classifying these two Colorado vessels as they share traits related to manufacturing and form with later Apache ceramic traditions while simultaneously bearing similarity in paste, basal and rim form, and surface finish to Dismal River pottery. Vessel one (Figure 5B) and the Koshare vessel (Figure 5C) strongly resemble eighteenth- and nineteenth-century Chiricahua Apache vessels recovered from the upper Gila/upper Mimbres River areas in New Mexico (Figure 5D) (Ferg 2004:Figure 15), but many Chiricahua vessel forms are also similar to Jicarilla and Mescalero forms (Ferg 2004). This blending of design elements often makes it difficult to assign a vessel to just one cultural or potting tradition. Vessel one and the Koshare Indian Museum vessel (Figures 5B and 5C) exhibit a combination of at least two ceramic traditions, since their shape is similar to some Apache vessels (larger in size with a dropped shoulder and more constricting base) (Figure 5D), but their wall thickness, rim shape, and paste (color, temper, and texture) are similar to Dismal River vessels. At this point it is difficult to make conclusive statements on whether Dismal River (or other potters) created these vessels given the small sample size; however, given their context and characteristics it is more probable that vessel one and the Koshare vessel were manufactured by potters belonging or connected to Dismal River groups.

DISCUSSION

Despite the relatively small number of ceramics recovered from Dismal River sites in eastern Colorado, data collected on temper and paste characteristics, manufacturing practices, surface finishing, and overall rim and vessel forms indicate that these ceramics share many similar characteristics with other ceramics from across much of Dismal River territory. Although coiled vessels do appear in minor quantities at some Colorado Dismal River sites, potters largely used paddle-and-anvil construction to build their vessels, finished the surfaces using a cord-wrapped paddle (simple stamping), and smoothed the exterior surfaces, which sometimes left a lightly burnished appearance. Dismal River vessels across the Central High Plains are typically small to medium in size, globular in shape with moderate constriction, open orifices, and flaring to upright rims. In general, Dismal River vessels and rim sherds from Colorado compare favorably with overall shape and form expectations of other Dismal River vessels. The limited variation in overall vessels size and shape in the Colorado Dismal River assemblages indicates a strong preference for multi-purpose jars that could have been used for cooking foods for small groups of people and/or short-term storage. Three exceptions to this norm include vessel one from 25FN2004, the Koshare pot, and the rim from a short-upright vessel. These vessels might exemplify the range of technological traditions present in this region during the Protohistoric period as they have similar characteristics to Dismal River vessels, but in forms more commonly associated with other Apache groups (vessel one and the Koshare vessel) and/or northern Rio Grande groups (the one short upright rim sherd in this study (5WL338)) and those recovered from site 14SC1 in western Kansas). While these Colorado vessels might not look exactly like those so called “typical” Dismal River vessels recovered at other sites, the different vessel sizes

and shoulder shapes might indicate a blend of cultural identities in the region, reflecting not only Dismal River ceramic traditions but potentially other Apache or Puebloan practices (see below).

Regional variation found in the eastern Colorado assemblages includes the occasional use of coiling to manufacture vessels (two sherds and two reconstructed vessels), low frequencies of simple-stamped surfaces or decorated sherds, vessels with dropped shoulders, and a higher incidence of sherds made from micaceous materials. In general, a large number of sites with a supposed Dismal River component also contain ceramics that appear to be Woodland or Upper Republican in nature and others that appear to originate in northern New Mexico. Given the complex history of occupation in southeastern Colorado, it is not a surprise that many surface sites bear the ceramics from multiple groups. It also is not surprising then that Dismal River ceramics in Colorado would vary in some way from eastern Dismal River assemblages. Dismal River groups living in Colorado were likely interacting with a variety of neighboring groups, especially other Athapaskan-speaking populations whose territory did not extend farther east into other Dismal River areas. Therefore the minor, and often isolated, differences in the eastern Colorado assemblages highlight the fluidity of technological traditions on the Central High Plains during the Protohistoric period, and it is highly likely that the “Dismal River” populations living in this region included a blending of ethnicities and identities.

This is not to say, however, that I agree with other researchers (Gulley 2000; Opler 1982) who have called for the dismantling of Dismal River as a distinct cultural tradition. Rather, I argue that regional differences in artifact assemblages simply highlight the fluid, rather than strict, boundaries of social identity. It is clear that Dismal River potters in Colorado maintained a ceramic tradition that was more restricted than what is found in sites to the east. This could be due to the smaller number of ceramics used and discarded at these sites, the nature and type of

contacts Dismal River people had with outside groups, or the fact that these ceramics could come from earlier sites where surface treatments and decorative motifs were not yet fully developed. These Dismal River people could have easily accepted potters from other cultural traditions into their group, which may explain the dropped shoulder vessel shapes and short-upright rim that seem to be a blending of Dismal River and other Athapaskan (shoulder) or Puebloan (short-upright forms) traits.

These nonlocal ceramic traits, however, are not the norm for Dismal River assemblages in Colorado, and therefore the type descriptions used to distinguish and classify Dismal River ceramics farther east in Nebraska and Kansas can be used by archaeologists working in Colorado. Given their overall similarities, I do not believe that it is necessary to define Dismal River ceramics from Colorado using a separate “trait list.” Rather, archaeologists in Colorado can refer to published descriptions such as Metcalf (1949), Brunswig (1995), or Gunnerson (1959) that describe Dismal River Gray Ware ceramics and emphasize the use of fine and/or medium sand temper (sometimes containing mica-rich granites); paddle-and-anvil construction; simple-stamped, smoothed-over simple-stamped, or smooth surfaces; pastes that are fine, compact, and well sorted; and colors that range from black to gray to brown and sometimes buff. Previous researchers noted that vessels tended to have thin walls (body sherd thicknesses can range from 1.8 to 13.3 mm with a mean thickness of 5.9 mm; Trabert 2015), and decoration is minimal when present and generally confined to finger impressions or tool marks on vessel lips. Wedel (1959) and Trabert (2014, 2015) found that most Dismal River sherds likely originated from small to medium-sized globular jars with straight or slightly flaring rims. As seen in this and other studies (Trabert 2014, 2015), the frequency of some of these characteristics does vary

(especially regarding surface finish, decoration, and the presence of mica in pastes), but the Colorado Dismal River ceramics largely match descriptions of ceramics found at eastern sites.

While I do not advocate for the creation of a Colorado-specific typology for Dismal River ceramics, I do argue that ceramics recovered from eastern Colorado sites should be described in more detail so that the most appropriate cultural affiliation can be assigned. It is problematic when a Dismal River cultural affiliation is assigned to a site based presence of a handful of ceramics that are simply (and generally) described as thin, dark, plainwares. Brunswig (1995:178-179) states that “[Colorado Dismal River sites] are universally represented by the presence of stone ring tipi/wickiup rings or rock shelters, non-diagnostic lithic debitage, lithic tools, loosely defined Dismal River ceramics, and side-notched and unnotched triangular points.” Brunswig goes on to state that there has been an “insecure identification of that culture’s ceramics at localities” (1995:179). In my analysis, I found that only 22 of 35 sites with a Dismal River cultural affiliation actually contained identifiable Dismal River ceramics. The ceramics from the remaining 13 sites were likely Woodland, Upper Republican, or northern Rio Grande plainwares and did not fit any of the expectations for Dismal River ceramics. In many cases, these ceramics did not resemble Dismal River ceramics in any way (they were not even thin or dark in color), and I believe that the overall lack of recent work on Dismal River ceramics paired with rather general type descriptions in the published literature makes it difficult for archaeologists unfamiliar with these particular ceramics to arrive at an accurate assignment of cultural affiliation.

Today, many archaeologists realize that social identity and technological knowledge was likely fluid and complex in the past, especially in regions with multiple, and intersecting, identities like southeastern Colorado. Vessels may be the product of a blending of technological

practices that can often defy categorization. This issue is especially important at sites where only a handful of sherds or one vessel might be found. Rather than hyperfocusing on whether these eastern Colorado ceramics are *either* Dismal River *or* from some other group, I would suggest archaeologists consider whether multiple traditions converged to create these vessels. Dismal River potters clearly chose which elements of pottery manufacture and shape to adopt from their neighboring groups and which traditional practices to retain based on what fit best with their daily practices and cultural norms. New research on the nature of Dismal River identity and technology at sites from the Central High Plains (Beck and Trabert 2014; Trabert 2014, 2015) has highlighted the complex interplay between regional mobility, migration patterns, and social exchange during the Protohistoric period. Dismal River peoples living in Colorado were likely tied into larger exchange networks, and future research is needed to better characterize ceramics recovered western Dismal River sites to gain insights into the nature and level of their participation. While it is true that there are notable differences in the Dismal River occupation of Colorado when compared to more eastern sites, their presence in this area was by no means insignificant. Future research in the area may reveal that this region holds the answers for better understanding the relationships between Dismal River groups and their neighbors and the role that Front Range raw materials played in broader exchange networks.

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