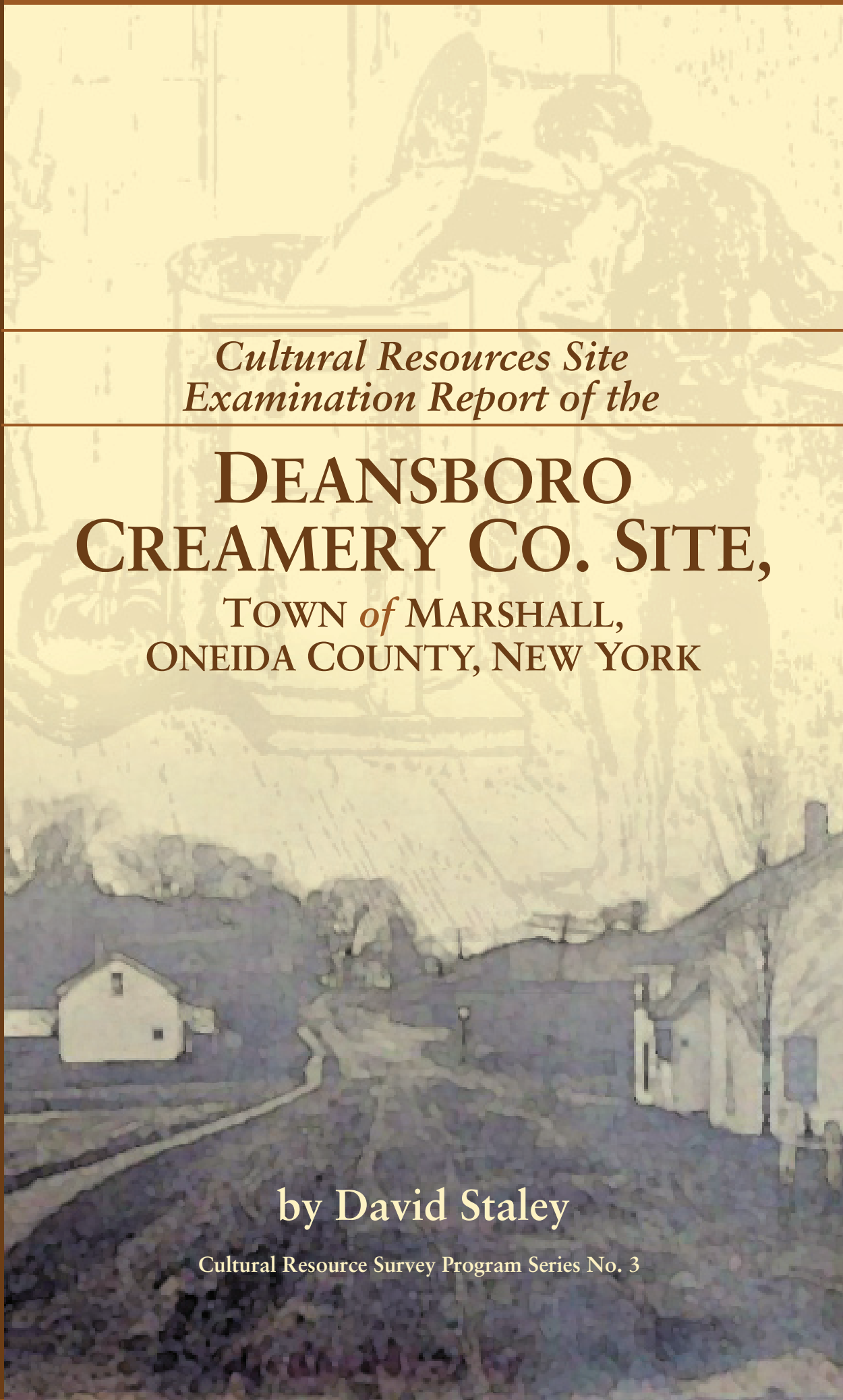
Cultural Resources Site Examination Report of the

Deansboro Creamery Co. Site,

Town *of* Marshall, Oneida County, New York



by David Staley

Cultural Resource Survey Program Series No. 3

NYSM

Cultural Resources Site Examination Report of the Deansboro Creamery Co. Site, Town of Marshall, Oneida County, New York

Cultural Resource Survey Program Series No. 3

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Front Cover: Receiving Room of 1875 Cheese Factory. (from Harpers New Monthy Magazine 1875:815)
Updated historic view toward Deansboro with creamery at right. (Photo courtesy of Allan and Joan Benedict, Ye Olde Canal Shoppe, Deansboro, N.Y.)

MANAGEMENT SUMMARY

PROJECT IDENTIFICATION

PIN 2030.06.121; New York State Route 315 over Oriskany Creek, BIN 1045640 (OPRHP #09PR1866).

PROJECT TYPE

Federally funded bridge replacement project.

CULTURAL RESOURCE SURVEY TYPE

Phase II site examination for Deansboro Creamery Co. site (NYSM 12220).

LOCATION

Town of Marshall (Minor Civil Division # 06514), Oneida County, New York.

USGS QUADRANGLE

Oriskany Falls, New York (1955)

RESULTS OF SITE EXAMINATION

Site Identification

Deansboro Creamery Co. site (NYSM 12220, A06514.000044).

Site Location

The site is located within the Town of Marshall, Oneida County, N.Y., south of the hamlet of Deansboro. More specifically, it was found on the east side of NYS Route 315 just north of BIN 1045640 and Oriskany Creek at an elevation of approximately 230 m (754 ft).

Project Limits

The Deansboro Creamery Co. site is 45 m (148 ft) long along Route 315, 20 m (66 ft) along the northern boundary, turns south approximately 20 m (66 ft) to the creek and meanders approximately 28 m (92 ft) along the creek to the northeast corner of the bridge and the point of beginning. In total, the site may encompass 1065 m^2 (11,464 ft^2) or .107 hectares (.2632 acres).

Area Excavated

STPs = 4.0 m^2 (43 ft^2); Test Units =11.0 m^2 (118.4 ft^2); Trenches = 32.29 m^2 (347.57 ft^2).

Percentage of Site Excavated

4.4%

Context

The Deansboro Creamery Co. Site (NYSM 12220, A06514.000044) is comprised of primarily historic late nineteenth and early twentieth century industrial and architectural debris associated with stone masonry piers and a masonry boiler platform. The piers and the artifacts mark the location of a cheese factory originally built in 1886 or 1887, burned in 1891, rebuilt and used as a cheese factory until 1902. It was later refitted and used as a gate factory and as a warehouse between 1911 and the early 1920s, after which it fell into disrepair. The structure was likely demolished in 1929 when the current Route 315 and bridge were enlarged.

Deansville, later renamed Deansboro, was a typical agriculturally based community in upstate New York. In the late 19th century, the community bustled with services, small manufactories, multiple mercantile businesses, hotels, churches, and social clubs. Deansville's location on the railroad provided a direct link to the rest of the world. Not the first dairy industry in Deansville, details about its predecessor are scanty, it is assumed that this factory never directly competed with the earlier cheese and butter producer. The cheese factory in rural communities was a social center where people would congregate every day. This particular factory and business was established at the peak of cheese factory construction and the tail end of a cheese boom in New York and in the country. The industry benefited from the wide availability of published expert guidance on the construction and proper operation of cheese factories and creameries. These publications outlined the workforce structure and historians have observed that through time, women lost their dominance of this industry. The period of operation for the Deansboro Creamery Co. site brackets the demise of the cheese industry and its final days mimics those of other factories throughout the area. Historians have posited several reasons for the collapse including the enlarging New York City milk shed and the increasing dominance of railroad controlled milk stations, the shifting profit margin for products such as cream and butter, the development of the condensed milk industry, international tariffs on cheese, and a cheese quality issue or scandal prior to 1885. Deansville (later Deansboro) of the late nineteenth century and early twentieth century featured a railroad, a milk station, and a milk condensery along with this cheese factory.

Description of Site and Testing Results

CRSP personnel concentrated their efforts upon defining the factory structure outline and sampling interior and exterior areas. The site examination included the use of systematic shovel test pits (16), test units (12), and trenches (13).

Site examination phase excavations revealed three general areas of soils in the vicinity of the site. Fluvial process dominated soils and sediments are found adjacent to the creek. Construction fills outline the building envelope and near surface clay dominated soils found north and east of the building envelope. The depths of deposits containing cultural materials varied across the site, however, they were generally limited to the upper levels of sediments. Artifacts were found to depths ranging from 23 cm (9 in) to 60 cm (24 in) below site datum. The average maximum depth of artifact deposits was 41 cm (16 in). The bases of the masonry piers tended to be 68-75 cm (27-30 in) below datum with a waterline trench and pipe reaching depths below 90 cm (35 in).

The cheese factory building is considered the primary feature and within its structural footprint we investigated a number of masonry elements such as primary piers, secondary piers, the boiler platform and shed, and the water intake line. The masonry piers exposed by excavation provide a building outline of 24 x 48 ft with 10 x 14 ft dimensions of the attached shed on the back. Five primary piers consisted of a prepared cobble sub foundation, used multiple courses of dry laid or unmortared blocky stone, and often incorporated stones with a single dimension greater than a meter in length. Four secondary piers tend to be positioned in intermediate locations and, compared to the primary piers, more irregularly spaced. They are often comprised of a single flat rock on a sub foundation of cobbles. Two secondary piers outline the boiler shed addition which contains a masonry boiler platform, which also rests upon a cobble sub foundation.

Site examination artifacts (6,080) were largely restricted to the upper two natural or arbitrary levels of the site and comprised of nineteenth and early twentieth century items. Architectural class artifacts dominate the assemblage (71%) with domestic class artifacts relatively lightly represented (14%), industrial class artifacts slightly less (11%), and personal class artifacts extremely rare. The majority of hardware items tend to be larger in scale, a characteristic to be expected in an industrial site. Industry specific artifacts include a dairy thermometer, scale fragments, a scale counter weight, laboratory glassware fragments, a weigh can handle, and possibly a vat drain.

Artifacts and artifact classes were found to be vertically and horizontally mixed with modern debris largely confined to the upper level. There is no stratigraphic separation of assumed multiple fires. Artifact distributions clearly identified the boiler shed and related system. The position of the collapsed chimney was also defined. Only vague and generalized patterns of functional areas were isolated when looking at larger artifact groupings. Analysis revealed recurring and overlapping concentrations of various functional artifact associations and these concentrations were found to co-occur with architecturally related artifacts such as nails and window glass. The pattern was interpreted as debris piles from the 1891 fire or the 1929 demolition of the building or both.

Significance

Integrity: Various agents and events have negatively impacted the artifacts and features. A raised water table has preserved rare wood items that are deeply buried in an anaerobic environment but has also been deleterious to iron and wood artifacts perched at the transitional boundary. Fire has melted the glass artifacts and, in some areas, artifacts have been fused into consolidated masses of corroded metal, melted glass, charcoal, brick, and coal.

Several phases of post-depositional impacts have been generally documented at this site but many observed phenomena can not be directly attributed to any event. The site surface was capped with multiple piles of masonry rubble and piles of soil, stumps, trees, and brush blended with litter and trash. Several of the masonry piers were toppled or overturned in varying directions. The highway and bridge were rebuilt around 1929, expanding the road width, raising the embankment for the bridge approach, and covering the western third of the structure. The stratigraphy under the bank suggests some grading and scraping. It is impossible to determine if disturbances to the masonry piers are related to the structural razing, the 1929 highway construction, or refuse disposal in the last several decades.

Artifacts and artifact classes were found to be vertically and horizontally mixed. Modern debris is largely confined to the upper level, however melted glass was found in all three levels concentrated in the upper two levels, the result of one or more fires. Cartridges and a doorknob further demonstrate vertical mixing and disturbances. The distribution of coal, clinker, and slag clearly identified the boiler system and brick and mortar the position of the collapsed chimney. The internal configuration of activity or process areas in the factory could not be clearly defined. Overlapping artifact distributions defined possible demolition piles dated to 1891 and/or the 1929 events. Specific functionally identified, matched or paired artifacts were found broadly

distributed or smeared. The paucity of some artifact types, such as lengths of pipes or large fragments of boiler, suggest much of the manufacturing infrastructure had been systematically salvaged.

Significance of Site: The Deansboro Creamery Co. site was established at the peak of cheese industry success and it brackets the period of its regional and national demise. The site has yielded some information about site selection, site preparation, and the construction and layout of the factory building foundation and revealed the degree of influence published plans had on the builders. This site represents the only cheese factory or creamery archaeological site reported to date in New York that used masonry piers rather than full or footer walls. The site and its archaeological deposits confirm the existence of a cheese factory or creamery at this location and that this facility had burned. The site has very limited potential to yield additional information regarding those aspects of the site.

The Deansboro Creamery Co. site is one of the few sites in the state containing artifacts definitely associated with the dairy industry and it provides an example of the types of artifacts to be expected in this type of site. Unfortunately, these artifacts have been displaced once and perhaps several times since their initial use and do not define activity or production areas within the factory. Further, the artifact assemblage does not contain the number or variety of artifacts that would illuminate the lives of the workers in the factory. Perhaps more importantly, beyond the unique characteristics and the verification of historically documented facts, the site has very limited potential to yield information related to larger, more synthetic research topics about the cheese industry, management, labor conditions, adaptations to changing markets, or the industry's ultimate demise.

Potential Impacts and Recommendations

Construction along this portion of the project might include the land being used as a temporary detour around the existing bridge. This scope of work could potentially destroy the remaining intact piers and further disturb artifact bearing deposits. Investigations at the Deansboro Creamery Co. site have gathered sufficient data suggesting the site contains several functionally distinctive artifacts and its lowest levels contain information about the initial construction and lay out of the factory structure. The majority of site deposits lack adequate vertical and horizontal integrity necessary to conduct research regarding the local, regional, state, or national cheese industry, corporate adaptations, work conditions, or the causes for the industry's collapse. Therefore, it is recommended the site is not eligible for listing on the National Register of Historic Places. No further work is recommended.

AUTHOR/INSTITUTION

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DATE

January 17, 2012.

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INTRODUCTION

In July and August 2009, the New York State Museum Cultural Resource Survey Program (CRSP) conducted a site examination of the Deansboro Creamery Co. site (NYSM 12220, A06514.000044). The site reported herein was named the "Deansboro Creamery" because that was the first name found applied to the site on historic maps, specifically the 1907 New Century Atlas of Oneida County (Century Map Co.). The place has been called the Deansville Cheese Factory, Deansville Creamery, and Deansville Factory. These labels may have been shared with an earlier business and add to some confusion in the record. The structure and business have also been known as the Deansville Cheese, Butter, and Condensed Milk Factory, the Deansville Butter and Cheese Company, Deansville Butter and Cheese Association, Deansville Butter, Cheese, and Condensed Milk Company, and the Deansboro Cheese Factory. The names had been so blended through the years that, at the time of the company's dissolution, a paperwork snag developed at the Department of State in Albany because of different names being used on stocks and letters of incorporation. Additional confusion may be caused by the labels "creamery", "cheese factory", "milk station", and "condensery" assigned to dairy industry facilities. One might assume that a creamery produced cream and/or butter, a cheese factory produced cheese, a condensery made condensed milk products, and a milk station was merely a collection and transfer station for raw milk. However, the actual function or product coming from these facilities varied considerably (Stratton and Trinder 2000). The facilities often produced multiple products, the proportion of which changed seasonally and annually, adapting to market shifts. In some years, a cheese factory may only make butter or only function as a milk station. Similarly, a creamery may shift in a given year to produce cheese and so on. Some researchers have collapsed all factories processing milk into the term "creamery" (Stratton and Trinder 2000). The site was identified during a cultural resources survey of BIN 1045640 and vicinity along New York State Route 315 south of the hamlet of Deansboro in the Town of Marshall, Oneida County, New York (Staley and LoRusso 2009). This phase of the PIN 2030.06.121 archaeological research focuses upon the site found immediately north and east of the bridge over Oriskany Creek (Figure 1). This site evaluation was conducted for the New York State Department of Transportation (NYSDOT) through the New York State Education Department's interagency agreement with NYSDOT.

The work scope for the proposed construction involves the replacement of BIN 1045640 on its current alignment with widening to accommodate travel lanes and shoulders. The project could also include the use of a temporary bridge which would require temporary easements, access areas, ROW acquisition, on-site detours, and feathering this work onto all adjoining roadways. The area investigated under Phase I survey was centered on BIN 1045640 and extends 125 m (410 ft) north toward the hamlet of Deansboro and 165 m (541 ft) south along New York State Route 315 past the intersection with California Road (RM 315 2601 1049) for a total of 290 m (951 ft, .18 mi). The project was 25 m (82 ft) wide at the northern end. It flared out to 60 m (200 ft) wide in the vicinity of the bridge and then tapered to 30 m (100 ft) wide at the southern end. At its widest section, more of the project area falls on the eastern side of the road where the project extended 36.5 m (120 ft) from the centerline (Staley and LoRusso 2009). Within the PIN 2030.06.121 project survey area, CRSP staff located a single historic site, the Deansboro Creamery Co. site, and it was identified as requiring further work.

During Phase I testing, the Deansboro Creamery Co. site revealed a deposit of primarily historic nineteenth and early twentieth century industrial and architectural debris with a small amount of domestic debris. In addition, a stone masonry footer or piling and stone paved foundation slab was also found. The remains represented a creamery or cheese factory that began its operations during the mid 1880s, burned in 1891, was soon after rebuilt, and possibly remained in operation until at least 1907. The structure was later used as a warehouse and as a gate factory and remained standing until at least 1929. Based on historic mapping, the creamery/cheese factory structure had dimensions of 24 x 50 ft with small additions extending from the front and back of the building. The irregularly shaped site, as defined by positive Phase I STPs, measured 45 m (148 ft) long along Route 315 and 28 m (92 ft) long along the eastern project limit edge. In total, the site may encompass 1065 m^2 (11,464 ft^2) or .107 hectares (.2632 acres).

The site's potential National Register eligibility was

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unknown at the end of Phase I fieldwork and the site was conceivably threatened by proposed construction.

The author supervised the fieldwork as conducted by Amy Lynch, Crystal McDermott, Amanda Knapp, Tim Hummel, Lawrence Xinakes, Josh Dubuque, Steve Moragne, and Chris Sobik. John Pasquini cataloged and analyzed artifacts retrieved during excavations. Jessie Pellerin completed final map drafting.

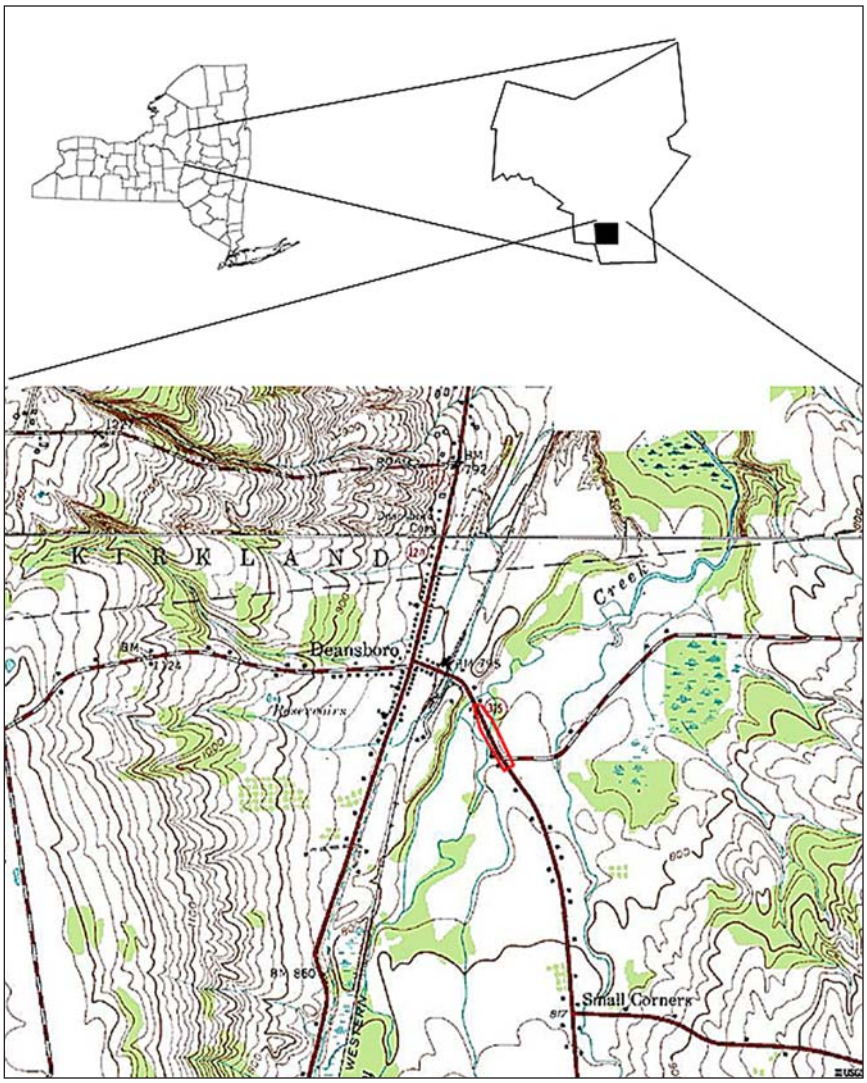

Figure 1. Project Location Map for PIN 2030.06.121 Phase I Survey.

BACKGROUND RESEARCH

ENVIRONMENTAL SETTING

The site is situated immediately north of Oriskany Creek at an elevation of approximately 230 m (754 ft) above sea level (USGS 1988 Digital Raster Graphic [Terraserver-usa.com 2009]). The Oriskany Creek flows approximately 6.5 mi (10.5 km) northward to the Mohawk River. The creek meanders across a relatively broad and flat floodplain through this middle section of the Oriskany Creek valley. The stream itself has been historically manipulated with diversion ditches and millraces along the lower valley slopes. One of these diverted millraces flows just north of the site. This channel brought waterpower to a mill location just outside the Phase I project bounds. The terrain climbs steeply to the west with a 1600 ft (488 m) ridge separating the Oriskany drainage from the Sconondoa Creek drainage approximately 4 mi (6.4 km) west of the project area. The northwesterly flowing Sconondoa Creek eventually reaches Oneida Lake. To the east, the hills and ridgeline are lower and gentler. The relatively flat terrain flanking the creek near the site is covered with riparian trees and shrubs. Across the creek to the southeast, the flat terrain is cultivated. The landscaped Town of Marshall Memorial Park just southwest of the bridge lies on raised land created by extensive filling prior to development as a park. West of the site and across Route 315, the terrain is low, relatively flat and gently sloped toward the creek. Historically, some of these lowlands adjacent to the creek have been mechanically worked, draining and shaping the land and presumably changing the fluvial geometry of the Oriskany Creek drainage.

The underlying geology of the project area consists of Vernon shales from the Cobleskill limestone and Salina Group which is capped by lacustrine sands near Oriskany Creek and colluvial deposits upslope (Fisher et al.1970; Cadwell and Dineen 1987). The predominant soils in the study area are the Wakeville silt loams on the floodplain valley bottom and Fredon gravelly silt loam on the adjacent hill slopes. Wakeville silt loams are occasionally flooded soils whose parent materials are silty alluvium washed from glacial drift comprised of shale, siltstone, sandstone, and limestone. Fredon soils are formed on outwash terrace and outwash plains in glaciofluvial materials. They are derived from slate, shale, limestone, sandstone, and granitic gneiss. Udifluvents-Fluvaquent soils are frequently flooded and are located on floodplains. Their parent material is alluvium. Although not shown on the soil distribution map as being proximal to the site, one nearby soil type has characteristics that were present in soils at the site and should be discussed. Palms muck is usually found in swamps and marshland and is derived from organic material over loamy glacial drift. All soils are presented in Table 1 and the soil distribution is shown in Figure 2 (Soil Survey Staff, Natural Resources Conservation Service USDA 2009a, 2009b, 2009c; USDA-NRCS Web Soil Survey 2009).

Specifically, the terrain at the site is a relatively flat, smooth floodplain vegetated by low brush and tall weeds with very sparse young trees. This is capped in places by mounds of dirty fill, gravel, concrete rubble, organic debris, and mixed trash and litter. Based on comparisons with riparian floodplains along the southern banks of the creek and those floodplains further west of the site, the on-site environment is likely heavily affected by large scale landscaping. In the natural setting, the ground is very irregular with curved elongate channels, sloughs, ridges, mounds, and holes covered with a thick growth of trees and scrubs. The groundcover in the natural riparian environment is tangled with fallen logs and piles of branches and flotsam from seasonal flooding. Anecdotal information provided by local visitors suggested that the area had been used by individuals and the municipality for dumping fill. Further, people noted that the elevation of the creek bed has risen several feet over the past 50 years and the water table has also risen through time. Flooding and water table height have affected the cultural remains at the site. Another on-site environmental impact was the road and bridge construction that occurred around 1929-1930. Historic photographs and documents confirm that the road grade in a portion of the site area has been elevated by extensive fill. This modification to the road grade was likely due to 1929 bridge requirements and modifications to improve the formerly sudden and steep grade required to crest the millrace beyond the north end of the Phase I project area.

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Table 1. Project Area Soils.

Name	Soil Horizon Depth cm (in)	Color	Texture	Drainage	Slope %	Landform
Udiflvents-Fluvaquents Complex (1)*	0-25 (0-4)	?	SiLo	mod. well	0-3%	floodplains
	25-38 (4-12)		Grl Lo			
	38-89 (12-37)		SiLo			
	89-183 (37-72)		Stratified VGrl SiLo to Lo to Fine SaLo			
Wakefield silt loam (4)	Ap: 0-25 (0-10)	DkGBrn	SiLo	poor	0-3%	floodplains
	Bw: 25-38 (10-15)	Brn	SiLo			
	Bg: 38-89 (15-35)	DkGBr	SiLo			
	Cg: 89-183 (35-72)	GBr	SiLo			
Fredon gravelly silt loam (30)	Ap: 0-18 (0-7)	VDkGry	Grl SiLo	poor	0-8%	valley trains and terraces
	Bg1:18 -32 (7-13)	GBrn	Grl SiLo			
	2Bg2: 32-56 (13-22)	Gry	Grl SaLo			
	C1: 56-127 (22-50)	DkGBrn	Grl LoSa			
	C2: 127-203 (50-80)	VDkGBrn	Grl Sa			
Palms muck (395)	Oa1: 0-25 (0-10)	Blk	Muck	poor	0-2%	swamps and marshes
	Oa2: 25-46 (10-18)	Blk	Muck			
	Oa3: 46-61 (18-24)	Gry	SiClLo			
	Cg: 61-183(24-72)	Gry	SiLo			

KEY: Shade: Lt-Light, Dk-Dark, V-Very; **Color:** Brn-Brown, Gry-Gray, GBrn-Gray Brown, StrBrn –Strong Brown, RBrn- Red Brown, Ybrn- Yellow Brown, Blk-black; **Soils:** Cl- Clay, Lo- Loam, Si-Silt, Sa-Sand; **Other:** /- Mottled, Grl- Gravel, Cbs, Cobbles, Pbs-Pebbles, Rts-Roots.

* Description does not include soil horizon or color.

Figure 2. Soil map of project area (USDA-NRCS 2009).

HISTORIC CONTEXT

General Overview of Central New York and Deansville/Deansboro

Early European contact with the Oneida included that of Samuel de Champlain in 1615 (Pratt 1976), Van der Bogaert in 1634 and 1635 (Van der Bogaert 1988), and the French Jesuit missionary Jacques Bruyas in 1667 (Thwaites 1959, vol 51). The Oneida population, material culture, and settlement patterns were drastically changed during the seventeenth and eighteenth centuries through greater and greater contacts with the Dutch and English traders and merchants. Oneida involvement with European conflicts and contact with new infectious diseases decimated populations and perhaps increased the traditional practice of adoption (Wonderley 2002).

Oneida County was formed from Herkimer County in 1798 during the period after the Revolutionary War that settlers swarmed into the region. What lands eventually became the Town of Marshall in 1829, were once part of Whitestown, then Paris in 1798, then Kirkland in 1827 (Child 1869; McConnell 1977).

As the eighteenth century progressed, the Oneidas became more intensively pressured by English settle-

ment coming up the Mohawk Valley. There was much traffic through the valley during the wars of the eighteenth century. The Oneida settled in their principal village near present day Oneida Castle adopting the orchards, grazing stock, house forms, tools, and clothing of the Euroamericans. The community had a population of over 700 individuals (Wonderley 2002). During the Revolutionary War, the Oneida allied themselves with the colonists. Because of their assistance during the war, the 1784 Treaty of Fort Stanwix insured the Oneidas (as well as the Brothertown [Brotherton], Tuscororas and Stockbridge Muncies who had been taken in by the Oneida) land rights. Through the eighteenth century and into the beginning of the nineteenth century, these properties and other lands were slowly lost through grants, sales, mortgage foreclosures, treaties, and "legal" maneuverings. A flood of immigrants from New England came to the region to take advantage of the fine farmlands. By 1820, many of the remaining Oneida had removed to a new reservation in Wisconsin. By 1920, Oneida lands had been reduced to a 32-acre parcel (Wonderley 2002, 2003; Jones 1851).

The Brothertown (also Brotherton) Indians, the remnants of various tribes from New England (Narragansett, Mohegan, Pequot, Natick, and Montauk) were invited by the Oneida to live in their territory prior to the Revolution and they purchased their tract in 1774. The land encompassed over 9000 acres along the Oriskany Creek in what are now the towns of Kirkland and Marshall. Few settled prior to the war and even fewer stayed on through the conflict (Jones 1851; McConnell 1994). The generalized settlement of Brothertown was established around 1783. In the 1790s, John Dean, a Quaker missionary moved into the Brothertown settlement and acted as schoolmaster, agent, and advisor. It was Dean who advised the Brothertown to move to Wisconsin in 1817. That move was largely completed by 1831 (Love 1899; Andreson 2009; McConnell 1994).

The centers of the Brothertown settlement were Deansville and Dicksville. Deansville was named after John Dean and Dicksville was named after Asa Dick, a Brotherton Indian leader. Asa Dick built a grist mill just north of the Phase I project limits between 1835 and 1838 (MDS 4 of Staley and LoRusso 2009). It is assumed that the current layout of diverted water from Oriskany Creek dates from that time. This millrace crosses Route 315 just north of the Phase I project area and has been previously mentioned. Deansville flourished after the completion of the Chenango Canal (Jones 1851; Wager 1896; McConnell 1994). The Chenango Canal, connecting Utica and the Erie Canal to Pennsylvania, was completed in 1837. The canal was 97 miles long and contained 114 locks (McFee 1993). The development in Deansville mimicked at a much lesser scale the boom observed in Utica. Development of the Erie Canal during the 1820s and then the railroads during later decades enabled Utica to become the primary trade and industry center. The city rapidly advanced from a population of 3,000 individuals in 1817 to 9,000 people in 1832 and then to 22,529 individuals in 1860 when it incorporated into a city (Ryan 1981).

Deansville boomed because of its position along the Chenango Canal and the Utica-Clinton-Waterville Plank Road which was completed in 1849. State Route 315 follows a portion of the Plank Road. By 1860, Deansville included a Methodist Church, post office, two store houses, two mercantiles, two taverns, a grocery, a grist mill and several mechanics shops (Jones 1851; Durant 1878). The Utica, Clinton, and Binghamton Railroad, later the New York, Ontario, and Western Railroad extended from New Hartford to Deansville in 1867 where, for a time, Deansville had a turntable and was the terminus of the line. By 1884, there were eight trains a day stopping in Deansville (Sanders 2008). Asa Dick's grist mill had been converted into a stock company operated distillery by mid century. By the late 1870s, Deansville featured three stores, two hotels, a tinsmith, millinery, a dress maker, a meat market, harness shop, two blacksmith shops, a wagon shop, a post office, and a physician. The Dick grist mill had converted back to a grist mill under the ownership of a Mr. Foote (Durant 1878). By the turn of the century, the mill was a combined grist and cider mill and electric power plant. The mill burned in 1922, was rebuilt by Claude Hinman and burned again in 1962 (McConnell 2009a). In 1894, the post office changed its name to Deansboro to avoid confusion with Dansville (Wager 1896; McConnell 1994).

The agrarian economy in the area began as subsistence or near-subsistence farming and then shifted to a diversified commercial agriculture providing food and other products to the local villages, towns, and to Utica. With the development of the canals, then the plank roads, and then the railroad, this produce could be shipped to other urban centers. The variety of agriculture practiced by farmers in the region also witnessed a transition. Beginning with hardy grain crops such as buckwheat at the pioneer subsistence farms, greater varieties of wheat grains were grown for surplus market. Sheep herding was a popular agricultural pursuit during the early to mid-nineteenth century. The production of hops was of extreme economic importance in the area from the 1860s through the 1890s. At about the same time, dairying became an important agricultural business with the development of creameries converting liquid milk to cheese or butter (McMurry 1995). Eventually, with the advent of rapid

transportation systems and refrigeration, the dairy industry boomed through the twentieth century. One of the most significant twentieth century industries in Deansboro was a condensed milk plant which opened in 1902 and closed in 1983 (Bishopp 2009; NYSDA 1903). Similarly, farmers of fruit and vegetables were successful due to improved transportation, proximity to market, and the development of the canning industry. Camp Baldy (MDS 2 of Staley and LoRusso 2009) is the former location of a twentieth century migrant farm labor camp.

The Dairy Industry, Cheese Making, and Cheese Factories

A closer look at the dairy industry, particularly cheese making and cheese factories in central New York, is a prerequisite to a detailed history of the Deansboro Creamery[1]. Dairying in upstate New York began as part of the diversified yeoman farm with each family raising several cows for home use. Over time, families began to keep greater numbers of cows and converted their surplus milk into cheese and butter products that could be used in trade. This part of the family dairy business was typically the sole domain of women. As domestic cheese making grew to be a more significant part of the farm economy and in some cases become the primary business, men took a more active role and women were involved less (McMurry 1995). Farm-dairy cheese became truly big business in upstate NY in the early nineteenth century with important centers in Herkimer and Oneida Counties. Although the first cheese factories appear to have been built in Ohio, many have suggested the first cheese factory was built by Jesse Williams of Rome, N.Y., in 1851. He has also been credited with the first associated dairy. Starting with milk from his own herd and that of his son he expanded to include his neighbors and associated cheese manufacture began (Durand 1952; Ives 1986; Kindstedt 2005; Pirtle 1926; Poese 1985; Smith 1913; Stamm 1991; Willard 1872; Wood 2009).

The industry grew slowly at first but then grew phenomenally. Looking at the United States, there were eight cheese factories and butter creameries by the early 1850s. Factories and creameries expanded to 9,242 facilities by 1900 and then plummeted to 50 by 1946 (Alford 1902; Stamm 1991) (Figure 3). For much of that time, New York had the greatest number of these facilities and the growth and expansion in this state reflected or in fact drove the national statistics (Figure 4). Only four more factories had been built in New York by 1854. Ten years later there were 210 factories with 80 of those being in Oneida County. The peak of new factory construction in the state was during 1863 and 1864 (Gibb et al. 2009; Poese 1985). New York had the greatest number of factories in 1890 with 1337; Wisconsin surpassed New York in 1900 (Alford 1902; Gibb et al. 2009) (Figure 5). A similar statistical trend can be seen in the production and exportation of cheese. The peak or high point of the cheese industry has been marked at 1880 (Smith

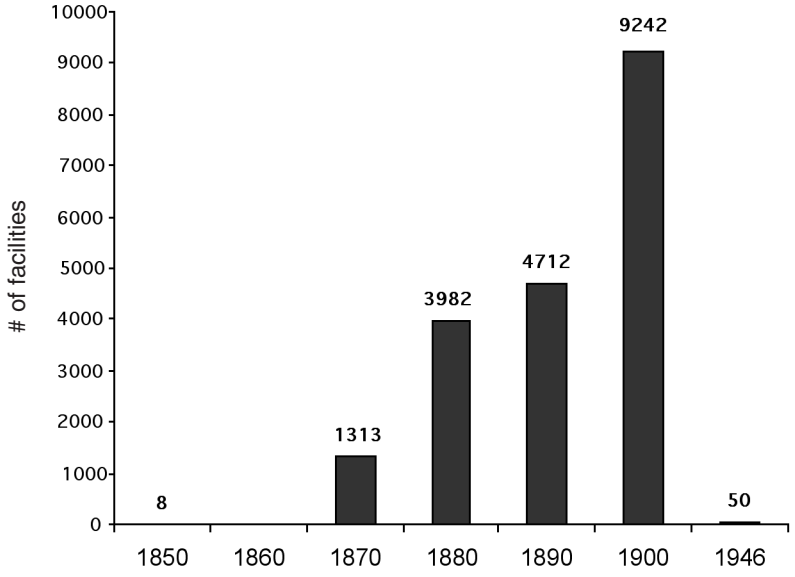


Figure 3. Cheese Factories and Butter Creameries in the United States.
(Statistics taken from Alford 1902)

1913), 1881 (Brunger 1954:172), and 1892 (Durand 1952:274). The phenomenal growth of the cheese industry in this region and the country are partially related to the growth of the U.S. urban market but more strongly related to exportation and the demands of the English market. Cheese exports during 1860 were 15 million lbs. By 1881, exports had increased to 148 million lbs. (Pirtle 1926:104-105). The USDA figures suggest the peak exportation occurred during the period 1881-1885 (Poese 1985). Canadian exports were half those of the U.S. during that period but a decade later surpassed U.S. export levels. The cheese industry was very popular and successful because it was a relatively simple business. There were low levels of capital required, it was labor intensive and there was lots of cheap labor available, there was a plentiful supply of raw milk, and the knowledge of how to make cheese was widespread (Gibb et al. 2009).

The decline of the cheese industry and especially the decline in New York were as precipitous as the rise. From the peak of the early 1880s, cheese exports declined to almost negligible levels three decades later with extreme drops in market value (Pirtle 1926:104-105). The cheese industry was said to be on "shaky ground" in 1894 (Stamm 1991:101). Various reasons have been cited for the decline and all likely had some affect. Certainly the growth of urban industrialized areas and the rise of the fluid milk market had an impact especially later in the century when refrigerated railcars were developed (Gilbert 1896; Smith 1913; Stamm 1991). This Durand (1952) termed an increased "milkshed". Stamm (1991) also sees a shift in the values of cheese, butter, and cream during the period with cream being of greatest value, in fact it was seven times the value of cheese. Railroads in the late 1890s made a concerted effort to buy up cheese factories and creameries only to close them thereby monopolizing the liquid milk in that area (Durand 1952, Poese 1985). Part of the decline in New York was due to the rise of the cheese industry in the Midwest (Poese 1985). Others cite differences in the trade regulations between the U.S. and Canada as a reason for the decline (Gibb et al. 2009; Pirtle 1926). Perhaps of greater importance was unregulated greed. The previously noted price and export drop was due to the U.S. product, and that of central New York, suffering through a crisis of consumer confidence in their product. This crisis was self-induced through attempts to maximize profits through skimming and filling cheese. Cheese would be filled by substituting lard for butterfat in the manufacturing process. The skimmed and filled cheeses were marketed as real or full cream cheese. This led to a substandard product and the loss of the British market to Canadian manufacturers. The Canadian government had instituted regulations and controls on their manufacturers well before any issues arose whereas the U.S. government and New York State declined to regulate until 1885 after the damage had been done. The American cheese industry had basically killed its own market (Brunger 1954; Gibb et al. 2009; Gilbert 1896; Kindstedt 2005; Pirtle 1926:104-105;

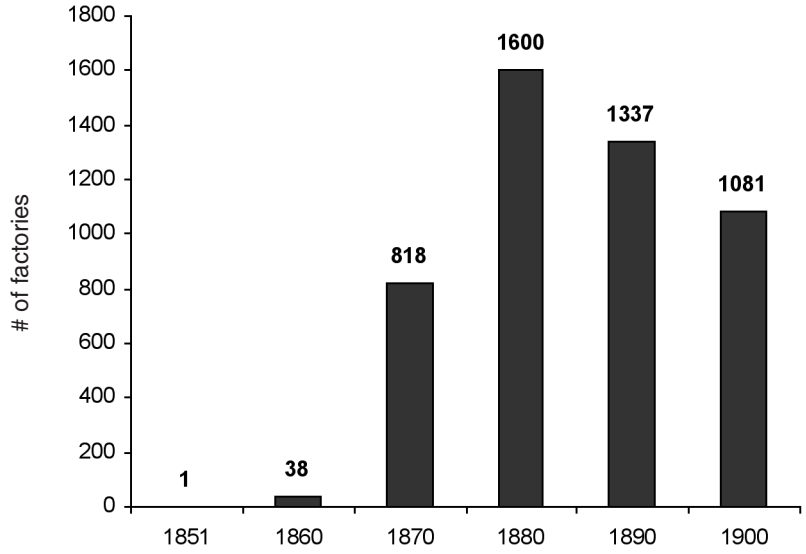


Figure 4. Cheese Factories in New York.
(Statistics from Alford 1902; Durand 1952; Gilbert 1896; NYSDA 1907; Poese 1985)

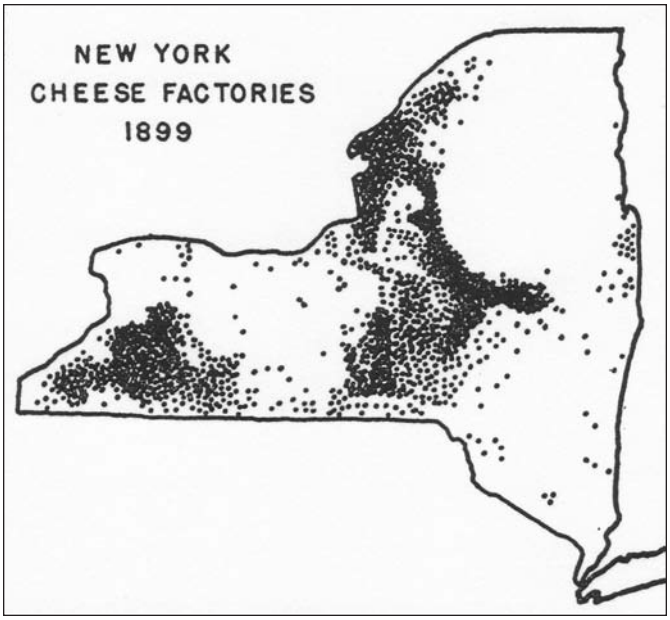


Figure 5. Distribution of Cheese Factories in 1899.
(from Durand 1952:275, *Annals of the Association of American Geographers* 42(4):264-282. Courtesy of Taylor & Francis Ltd. http://www.informaworld.com)

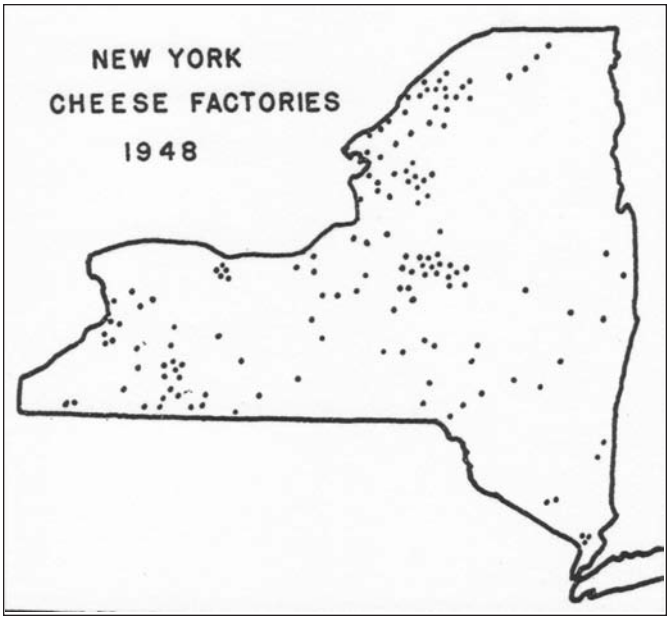


Figure 6. Distribution of Cheese Factories in 1948.
(from Durand 1952:279, *Annals of the Association of American Geographers* 42(4):264-282. Courtesy of Taylor & Francis Ltd. http://www.informaworld.com)

Smith 1913; Stamm 1991). Between 1894 and 1904 many factories closed and the manufacture of cheese and butter was greatly diminished (Gibb et al. 2009:95). By the mid-twentieth century, cheese factories were much less present on the landscape (Figure 6). The Deansboro Creamery operated during this period characterized by Canadian dominance of the international market and the decline of upstate New York cheese.

There were two types of factory ownership/management. One type was owned by an individual or corporation that bought milk from farmer patrons or would charge for the service of making the cheese and return a percentage of the profits to the patrons. The other type was a cooperative that was owned and managed by the farmers themselves who each held stock in the firm and divided the profit based on member contributions.

Cheese factory buildings were described thoroughly in the agricultural journals, dairying books, annual reports for dairymen associations, and department of agriculture yearbooks. Poese (1985) compiled descriptions from these sources to characterize the construction and layout of these facilities. The publications suggested that road access, a centralized location amidst dairy farms, and having abundant spring water for cooling, cooking, and cleaning were critical factors to consider when choosing a factory site.

Cheese factories were segregated or organized into separate spaces for each stage of the process. The majority of factories described in the literature of the times had a tripartite configuration. The three spaces included a weighing and testing room fronted by a delivery window, a manufacturing room for curd processing and pressing, and a curing room or dry house. The separate dry house would allow for greater humidity control and for easier removal in case of fire. Most had a separate boiler, coal or wood storage, and some had ice houses. The boiler room was ideally separate or tightly contained to reduce fly ash. Early in the history of cheese factories, during the initial boom, the factories were often refitted into existing barns, cooper shops, country stores, churches, etc. Just after the Civil War, new cheese factory structures tended to be larger, gradually reducing in size and complexity. The reduction in size is likely related to the decreasing area of milk territories or catchment areas. Frazie's Cheese Factory in Truxton and the Herkimer Cheese Factory in Herkimer were typical of the larger, multi-structured facilities built ca. 1864. The manufacturing rooms ranged in size from 30 x 28 ft to 30 x 50 ft with most dry houses nearly always 30 x 100 ft (Poese 1985:55-59; Willard 1872). The later facilities, post 1873, were often contained under one roof. A two-story structure with the curing room on the second floor was the least expensive design. These structures resemble barns but have a regular pattern of windows and a loading area for milk delivery. The Sanborn Factory is often used as the graphic example of the typical or ideal factory structure. It was 36 x 75 ft and three stories (Figures 7 and 8) (Poese 1985; Vincent 1991; Willard 1872:368; Wood 2009).

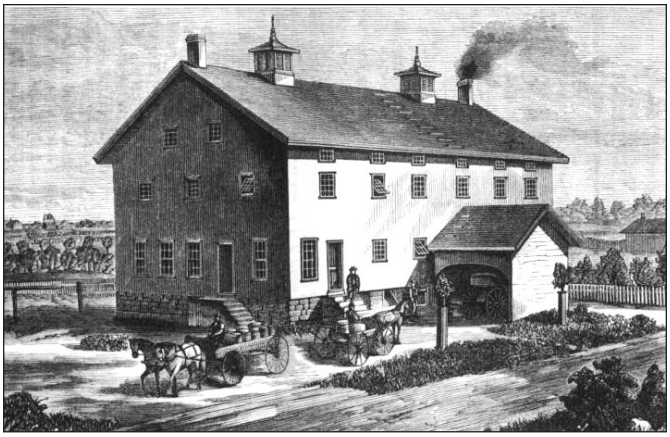


Figure 7. Sanborn Cheese Factory.
(from Willard 1872:369)

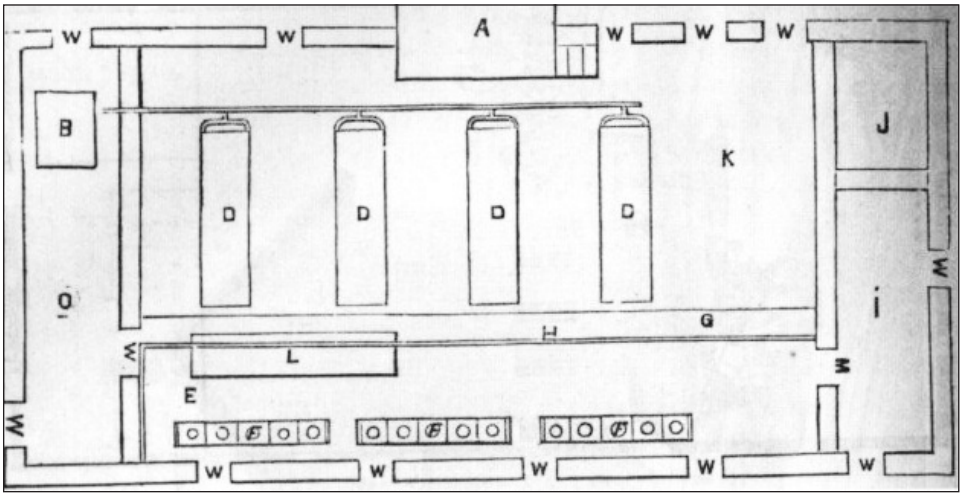


Figure 8. Interior Floor Plan of Sanborn Cheese Factory. (Key: receiving room platform "A", boiler ("B"), boiler room ("C"), four 600-gallon Millar vats ("D"), waste water trough ("G"), drain ("H"), curd sink on casters ("L"), and fifteen presses ("F").
From Wood (2009).

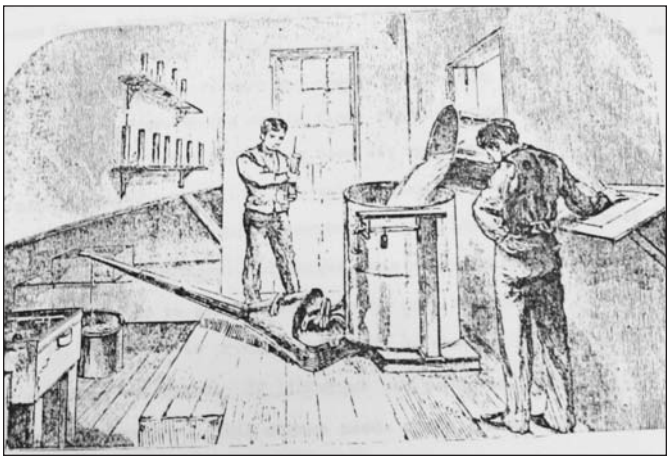


Figure 9. Receiving Room of 1875 Cheese Factory.
(from Harpers New Monthly Magazine 1875:815 in Poese 1985)

A general understanding of the cheese making process is also a part of the context for this site as it provides information about equipment and the functional patterning inside and outside of the factory structure (Figure 8). Milk is drawn at the farm and cooled to 60 degrees and placed in 10 gallon cans. These cans are carted to the factory, mechanically hoisted to a platform where the milk is weighed, tested for butterfat and credited to the farmer's account (Figure 9). The delivery window is sheltered in many nineteenth century cheese factories as illustrated by the Sanborn Factory (Figure 7). The milk is transferred by gravity from the weighing can or tank on this elevated platform through tin piping and emptied into vats in the manufacturing room. The milk is then heated to 78-82 degrees. The vats were made of wood with a tin lining and were either heated with a built in firebox or were pipe-fitted to a steam boiler (Figure 10). Cheese factory vats were typically 12-16 ft long and had a 400 to 600 gallon capacity. After temperatures were reached, then rennet was added to coagulate the liquid. The cheese curd was cut up with curd knives or "harps", left to rest and drain, and then broken up into smaller curds for further draining. The curds were heated to 98-100 degrees, stirred, and the whey was drawn off. The whey was either drained and dumped or collected to be used as pig feed. Most factories simply drained the whey effluent into the nearest creek. The remaining curd was broken up more and cooled in a curd sink. Often the curd sinks were on casters, rollers or tracks. The curd was then run through a curd mill, then salted. The curds were then gathered in a gauze or bandage, placed in a cheese hoop or frame. The hoop was placed in a cheese press for 48 hours being turned once during that period (Figure 11). The green cheese was removed from the press and then taken to be cured or dried on sturdy racks (Figure 12). After curing, the bandaged wheels would be dipped in paraffin. These wheels weighed approximately 30-50 lbs. Early in cheese factory history, the finished product was stored at the factory until fall before being shipped to market. Later, shipments went to market on a weekly basis (Gibb et al. 1990, 2009; Kindstedt 2005; Poese 1985; Stamm 1991; Willard 1863, 1872; Wood 2009).

The construction and layout of one of these typical

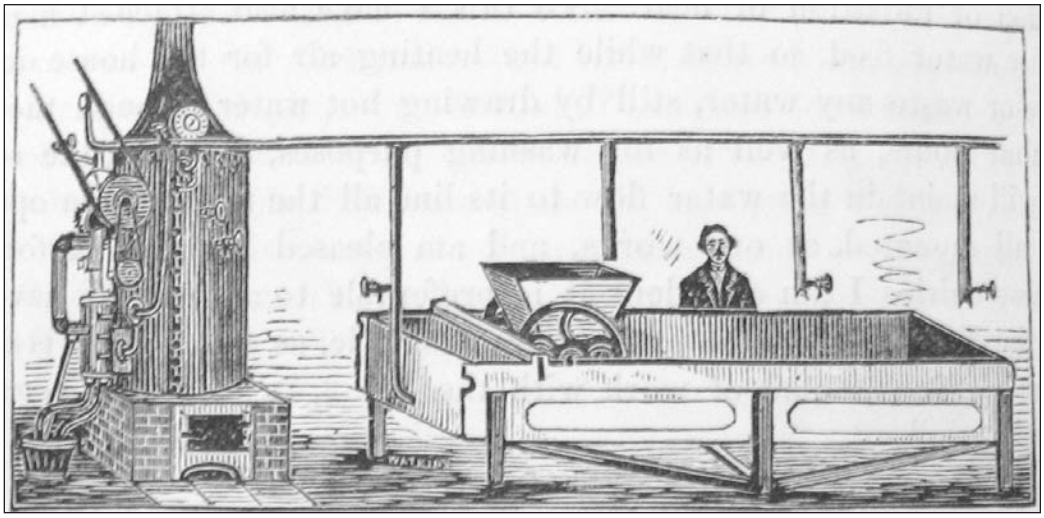


Figure 10. Steam boiler and cheese vat.
(from Willard 1872:386)

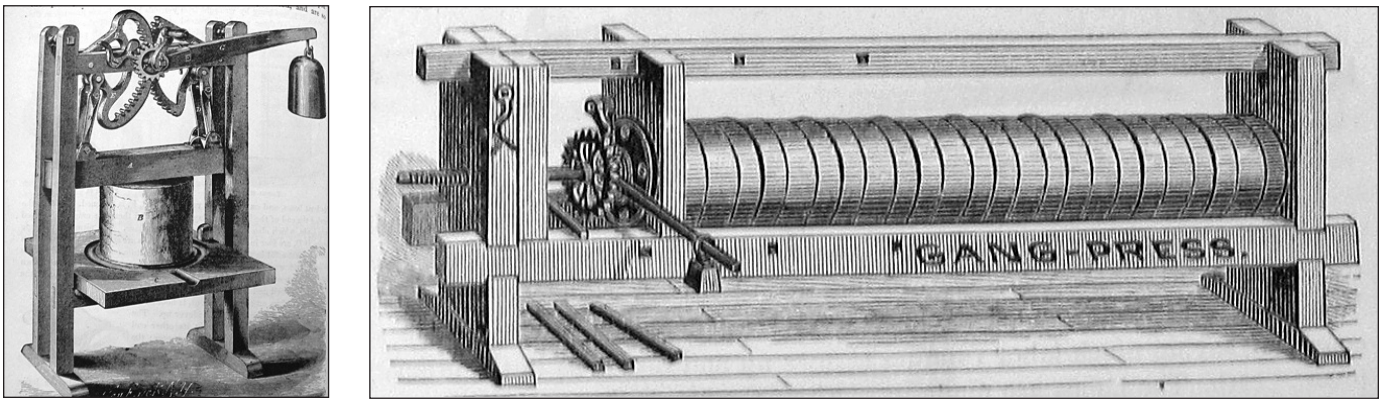


Figure 11. Cheese presses.
(from Willard 1872:400 and 403)

post-1873 facilities was described by L.L. Wight (1871) and then reiterated in Willard (1872:422-425). This published design may have guided factory construction for the remainder of the century. Wight describes his ideal factory as 32 x 75 ft and two-stories. This size would be adequate for a factory processing the milk of 500 to 600 cows and cost about $1200 to $1500. The builder was directed to select a dry, hard, airy location and to avoid "low, marshy, swampy ground" (Wight in Willard 1872: 422). The piers need to be substantial and excavated below the frost line and spaced no more than 10 ft at center. The floor joists should be 3 x 10 in, well-bridged, placed on 16 in centers on 10-12 in beams and cross sills and not placed in notches. The floors are to be well-braced, decked in tightly matched yellow pine, have ventilators, and have a built in slope for drainage to a drain box 4 ft from the rear wall. The interior and exterior walls should be sheathed in tightly matched pine lumber. The ceiling is recommended to be plastered and the curing room upstairs should be double plastered. The building is to be very well lighted with plentiful windows. The windows should be well-blinded to control heat and the structure well-ventilated. The curing room and its counters are separated by a tight double partition door, the manufacturing and press room measure 35-40 ft long. The boiler and coal room should be attached but separated by tight doors. This room should be fitted with a steam engine of at least two horsepower and a boiler of six horsepower[2]. A 13 x 13 ft receiving room with a platform and a receiving window ought to be centered on the vats positioned below and a foot above the top of the vats. The driveway should be 4.5 feet below the top of the weighing can on the platform. It is recommended the factory loading dock have a crane derrick or hoisting wheel (Gibb et al. 2009; Poese 1985; Wight 1871; Willard 1872:422-425). It is interesting

Figure 12. Curing Room.
(from Wood 2009)

to note that separate boiler rooms, tight walls, and minimal well sealed doorways are all recommended to control dust and dirt yet many of these facilities were positioned immediately adjacent to dusty roads. Very closely paralleling the Wight and Willard recommendations was a design and plan for a creamery provided by the federal government. This creamery required a 28 x 48 ft building featuring a main work room, engine and boiler room, coal room, refrigerator, store room, and office. Machinery required for this type of operation included boiler, engine, and a churn costing a total of $800-1400. A 400 cow minimum would be needed for this creamery to succeed (U.S. Bureau of Animal Industry 1908).

Willard (1872: 228, 372) provides a glimpse of the social and economic conditions at a factory. A cheese factory servicing the output of 600 cows can be operated by four or five full time employees during the main season from April to November. Half or more of these workers can be women[3]. A male manager, who was expected to work alongside the others, made $800-$1000 per season plus board. Women are "not unfrequently" managers and they make $640 to $800 per season plus board. Male employees, often considered second in command, made $35 to $50 per month and women made $20 per month plus board. The milk deliveries can come from as far away as four or five miles but the majority of the milk should come from a mile and a half on average (Willard 1872: 228, 372). In season, cheese factories were the social center of activity for miles around. Every morning horse drawn wagons loaded with milk lined up at the factory (Stamm 1991:52). Neighbors would take the opportunity to share news and information about the community.

Historic Records and the Deansboro Creamery Co.

Deed records, historic maps and atlases, census data, local history, newspapers, and oral history provide further detail and texture for this historic contextual framework. It is worthwhile to reiterate that the names assigned to this site have shifted through time and several of these names have been shared with other separate and distinct sites and incorporations. The facility and ownership have been named the Deansville Cheese Factory, Deansville Creamery, Deansville Factory, Deansville Cheese, Butter, and Condensed Milk Factory, Deansville Butter and Cheese Company, Deansville Butter and Cheese Association, Deansville Butter, Cheese, and Condensed Milk Company, Deansboro Cheese Factory, and the Deansboro Creamery. The deed record sequence is interrupted in several locations and, often, recordation dates lag behind the dates of actual usage and occupation (Tables 2 and 3). The site location was originally part of a larger parcel associated with the previously mentioned ca. 1835-38 Asa Dick grist mill. This larger parcel is identified in many deeds as the Deansville mill prior to 1856 and the Deansville distillery after that date. The first deed transfer in 1848 features John Dean, early settler and community namesake, as a grantor. The ownership trail is broken at this date. The earliest map (Map 1) shows the grist mill in 1852. Maps 2 and 3 of 1858 show the grist mill had been converted into a distillery, the two residences opposite appear to belong to the same company (2671 and 2673 Rte. 315) and a series of six identically sized barns on the east side are associated with the distillery (MDS 6 of

Table 2. Summary of Deed Research for the "Distillery/Mill Parcel" (Tax Map # 364.000-1-56).

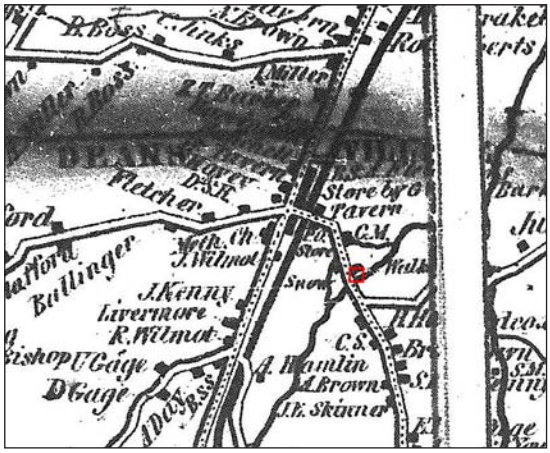
Date	Grantor	Grantee	Libre:Page	Comments	Acreage	Price
				Asa Dick Mill 1838?		
1/29/1848	John and Roxanna Dean; Ben and Jemima Page	James Willard	135:117-119	establishes the dyke and specifies ROW along creek for foot and team		
	?????	?????		Distillery		
4/15/1879	Alverson Ely	Mary and Oren Foote	386:283	property called the "Deansville distillery" and pre-1856 as the "Deansville Mill"		$3200
2/11/1888	Warren Ely	Mary A Foote	464:75	this deal excludes the "triangular lot" and still refers to property as the "Deansville distillery" and pre-1856 as the "Deansville Mill"		
2/13/1888	Mary A Foote	Oren Foote and George Northrup	464:76	notes exception of the "cheese factory lot to Charles L. Brooks		
?	Mary A Foote	George Northrup	511:429	timber released to George Northrup		
8/12/1905	Lydia Northrup et. al.	Olin E. Blanding	608:68	Lydia et al. survivors of George?; notes exception of Mary Foote to Charles Brooks parcel.		
1905	O.E. and Adelaide Blanding	A.L. Cooper	599:398	½ ownership of mill to Cooper		
9/2/1907	A.L. Cooper	O.E. and Adelaide Blanding	603:432	Blandings buy out Cooper		
10/8/1907	O.E. and Adelaide Blanding	Blanding Feed and Grain Co.	634:106	excludes lot north of dyke and west of Rt315		
1905-1912			Mort Book 411:466	Blandings hold mortgage from Lydia Northrup et al		
	?????	?????				
11/16/1940	Mohawk Milk Products Co.	Claude Hinman	1007:386	quit claim for Deansboro Mill Property		
5/28/1968	Claude Hinman	Chester and June Stolarczyk	1876:257	includes exception of "cheese factory lot"		
9/8/1970	Chester and June Stolarczyk	Addison and Elizabeth Nichols	1919:787			
11/15/1988	Addison and Elizabeth Nichols	Jack Frost Jr.	2435:1333			

Staley and LoRusso 2009). The Wilkensen and Hanchett distillery was a stock owned company. The census records provide only information about James J. Hanchett, who is listed as a 41 year old distiller in 1860 (Federal Census 1860). By 1874, the mill had reverted back to a grist mill (Map 4) owned by a Capt. Healy. The residences west of Route 315 were under the same ownership. There are census references to a Willard Healy, age 26, occupation as miller in 1860 in Kirkland (Federal Census 1860) and another William Healy of Kirkland, age 45, with an occupation of grist and flour miller in that same census (Federal Census 1860). Kirkland had another William Healy in 1870, again aged 45 and a miller (Federal Census 1870). William H. Healy is listed on the 1874 Atlas' Deansville Business Notices as merchant, custom miller and grain dealer. It is interesting to note that the next link in the deed chain for this larger property parcel has Alverson (Alberson)[4] Ely selling it to Mary and Oren (Orrin, Orren) Foote (Foot) in 1879. Locally, the Ely surname is pronounced with a long "e"

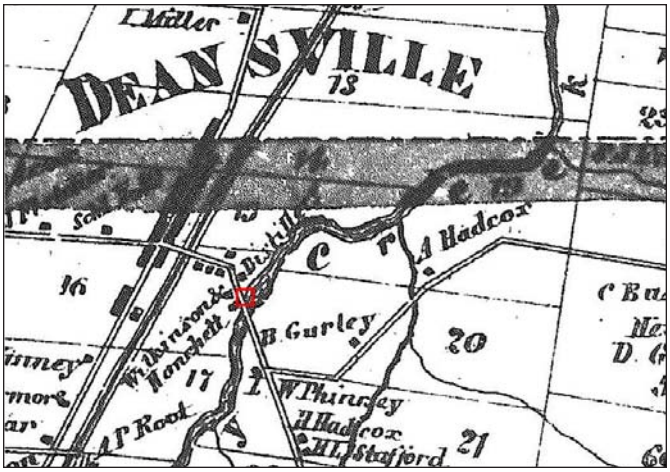
Table 3. Summary of Deed Research for the "Cheese Factory Parcel" (Tax Map # 364.000-1-55).

Date	Grantor	Grantee	Libre:Page	Comments	Acreage	Price
3/30/1886	Sybil and Warren Ely executors for Alberson Ely	Mary A. Foote	464:73		44/100 acre	$200
3/30/1886	Mary A. Foote	Charles Brooks	464:74		44/100 acre	$200
4/1/1891	Charles Brooks	Annie Van Vechten	488:143	specifies ROW along creek for foot and team	41/100 acre* (likely a transcription error)	$1400
1891	Frank H. and Annie A. Van Vechten	Julius A. Day	549:114	recorded 1898, includes note of spring access from Mary Foote	41/100 acre	$212.50
3/17/1893	Julius A. Day and wife	Deansville Cheese, Butter, and Condensed Milk Factory (Geo. B. Northrup, treasurer)	542:176	recorded 1898, includes note of spring access from Mary Foote	44/100 acre	$212.50
7/21/1911	Deansville Cheese, Butter, and Condensed Milk Factory	Robert Hadcox	961:91	recorded 2/17/1936, includes note of spring access from Mary Foote	44/100 acre	$415
	??????	????				
	???????	Albert Tilbe		Lost to County delinquent $28 taxes		
1952	Oneida County	Frances J. Mihm	1474:594	Tax sale	1 acre?	
	Frances J. Mihm	J.Mihm Jr. Co-executor		Current Owners		

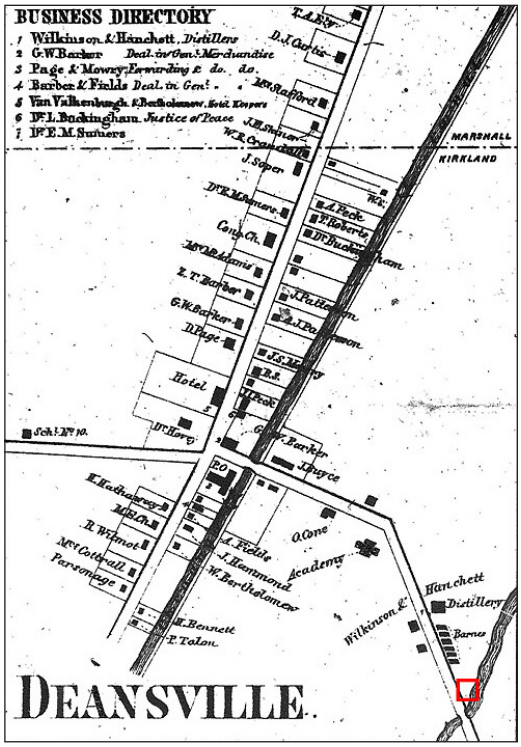
and it would rhyme with Healy. Given the usual range of errors on those early commercial maps and atlases, it is certainly possible the cartographer simply misheard the name. Then again, the rhyming Healy-Ely surname transition may be simply coincidental. Various censuses listed Alverson Ely of Deansville, Town of Marshall as farmer at 58, retired farmer at 68, and gentleman at 77 (Federal Census 1860, 1870, 1880). The grist mill came under the ownership of a Mr. Foote in 1878 (McConnell 1994; Durant 1878) illustrating the delay in deed recordation. Oren's occupation in 1880 was as a miller (Federal Census 1880). A final transfer of the entire mill/distillery property was recorded in 1888 from Warren Ely to Mary Foote. By this time, the small triangular lot of 44/100 acre size had been subdivided from the parent parcel. This became referenced as the "cheese factory lot" in the deeds. The history of the mill/distillery lot or the parent lot, the cheese factory lot, and the other subdivided lots from the parent remain linked by family and occupational connections. Beyond the information provided in Tables 2 and 3, these connections will only be occasionally and briefly noted in this report. Published local history and oral history most clearly cites 1883 as the date of the first cheese factory in Deansville (McConnell 2009a; Sanders 1994). However, several sources mention a Deansville creamery or cheese factory prior to this date. Willard (1872:523) published a tally of cheese factories in the state as compiled from American Dairyman Association Annual Transactions. A Deansville Factory is cited in



Map 1. 1852 *Map of Oneida County, N.Y.*
(Approx. site location=red square)

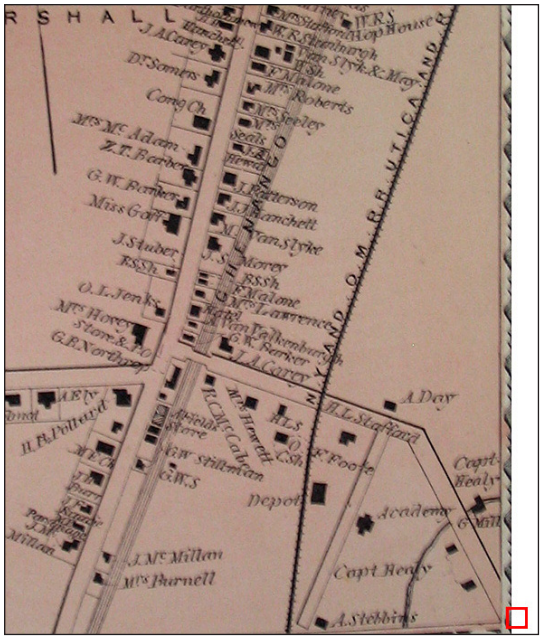


Map 2. 1858 *Map of Oneida County, N.Y.*
(Approx. site location=red square)



Map 3. Detail of 1858 *Map of Oneida County, N.Y.*
(Approx. site location=red square)

1864 taking the milk of 275 cows and producing 83,094 lbs of cheese. His tally has no mention of cheese factories in Deansville until 1871 when the facility used the production of 700 cows. In a January 2, 1869 satirical letter published in the Home Correspondences section of the Clinton Courier [CC] (14 January 1869) the author, pen name "Snap-Dragon", describes the community of



Map 4. Detail of 1874 *Atlas of Oneida County, N.Y.*
(Approx. site location=red square)

Bogusville. This fictitious hamlet is described as being one to two miles south of Deansville and may refer to Brothertown or Forge Hollow. This hamlet was said to contain a cheese factory operated by a Delos (Deloss) Seeley (Seely). Delos Seeley was a 39 year old farm laborer in Deansville in 1870. He, his wife, and young child were residing with a retired physician in town (Federal Census 1870). He must have soon after started or restarted his business in Deansville. An 1873 newspaper notice reported the Deansville Cheese factory sold 8,000 lbs of cheese to a firm in Waterville (CC, 7 August 1873). The first receipts of milk were in late May at the start of the 1875 season (Waterville Times [WT] 3 June 1875). A Waterville Times or Oriskany Valley Gazette notice dated March 8, 1877 mentions a cheese factory in Deansville was leased by Delos Seeley to a Mr. Myers of Earlville. "Mr. Myers advertises to furnish a market for all milk produced in this vicinity the coming season" (McConnell n.d.). In January of the following year, Seeley sold the factory to Charles Myers. The article states that Myers had used the factory during the past season as a creamery. He had plans to refit the structure with a waterwheel to run the churns. Myers predicts the current depression in the hop market will build his business as more farmers will decide to emphasize dairying. Mr. Myers was planning to reside in Deansville (CC, 3 January 1878). The 1880 census identifies a Charles Myers, 37 years old, of Kirkland as a cheesemaker (Federal Census 1880). C.H. Myers commenced operations at the creamery in early April 1881.

He planned to build an annex on his butter department. Myers made "white oak cheese" at the Manchester, Daytonville and Chuckery (Chuckery Corners) factories and brought the cream from those facilities to his creamery in Deansville (WT, 14 April 1881). A business directory of 1883 still lists Myers as proprietor of the creamery (Waterville Times and Hops Reporter [WTHR], 3 August 1883). Unfortunately, unlike other businesses, the directory did not provide an address for the operation. The creamery reported the manufacture of 200,365 lbs of butter and 243,481 lbs of cheese (CC, 21 November 1883). These production figures seem to be grossly exaggerated given later production statistics. Myers reported to the newspaper that he was considering an offer to manage the Solsville creamery and he had leased the Augusta cheese factory (WTHR, 13 February 1885). This suggests that Myers either further expanded his business or was shifting away from Deansville. Although the facility in Daytonville continued to be known as the Myers cheese factory as late as 1886, the next mention of Myers in the local press was that he had moved to Clinton by April of 1894 (WTHR, 12 March 1886; WTHR, 6 April 1894). Despite the fact that the Seeley/Myers operation, and the one in operation in 1864, shared the name as the site subject to this investigation, it seems likely that it was in a different location. The hinted location south of Deansville, mentions of waterpower, and expanded butter manufacturing capacity do not fit with NYSM #12220, the Deansboro Creamery Co. site.

Other than published recollections that this cheese factory was started in 1883 (McConnell 2009a; Sanders 1994), no verification has been located. Mr. Alverson Ely, the owner of the cheese lot parent property died in 1881. The deed records show his survivors sold the specific triangular parcel of 44/100 acre to Mary Foote with the deed recorded in 1886. Based on a construction date given in a 1891 newspaper article, the building may have been built in 1886 or 1887 (Utica Weekly Herald [UWH], 4 August 1891). A final transfer of the entire mill/distillery property was recorded in 1888 from Warren Ely to Mary Foote. On the same day that the Ely executor to Mary A. Foote triangle lot deed was recorded, Mary recorded a sale to Charles L. Brooks. Brooks was listed in the 1880 census as a 31 year old carpenter and by the 1910 census as a 61 year old general farmer (Federal Census 1880, 1910). Perhaps Brooks possessed the skills to build the original cheese factory. Oren Foote, Mary's husband, would have also been a capable builder as his occupation was listed as carpenter and joiner in 1870 (Federal Census 1970). The 1889 newspaper accounts had a Captain S.E. Kinney of Smyrna in charge of the cheese factory with the assistance of Charles E. Page. The factory opened May 1 of that year (WTHR, 7 June 1889; WT, 3 May, 1989:10). This may in fact refer to the Seeley/Myers facility but, a year prior to this, the deed to the parent parcel excluded "the cheese factory lot". The Waterville Times of April 1890 announced the April 28th opening for the cheese factory with Jessie E. Smith as in charge of making cheese (WT 18 April, 1990:2). In October of that year, patrons complained about the September returns. The cheese maker attributed the poor return to mishandled milk delivered during the peak hops picking season when farmers were preoccupied by that harvest (WT, 24 October 1990:2). Newspapers reported Brooks had sold the factory to local Kirkland farmer J.E. Keys for $1,500 (WT, 13 March 1991:2) (Federal Census 1880). Apparently the deal fell through as in April 1891, Brooks sold the parcel to Annie (Anna) VanVechten (VanVecten,VanVecton). Annie was married to Frank VanVechten who was listed as a 28 year old store clerk in 1880 and a 58 year old farmer in 1910 (Federal Census 1880, 1910).

The Deansville cheese factory of Mr. and Mrs. F.H. Van Vechten was destroyed by fire in the early hours of Monday August 3, 1891 consuming 12-13,000 lbs of cheese. The fire was well underway when it was discovered so there was no chance to save the building or contents. The building and the cheese were each valued at $1,500.00. The factory building and machinery were insured for $800 by the Phoenix Insurance Co. of Hartford, Conn. but there was no insurance on the cheese, therefore the patrons absorbed the loss. The factory, owned by Mrs. Van Vechten, had only been built four or five years before (1886-1887; another reason that the previous Deansville cheese factory/creamery had to be a different facility). The fire was thought to be suspicious. Warrants were quickly issued for the arrest of Francis Malone and Daniel Whitehead on a charge of third degree arson. Malone, a farmer who lived about a mile south of the factory, and Whitehead, his hired hand, were suspected arsonists as a state milk inspection the previous week at the factory conducted by William G. Spence found two samples of Malone's (as well as another unnamed patron's) milk to be several degrees below the legal limit. A committee of factory patrons invited Malone and the other patron to speak for themselves at a Saturday evening meeting. Malone did not attend. In his absence the committee decided to send representatives to milk his cows and have the product tested with the results discussed at a later meeting. This, according to one newspaper account (Watertown Daily Times, 7 August, 1891), "caused considerable hard feelings" (McConnell 1994, 2009a; Sanders 1994; WT, 7 August 1991:2; UWH, 4 August 1891). Malone was released on $2,000 bail posted by Jane and Mary Malone. Daniel Whitehead was jailed in

Utica as he could not secure bail (UWH, 11 August 1891). Later that fall, Malone was found guilty of watering his milk and had settled his fine of $100 and costs (CC, 7 October 1891). Apparently, the arson charges had not held.

Frank and Annie VanVechten sold the cheese factory parcel in 1891 to Julius A. Day. It is assumed the sale postdates the fire as the price was reduced back down to nearly the original lot price. Day was identified as a 39 year old farmer in 1880 (Federal Census 1880). In March of 1892, Day and ten others incorporated the Deansville Cheese, Butter, and Condensed Milk Factory (DCBCMF). The others were Thomas P. Young, Sylvester Whitney, John O'Toole, Ralph Lumbard, Alexander Kimball, George B. Northrup, Orville B. Northrup, Orris J. Hart, James D. Kelley, and Edward Peck. Each purchased 10 shares of stock to raise $1500 in capital for the venture. Lumbard, Hart, George and Orville Northrup, and Peck were directors (Utica Morning Herald, 31 March 1892). Nearly all of these gentlemen are identified as local farmers between 50 and 70 years of age. The exceptions were James Kelley who had been a hired hand in 1880 and identified as a 40 year old cheese maker in 1900 and the Northrup brothers, who were 40 year old merchants at the time of the start up (Federal Census 1880, 1900). Julius Day and his wife sold the cheese lot to the DCBCMF in 1893.[5] The treasurer of this company was George B. Northrup. The Northrup family is prominent in the history of Deansville. William Northrup was one of the first residents in 1833 and he and his brother were early hoteliers. George B. and Orville B. Northrup, sons of William, kept a general store later in the nineteenth century (Wager 1896; Sanders 2008). George B. Northrup was a partner with Oren Foote as Mary transferred the parent parcel and the mill to them in 1888 and deeded the timber rights for part of this property to Northrup. The censuses list George Northrup as a farmer, merchant, and a miller through the years (Federal Census 1870, 1880, 1900). His widow and survivors sold the parent lot and the mill in a deed recorded in 1905. Mary Foote had deeded one of the residential lots on the west side of Route 315 to her daughter Adelaide Foote earlier in the century.

It is not known if the Deansville cheese factory was rebuilt by Julius Day or by the Deansville Cheese, Butter, and Condensed Milk Factory incorporation. The New York State Department of Agriculture (NYSDA) reported that the Deansville Butter and Cheese Company (G.B. Northrup proprietor) produced 7,332 lbs. of butter and 115,696 lbs. of cheese in 1892 and this company was the sole reporting factory in the Town of Marshall (NYSDA 1893, 1894). Based on this, the factory building was reconstructed within a year of the fire. Cheese was made at this site at least until 1902. The product was packaged in two sizes (30 and 60 lb wheels) and the cheese was packaged in locally manufactured round cheese boxes (McConnell 1994, 2009a, 2009b; Sanders 1994).

Some sense of the actual production at the factory can be derived from periodic accountings provided by New York State and other sources (Table 4) (NYSDA 1894, 1895, 1897, 1900, 1902, 1903, 1905, 1907, 1909, 1911, 1915, 1916). The pulse and character of the factory after the fire is most consistently measured by newspaper notices. The factory opened April 1 in 1893 (WT, 17 March 1993:2). In August, a news report announced that a shipment of cheese had been made and that closed out the season at the cheese factory. All milk was being delivered to the station and "J.D. Kelley who had charge of the cheese factory now has a position in the station" (WTHR, 9 August 1893). However a later report had the factory closing in early December, "the evaporator shut down" and a "quietness reigns supreme in this village" (WTHR, 15 December 1893). This note suggests that the factory reopened for the fall and that neighbors may have thought the operation rather noisy. The factory reopened on April 2, 1894 (WTHR, 30 March 1894, 6 April 1894). James D. Kelley had returned to manage the operations with Fred Nelson having been hired as an assistant (WTHR, 30 March 1894, 18 May 1894). Another Waterville Times and Hop Reporter (19 October 1894) report suggests how milk deliveries were made at the facility and demonstrates how mishaps at the factory become community news and fodder for discussion. The note read as follows:

> "Young Mr. Doherty came to the creamery on one of the recent cold mornings and in unloading the hook slipped from one of the cans while it was been hoisted to the receiving can. Doherty's can fell against him throwing him over the side of the wagon. His foot caught and was suspended head downwards while the milk ran through his clothing. The drenching he received was not a desirable one on a cold morning."

The cheese factory remained open as of the end of November with prospects reported for winter dairying (WTHR, 23 November 1894). The press reported the factory stockholders were considering an offer to sell the factory to outside parties who wished to run it in conjunction with a milk station (WTHR, 14 December 1894).[6]

It is interesting to note that there was no documented production from 1895-1899. During that period, the state inventories have no mention of cheese factories in the Town of Marshall (NYSDA 1897, 1900) nor are there

Table 4. Production Figures for the Cheese Factory in Deansville/Deansboro.

Year	Company	Principal in lbs.	Cheese in lbs.	Butter .	Cows Processed in gal.	Milk	# of factories in Marshall	Reference
1864	Deansville Factory	—-	83,094	na	275	na	1	Willard 1872:523
1865-1870*	na	na	na	na	na	na	0	Willard 1872:523
1871*	Deansville	na	na	na	700	na	1	Willard 1872:523
1892	Deansville Butter and Cheese Co.	G.B. Northrup	115,696	7332	na	na	1	NYSDA 1893, 1894
1894	Deansville Butter and Cheese Co.	G.B. Northrup	127,503	5361	400	1,288,952	3	NYSDA 1895
1896	na	na	na	na	na	na	0	NYSDA 1897
1898	na	na	na	na	na	na	0	NYSDA 1900
1898	na	J.H. Gazlay	67,367	na	na	706,013 lbs.		WT 12/23/1998
1900	Deansboro	J.H. Gazlay	98,220	0	na	na	2	NYSDA 1902
1902	Deansville	J.H. Gazlay	98,000 full cream	0	na	na	1	NYSDA 1903
1904	na	na	na	na	na	na	0	NYSDA 1905
1906	na	na	na	na	na	na	0	NYSDA 1907

* Listed in tally but no reported detail.

any cheese factories or creameries on the Agricultural Commissioners Map (NYSDA 1899). This seems a bureaucratic error as other sources suggest some production during that period. In March of 1895, milk was being received a week prior to the opening of the cheese factory (WTHR, 15 March 1895). The factory had been shut down in August with all milk being delivered to the station. An arrangement had been reached between the butter and cheese company and the milk station (WTHR, 2 August 1895). In 1896, the Waterville Times and Hops Reporter (3 July 1896) reports the "cheese factory is used to manufacture butter from the surplus milk at the station". This suggests a milk station was built by at least 1893 and may have impacted cheese production. In February 1897, the Deansboro Butter, Cheese and Condensed Milk Company (note name variability in press coverage) report capital stock of $1500 no debts, and assets of $1,531.18 (WTHR, 5 February 1897). James H. Gazlay of Hamilton, N.Y., operated the cheese factory for the firm of Morgan & Stryker during the 1897 season. He moved his family to Deansboro that summer (WTHR, 18 June 1897). The cheese factory closed on November 15 and the patrons thereafter brought their milk to the station (WTHR, 19 November 1897). J.D. Kelley returned to Deansboro after an assignment to the Green's Corners/Cassville station where he was engaged in making cheese. Helmer Bellinger secured a position at the cheese factory (WTHR, 17 June 1898, 24 June 1898). Patrons of the cheese factory met at the factory to discuss the upcoming season. It was announced that J.H. Gazlay will be "in charge of the making" and will act as salesman and treasurer this season (WTHR, 22 April 1898).

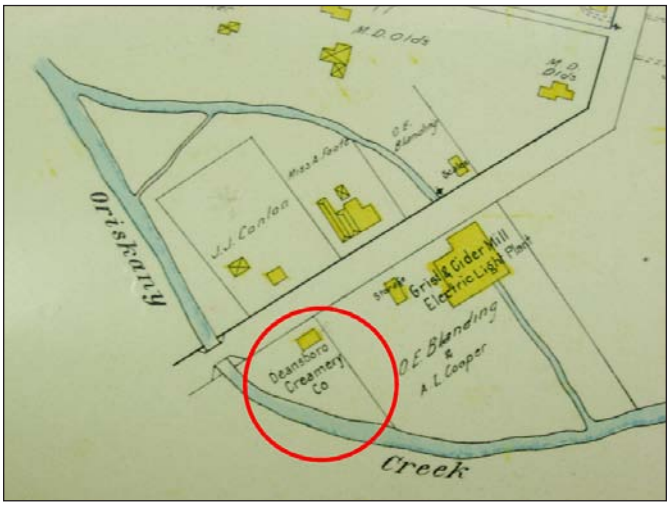
Gazlay reports the year's cheeses weighed an average of 35 lbs and were all marketed in New York City (WT, 23 December 1998:2). The cheese factory closed in November of 1899 and their patrons delivered their milk to the station (WT, 10 November 1999:2). The Commissioner's 6th Annual Report for 1898 does list two cheese brands issued during the year ending September 30, 1898. Both were under the applicant name J. H. Gazlay of Deansboro. One factory was

"Deansville" and the other "Peck's Corners" (NYSDA 1899). Peck's Corners was one of the three factories listed in Marshall in 1894. James H. Gazlay (Gazley), 58 year old cheesemaker, lived with his family in Deansboro in 1900 (Federal Census 1900). Although it may be entirely coincidental, it is interesting to note that in 1902 Gazlay makes a point to have the state clearly list his product as "full cream" cheese. This might be an effort to repair the damage caused by other cheese makers over the previous two decades whose skimming and filling negatively affected the reputation of upstate N.Y. cheese (Pirtle 1926; Stamm 1991). By 1900, James Kelley was running the milk station in Deansboro and a Mr. Tuttle acted in his stead when Kelley was absent (WTHR, 10 August 1900).

In 1901, stockholders of the "Deansboro cheese factory" (DCBCMF) conducted their annual meeting at G.B. Northrup's residence. G.B. Northrup, J.D. Kelley, Ralph Lumbard, and John O'Toole were elected Board Directors with Lumbard and Northrup chosen as president and secretary. "The question of the factory with its past and present history were discussed and now our milkmen are wondering what the results will be" (WTHR, 25 January 1901). This suggests some anxiety and potential changes afoot.

By 1902, New York began to keep a list of milk stations and condenseries with Deansboro having two, "Deansboro" and the U.S. Condensed Milk Co. Gazlay is reported to have made 98,000 lbs. of cheese at the Deansville factory (NYSDA 1903). The state documents have no listing of cheese factories for the town of Marshall and particularly nothing listed for the Deansville creamery or cheese factory after that year. They do consistently list the condensery in town as the U.S. Condensed Milk Co. and later as Mohawk Condensed Milk Co. (NYSDA 1905, 1907, 1911, 1913, 1915, 1916). The condensery received 12,034 gallons of milk in 1902 but took in 1,239,812 gallons by 1906. A notice in a Utica newspaper captured what seemed to be part of a trend or progression. The milk station in Little Falls was closing as the condensery was paying better. The boiler, shafting and machinery were being shipped away (Utica Herald Dispatch, 28 April 1904). So it appears that after several years of having a cheese factory and a milk station in town, the milk station dominated, and when in 1902 the condensery began operations, it was the end of cheese making in Deansboro. Despite no evidence that the facility continued production, the structure was mapped as the Deansboro Creamery in 1907 (Map 5). An undated photograph (Figure 13) likely illustrates the facility during the early twentieth century.

Several notices appear in the local papers in 1911 that definitively signal the end of the cheese factory and the beginnings of its later uses and functions. On January 19th, the "stockholders of the Deansville Butter and Cheese Association" considered a proposition to sell their property and "disband". A majority was not present therefore no action was taken on the sale of the cheese factory to prospective buyers (Clinton Advertiser January 21, 1911). In June, the paper reports the "sale of the old cheese factory property has been delayed on account of a mistake in the incorporation of the old company". The incorporation documents in Albany cite the Deansville Cheese Factory but the company has always done business under the Deansville Cheese, Butter, and Condensed Milk Factory with the property deed and stock using that name. Legal actions

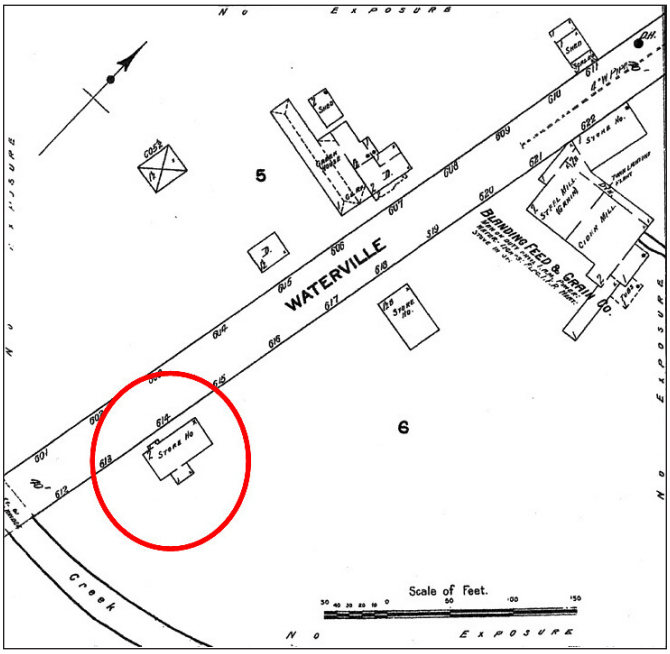


Map 5. 1907 *New Century Atlas of Oneida County, N.Y.*

Figure 13. Historic view toward Deansboro with creamery at right.
(Photo courtesy of Allan and Joan Benedict, Ye Olde Canal Shoppe, Deansboro, N.Y.)

were required in order for the state to recognize the sale and dissolution of the company (WTHR, 16 June 1911). The company was dissolved on the 23rd of June (WTHR, 30 June 1911). The sale of the property to Robert Hadcox occurred in July 1911 but was not recorded till 1936. Robert Hadcox was a local farmer who was 63 years old (Federal Census 1910). The building was reportedly used for the manufacture of gates (Sanders 1994) and perhaps that was Hadcox's usage of the building. The 1912 Sanborn Insurance Company map identified the structure as a store house (Map 6).

The structure was left empty and began a slow decay. Local elders remember the structure standing but in a collapsing deteriorated condition during the 1920s. Arthur Sanders recalls his grandmother, Mary Stark Skerritt had worked at the factory. She was 26 years old and married to the blacksmith Edward Skerritt in 1880 (Federal Census 1880). As a 3 or 4 year old boy in 1926-1927, Arthur's grandmother walked him down to the old building. It was too dilapidated for them to go in. He recalls that she needed to rest at the feed mill on their way home. She would have been around 72 years old at that time. Mr. Sanders also recalls that a cheese sampler (trier) from the factory had been donated to the Madison County Historical Society (McConnell 2009b). The structure, labeled "old factory", remained standing as late as 1929 as evidenced by a DOT Record Plan for a proposed bridge modification (Map 7). Based on scaled comparisons with other maps, the highway construction would have buried the front portion of the building. The records do not mention the purchase or razing of the building. The ownership trail for the property is discontinuous for this period reappearing in 1952 with a tax sale wherein the county sold the property to Francis Mihm. His heirs are the current owners of the lot. As was previously stated, locals report the vacant lot has been used by individuals and the municipality for dumping fills and refuse and that these low lands are frequently flooded.

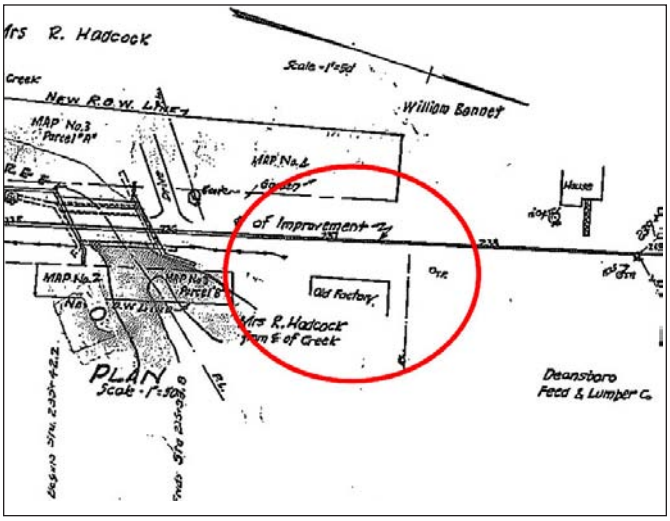


Map 6. 1912 Sanborn Insurance Map.

Previous Archaeological Research on Creameries and Cheese Factories

In addition to the environmental conditions, general historic context, and specific historical information pertaining to this site, it is important to review what is archaeologically documented in New York regarding creameries and cheese factories. Ideally, this information should suggest the variety of data expected at this site type, useful methodologies, theoretical contexts, and relevant research questions. Unfortunately, the effort to gather this data revealed more about existing database limitations than comparative information. Several relevant sites have been investigated and provide a basis for this study.

The site file database at the New York State Museum was approached in an attempt to identify comparative sites. Unfortunately, the database is not configured to isolate specific historic site types. Therefore, searches were limited to sites that may have cheese factory or creamery in their names. This type of search revealed two sites; one site was a prehistoric site that was proximal to a more modern creamery and the other was the partially standing remains of a railroad-oriented twen-



Map 7. 1929 DOT Record Plan.

tieth century milk station (Lain and Kastl 1992). Similarly, the report database at NYSM-CRSP was queried for key words but the search was unproductive.

Seventy six sites with "creamery" (39) or "cheese factory" (37) in their names were queried from the SPHINX data base at OPRHP. Of the 37 cheese factories, 20 were archaeological sites, eight were buildings, and nine were unidentified. A search of the site files at OPRHP found that the unidentified entities were buildings. Similarly, creamery resources were divided into 12 archaeological sites, eight buildings, and 19 unidentified entities. Here again, the 19 unidentified entities eventually were found to be buildings. Creamery and cheese factory buildings across the state have been National Register listed as parts of districts (3), listed as individuals (1), listed (8), not listed (4), undetermined (6), and 22 determination codes left blank (assumedly undetermined). Among the archaeological creameries and cheese factories, a single site is listed as part of a NR District although little documentation could be located regarding this particular resource. Three have been determined not eligible. Five have been coded in SPHINX as unevaluated and 23 sites left blank are assumedly still in an unevaluated status.

A search of the site files for each of the archaeological sites (32) found a wide range of "sites" and levels of documentation and intensities of investigation. One site was found to be a prehistoric site. Two had no site form in the files. Eleven had no linkage to a final report or the reports were not found at the OPRHP report library or in NYSM files. Fourteen sites had not been investigated to an extent beyond visitation/photography/sketch mapping (i.e. Cook 1987a; Versaggi et al. 1977; Versaggi et al. 1980). Nine sites were tested through STPs (ranging from 2-50) only (i.e. Dean 1985; Gade and Schreyer 2005; Pratt and Pratt 1977; Pratt and Pratt 2001), one with units (9) only (Knoerl 1976), and four with combinations of STPs, units, trenches, and/or area scraping (see below).

After eliminating potential comparative sites due to complete lack or extreme paucity of information, nine sites out of the 32 archaeological sites provide marginal comparisons to the Deansboro Creamery site. Nearly all of these sites have been investigated within the framework of cultural resource management activities. Through the decades, research goals have shifted and the tendency to explicitly state a research question or place the results in a larger context has become more frequent. The first five site investigations described below could be characterized as having been minimally tested and/or that testing produced insignificant results. The Decker Cheese Factory site (A01306.000302) in Chautauqua County was tested with 50 STPs in two phases or visits. The research identified a stone masonry foundation, a well, and an associated artifact assemblage related to the 1881 facility. Their stated research questions and research potential emphasized industrial floor plans and layout, room function, technological change, drainage systems, and comparative analyses with other cheese factory middens. The deposits generally lacked industry specific artifacts and were generally insufficient to differentiate basic function or segregate production zones and the researchers did not recommend site eligibility and the OPRHP concurred (Hohman and Kastl 1993). The University of Buffalo tested the Amboy Cheese Factory site (A06701.000007) in Onondaga County in 1979 with 18 STPs. That research found the disturbed masonry foundation and artifacts associated with the 1894 industrial site. The researchers made no determination recommendations but emphasized a loss of integrity (Aldenderfer and Valentine 1980). No determination has been made. The Fuller Cheese Factory site (A08916.00046) in St. Lawrence County was investigated with four STPS in 1987. The tests produced brick, wood, and glass fragments near the concrete and stone foundation. The researcher recommended the site not be considered eligible (Cook 1987b). Understandably, no determination has been made on this information. Stringham's Creamery Foundation (A02705.000106) in Dutchess County was investigated with a combination of 10 STPs and three units. The site consisted of a concrete foundation, segregated into three functional areas on the interior, with a thin and sparse deposit of artifacts, few of which were relatable to the industrial function. The site was felt to lack integrity due to deliberate demolition and active erosion (Werner and Werner 2007). The site's eligibility for NR listing is undetermined. The Middletown Creamery site (A02514.000101) in Delaware County was investigated by SUNY Binghamton's PAF with 17 STPs. These documented a thin sheet midden deposit and no features related to the original function (Rafferty 2002). Researchers suggested the site was not eligible for listing and the OPRHP concurred.

In Lewis County, the Williams Cheese Factory (A04905.000029), dating from 1883, was tested with 127 STPs and three units. The factory structure was found to consist of concrete walls and floors suggesting extensive remodeling since its original construction. Concrete floors for some of the rooms were shovel scraped and drainage pipes were identified that suggested possible room functions. The site examination did not find artifact distribution conclusively related to the structural remains. No determinations were suggested or made regarding this site (Kula et al. 1989). The Franklin

Creamery site (A02507.000121) in Delaware County was a butter and cheese factory dating to 1867. Fifty-nine STPs and seven trenches were excavated and floors were skimmed at the site. Industry related artifacts were recovered and foundations of concrete and stone masonry were outlined as well as drains and a cistern. Researchers suggested the site was eligible yet upon review it was determined not eligible for listing (Beauregard and Fleming 1989). Pharsalia Creamery and Cheese Factory (A01715.00022) in Chenango County operated from 1883 till 1908. Archaeologists excavated 9 units and found masonry walls and glass and ceramic artifacts in a deposit that appeared largely burned. The site was recommended as eligible by researchers but no determination has been made (Knoerl 1976).

Perhaps the best documented and thoroughly studied cheese factory was discovered in the Town of Columbus in Chenango County during CRM work related to a NYSDOT project (Cassedy 1985). The Columbus Center Cheese Factory (1868-1900) (A01703.000064; Homann site) was initially investigated with six STPs with some trenching which identified stone masonry walls and a partial ceramic tile floor. The researchers framed potential studies and research potential within a state and regional evaluation of early industrialization capital flow and investment and also modernization of production technology (Cassedy 1985). More intensive investigations followed during the next year including extensive trenching (Cassedy 1986) which uncovered a much more detailed arrangement of masonry walls and rooms, metal pipes, and a ceramic drain pipe. Research also revealed the ceramic tile floor belonged to a later milk station. The research approach or context was refined toward a focus on the organization of capital and labor, coordination of production, and cheese manufacturer's responsive strategies to larger market scale conditions. Further distilled, the researchers hoped the archaeological remains could be used to document functional divisions, evaluate proportions of production and storage spaces, document expansions or modifications, identify auxiliary structures, and clarify the waste disposal system. Still later that same year, additional trenches were excavated as well as three 2 x 2 m test units (Gibb et al. 1986). This work further revealed three contiguous rooms and tentatively identified functional interpretations. The tripartite arrangement and size of the structure was considered typical for the industry. The bulk of the deposits at the site were later fill episodes but deposits in non-overburden contexts included five items directly related to cheese production: three thermometers and two scale weights. A very limited collection of domestic artifacts was recovered from deposits associated with the factory. The limited assemblage, especially those related to cheese production, was not surprising given the systematic dismantling of the factory. The authors developed an organizational strategy to evaluate the archaeological and historical data about the site. This strategy was further elaborated and additional historical data contributed in subsequent articles (Gibb et al. 1990; Gibb et al. 2009). Although the strategy posited does work well for organizing and synthesizing archaeological and documentary information, the disappointing aspect of all these studies was the paucity of archaeological remains that could be directly and clearly relatable to the industry and internally differentiate room functions. According to the SPHINX database, no determination has been made although Gibb et al. (2009) report the site has been determined eligible by the OPRHP.

To summarize, very few cheese factories and creameries have been archaeologically investigated. The vast majority of those have not been researched with any intensity. The majority of the few that have been studied have been found to have exterior and interior walls of concrete with a few with stone masonry. Many have interior floors of concrete or stone pavers. Water sources and drainage systems have been identified and artifact assemblages tend to be sparse and lack functionally distinctive items.

ENDNOTES

1. The labels "creamery", "cheese factory", "milk station", and "condensery" assigned to dairy industry facilities might cause some confusion. One might assume that a creamery produced cream and or butter, a cheese factory produced cheese, a condensery made condensed milk products, and a milk station was merely a collection and transfer station for raw milk. However, the actual function or product coming from these facilities varied considerably. The facilities often produced multiple products, the proportion of which changed seasonally and annually, adapting to market conditions.
2. Most factories were powered by steam with some run on gas, water, and rarely electricity (Alford 1902).
3. Alford (1902) stated that most factories employed fewer than five individuals. Approximately 7/8 of the work was done by women in the small early private factories (Stamm 1991) but through time fewer and fewer women were employed (Alford 1902).

4. Surnames in parentheses were found as name variants in census, deed, newspaper references. After this initial presentation, the text uses the most common usage.

5. The VanVechten-Day and Day-Deansboro Cheese, Butter, and Condensed Milk Factory deed transfers were recorded in 1898.

6. This matches the time period when railroads were buying up factories and establishing milk stations and thereby controlling milk prices and monopolizing the industry (Poese 1985; Gibb et al. 2009). The newspapers begin to note mention of a milk station; its association with this cheese factory is unknown except that James Kelley, one of the owners of the cheese factory, seemed to work for both facilities at various times. The Deansboro station and Kelley are also associated or linked with other stations as Kelley was transferred frequently with the papers suggesting it was to make cheese. This further contributes to the confusion regarding the names and functions of creamery, cheese factory, condensery and milk stations.

ARCHAEOLOGICAL METHODS

FIELD METHODS

Phase I investigations found the site to be a deposit of primarily historic nineteenth and early twentieth century industrial and architectural debris with a small amount of domestic debris. A stone masonry footer or piling and stone paved foundation slab was also found. Based on a historic mapping, the creamery/cheese factory structure had dimensions of 24 x 50 ft with small additions extending from the front and back of the building. The irregularly shaped site, as defined by positive Phase I STPs, measured 45 m (148 ft) long along Route 315 and 28 m (92 ft) long along the eastern project limit edge. Six hundred and nineteen items were recovered from 24 of the 26 STPs on-site. The maximum depths of culture bearing soils at the site range from 30 to 95 cm (12-37 in) and average 59 cm (23 in). Deposits tend to be deeper along the northern and eastern parts of the site. The distribution of artifacts shows a general trend for greater artifacts to be recovered from the central and northern portions of the site (Figure 14). The architectural features, stacked tabular rocks placed on a sub foundation of irregular cobbles, were found to reach depths of 80 cm (31 in) (Staley and LoRusso 2009).

Site examinations were conducted in July and August 2009. Much of the site area required clearing of weeds, brush, and decades of accumulated branches, stumps, and rubbish (Photo 1). A site grid was established roughly paralleling Route 315. Elevation controls were established on the road embankment calibrated to the top elevation of Feature 1, the masonry pier, from the Phase I (Elevation 0). The site examination at the Deansboro Creamery Site included the use of systematic shovel test pits, test unit excavations, and trenching. Trenching was used to prospect for and to clearly delineate architectural elements such as piers or pilings. A probing rod was also used frequently to discover and outline buried masonry. The ubiquity of rocks and brick rubble often confused and complicated matters. The pattern of exposed piers assisted in accurately positioning the structural footprint within the site and guiding subsequent test placement. Test Units were distributed across the site to sample general areas of the site, particularly within the structure, and were placed to crosscut assumed exterior structural walls. Shovel tests were placed to in-fill and supplement those excavated during Phase I investigations thereby gathering additional information about the on and off site stratigraphy and artifact distribution (Figure 15).

Trenches

Thirteen trenches were used to locate and trace the margins of subsurface foundations. These were intended to identify corners and internal supports and expose larger paved features. The trenches varied widely in size and shapes ranging from small 65 x 55 cm (26 x 21 in) excavations attempting to ground truth suspicious probing rod contacts to larger, 2.8 x 2.65 m (9.2 x 8.7 ft) units exposing the masonry platform or foundation.

Photo 1. Debris covering site area.

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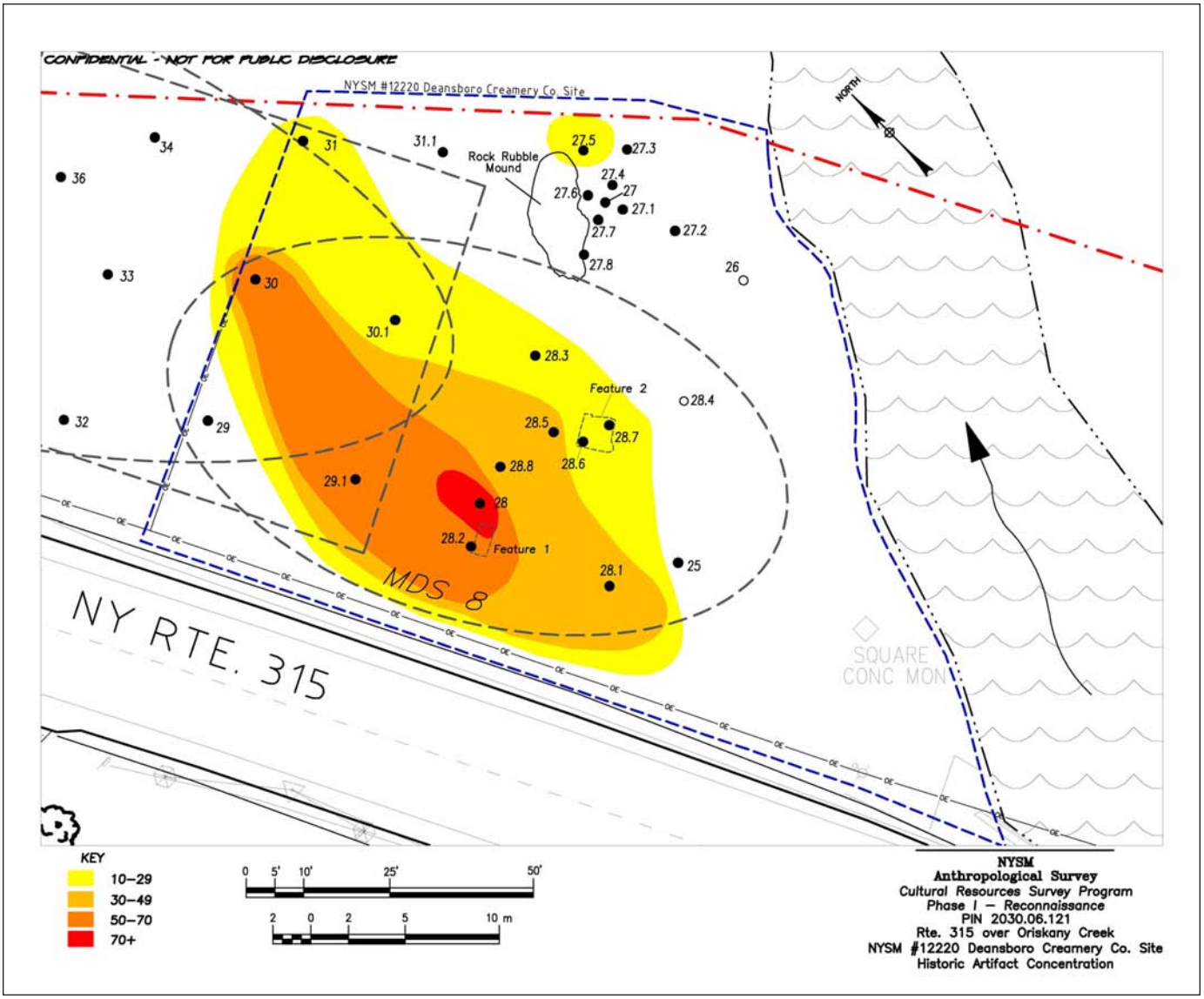

Figure 14. Phase I Distribution of Artifacts.

Trench 4, 1.6 x 2.0 m (5.2 x 6.6 ft), was excavated to pursue probe strikes. What was revealed was a moderate concentration of broken brick. Although soils from these trenches were not screened, distinctive and diagnostic artifacts were collected.

Test Units

Twelve test units were generally placed to sample deposits and to prospect for intact structures across the site (Figure 15). All units were to provide information regarding age, function, and correlation of discovered features with site stratigraphy. The tests focused upon the structure whose footprint was identified by correlating historic maps and masonry piers exposed by trenching. Several of the test units serendipitously exposed additional masonry piers. Each unit was excavated primarily in natural levels with thick natural levels segregated into arbitrary sub-levels. Soil removed from each test unit was screened through ¼-in mesh hardware cloth. Profiles were drawn of one or more walls in each unit, and each unit was photographed in profile and plan view. Brick and mortar were segregated in the field and collectively weighed by unit and level. Similarly, coal, clinker, and slag were also collectively weighed in the field. This data was used to evaluate distributions. Samples were collected of all of these materials. Artifacts were returned to the New York State Museum to be washed, cataloged, and analyzed using the methods described below.

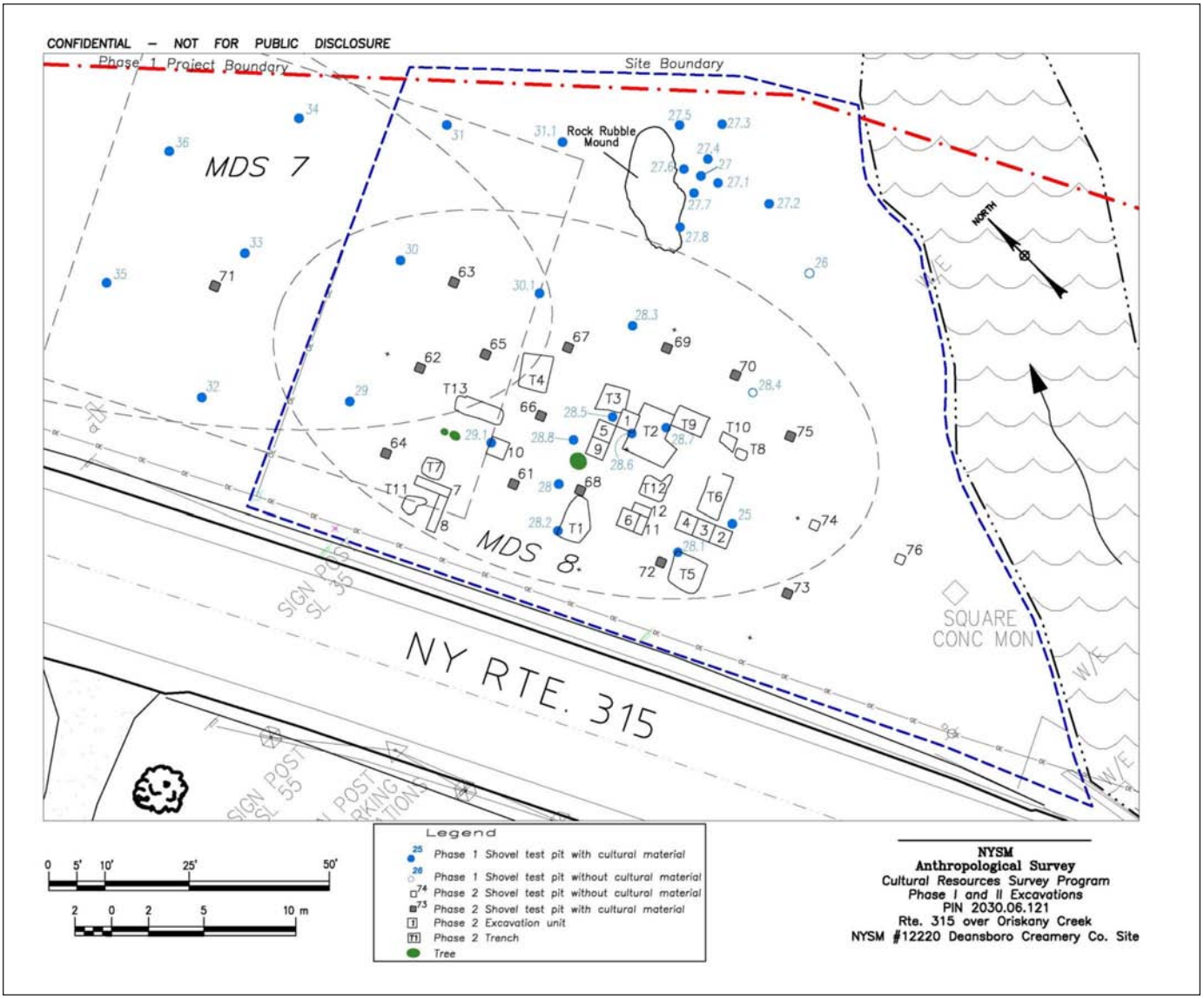

Figure 15. Phase I and II Excavation Units.

Eight test units, TUs 1-6, 9 and 10, measured 1 x 1 m (3.3 x 3.3 ft). Two others (TUs 7 and 8) were .50 x 2.00 m (1.6 x 6.6 ft) and two more, TUs 11 and 12 measured .50 x 1.00m (1.6 x 3.3 ft) and were appended to TU 6. Smaller .5 x .5 m (1.6 x 1.6 ft) levels were often excavated deep into sterile levels at the unit base.

Test Unit 1 sampled the deposit immediately north of Phase I's Feature 2, the boiler foundation. This area was identified as having a high concentration of artifacts and it was hoped that it would clarify the function of the masonry platform. A small portion of the unit was excavated to a maximum 85 cm (33 in) depth but did not definitively reach the base of the feature as the water table was higher than that level. Test Units 2, 3, and 4 were placed to span the southern exterior wall of the creamery structure. The discovery of piers in Trenches 5 and 6 along with the measured placement of the structure from historically-mapped, off-site references identified this southern wall. The tests were positioned to evaluate any stratigraphic or artifactual correlates to the building. Unit 2 sampled exterior portions of the building and Unit 4 sampled the southeast portion of the structure. Units 2 and 4 were both extended to depths of 95 and 100 cm (37-39 in), respectively. These culturally sterile depths were reached only with persistent water bailing and a series of dry rainless days. Test Unit 5 was positioned to extend our stratigraphic findings from TU 1 and to sample the area inside the building extension on the back of the creamery. This test also extended below the water table through vigorous bail-

ing and fortuitous weather conditions to a depth of 115 cm (45 in). Unit 9 was placed immediately west of this test to investigate a level of burned lumber in TU 5. A large central masonry pier dominated much of TU 9 and severely restricted what could be excavated. A small portion of that unit reached a depth of 63 cm (25 in) revealing the trend and character of the pier sub foundation. Unit 6 was positioned to sample the south central portion of the structure. An intermediate pier was located and this was found to have been placed over a board. This arrangement was further investigated with Units 11 and 12. Test Unit 6 was ultimately excavated to a depth of 140 cm (55 in) revealing evidence of pre-construction site preparations and leveling as well as a buried pipeline. Elongate Units 7 and 8 were positioned perpendicular to each other in an attempt to identify a northern wall and also to evaluate the impact of the 1929 road construction on the cultural deposit. Test Unit 7 was excavated to 97 cm (38 in) and TU 8 to 110 cm (43 in). Lastly, TU 10 was placed to sample the northeastern portion of the structure and was excavated to a maximum depth of 102 cm (40 in).

Shovel Test Pits

Shovel Test Pits (STPs) were used to refine site boundaries and stratigraphy, and prospect for deposits and features. The STPs measured 50 x 50 cm (20 x 20 in). Sixteen STPs were excavated to culturally sterile depths ranging from 43 to 110 cm (17-43 in) with an average maximum depth of 89 cm (35 in). Soil removed from each STP was screened through ¼-in mesh hardware cloth and artifacts returned to the New York State Museum to be washed, cataloged, and analyzed using the methods described below.

LABORATORY METHODS AND ARTIFACT ANALYSIS

Historic artifacts were processed according to procedures described by South (1977) including washing, dry brushing fragile materials, and cataloging the artifacts into the NYSM system. In this system, artifacts are first classified by material type (i.e., metal, ceramic, glass). Each material category is further subdivided according to form and function. For example, ceramics are divided first into tableware versus construction-related types, e.g., a dinner plate compared to a brick. The tableware group is split into separate ware groups. A detailed description of the artifacts' form and decorative type is next. Any additional known characteristics such as makers' marks are also included in the description. Other main material categories are subdivided in a similar manner.

The artifacts, shovel test pit forms, unit forms, field notes, photographic negatives, and project maps are curated in the collections of the New York State Museum in Albany.

RESULTS
Deansboro Creamery Co. Site (NYSM 12220, A06514.000044)

SITE BOUNDARIES

Phase I investigations defined the horizontal site boundaries with positive STPs and assumptions regarding the positioning of the structure and associated historic waste disposal facilities. The northern boundary was defined by artifact density and character and the eastern and southern bounds by project limits and the natural boundary of Oriskany Creek. Although not located during Phase I investigations, it was assumed that a waste disposal system would be located between the building and the creek. At that time, the site was described as irregular in shape and measuring 45 m (148 ft) long along Route 315, 20 m (66 ft) along the northern boundary, following along the project limits approximately 20 m (66 ft) to the creek and then approximately 28 m (92 ft) along the creek to the bridge. The maximum depths of culture bearing soils at the site range from 30 to 95 cm (12-37 in) and average 59 cm (23 in). In total, the site may encompass 1065 m^2 (11,464 ft^2) or .107 hectares (.2632 acres).

Phase II investigations supported the original determination of horizontal site limits and refined the vertical limits (Figure 15). Additional STPs along the northern end of the site found that artifact density is reduced and artifact content is limited to a few nails, brick crumbs, window glass, and brown bottle glass north of the site boundary. The artifacts are found in the upper level of soil and are typical of all non-site tests in the area. The distribution of artifacts will be described in a later section of this report. On- and off-site stratigraphy was also markedly different. The stratigraphy displayed on-site tended to include cultural levels in various loams capping a mottled loam fill level overlying a log, branch, and stick filled organic level which, in turn, lay on top of a clay loam. Toward the north end of the site, STPs lacked the organic level and the secondary loams and were characterized by clay or sandy clay capped by a thin level of brown or dark brown loam. To the south, profiles tended to include lenses of sands and decomposing gravels likely representing streamside overbank deposits. The stratigraphy will be more thoroughly described in the next section.

Deed research has determined the lot for the creamery was subdivided from its parent parcel during the 1880s and has remained unchanged. The boundary established by the artifact distribution and the sedimentary profiles falls approximately along that property boundary with the extreme northeastern portion of the site lapping into the parent parcel to the north.

The depths of deposits containing cultural materials varied across the site, however, they were generally limited to the upper levels of sediments. Artifacts were found to depths ranging from 23 cm (9 in) to 60 cm (24 in) below site datum. The site datum (0 cm) is the highest elevation of the masonry pier (Feature 1 of Staley and LoRusso 2009) and was further exposed by Trench 1 during these investigations. The average maximum depth of artifact deposit was 41 cm (16 in). The bases of the masonry piers tended to be 68-75 cm (27-30 in) below datum with a waterline trench and pipe reaching depths below 90 cm (35 in).

SITE STRATIGRAPHY AND CHRONOLOGY

The mapped soils in the area of the site include Wakeville silt loams on the floodplain valley bottom and Fredon gravelly silt loam on the adjacent hill slopes. In addition, Udifluvents-Fluvaquent soils are located on the floodplains and are frequently flooded. Palms muck is not shown on soils maps as being at the site area, although some of the soils at the site share characteristics of this swamp and marshland soil derived from organic material over loamy glacial drift. The soils and stratigraphy observed at the site do not match with any of these soil descriptions but are much more variable, often possessing color and textural components of several types. Some of this variability may be related to the position of the site near geomorphic boundaries; the toe of a hill slope, floodplain, and at the edge of a stream channel. Greater complexity is possibly contributed by human impacts such as road and bridge building, seasonal road maintenance, stream channeling, and cutting and filling prior to development.

Stream modifications upstream over the last several decades have reportedly caused aggradations of the creek bed and concurrent rise of the water table at the site. The position of the water table affects soil development and shifts in that level modify previously established soil characteristics and stratigraphy. Furthermore, and perhaps more importantly at this

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site, the rising water table directly affects the preservation of historic artifacts notably those made of iron. Cultural deposits are now located within a zone subjected to repeated seasonal wetting and drying. Similarly, wood items from relatively deep contexts are very well preserved due to being continuously submerged and under anaerobic conditions. It is assumed that greater numbers of wooden artifacts and building materials would have been found higher up in the strata if current water tables had been maintained since site abandonment.

Three general areas of soils are found in the vicinity of the site (Figure 16). A south to north transect of stratigraphic profiles (Figure 17) shows the variation across the site from the fluvial process dominated soils and sediments adjacent to the creek through the construction fills outlining the building envelope to the near surface clay dominated soils found north and east of the building envelope (Figure 17). The core of the site includes the footprint of the cheese factory structure as well as an area extending 4-5 m beyond that footprint. Subsurface excavations within this core or envelope reveal a consistent stratigraphic pattern. Grey sands, gravels, and cobbles are found at approximately 1.2 m (47 in) (Figure 18, Photo 2). Much of the rock and gravel are coated with white carbonate concretion. Overlying this likely glacial deposit is a 20-40 cm (8-16 in) thick, highly organic, very dark brown silty clay loam or silt loam with numerous large fragments of wood. The more complex stratigraphic profiles reveal multiple layers of dark grey gravelly sandy loam, loamy sand, or silt loam. This in turn is capped by an

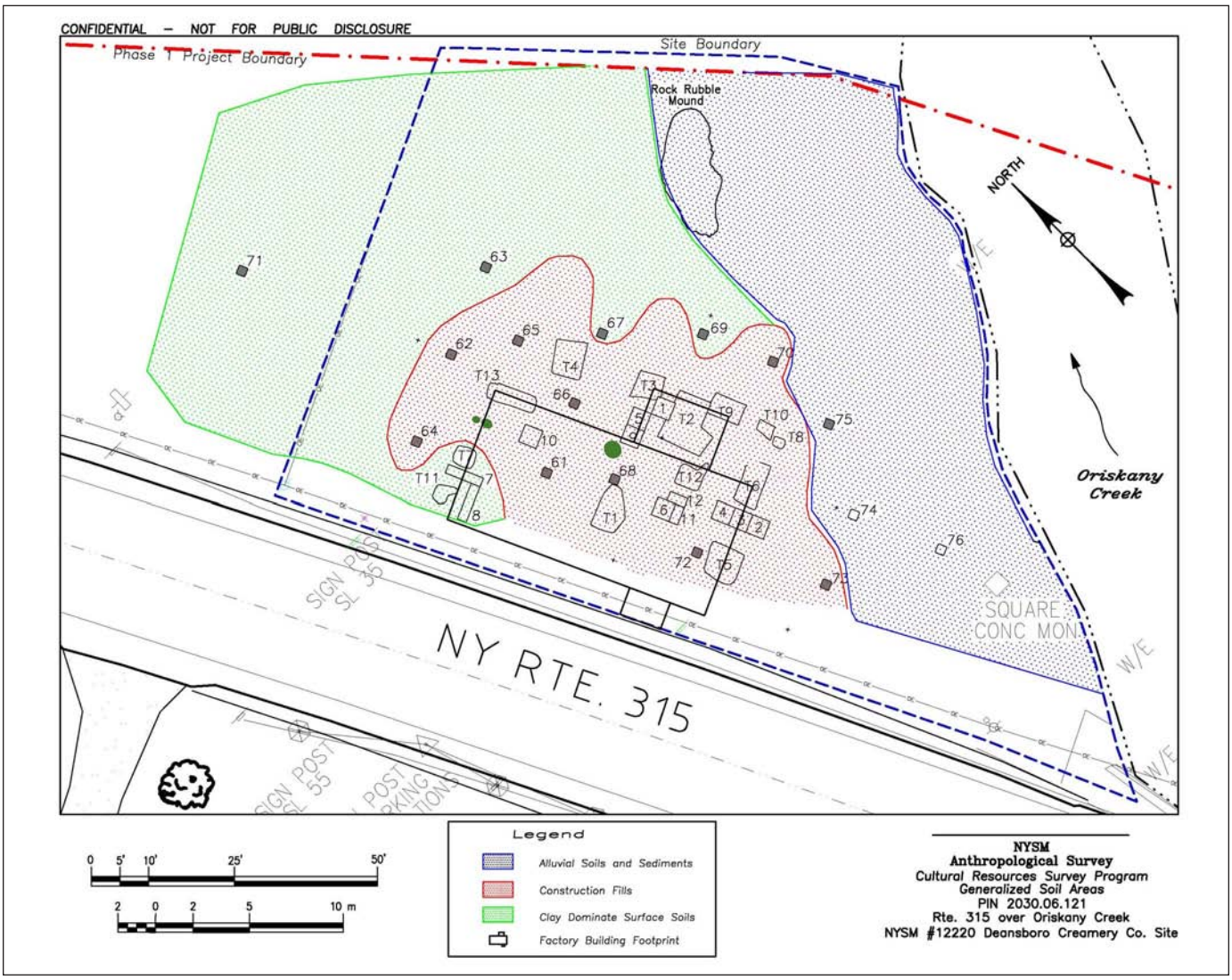

Figure 16. Generalized Soil Areas.

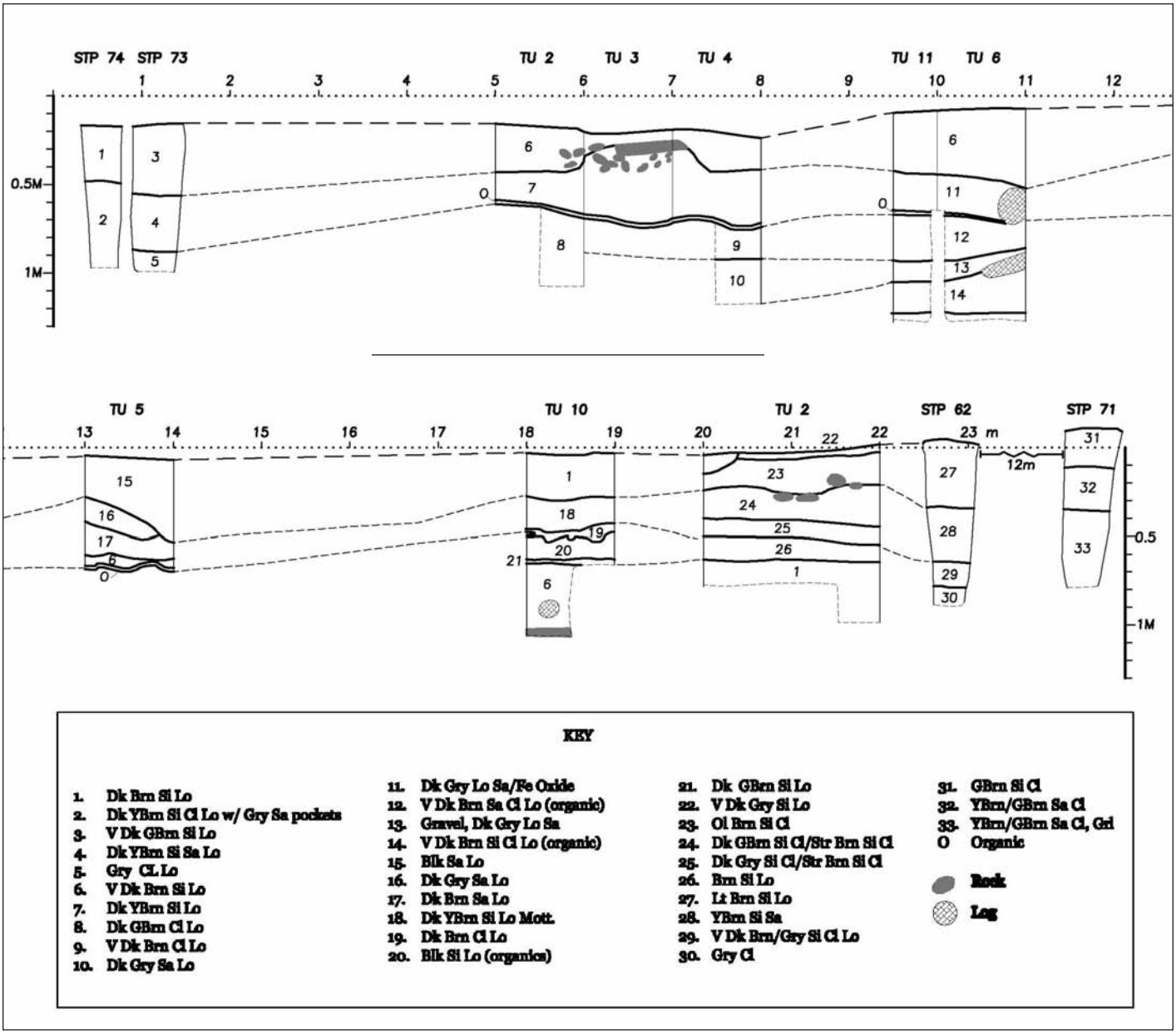

Figure 17. Composite Profiles.

organic 15-25 cm (6-10 in) thick clay loam which grades into black silt loam toward the north end of the building envelope. The upper boundary of this level is marked by a nearly continuous, 1-4 cm (.4-1.6 in) thick, layer of partially decomposed wood, sticks and bark. This mildly undulating layer is found 60-70 cm (24-28 in) below site datum and is best defined in the southern half of the building envelope. At the northern end, this organic level lacks a strongly defined decomposing wood lens but its upper boundary is at approximately 40 cm (16 in) below site datum (Figure 19). A milled plank with a raised centralized triangular strip was found resting just above this level in TU's 6, 11, and 12 (Figure 18). Interpreted as a construction layout marker or reference, the organics beneath it may represent the clearing and leveling of this lot with enough time elapsing for the organic level to compress, level, and stabilize prior to the placement of the nearly level plank. Alternatively, the decomposed wood and bark may represent mill scraps placed to create a stable and drier working surface. A 15-30 cm (6-12 in) thick, mottled dark grey and yellow brown silty loam or sandy loam overlies the decomposing wood. This mottled deposit is a dark grey brown and strong brown silty clay at the

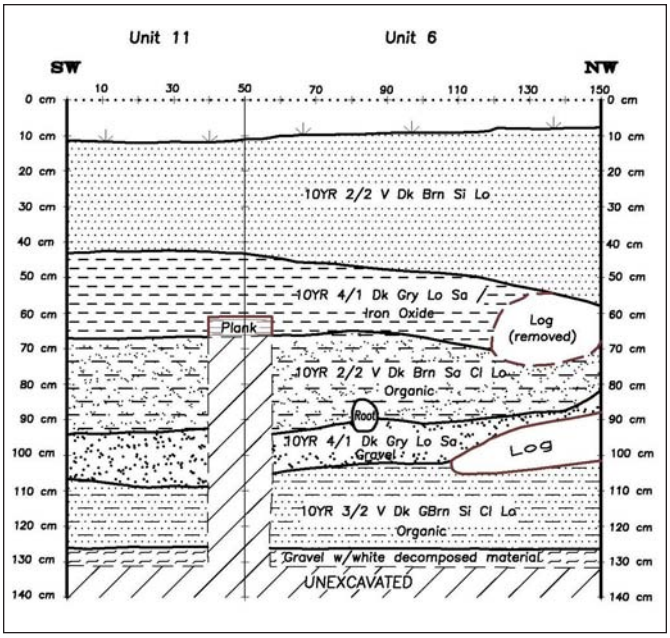

Figure 18. Test Units 6 and 11 West Profile.

Photo 2. Test Unit 11 West Profile.

northwestern corner of the envelope as exposed in TU 7 (Figures 16 and 19, Photo 3). This mottled level is restricted to the building envelope and represents a remarkably clean construction fill deposit. Other than a few artifacts observed in a pipeline trench extending beneath the decomposing wood, artifacts are generally very sparsely distributed in the upper half of this stratum with a relative concentration near the upper boundary. As will be described in the feature section, sub foundation rounded cobbles were observed vertically stacked in TUs 1, 5, and 9 and Trench 12 suggesting the cobbles were placed in holes dug into this fill. These cobbles often rested on or compressed into the decomposing wood. Capping the site is a 20-45 cm (8-18 in) thick very dark grey brown to very dark brown silty loam which contains the majority of the cultural materials at the site. This level was revealed in some locations as a single massive soil layer with only minor gradational shifts. Here, excavation levels were arbitrary. In other parts of the site, excavators discerned a definite contact or boundary and broke this capping layer into two natural excavation levels. As detailed in the artifact analysis section, the vast majority of modern artifacts such as plastics are limited to the upper natural or arbitrary level suggesting minimal downward mixing into the second level over the last 50 years. The vertical distribution of melted glass (assumed related to the 1891 fire) shows a relatively small amount of melted glass in the upper portions of the construction fill (5%), the greatest amounts in the second level (56%), with somewhat less than that (39%) in the upper arbitrary or natural level. This suggests that artifact movement and mixing has an upward component, related to a particular event or events since 1891 or an extended process over that span. Other artifact types suggesting vertical mixing include window glass, stoneware, metal sheeting, an agateware doorknob, lab glass, and bullets/cartridges.

Complications to the overall soil pattern have been mentioned, particularly in the northern portion of the building envelope. Test Units 7 and 10 do not have the strongly defined decomposing wood level. Further, the upper levels of TU 7 are dominated by clay soils. These may somehow be related to the clay dominant soils found upslope to the north and at the same elevation east of the envelope or may simply be a factor of material source. As for the lack of the decomposing wood level, perhaps only the southern two thirds of the building envelope required clearing, with the brush and trees dropped where they stood and buried with fill soils. Alternately, the trees and brush were cleared from the entire site and were purposely disposed of in the lower

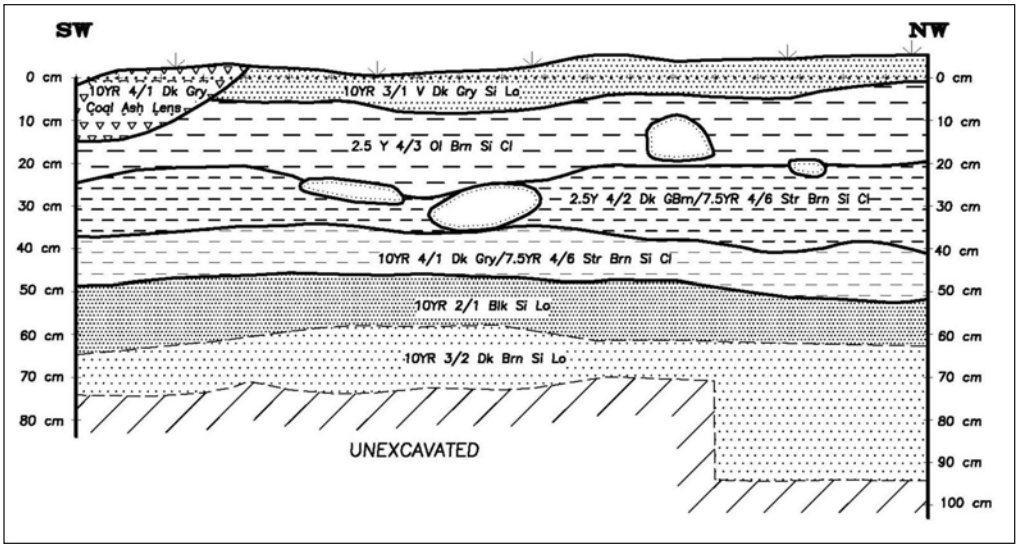

Figure 19. Test Unit 7 West Profile.

Photo 3. Test Unit 7 West Profile.

southern end of the lot prior to filling. Test Unit 7, and to a greater extent, TU 8 have been strongly influenced and impacted by the construction of the current road alignment. The above noted stratigraphic-artifact correlations disregard findings in TU 8 due to the numerous additional sediment layers attributed to the highway construction. Another area of the site core that varies significantly is in the vicinity of the boiler. The profiles evident in TUs 1 and 5 are strongly influenced in color and texture by the spoils from the furnace (Figure 20, Photo 4). In these areas, the decomposing wood level is overlain by the fill level of dark brown sandy loams. The fill is turned to a dark grey sandy loam by the high coal ash content and the capping level is a 25-45 cm (10-18 in) thick black sandy loam.

The soils, sediments, and stratigraphy north and east of the building envelope are dominated by clays. This pattern is supported by STP profiles from both Phase I and this site exam. The irregular boundary of the eastern building envelope in Figure 16 was established by Phase I and Phase II tests. Grey brown, brown, and dark brown silty clays, and clay loams of 13 to 25 cm (5-10 in) thickness cap the area. Underlying these are yellow brown to grey brown sandy clays and silt clays and light brown clays 10 to 24 cm (4-9 in) thick. At the base of these are solid yellow brown to grey clays or sandy clays with gravels with thicknesses minimally up to 40 cm (16 in). STP 71 is typical of this general area (Figure 21).

Highly variable fluvial soils are located between the creek and the southern edge of the building envelope.

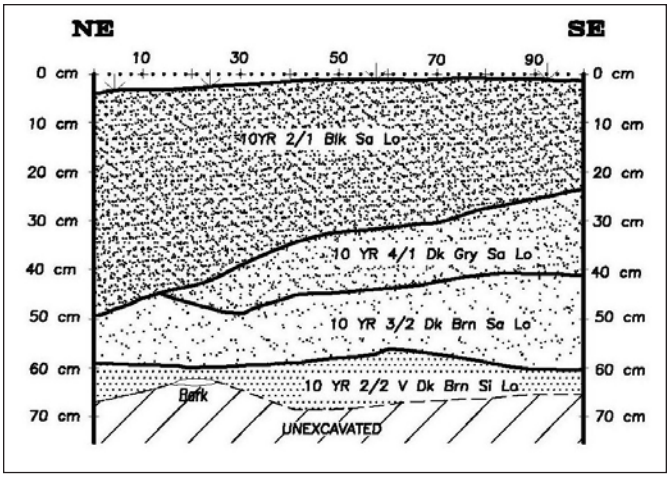

Figure 20. Test Unit 5 East Profile.

Photo 4. Test Unit 5 East Profile.

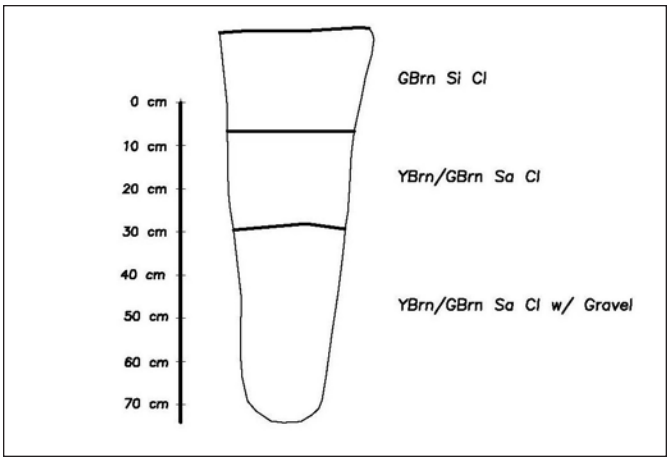

Figure 21. STP 71 Profile.

STPs in that area commonly share a 30-40 cm (12-16) thick upper level of dark brown to very dark grey brown silty loam. Beyond that commonality, each test reveals a different sequence of soils such as sands overlying sandy gravel and rocks (STP 76); yellow brown sandy loams with rocks and cobbles overlying dark grey brown loamy clays overlying black silty clays (STP 75); dark brown clay loams with lenses and pockets of grey sand (STP 74); a lens of decomposing rock capping dark yellow brown sandy loams overlying a grey clay (STP 73). All of these suggest a horizontally and vertically complex set of strata typical of fluvial deposits such as those created in streambeds, slack water pools and channels, and floodplains.

A discussion of chronology is limited to the initial construction date of 1886 or 1887, the conflagration of 1891, and the road construction in 1929 or 1930. The previously mentioned milled plank on top of the decomposed wood and the mottled yellow brown and grey silty loam fill levels are likely dated to 1886 or 1887. Melted glass and corroded iron artifacts are vertically concentrated just above the contact between the mottled fill and the very dark brown silty loam between 35 and 42 cm (14-17 in) in depth in Units 2-4. Similarly, Unit 5 revealed burned wooden planks at 45 to 50 cm (18-20 in) deep again at the upper contact of the fill and the overlying soils. This suggests that the contact is a rough marker for 1891. Test Unit 8 was excavated to investigate the relationship of the road embankment with the cheese factory (Figure 22, Photo 5). A thick deposit of coal ash caps the berm and the lower portions of the berm suggesting a late roadside dumping event. Beneath this, multiple layers of fill created the 1929-1930 road berm resting above a mottled dark grey and strong brown sandy clay. This mottled level is likely the equivalent of the construction fill event dated to 1886 or 1887 elsewhere. The boundaries between the berm fill layers and that between the berm fill and the factory construction fill are very indistinct perhaps suggesting scraping and grading.

FEATURES

During Phase I testing, a single stone masonry piling or pier and a stone paved foundation slab were found. These architectural components initiated and guided Phase II investigation eventually leading to the discovery of additional masonry piers and the delineation of the Deansville Creamery structural footprint. The cheese factory or creamery building could be considered a feature. Within that structural footprint we investigated a number of masonry elements such as primary piers, secondary piers, the boiler platform and shed, and the water intake line.

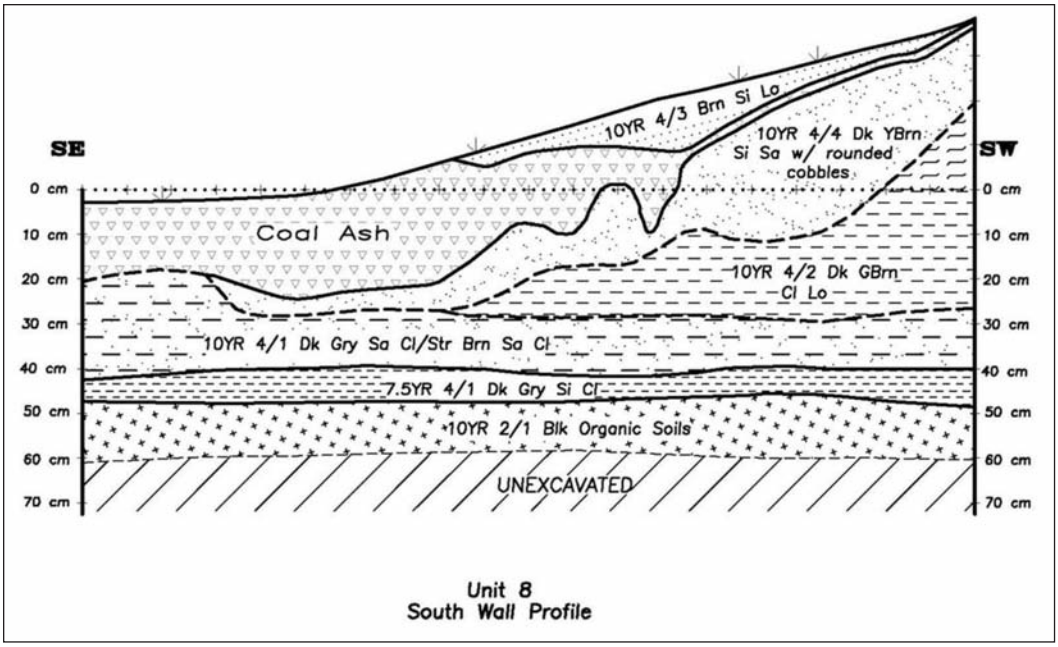

Figure 22. Test Unit 8 South Profile.

Photo 5. Test Unit 8 South Profile.

Cheese Factory

Historical maps (Map 6) and a photo (Figure 13) suggest the building measured approximately 25 x 50 ft with a small 3 x 10 ft extension on the road side south end and a larger shed roofed addition measuring approximately 10 x 15 ft on the back or east side. Masonry piers were identified that provide a building outline of 24 x 48 ft with 10 x 14 ft dimensions of the attached shed on the back (Figure 23).

Four of the piers were intact as they appeared level and all at the same elevation. Another five had been disturbed as evidenced by orientation, aspect and distribution of masonry and/or elevations that were well beneath the normal elevation established by the intact piers. Further, several limestone blocks of various sizes were observed on the surface of the site, on the road embankment, and in the tangle of bulldozed surface debris. These blocks likely represent the former upper courses of the piers. The collapse patterns for the piers suggest being toppled or shoved in four unique directions rather than a unidirectional collapse. This, in turn, may suggest multiple pathways used during demolition or during subsequent earthmoving operations.

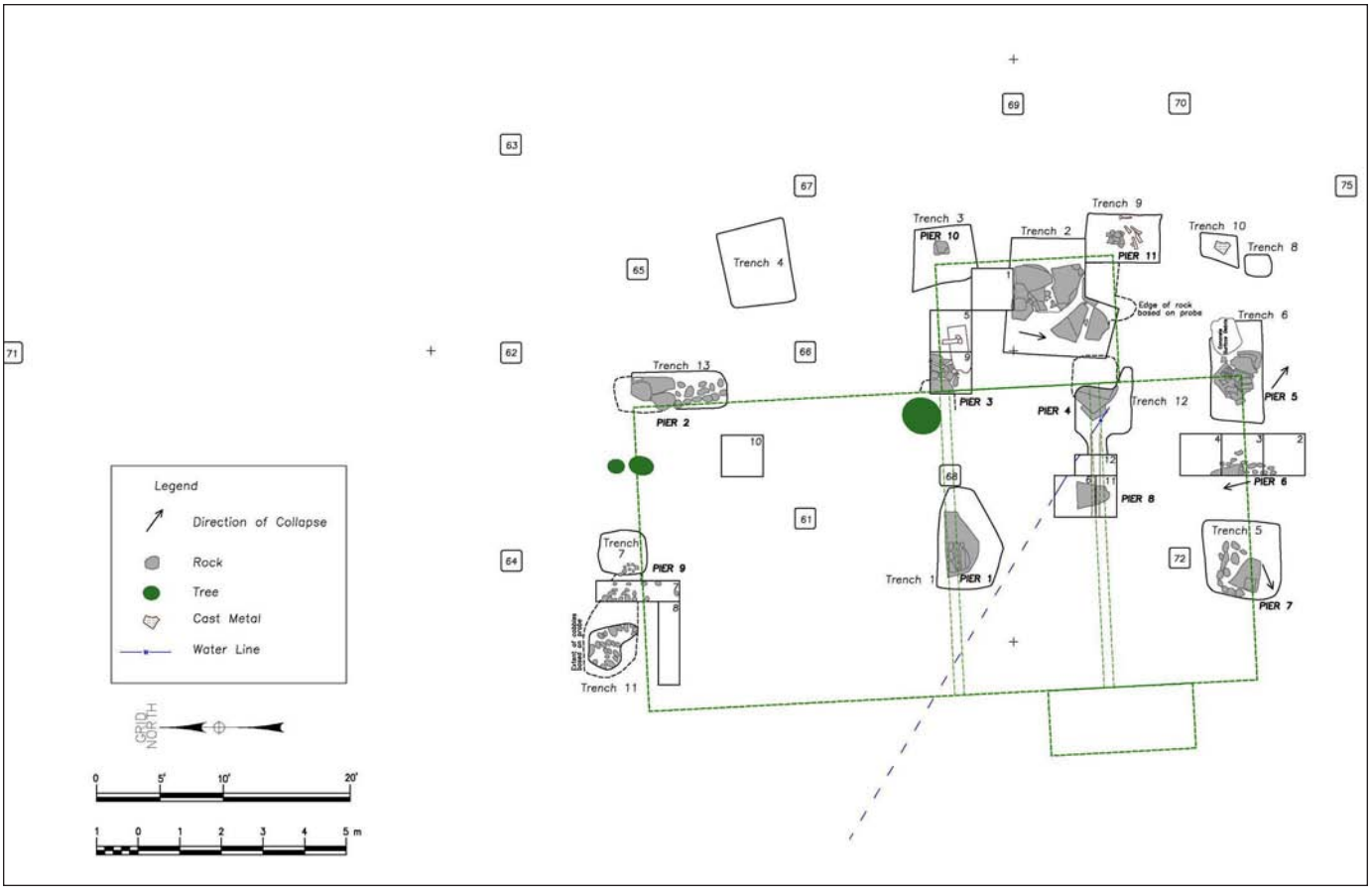

Figure 23. Masonry Piers, Structural Footprint, and Water Pipeline.

Primary Piers

A number of substantial constructs were interpreted as primary piers or structural supports. In general, these features consisted of a prepared sub foundation, were assembled using multiple courses of dry laid or unmortared blocky stone, and often incorporated stones with a single dimension greater than a meter in length. Four of the five discovered and described are positioned along the back wall of the factory. A single primary pier is positioned in a central position along the north-south axis but west of that axis. Three of the back wall primary piers and the centrally positioned pier are intact and have identical top elevations (0 cm-site datum).

Pier 1 was labeled Feature 1 during Phase I investigations. Based on the level of testing conducted at that time, it was described as a stone masonry piling or footer exposed on the surface as a roughly rectangular cluster of flat rocks in an area 70 x 90 cm (27 x 35 in). Probes outlined an area of 80 x 165 cm (31-65 in) with its long axis perpendicular to Route 315. An adjacent shovel test (STP 28.2) revealed the feature as having three courses of rectangular blocks 45 cm (18 in) tall. The profile suggested the wall rests on a light brown clay loam fill that may have been placed on dark brown loamy clay that contained many decaying roots and logs. The Phase I analysis hypothesized this organic rich level represented the original ground level prior to construction. A loose dark brown to black clay loam and a grey brown clay loam reach to nearly the base of the masonry feature. These soils contained large volumes of coal, coal ash, charcoal and slag as well as numerous artifacts. Trench 1 fully exposed this intact construct and found that the probed dimensions were roughly correct and that the lowest course of rock was, in fact, a single large slab that tilted toward the road. The central top course was level and at a site elevation of 0 cm (Photo 6). Further probing beneath the lowest slab did not identify any additional sub foundation.

Pier 2 supported the northeast corner of the factory (Figure 23, Photo 7). Exposed by Trench 13 and by probes, the intact pier measures .80 x 1.5 m (2.6 x 4.9 ft) and is at least two dry laid courses in height. The upper course was a large, flat, and smooth rock at an elevation of 0 cm. The second course consisted of massive blocks.

Photo 6. Looking East at Pier 1 (Feature 1 of Phase I Report).

Photo 7. Looking Southwest at Pier 2.

The construct is intact and like Pier 1, there was no indication that additional sub foundation was present. A jumbled alignment of cobbles extends southward from the pier. These may represent in filling between the ground surface and a wooden sill beam. Additional cobbles and rocks were identified in the upper levels of STP 66 suggesting either the wall collapse had spread further east or that the cobbles represent limited paving.

Pier 3 is centrally located along the back wall of the factory (Figure 23) and exposed in TU 9. The dimensions of this pier are not definitively known due to the proximity of a large tree but it is at least 1.10 x 1.30 m (3.6 x 4.3 ft) with the long axis perpendicular to the building. The pier is capped by a large 35 cm (14 in) thick block and is three dry laid courses high in some locations (Figure 24, Photo 8). The highest elevation of this largely intact pier is 0 cm. A multi-stone ledge is formed on the back of the pier that is 25 cm (9.8 in) below the site datum. This ledge likely received a sill beam from the north wall of the shed attached to the rear of the factory. The limestone masonry blocks and slabs rested on a sub foundation of mostly rounded rocks and cobbles. The profile of this sub foundation suggests a bowl or basin shaped pit had been dug into the construction fill to the depth of the organic layer and then filled with cobbles. A single brick fragment and a rounded cobble covered with whitewash were also observed with the cobbles suggesting that at least some of these materials were salvaged from elsewhere or perhaps the brick and painted rock had found their way into a stream deposit that was ultimately used as a material source.

Approximately 12 feet (3.7 m) south, Pier 4 also supports the back wall of the factory (Figure 23, Photo 9). Based on Trench 12 and probes, the pier measures 1 x 1.5 m (3.3 x 4.9 ft) and is oriented perpendicular to the long axis of the building. Similar to Pier 3, this pier is made in three dry laid courses, capped by a large limestone block at 0 cm elevation. The stacked blocks rest on top of a sub foundation of cobbles that had been placed in a pit excavated to the base of the construction fill deposit in contact with the organic decomposed wood level. The 7 x 1 3/16 in (18 x 3 cm) plank with a centralized triangular attachment mentioned previously as lying on top of the organic level at 60-65 cm (24-26 in) depth extends beneath the pier at its center. This plank, interpreted as a construction layout marker or reference, extends west, perfectly centered under Pier 7 as exposed in TUs 6, 11, and 12. The waterline into the factory comes underneath the layout plank to a point nestled just south of this pier where a 90° elbow, rusty strong brown colored sediments and a loose short pipe segment mark the former vertical inlet to the factory floor. Although it was not exposed during this investigation, it is assumed that the southeast corner of this pier might be configured to receive the southern sill beam of the shed addition.

Pier 5 is located in the southeast corner of the factory building and was exposed by Trench 6 (Figure 23). This pier has been disturbed with the larger, upper two or more courses having been pushed and flipped over in a southeasterly direction (Photo 10). A large unassociated concrete block was at the ground surface immediately east of this pier. Excluding the overturned upper courses, the cluster of tabular stones is contained within an area of 1 x 1 m (3.3 x 3.3 ft) and lies at an elevation of 28 to 35 cm (11-14 in) below site datum. No mortar was noted and window glass, a bottle base, and a hinge were noted wedged between slabs of rock. Sediments beneath the exposed rock were not probed to verify the presence of rounded cobbles.

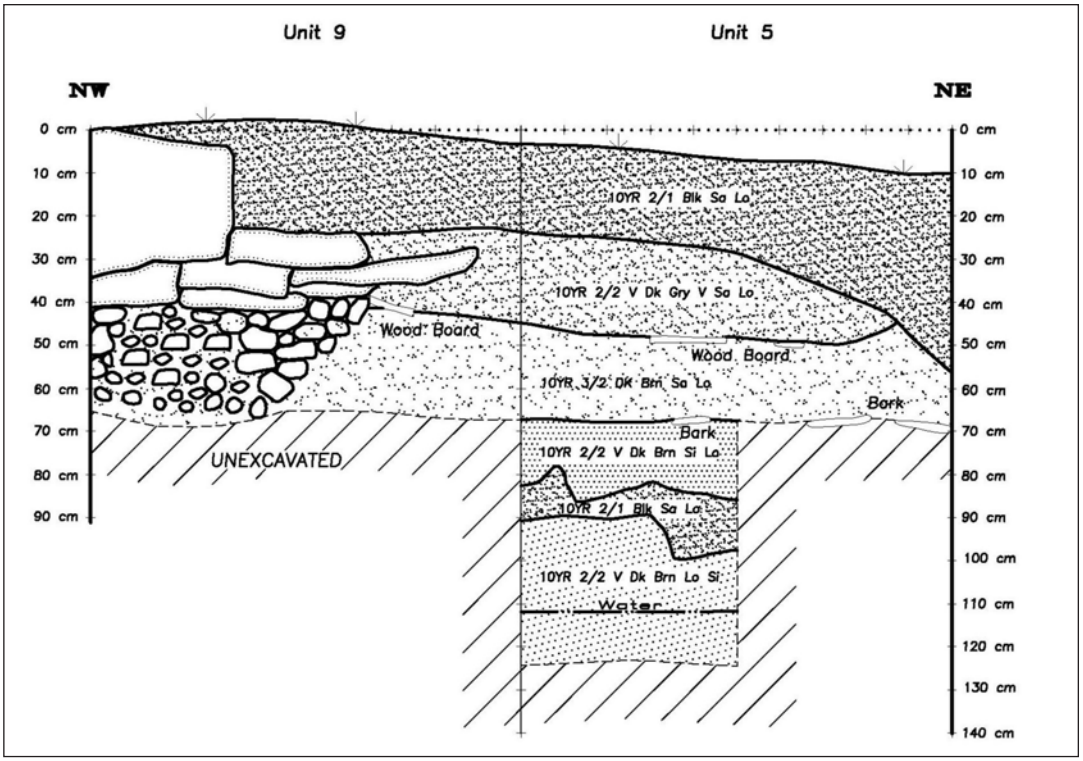

Figure 24. North Profile of Test Units 5 and 9 and Pier 3.

Photo 8. Looking North at Pier 3 in Test Unit 9.

Photo 9. Looking Northeast at Pier 4 and the water line in Trench 12.

Secondary Piers

These piers tend to be positioned in intermediate locations and, compared to the primary piers, more irregularly spaced. They are often comprised of a single flat rock on a sub foundation of cobbles.

Positioned along the southern wall of the factory, approximately 8 ft (2.4 m) from the southeast corner, Pier 6 appears to have been slightly disturbed with the upper flat stone moved northward (Figures 23 and 25, Photo 11). This single slab measured approximately 50 x 80 cm (20 x 31 in) with the long axis paralleling the building with the top at 25 cm (10 in) below site datum. The sub foundation of cobbles included a single white-washed rock. The sub foundation had been placed in a larger, 1.7 m maximum dimension, basin shaped pit

Photo 10. Looking East at Pier 5.

Photo 11. Looking West at Pier 6 in Test Units 2-4.

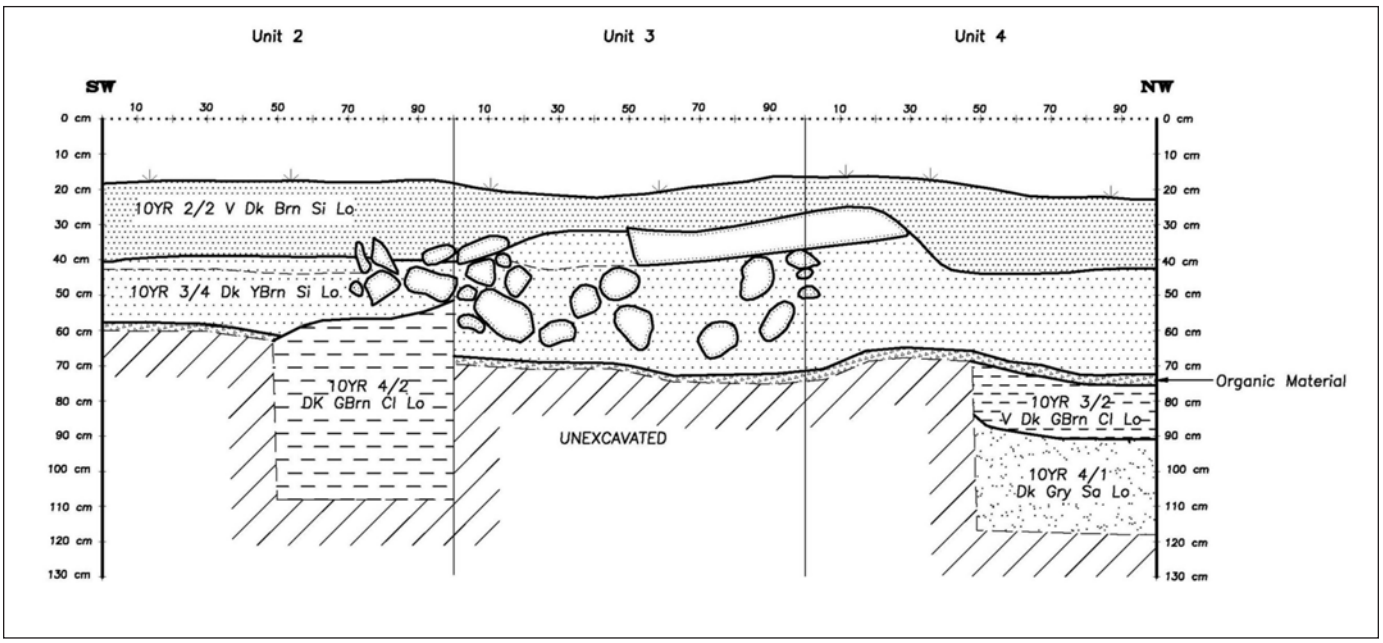

Figure 25. West Profile of Test Units 2-4 and Pier 6.

dug into the construction fill down to and resting in the organic decomposed wood layer at around 65 cm (26 in) below site datum.

Pier 7 is approximately 8 feet (2.4 m) further west along the same wall (Figure 23) currently near the base of the road embankment (Photo 12). This pier has also been disturbed by being moved and tilted toward the west southwest. A large rotted stump was found immediately east of the slab and the growth of this tree was at least partly responsible for the upheaval. The pier had been constructed of at least two dry laid courses of tabular stone the largest being 70 x 75 cm (28 x 30 in) resting on a cluster of rounded cobbles.

Located approximately 9 feet (2.7 m) west of Pier 4, Pier 8 is uniquely constructed and was exposed in TUs 6, 11, and 12. The previously noted 7 x 1 3/16 in (18 x 3 cm) plank with a triangular cross-sectioned strip lies centrally at 62 cm (24 in) (Photo 13). This possible construction reference marker had a 5 cm (2 in) thick layer of soil over it and was then covered by one of two short lengths of thick board (Photo 14). The segment directly above the plank measured 8 x 19 x 2 1/2-3/4 in (20 x 48 x 6.3 cm) and the board to the south measured 8 x 16 x 2 1/2 in (20 x 41 x 6.3 cm). A single fragment of glass

Photo 12. Looking South at Pier 7.

Photo 14. Pier 8 showing plank segments and cobbles.

Photo 13. Plan View of base of Pier 8 with east at top of page.

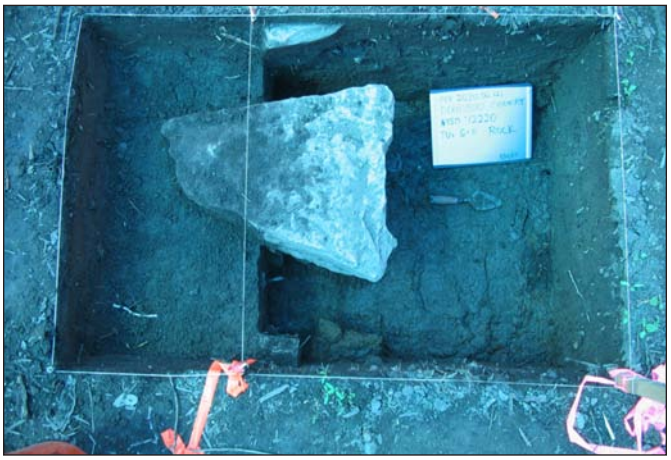

Photo 15. Plan View of Pier 8 upper Level

was found beneath these boards. Three cobbles were placed north of the blocks at the same level. Another 8 cm (3 in) thick layer of soil covered the wood blocks and cobbles with the large 58 x 35 x 17 cm (23 x 14 x 6.7 in) block free floating on top of that soil (Photo 15). The top of the stone was 20 cm (8 in) below site datum. The upper course or courses of this pier are likely missing as a moderately large stone protrudes from the west wall of the excavation unit and this may be part of the pier. Other loose stones and blocks were observed across the site surface suggesting some disturbances had occurred to the masonry.

A large cluster of cobbles along the north wall has two potential interpretations (Figure 23). One is that the cobbles represent the disturbed base of a secondary pier. Probing, Trenches 7 and 11, and TU 7 exposed this 1.5 x 2 m cluster at approximately 20-35 cm (8-14 in) below site datum, a level that is generally higher than sub foundation cobbles elsewhere on the site. Alternately, the cobble cluster might represent the 9 in. cobble base layer specified in the 1929 road construction plans (New York State Department of Public Works Division of Highways 1929).

Boiler Platform and Shed

A 10 x 14 ft (3 x 4.3 m) shed protruded from the east wall of the factory (Figure 23). Its outline is defined by two small piers (Photo 16), Piers 10 and 11, and the masonry ledge on the east side of Pier 3. The structure sheltered a boiler as evidenced by a substantial masonry platform, burned soils, and a large volume of coal, coal ash, and slag. The piers both had upper elevations of 18 cm (7 in) below site datum and the ledge on Pier 3 was 25 cm (9.8 in) below datum suggesting a slightly sloped floor. Assuming the boiler shed had a floor and had similar sized sill beams to those in the factory, the boiler shed would have had a lower floor with the step up to the main factory floor of 7-9.8 in (18-25 cm). That step would have been greater if the shed sills and joists were less substantial. The boiler platform was at 8 or 9 cm (3-3.5 in) below datum. For fire safety reasons, one might assume this platform would be level with or raised above any decking in the shed rather than being recessed in the floor. Therefore, if the shed had a wooden floor, it is likely that the sill and joist lumber for the shed was 4 in wide, less than modern conventional floor construction. Alternately, the platform may have had an additional tier or level of stone or fire brick, enabling a more substantial floor and still raising the platform higher than the wood floor.

Photo 16. Looking north across Pier 11 to Pier 10 with boiler platform to the left.

Pier 10, exposed in Trench 3, is a simple two course stack of flat 20 x 25 x 5 cm (8 x 10 x 2 in) stones with the top having an elevation of 18 cm (7 in) below the site datum. The sediments surrounding this pier were dominated by coal, coal ash, and slag. There was no evidence of a sub foundation and the pier was associated with two iron bars that are likely boiler grate fins.

Exposed in Trench 9, Pier 11 revealed a small, 38 x 40 cm (15 x 16 in) stack of flat rocks comprised of four courses to an elevation of 18 cm (7 in) below the site datum. This pier was supported by a small cobble sub foundation. A dense coal ash deposit was noted north of the pier in an area that would have been inside the shed. Six additional boiler grate fins were found south of the pier and outside the structure outline. Deposits in Trench 9 included ceramic fragments, a medicine bottle neck, and cut bone. Window glass and nails were noted but not collected. No intermediate pier was observed between these two piers in Trench 2 but that trench was not excavated to any substantial depth.

The boiler platform was first observed during Phase 1 and designated Feature 2 in that report. At that time, it was not known if this was a floor or an exterior stoop or doorway. STP 28.6 found the buried flat multi-stone platform and further probing defined a roughly square area measuring 150 x 150 cm (5 x 5 ft). STPs 28.6 and 28.7 were placed at what was thought to be opposite corners. The testing found two layers of unmortared flat stone masonry, 18 cm (7 in) thick underlain by a stack of irregular cobbles. The lower cobbles were placed on sterile grey clay with a mottled brown and ashy grey clay loam flanking the lower portions of the feature and charcoal blackened sandy loam with coal and coal ash level with and capping the slab. STP 28.7 found a similar large flat slab at 20 cm (8 in) but this part of the feature rested upon a 30 cm (12 in) thick bed of well-sorted, small (fist-sized or smaller) cobbles. These rested on light brown to grey clay. At that time, it was felt the smaller cobble fill seems to function less for support and more for drainage. Although these observations were found mostly corroborated by Phase 2 testing, Trench 2 and TU 1 exposed greater details about the construct (Figure 23). The platform consists of a 4 x 8 ft (2.4 x 4.8 m) rectangular area of flat slabs in two to three courses to a depth of approximately 40 cm (16 in) placed upon a large bed of rounded cobbles to a depth of 65 cm (26 in) (Photo 17). The cobbles had been placed in a nearly vertically sided pit dug into the construction fill

Photo 17. Boiler Platform and Test Unit 1 South Wall Profile.

level down to and slightly pressing into the organic decayed wood lens. The platform was oriented north-south and positioned east of the center line of the shed and abutting the shed's south wall. Two very large slabs are located southwest of the platform, tilted and at a higher elevation. These slabs appear to have been flipped from the upper course of the northwest corner of the slab. Other smaller tabular rocks and several fire-bricks were observed in upper levels of TU 1 north of the platform. These stones and bricks were in various elevations, angles, slopes, and aspects suggesting they had been pushed or had fallen northward. Soils adjacent to the north edge of the platform were oxidized to a strong brown color suggesting intense heat in this location and perhaps that this end of the platform was used for access to the firebox. This is supported by the position of the platform within the shed footprint and the lack of working space elsewhere around the perimeter of the platform. Based solely on probe results, a protrusion extends off the south edge of the platform. This may represent a separate intermediate pier. The boiler platform and the shed are strongly associated with the heaviest deposits of coal, coal ash, and slag. As will be demonstrated and discussed later, the shed is also associated with artifacts associated with the boiler and the industrial heating system such as boiler grate fins, pipe segments, pipe fittings, and a valve handle. Other notable artifacts found in the vicinity of the platform and shed include a stove or furnace port lid, pipe fittings, numerous heavy brackets, braces, bolts and hinge fragments. Curiously, two possible wood plane blades were found north of the platform in TUs 1 and 5.

The only concentration of burned wood was found in TUs 5 and 9 at approximately 50 cm (20 in) resting just above the top of the construction fill and tilting down slightly to the north (Photo 18). This location approximates the northern wall of the boiler shed. Several compressed adjoining planks were revealed along with a shorter piece perpendicular to those. The upper surface of the wood had been charred with melted glass stuck into the wood surface. Several small fragments of cloth were also observed on this burned lumber. A single nail in the perpendicular board was pointed up suggesting this 120 x 40 cm (47 x 16 in) panel is definitely not in primary context and may have been a fallen wall, ceiling panel, or crate. The underside of this wood was not burned or charred although chunks of coal and corroded unidentified metal were found immediately beneath the panel. This panel abuts against Pier 3 at approximately the contact between the sub foundation cobbles and the limestone slabs (Figure 24).

Photo 18. Burned lumber panel and Pier 3.

Water Intake Line

An iron pipeline was identified in TUs 6 and 12 and Trench 12. The 1 3/8 in (3.5 cm) outside diameter (OD) pipe was found at a depth of 90 cm (35 in) in TU 6 and rose 10 cm where a 90º elbow turned the line upward alongside Pier 4 and into the factory (Photo 9). A short

segment of pipe 14.25 in (36.2 cm) long, 1 1/8 in (2.86 cm) OD, ¾ in (1.9 cm) inside diameter (ID) was located immediately above the elbow in the fill. Although not clearly indicated in all test unit profiles, it appears the trench for this waterline had been excavated prior to the placement of the plank layout marker and the organic level at 60-65 cm (24-26 in) depth. The fill above this pipe contained several very thin ash lenses and numerous large sticks and logs, including several that had been chopped to dig the trench. The lowest logs, projecting from undisturbed trench walls, had been notched to accommodate the pipe. The trench fills also contained well preserved wood chips from this chopping activity. A pointed and beveled plank, 8 1/8 x 27 x 7/8 in (20 x 68.5 x 2 cm) was recovered from the edge of this pipeline trench (Photo 13). A single nail was observed at the flat end off to one side. This may have functioned as a survey marker or a marker identifying the buried position of the pipe during construction. Another interesting artifact found in this fill was a fragment of tongue and groove lumber. The material was 1 in thick with ¼ in tongue. The board width was undeterminable but it appears that a builder needed to remove an additional 3/8 in from the total length. This rare artifact, preserved only because of its position in trench fill below the long term water table represents a construction scrap and may illustrate materials used as flooring or siding.

The deed transferred from the Van Vechten's to Junius Day in 1891, as well as several deeds afterward, makes note of the spring access from Mary Foote. Mary Foote's principal property was located across the road and to the west. The pipeline likely leads under the road to the Foote spring.

ARTIFACT ANALYSIS

The Phase I investigations at the Deansboro Creamery Co. site produced 619 items representing primarily historic nineteenth and early twentieth century industrial and architectural debris with a small amount of domestic debris. The artifacts came largely from a single stratum at an average maximum depth of 59 cm (23 in). The assemblage was 58% architectural and 19% domestic with a small percentage of potential personal classed artifacts. The Phase I assemblage included architectural items such as machine cut nails (44), unidentified square nails (45), wire nails (74), slate roofing (1), wood or lumber fragments (7), stoneware sewer pipe (21), hardware (25), metal sheeting (2), brick fragments (52), mortar (4), plaster (1), and flat glass (84). Many of the artifacts in the hardware category were notable in that they were larger sized brackets, hooks, bolts, rods, bars, padlocks, and pulleys suggesting an industrial or shop scale rather than domestic hardware. Domestic class materials included grey salt-glazed stoneware, Albany slipped (9), grey salt glazed stoneware, unslipped (1), other stoneware (9), undecorated whiteware ceramics (4), and blue transfer-printed whiteware (2). Other domestics include amber (5), brown (11), and clear (8) bottle glass, aqua and clear curved glass (7), other glass (14), can fragments (4), a crown bottle cap (1), kitchen bone (1), unidentified bone fragments and unmodified bone (4), clam shell (6) and a tooth (1). Snail shells (6) in the collection are assumed to be natural. Coal (54), slag (34), and cinders (16) constituted nearly 17% of the assemblage despite the fact that this collection is a very small sample of the volume of these materials on site. Personal items recovered include buckles for clothing (3). Many of the items listed as potentially domestic might also be used in an industrial setting like a cheese factory or creamery such as cans, stoneware crocks and bowls, and bottles. The buckles could have easily been used for non-clothing and non-personal uses such as in harnesses. The distribution of Phase I recovered artifacts showed a general trend for greater artifacts to be recovered from the central and northern portions of the site (Figure 14). The roughly equal percentage of cut and wire nails suggested building construction and reconstruction during the late nineteenth century.

In the previous sections describing site stratigraphy and chronology and artifacts in association with features, the Phase II site examination artifacts were characterized as being largely restricted to the upper two natural or arbitrary levels of the site and comprised of nineteenth and early twentieth century artifacts. A complete inventory of the 6,082 artifacts were collected from within the site boundaries. A more refined tally of artifact counts and percentages as segregated by level is presented in Table 5. Table 6 presents the counts and percentages of artifact classes by level. In general, the results mimic those from Phase I. Architectural class artifacts dominate the assemblage (72%) with domestic class artifacts relatively lightly represented (15%) and personal class artifacts extremely rare. Also like the Phase I assemblage, the majority of hardware items tend to be larger in scale, a characteristic to be expected in an industrial site.

Given that the Phase I assemblage and the historical records indicate an industrial function for this site, artifacts were sorted into the generalized classes of architectural, industrial, domestic, transportation, personal, and modern/recent. As stated in the synopsis of the Phase I artifact analysis, the assignment of artifact types into functional classes is fraught with difficulties and uncertainties. Buckles might be associated with personal clothing or a horse harness. In this case, the size and

Table 5. Selected Artifact Type Counts and Percentages By Level*.

Class	Type	Subtype	Level 1		Level 2		Level 3		Total Site	
			#	%	#	%	#	%	#	%
Architectural										
	cut nails		814	25.59	937	39.22	85	33.46	1855	30.51
	wire nails		605	19.02	312	13.06	11	4.33	935	15..39
	other unidentified nails		1	.03	2	.08			5	.08
	staple		21	.66	3	.13			24	.39
	brick		40	1.26	24	1.00	4	1.57	62	1.02
	flat glass		664	20.91	344	14.40	15		1137	18.70
	flat glass, melted		82	2.58	74	3.10	1	.39	157	2.58
	mortar		11	.35	5	.21	1	.39	17	.28
	tarpaper		9	.28					9	.15
	asphalt roofing fragment		3	.09	1	.04			4	.07
	flashing		5	.16	1	.04			6	.10
	window hardware		2	.06	1	.04			3	.05
	hinge		2	.06					2	.03
	lantern glass or “fire bomb”	curved red	9	.28	1	.04			38	.63
	sewer pipe	stoneware, gry salt-glazed	14	.44	20	.84	4	1.57	38	.63
	ceramic doorknob	agateware	1	.03	3	.13	1	.39	5	.08
	door lock mechanism		1	.03					1	.02
	electrical insulator, porc.								2	.03
	glass insulator		1	.03					1	.02
	wire		24	.76	18	.75	1	.39	43	.71
	paint samples				6	.25			6	.10
Industrial										
	bolts		22	.69	6	.25			33	.54
	bar		3	.09					4	.07
	screw		13	.41	5	.21			20	.33
	spike				5	.21			5	.08
	strapping		2	.06					2	.03
	washer				2	.08			2	.03
	bracket		5	.15	3	.12			9	.15
	eyelet/grommet				1	.04			1	.02
	metal handle		1	.03					2	.03
	hook		1	.03	1	.04			4	.07
	ring		1	.03					1	.02
	rivet with leather		4	.13					4	.07
	rod		5	.15	1	.04			6	.10
	other hardware	misc.	5	.15	1	.04			13	.21
		weigh can gate handle			1	.04			1	.02
		scale fragments			2	.08			2	.03
		scale weights			1	.04			1	.02
		thermometer plate backing					2	.79	2	.03
		boiler grate fins	4	.13					13	.21
		stove burner lid							1	.02
	lab glass	curved clear	85	2.68	1	.04	2	.79	88	1.45
		curved clear, leaded	6	.19	31	1.30	7	2.76	43	.71
	thermometer glass						3	1.18	3	.05
	lidded tin container	contains blue powder?			1	.04			1	.02
	rubber		16	.50					16	.26
	plumbing	pipes and fittings	10	.33	5	.21			16	.26
	tools	iron file			1	.04			1	.02
		knife	1	.03					1	.02
		saw	2	.06					2	.03
		pliers			1	.04			1	.02
		wood plane blade	1	.03					1	.02
		cutter?	1	.03					1	.02
		cheese trier?			1	.04			1	.02

continues

Table 5. Selected Artifact Type Counts and Percentages By Level*. continues

Class	Type	Subtype	Level 1		Level 2		Level 3		Total Site	
			#	%	#	%	#	%	#	%
Industrial		large handled tool parts	1	.03	1	.04			2	.03
	fabric				9	.38	4	1.57	13	.21
	metal sheeting		47	1.48	48	2.01	25	9.84	121	1.99
	unidentified cast iron				1	.04			2	.03
	unidentified iron and steel		6	.19	7	.29	7	2.75	20	.33
	coal/cinder/slag		95	2.99	63	2.64	21	8.27	183	3.01
Domestic										
	ceramic	ironstone/whiteware undeco.	11	.35	4	.17			15	.25
		ironstone, undecorated	1	.02					1	.02
		stoneware, buff bodied			1	.04			1	.02
		stoneware, buff salt-glazed							1	.02
		stoneware, gry salt-glaz, Alb. slp	8	.25	9	.38			18	.30
		stoneware, gry salt-glaz, brn slip							2	.03
		stoneware, gry salt-glaz, clr gl.							1	.02
		stoneware, gry salt-glaz, unslip	1	.03					1	.02
		redware, flowerpot	4	.13					4	.07
		redware, other	2	.06					2	.03
		white earthenware	6	.19	1	.04			7	.12
	table glass		4	.13	1	.04			5	.08
	bottle/curv glass	clear curved	12	.38	11	.46	1	.39	26	.43
		clear curved, melted	1	.03	2	.08			5	.08
		clear curved, leaded	7	.22					8	.13
		amber curved, melted			1	.04			1	.02
		aqua curved							5	.08
		aqua curved, melted	124	3.90	219	9.17	24	9.45	369	6.07
		brown curved	2	.06	3	.13	1	.39	6	.10
		olive green curved, melted			1	.04			1	.02
		brown bottle	25	.79	47	1.97			75	1.23
		clear bottle	130	4.09	27	1.13			167	2.75
		clear bottle, leaded	1	.03	1	.04			2	.03
		amber bottle			1	.04			1	.02
		aqua bottle	15	.47	11	.46	3	1.18	41	.67
		aqua bottle, melted			3	.13			2	.03
		green bottle							2	.03
		olive green bottle	7	.22	8	.33			15	.25
	lamp glass		1	.03					1	.02
	cans/frags		16	.50	14	.59	2	.79	32	.53
	meat can key		1	.03					1	.02
	kitchen bone				2	.08			3	.05
	unidentified/unmodified bone		53	1.67	4	.17			55	.90
	clam shell		4	.13	13	.54	9	3.54	26	.43
	tooth		1	.03					1	.02
Transport										
	harness parts	metal and leather pcs.	3	.09	3	.13			6	.10
	horseshoe				1	.04			1	.02
	buckles				4	.17			5	.08
	horseshoe nail		3	.09					3	.05
Personal										
	glass button		1	.03	1	.04			2	.03
	shell button						1	1.39	1	.02
	Kaolin pipe				2	.08			2	.04
	pin				3	.13			3	.05
	snap type clothing fastener		1	.03					1	.02
	cartridges/bullets		6	.19	12	.50	4	1.57	22	.36

continues

Table 5. Selected Artifact Type Counts and Percentages By Level*. continues

Class	Type	Subtype	Level 1		Level 2		Level 3		Total Site	
			#	%	#	%	#	%	#	%
Modern										
	aluminum foil		2	.06					4	.07
	aluminum pop top		1	.03					1	.02
	electronic component		1	.03					1	.02
	glass	brown bottle glass							70	1.15
	asphalt paving		6	.19	1	.04			7	.12
	paving paint				1	.04			1	.02
	automotive parts								1	.02
	plastic		47	1.48	1	.04			54	.89
	jewelry clasp		1	.03					1	.02
	baling twine		1	.03					1	.02
Total			3156	100%	2364	100%	239	100%	6082	100%

* Excludes artifacts from STP 71 as off-site. Level totals do not equal site totals as Trench artifacts are included in site total. Road berm-covered Levels 4, 5, and 6 in TU 8 have been correlated to site levels 1, 2, and 3.

Table 6. Artifact Class Counts and Percentages By Level*.

Class	Level 1		Level 2		Level 3		Total Site	
	#	%	#	%	#	%	#	%
architectural	2309	73.09	1752	74.11	123	51.46	4357	71.52
industrial	337	10.67	199	8.42	71	29.71	642	10.56
domestic	437	13.83	384	16.24	40	16.74	903	14.85
transport	6	0.19	8	0.34	0	0	15	0.25
personal	8	0.25	18	0.76	5	2.09	31	0.51
Modern/recent	59	1.87	3	0.13	0	0	141	2.32
total	3156	100%	2364	100%	239	100	6082	100%

* Excludes artifacts from STP 71 as off-site. Level totals do not equal site totals as Trench artifacts are included in site total. Road berm-covered Levels 4, 5, and 6 in TU 8 have been correlated to site levels 1, 2, and 3.

Table 7. Melted Glass By Level*.

Type	Level 1		Level 2		Level 3		Total Site	
	#	%	#			%	#	%
flat glass, melted	82	2.60	74	3.13	1	0.42	157	2.58
clear curved, melted	1	0.03	2	0.08			5	0.08
amber curved, melted			1	0.04			1	0.02
aqua curved, melted	124	3.93	219	9.26	24	10.04	369	6.07
olive green curved, melted			1	0.04			1	0.02
aqua bottle, melted	82	2.60	74	3.13	1	0.42	157	2.58
total	289	9.09	371	15.69	26	10.88	690	11.34

* Excludes artifacts from STP 71 as off-site. Level totals do not equal site totals as Trench artifacts are included in site total. Road berm-covered Levels 4, 5, and 6 in TU 8 have been correlated to site levels 1, 2, and 3.

character of the buckle suggested a transportation relationship. Likewise, stoneware crockery and glass bottles may either be part of the industrial dairy process, a domestic item, or perhaps could be a personal item such as a part of a worker's lunch. Sheet metal might, in a normal analysis, be included in the architectural class assuming it represented roofing. In this context, it has been assumed to represent an industrial function such as the lining to vats and tanks. Bolts, given their importance to the massive frameworks associated with all

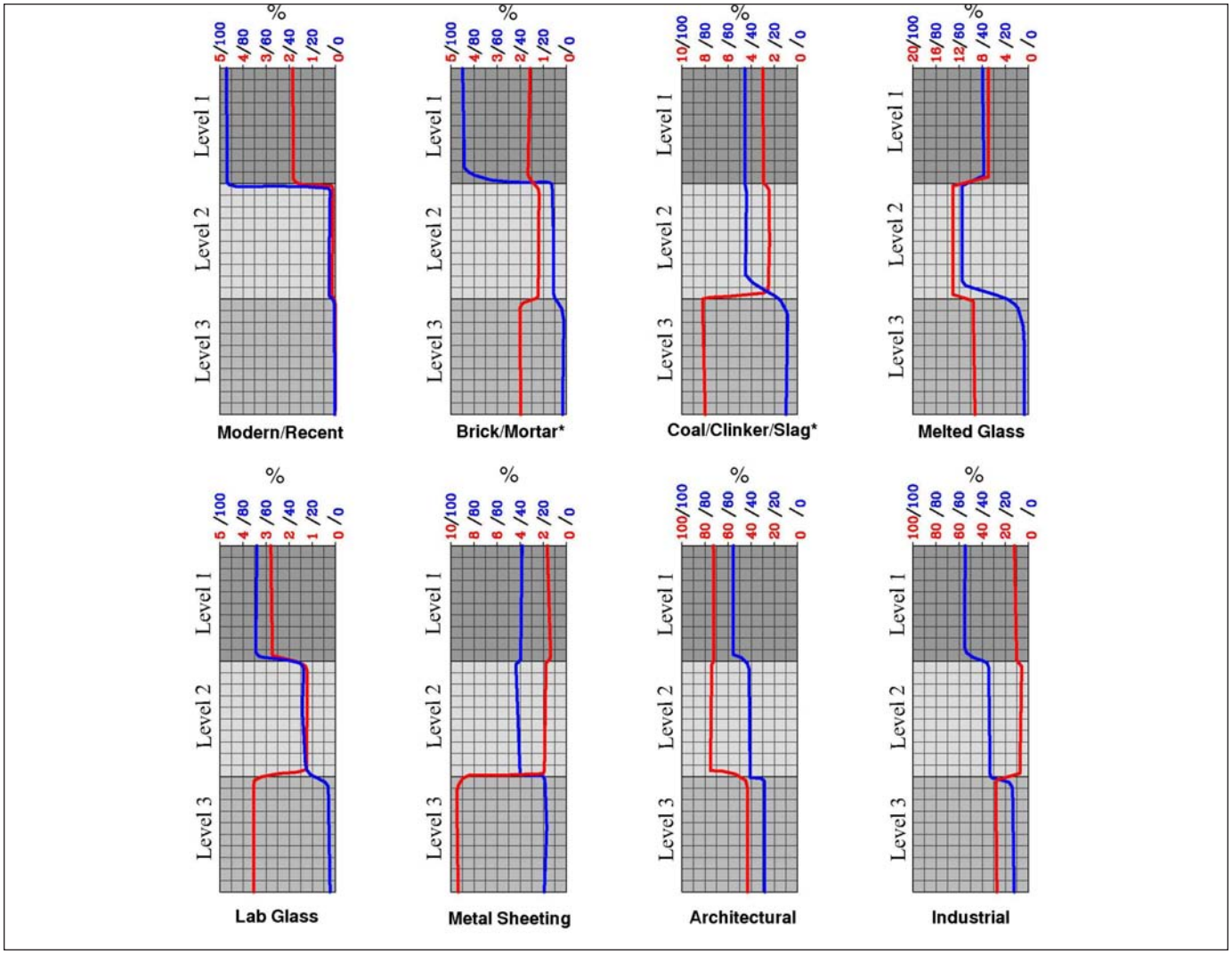

Figure 26. Artifact percentages by level relative to assemblage or type.
Blue line and scale represent the artifact/class as a percentage of the sum of that artifact/class in levels 1-3. **Red line** and scale represent the artifact/class as a percentage of the total assemblage.
* Brick/Mortar and Coal/Clinker/Slag graphs in red are counts and those in blue are discarded field weights.

cheese factory and dairy apparatus such as tanks, racks, presses, scales etc, was assigned to the industrial class as were most hardware items. Sewer pipe was left in the architectural class although drainage systems are very important to the dairy industry. All metal plumbing items were classed as industrial because of the inability to separate the pipes and fittings associated with a water system with those associated with the industrial boiler system. The assignation of artifacts into the industrial class has tended toward the more liberal or inclusive and those into architectural and domestic classes more conservative.

Preliminary analyses provide an initial evaluation of the assemblage and gauge interpretive potential and utility. Piles of brush, masonry rubble, and litter on the site surface suggested some possible impacts to the archaeological deposits. Limestone blocks were scattered throughout and embedded in this debris. As previously noted, portions of the masonry had been toppled in multiple directions. An artifact class, a specific artifact type, and a single artifact were used to evaluate vertical mixing at the site. Nearly all of the items that can be considered modern or recent were recovered from the top level of the site with a very small percentage in the second level (Tables 5 and 6, Figure 26). Figure 26 shows this is the case whether being evaluated relative to all artifacts in each level or when relative to the sum of modern items. This suggests that modern impacts are

limited to the surface level. It is assumed that melted glass in the assemblage is associated with the 1891 cheese factory fire. Tables 5 and 7 show the greatest amount of melted glass was found in the second level. Very small amounts were found beneath this level but much larger quantities had blended into the upper level. The pattern is true for the percentage of melted glass versus all artifacts in that level as well as the percentage of total melted glass in levels 1-3 (Figure 26). Lastly, a single agateware doorknob was found with fragments in all three levels in TU 12. All the pieces refit but nearly a half remains missing. Other artifact classes and types demonstrate a strong presence in the upper two levels but given their general lack of temporal and functional specificity, it is difficult to use them to evaluate vertical stability. The data might suggest that any further artifactual analysis of the creamery should not include the upper level. Unfortunately, level 1 contains over half of the site's artifacts as well as the majority of industrial classed artifacts at the site and eliminating that level's artifacts from consideration would severely limit any spatial or functional analysis. It remains plausible that spatial analysis may discern meaningful patterning regardless of vertical disturbances.

Any potential research questions regarding worker's conditions, gender, and the everyday life of the cheese factory worker requires an assemblage that can be linked to the individual. Personal items represent less than 1 % of the assemblage (Table 6). Bullets/cartridges constitute 22 of the 31 items in the class and these 22 cal. and 32 cal. cartridges likely represent post-abandonment activities. Clothing items include two milk glass and one shell buttons, possible metal clothing snap, and a metal pin (Photo 19). One of the milk glass buttons was a small loop style button from a cuff, collar, or women's shoe. These items were found widely distributed horizontally and vertically. Two tobacco pipes were also recovered that were widely distributed. The paucity of these artifacts is striking. Other domestic classed items that may perhaps be considered personal include the crockery, bottles, and cans, a meat can key, cut bone (2), unidentified or unmodified bone (57), and clam shells (26). The clam shells, possible food items, were broadly distributed. Non sewer pipe stoneware is limited to five proveniences with the majority coming from TU 10 levels 1 and 2 with many specimens in these levels coming from the same vessel. Several pieces in Trench 13 may represent a deep rimmed lid like those on water coolers.

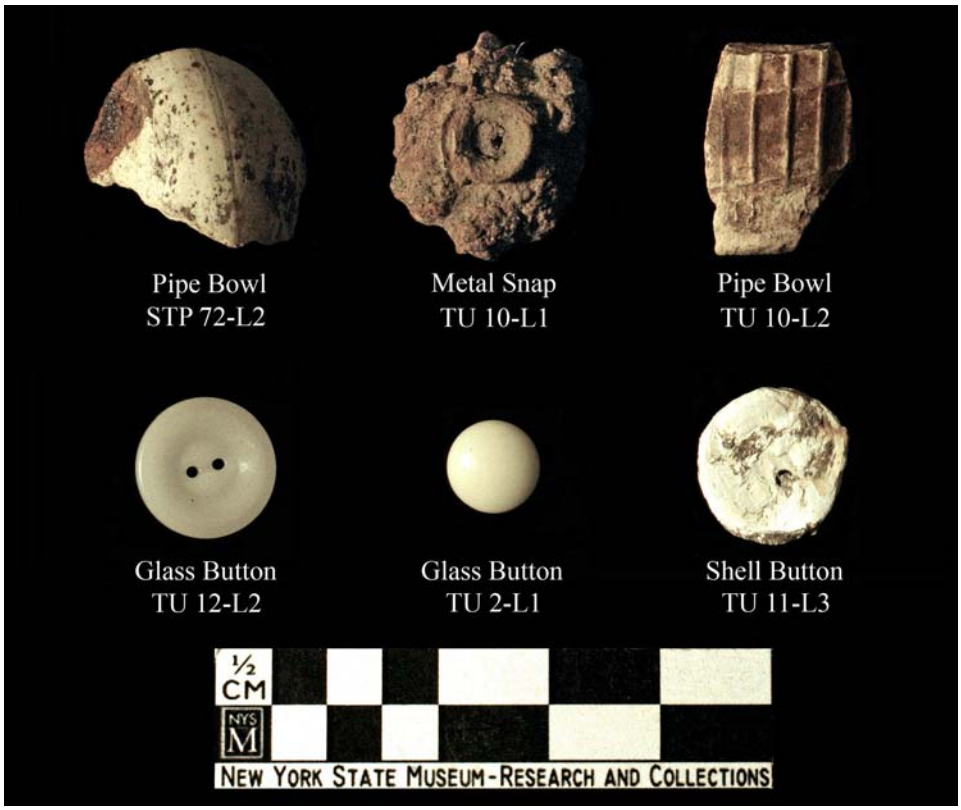

Photo 19. Personal artifacts: buttons/pipes

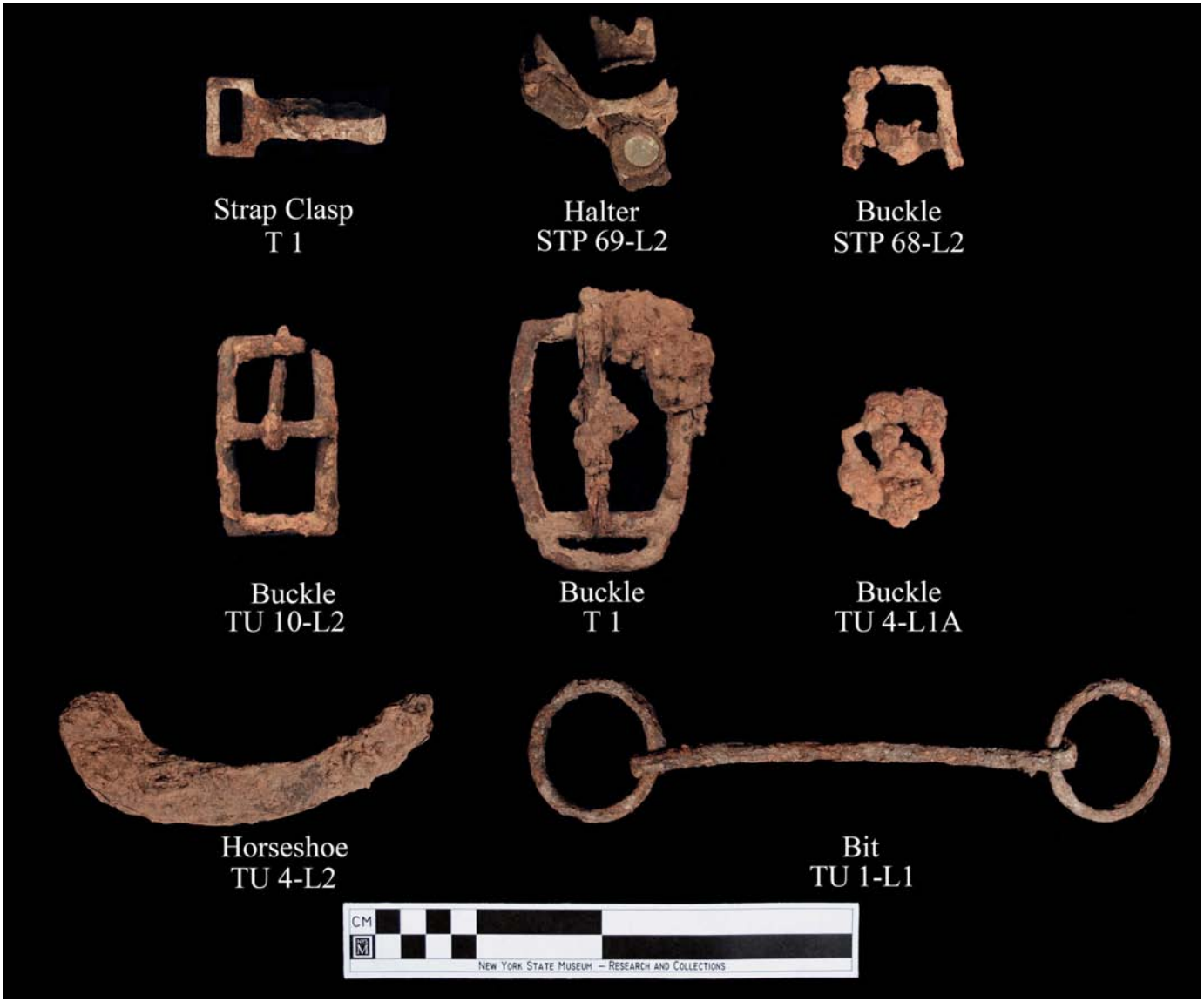

Photo 20. Transportation Artifacts.

A closer look at the architectural class of artifacts reveals some interesting patterns. The ratio of machine cut nails to wire nails approaches 1.3/1 in the upper level. Level 2 has a ratio of around 3/1 and level 3 is 8/1. This might suggest that the upper level deposits are comprised of post occupational refuse dumping, late modifications, or the post-1891 building. Similarly, artifact types such as tarpaper, roofing materials, flashing, and staples are limited to or are concentrated in level 1, supporting the various options of dumping, late modifications, the post-1891 building, or the demolition/dismantling of that structure. Window glass is also found in the greatest quantities in level 1. Notably, the brick and mortar weighed at the site was also very strongly represented in level 1 (211 lbs, 88%), with lesser amounts in levels 2 (28 lbs, 12%) and 3 (1 lb, <1%). Some of this brick was firebrick associated with the boiler but the vast majority was either chimney debris from the factory or was contributed to the site through dumping. The nail assemblage was notable for the lack of smaller sized nails or lath nails. This, and the paucity of plaster, suggests that the building was not plastered, contrary to published recommendations (Wight 1871). These remains would be present even if the structural lumber had been salvaged.

Artifacts in the transportation class were minimal but included a horseshoe, horseshoe nails (3), buckles (5), leather straps and rings from a halter (5), and a bit (Photo 20).

Ideally, the industrial class of artifacts would include

numerous examples of functionally specific artifacts. Unfortunately, the various historic activities at this site – cheese making, butter making, possibly milk condensing, and gate manufacture – may share numerous generalized artifacts, materials, and tools. For example, milk cans, vats, piping, testing glassware, and a boiler system would be used to produce all of the various dairy products. Generic tools like knives, files, saws, etc. might be found in workshops of the dairy industries as well as gate manufacturing. Further, the differentiation of different sub-functions, processes, or activity areas for each product may also be complicated by artifacts that would function in multiple areas (Table 8). Despite these difficulties, it may be useful to look at the industrial class artifacts in the assemblage in terms of tool associations and specific functions.

The assemblage includes very few industry specific artifacts and even the most unique items could arguably be found associated with other occupations. Excavations produced three pieces of a beam balance scale including a calibrated beam section, a complete beam including the framework for a pan and a hook for weights at the opposite end, and a single counter weight (Photo 21, Figure 27). A thermometer plate and several segments of thermometer glass were also recovered (Photo 22, Figure 28). The Deansboro thermometer plate is better matched with one illustrated in the 1897 Sears and Roebuck Catalog (Sears, Roebuck & Co. 1968:470). That plate is listed as 10 inches long, having a value of $.25, and its lettering reads "FREEZ" and "ING" and "CHURN" and "ING". Cheese manufacture and butter making required various kinds of laboratory glass such as salometers, hydrometers, and lactometers to test incoming milk and to make measurements during the cooking process. Our excavations produced leaded (n=43) and unleaded lab glass (n=86) specimens. Several were graduated or marked with painted or etched lines and numbers and others had rounded bases like test tubes (Photo 23). One of the larger hardware items found in TU 9 level 2 matches an illustration in Willard (1872) of a weigh can gate handle (Photo 24 and Figure 29). This item would have been found on the receiving platform of the factory. Beyond these few items, the confidence level for associations to the dairy industry and specific stages of the process decreases.

Metal sheeting (121) at the site is assumed to represent vat linings and transfer troughs. Thin and thick varieties were noted but admittedly, several smaller pieces may actually represent can fragments. The vast majority of the fragments are less than 2.5 x 2.5 cm (1 x 1 in) in size. One unidentified object may represent a vat drain plug or valve. Layers of sheet metal sandwiched between heavier collars may represent a drain gasket and a control plug. The heavy wire post and loop

Table 8. Industrial Artifact Associations with Cheese Manufacture Process Stage.

Receiving/Testing	Cooking/Curd Draining	Pressing	Curing/Storage	Boiler/Heat/Power
Metal sheeting (cans,transferring pipes)	Metal sheeting (vats, transferring pipes)			
Metal handles (milk cans)	Metal handles (milk cans)			
Weigh can gate handle				
	Vat drain hardware			
Testing/lab glass	Testing/lab glass			
Thermometer	Thermometer			
Scales	Scales			
Bolts, screws, rods, and brackets (wooden framework)	Bolts, screws, rods, and brackets (wooden framework)	Bolts, screws, rods, and brackets (wooden framework)	Bolts, screws, rods, and brackets (wooden framework)	Bolts, screws, rods, and brackets (wooden framework)
Bottles/crockery	Bottles/crockery			
	Pipes and pipe fittings (heat from boiler)			Pipes and pipe fittings (heat from boiler)
H20 source	H20 source			H20 source
		Cloth/gauze	Cloth/gauze	
		Cutters/knives	Cutters/knives	
			Cheese trier	
				Brick
				Coal ash/slag/clinker
				Grate fins

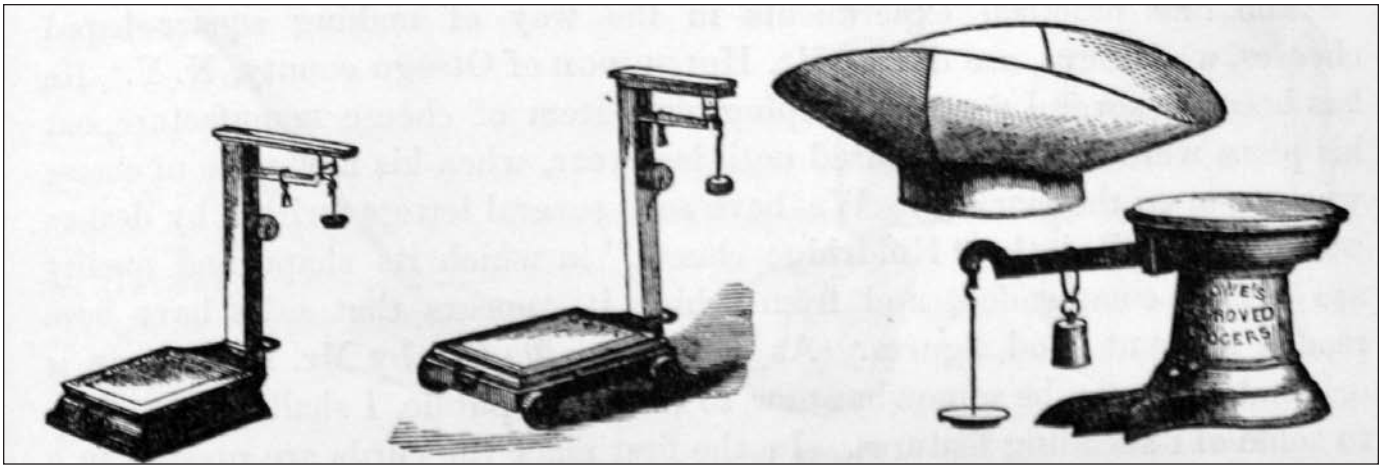

Figure 27. Representative Scales from Willard (1872).

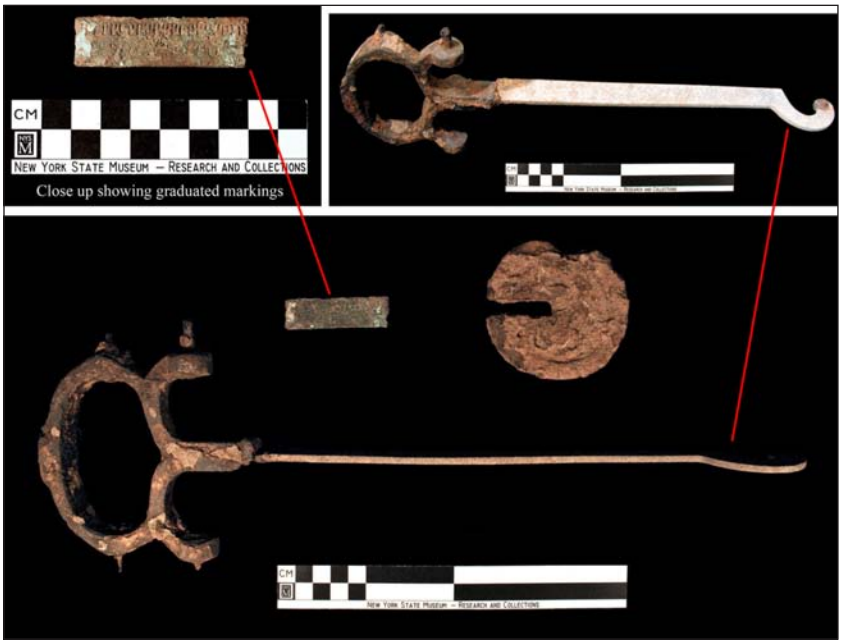

Photo 21. Scale fragments and counter weight.

extending from the center (attached to the now missing chain) would have allowed releasing the drain when the vat was full (Photo 25). A possible metal handle and another folded, crimped, metal handle may represent a milk can or large metal pitcher.

Thirteen pieces or fragments of cloth were recovered. Nine of these were burned and directly associated with the burned wall or ceiling panel in TUs 5 and 9 (Photo 18). Four more were located in the same unit but a level below, unburned, and described as coarse cotton weave with a draw string attached. This suggests a small storage sack. Otherwise, cloth or gauze was historically used in several ways. The material may have been used to line walls and ceilings to cut back on dust and dirt in the air and its direct association with the burned panel argues for that function. It is also possible the cloth represents wrapping or "bandage" material for pressed cheese.

Other items potentially associated with cheese manufacture include knives and a possible specialized cutter. One knife, found in TU 9 level 1, was made of iron, is highly corroded, and measures 13.3 cm (5.25 in) long and 2.5 cm (1 in.) wide with a single edge. Two other possible knife blade fragments were listed as unidentified iron and steel and recovered in TUs 5 and 10. The former measured 5 x 3.2 x .6 cm (2 x 1 ¼ x ¼ in) with a single edge along the long axis and the latter measured

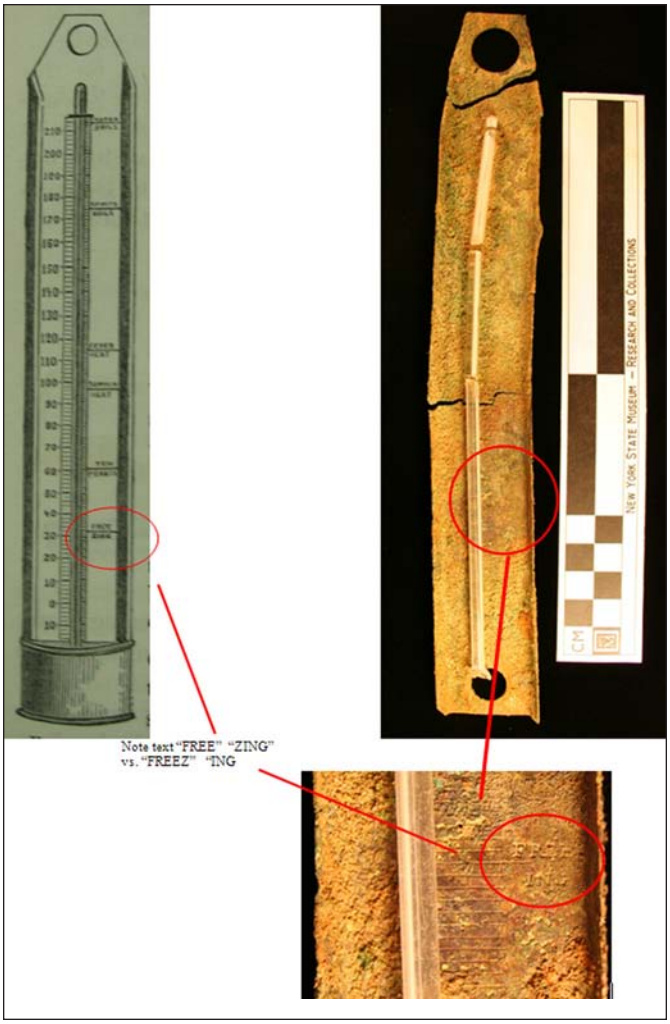

Photo 22. Thermometer Glass and Metal Plate Backing. Above right, close up showing graduated markings

Figure 28. Thermometer illustrated in Willard's *Practical Dairy Husbandry* (1872).

8.3 x 1.3 x .48 cm (3.25 x ½ x 3/16 in) with a rounded tang. One very interesting artifact, also recovered in TU 1, is a small unidentified tool that may be a specialized cutter. One end is rounded like it is a tang that fits into a handle. This shaft becomes triangular at its midsection. The shaft bends or curves toward a pointed tip. Extending down from this elbow along the same alignment as the main shaft is a short, thin, double edged blade. A flat facet of the triangular bent section opposes the blade and may have acted as a depth guide (Photo 26). Another specialized small tool or component was recovered from STP 68 level 2. Heavily corroded, this item is a tapered, hollow shaft or tube with a gap or void in the side. The tapered end is plugged with a

Photo 23. Laboratory Glassware.

Photo 24. Weigh Can Gate Handle.

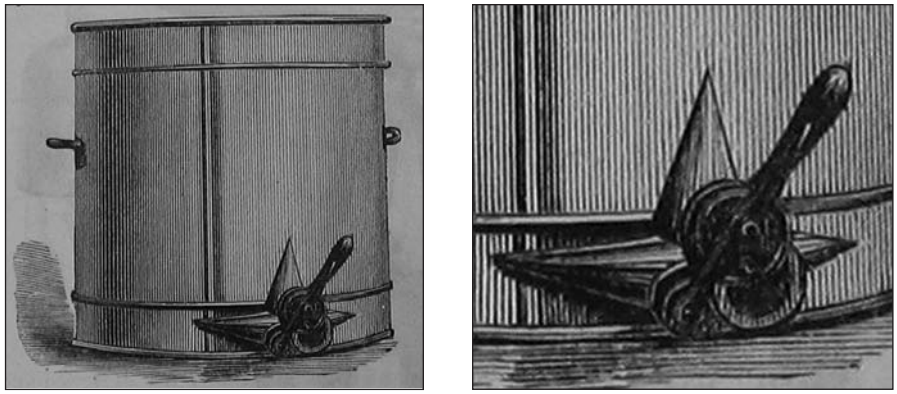

Figure 29. Weigh Can and Gate Handle illustrated in Willard's *Practical Dairy Husbandry* (1872).

Photo 25. Possible Vat Drain (left) and Valve (above).

cylindrical insert of different material (Photo 26). Although the identification is highly tentative, this item may represent a cheese trier, a sampling tool that extracts a small tube of cheese from the core of a curing wheel of cheese.

As noted in Table 8, bolts (33), screws (20), rods (6), and brackets (9) would be expected in all of the various functional areas of the dairy industry. Many of the bolts are of larger diameter and lengths, dome-headed or carriage style, and over a third remain connected to washers and nuts. Over half of the screws are larger sized lag screws. Half of the metal rods are partially threaded

Photo 26. Specialized Cutter ? (top) and Cheese Trier ? (bottom).

with nuts attached. The brackets are widely varied yet there is one style that is repeated twice in this assemblage and has also been seen in the Phase I assemblage (Photo 27). A unique piece of hardware, a form of ball hinge was found in TU 9 level 1. A matching item was also found during Phase I shovel testing.

Pipe fragments (8), pipe fittings (6), and a circular pipe valve handle (2 ½ in diameter) may be part of the boiler system and/or the water system for the creamery. Although many of these items are found spread around the site there is a subtle concentration north of the boiler platform. All but one of the plumbing items is of iron with a single section of copper pipe (3/4 in OD). Four of the seven iron pipe segments were ¾ in OD, ½ in ID pipe with others ranging between ½ in and 1 1/8 in OD. The water line into the structure is 1 3/8 in OD. Pipe fittings range from 7/8 in (2) to 1 3/8 in (3) OD. The variability in sizes suggests a fairly complex system but the limited amount of plumbing materials and the shortness of the remaining pieces suggest the system was removed or scavenged.

Photo 27. Assorted bolts, brackets, and other hardware.

Photo 28. Boiler Grate Fins.

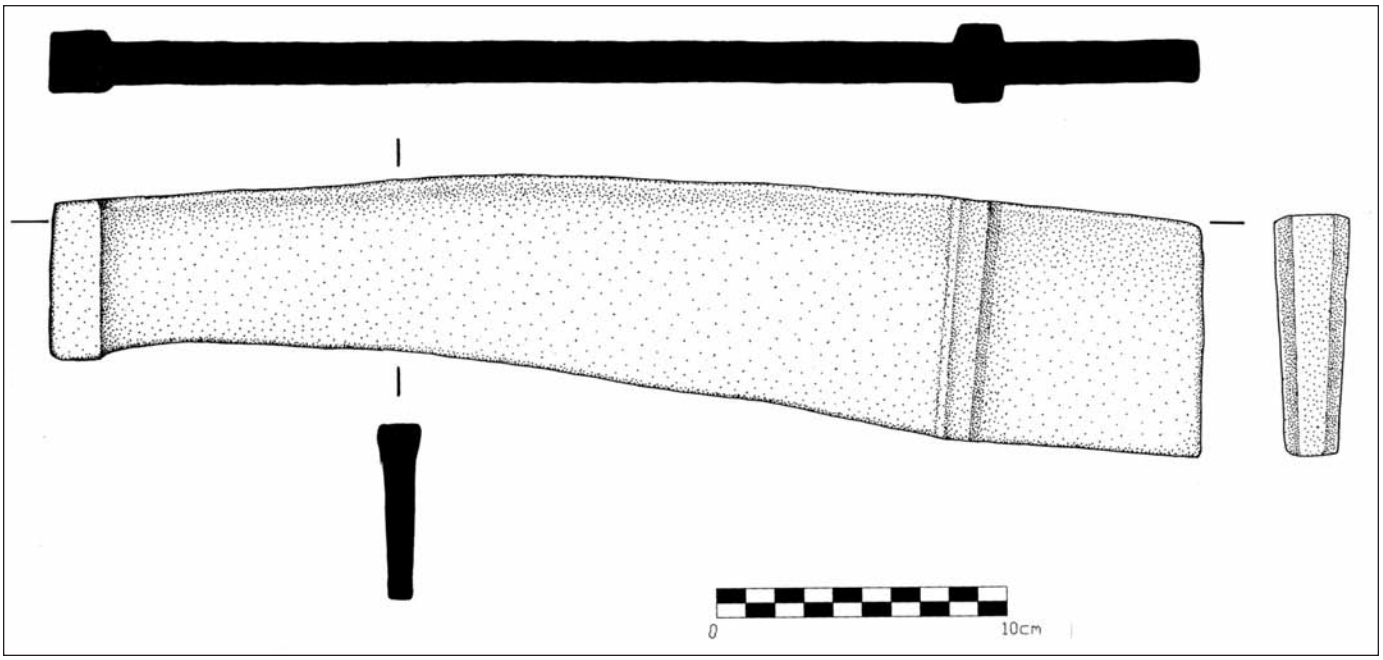

Figure 30. Composite drawing of Boiler Grate Fin.

Thirteen cast iron bars were interpreted as boiler grate fins (Photo 28, Figure 30). These iron objects have been warped and melted by excessive heat and heavily corroded. Fragments collectively could be described as flared and curved bars with a possible maximum length of 40 cm (15.7 in). The bars are 5.4 cm (2 1/8 in) wide at one end and reach a maximum of 8.3 cm (3 ¼ in) wide. No complete examples exist, therefore the opposite end width is not known. The bars are thicker along their top (convex) edge than the bottom (concave) edge and they also taper from the 5.4 cm wide end toward the other end. Two sets of raised or keyed bosses project from the

faces separated by 28-29 cm with one at the 5.4 cm end and the other at an intermediate point. The bosses are thicker at the top than the bottom and their widths tend to vary with some having parallel sides and others keyed like the thickness. Heat damage and flow patterns from slag suggest the convex edge was on top and the curve configuration suggests the fins sloped coal fuel toward the wider flared ends and the concentrated heat, perhaps as a self feeding feature. The bosses suggest the fins were manufactured to be removable or exchangeable components.

SITE STRUCTURE

The arrangement of masonry piers and historic mapping has provided the basic outline or footprint of the Deansboro Creamery. Unfortunately, the interior and exterior walls were not set on solid walls or footers as the segregation of processing areas or room function might have been facilitated. The masonry platform, oxidized soils, and a large volume of coal, coal ash, clinkers, and slag suggested the boiler had been built into the attached shed on the back of the building. Table 8 presented associations of artifacts related to various process stages at the creamery. The distributions of these associations may spatially isolate some of these processes within the creamery footprint and may also suggest other post-depositional processes at work on the site deposits.

The boiler and steam power system is illustrated by the distribution of coal, clinker, and slag by weight and the counts of boiler grate fins, cast iron stove parts, pipe segments, and pipe fittings (Figure 31). The boiler waste is strongly related to the shed, especially the north end of the shed and the areas outside. Given this evidence

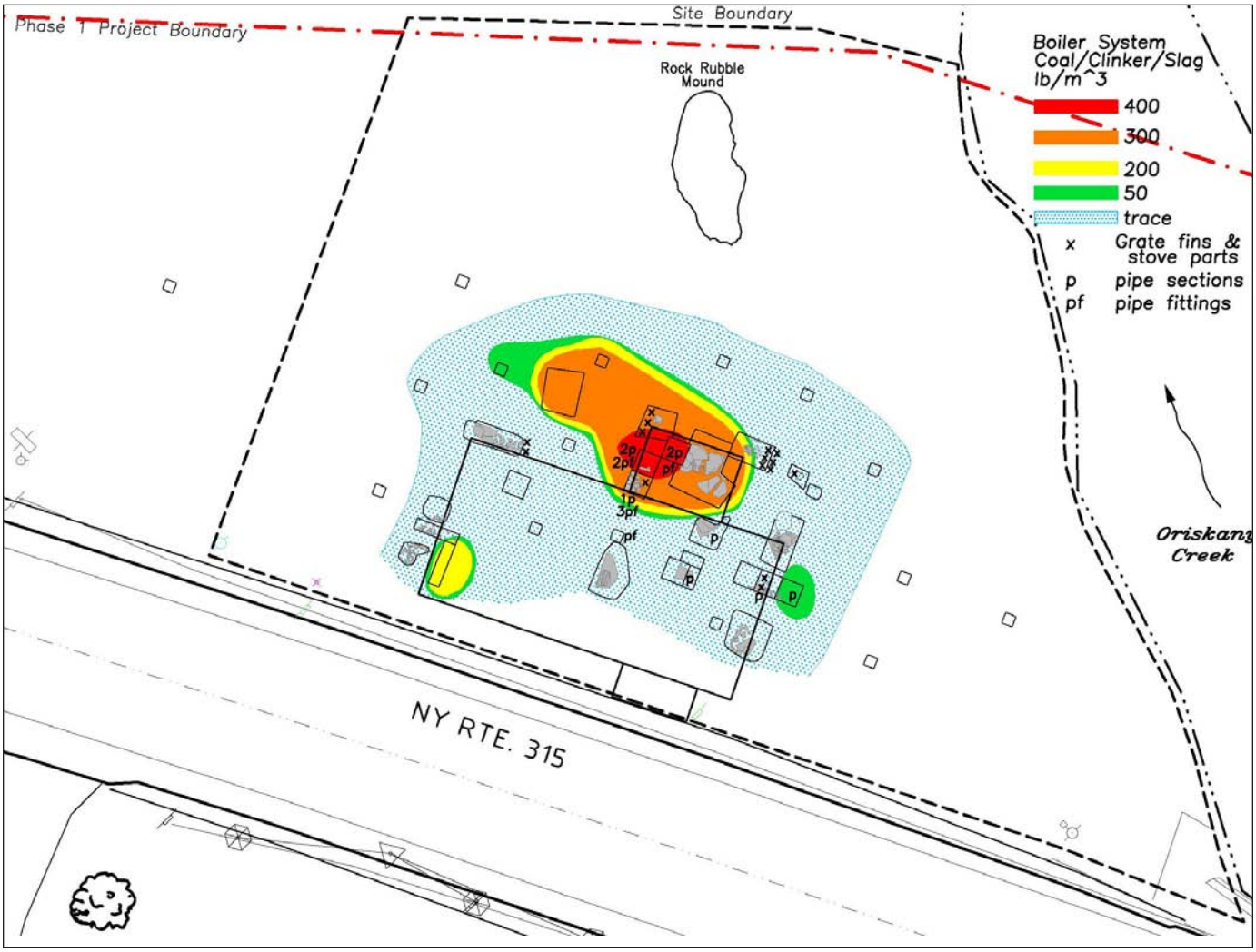

Figure 31. Distribution of Boiler System Artifacts.

and the position of the masonry platform within the shed, the door to the boiler fire box was likely at the north end and fuel deliveries and waste removal concentrated in this location. Six boiler grate fins were recovered from immediately south of the shed wall but others were found widely distributed. The condition of these artifacts suggests these replaceable parts had been discarded either to be replaced while the cheese factory functioned or came out of the boiler when it was salvaged. The wide distribution hints toward some form of horizontal disturbance. Pipes and pipe fittings were also found widely distributed around the southern half of the site with a subtle concentration of fittings along the north wall of the shed near the central back wall of the main building. This concentration of fittings, and the wide yet sparse distribution of pipes, and the very short lengths of those pipe fragments also suggest the system was removed or salvaged.

The artifact associations related to the processes of receiving and testing, milk heating, making curd, and draining curds are nearly the same. No boiler heat is needed in the first process at the factory and the requirements for vats and tanks would be greater for the cooking and draining process. As previously noted, the distribution of pipes and pipe fittings, possibly associated with the boiler system, is generally restricted to the southern half of the factory. Sheet metal, assumed to represent vat lining materials, is generally lightly distributed across the site with two loci of concentration along the north wall of the boiler shed and in TU 2 just south of the factory wall (Figure 32). The vat drain (Photo 25) was found in TU 2 as well. The gate handle (Photo 24), directly related to the delivery window operations, was recovered from TU 9, located near the north wall of the boiler shed. Two metal handles, possibly milk can or pitcher handles were found in TU 9 and

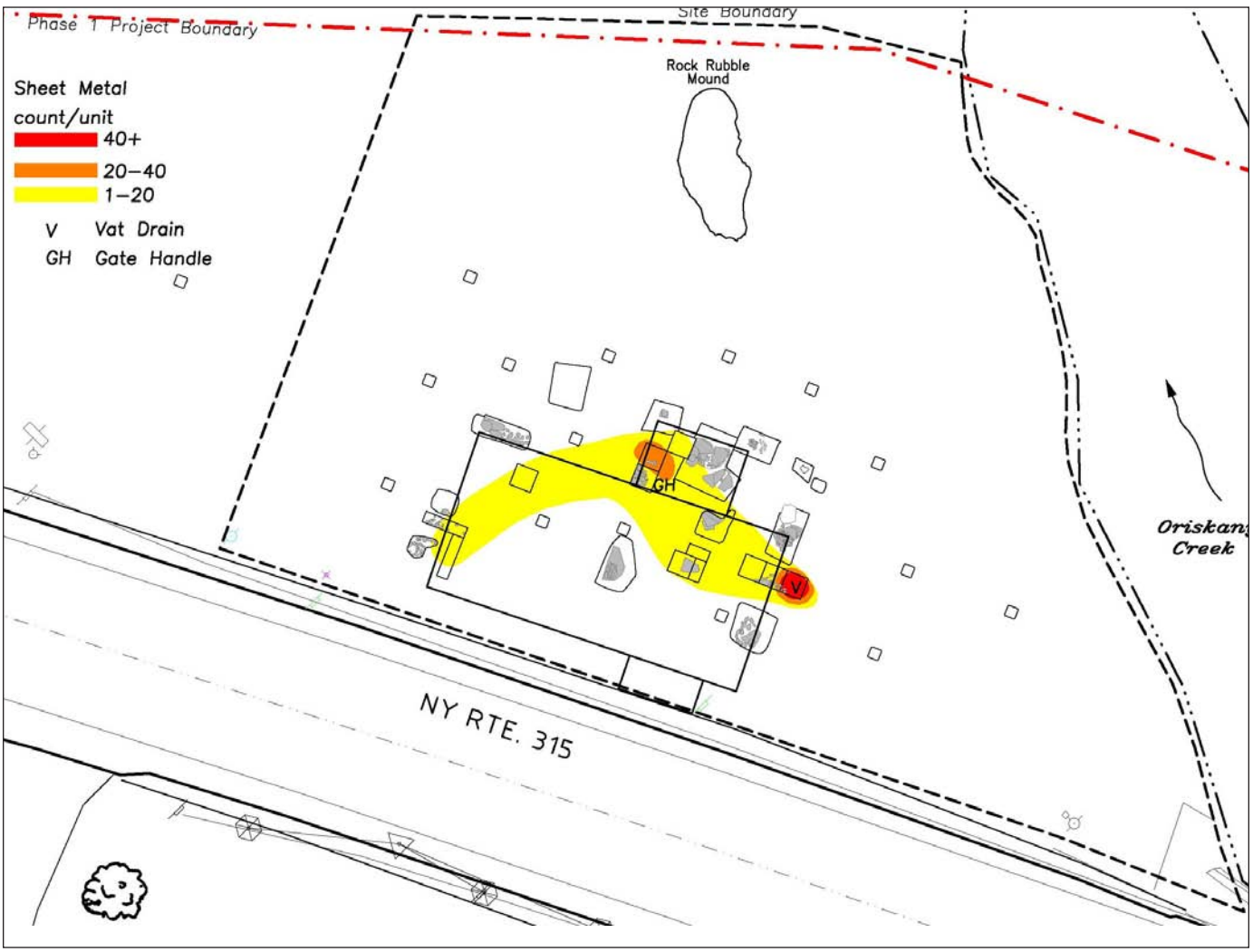

Figure 32. Distribution of Sheet Metal and Vat Hardware.

Figure 33. Distribution of Laboratory Glass, Thermometers, and Scale Fragments.

Trench 9. Laboratory glass was broadly distributed but concentrated along the north wall of the boiler shed and also near the southern wall of the factory, especially TU2 (Figure 33). Lab glass with etched calibrations is found in three locations, two in the "hot spots" already noted and a single specimen in the north central half of the factory. Thermometer glass and backing plate were limited to Units 6 and 12, in the central south half. Scale fragments are found in the southern third of the factory. Bottles and stoneware, plausibly used for ingredient storage in the process, were cursorily examined. Bottles, limited to specimens featuring bases, necks, lips, or other recognizable parts were found everywhere with a slight concentration at the northeast corner of the factory and again, along the north wall of the boiler shed. Stoneware was much more limited with the vast majority, representing two vessels, found in multiple levels of TU 10, in the central northern half of the factory. Lastly, the distribution of hardware, such as large bolts, carriage screws, rods, and brackets, assumed to be a part of all stages of the process, was indeed found broadly distributed with a concentration along the north wall of the boiler shed (Figure 34). Two of the brackets, matching in form and size, were found in widely disparate locations. A third example was found during Phase I in yet a third location.

Like the overlap of the receiving/testing and milk heating/curd processing processes, artifacts associated with pressing and curing and storage also are expected to co-occur. The distribution of hardware (Figure 34) should be considered with the addition of the cloth recovered from TU 5 and the special cutter and knife blades found in TUs 1, 5, and 9.

Except for a few individual items or types, nearly all the associations are found to concentrate in the same locations, along the north end of the boiler shed and along the southern wall of the factory. The miscellaneous small tools are also found in these locations.

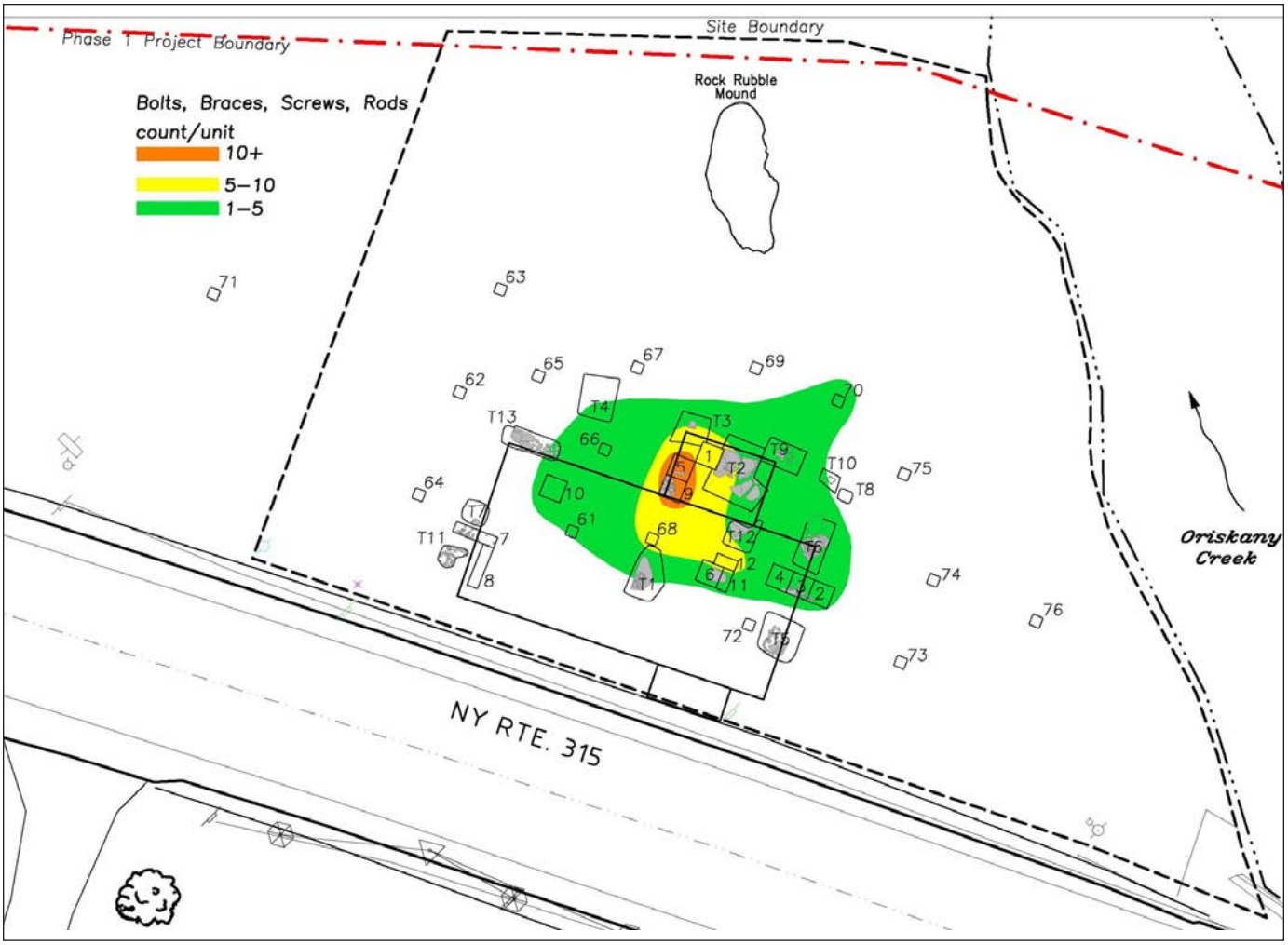

Figure 34. Distribution of Bolts, Screws, Rods, and Brackets.

The distribution of architectural artifacts such as nails (Figure 35) and flat glass (Figure 36) mimic the other artifact distributions in some ways but differ slightly. Nails are concentrated along the southern wall of the factory and along the northern wall of the boiler shed but are also concentrated in TU 10 in the north half of the factory. The flat glass concentrations are along the southern wall and in the northern half but not at the boiler shed.

Taken together, the distributions do not appear to be defining activity areas but perhaps post-depositional processes related to demolition and clean up. One might assume the concentration of broken glass and nails to be the result of accumulated architectural materials. The concentration of all artifacts and material classes in several nodes suggests the entire operation was pushed into several piles. Melted glass has a broad distribution, but it should be noted that 60% of the site's total was recovered from TU 4, inside the southern factory wall. The diversity of artifact types across the site is shown in Figure 37. The greatest diversity is found in the same locations – the north edge of the boiler shed and the southern wall of the factory. The accumulation of mixed materials and debris into several piles may have occurred several times but, as has been shown when looking at the vertical distribution of artifacts we can not definitively distinguish the debris associated with the 1891 fire from the assumed demolition around 1929.

The distribution of bricks, brick fragments, and mortar was found to be concentrated along an axis extending from the north wall of the shed where it meets with the factory toward the northeast (Figure 38). According to historic photographs, the brick chimney was located in the north central half of the factory (Figure 13). The distribution of the brick suggests the chimney collapsed or was pushed eastward and away from the structure.

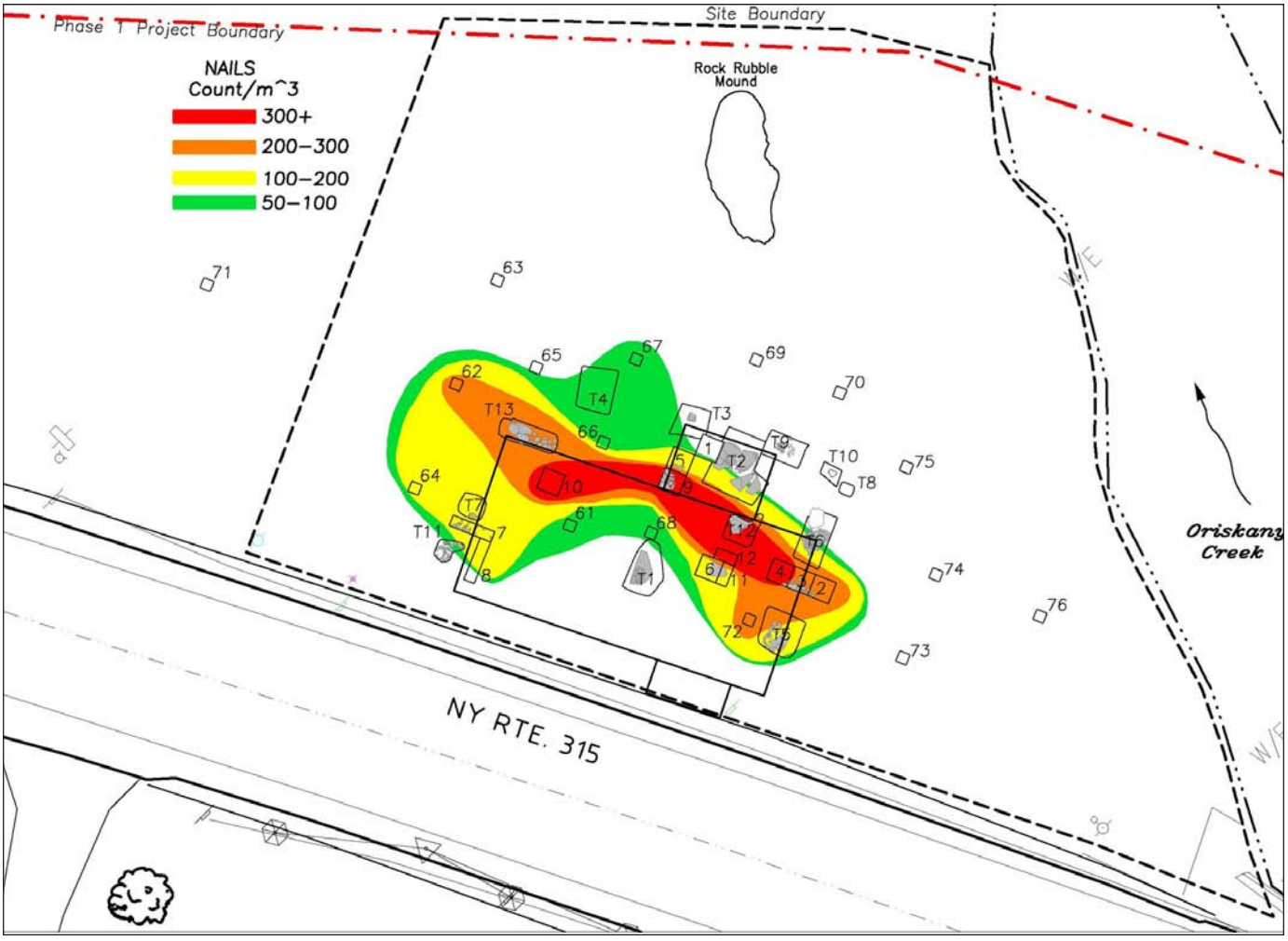

Figure 35. Distribution of Nails.

INTEGRITY

Various agents and events have negatively impacted the artifacts and features at the Deansboro Creamery. To varying extents, these impacts restrict the range of research questions that are potentially addressed from the perspective of this site.

Historic changes in the fluvial geomorphology of Oriskany Creek have affected the condition and preservation of some artifact classes. Earthmoving activities and channelization upstream has caused aggradations of the streambed and concurrent raising of the water table. This raised water table has likely preserved some of the deeply buried wood in an anaerobic environment. Several wood chips were perfectly preserved in the water line trench as was a slice of tongue and groove decking or siding lumber. Unfortunately, iron artifacts have been perched at a transitional boundary repeatedly subjected to wetting and drying. This maximized exposure to water and oxygen accelerates corrosion and creates some of the worst possible conditions for preserving iron artifacts. Larger artifacts are heavily corroded and very difficult to clean. Smaller iron artifacts such as nails are reduced to elongated lumps. Thin or very small iron artifacts are reduced to oxidized stains and unrecognizable lumps. The same conditions of wetting and drying would also be extremely deleterious to any remnants of wood or lumber from the factory superstructure. The 1891 fire and any other subsequent fire have negatively impacted the glass artifacts at the site by melting many into unrecognizable blobs. In some areas, such as near TUs 1, 5, and 9, artifactual materials were brought to the lab as fused consolidated masses of some combination of corroded metal, melted glass, charcoal, brick, and coal.

Several phases of post-depositional impacts have been generally documented at this site but many of the observed phenomena can not be directly attributed to

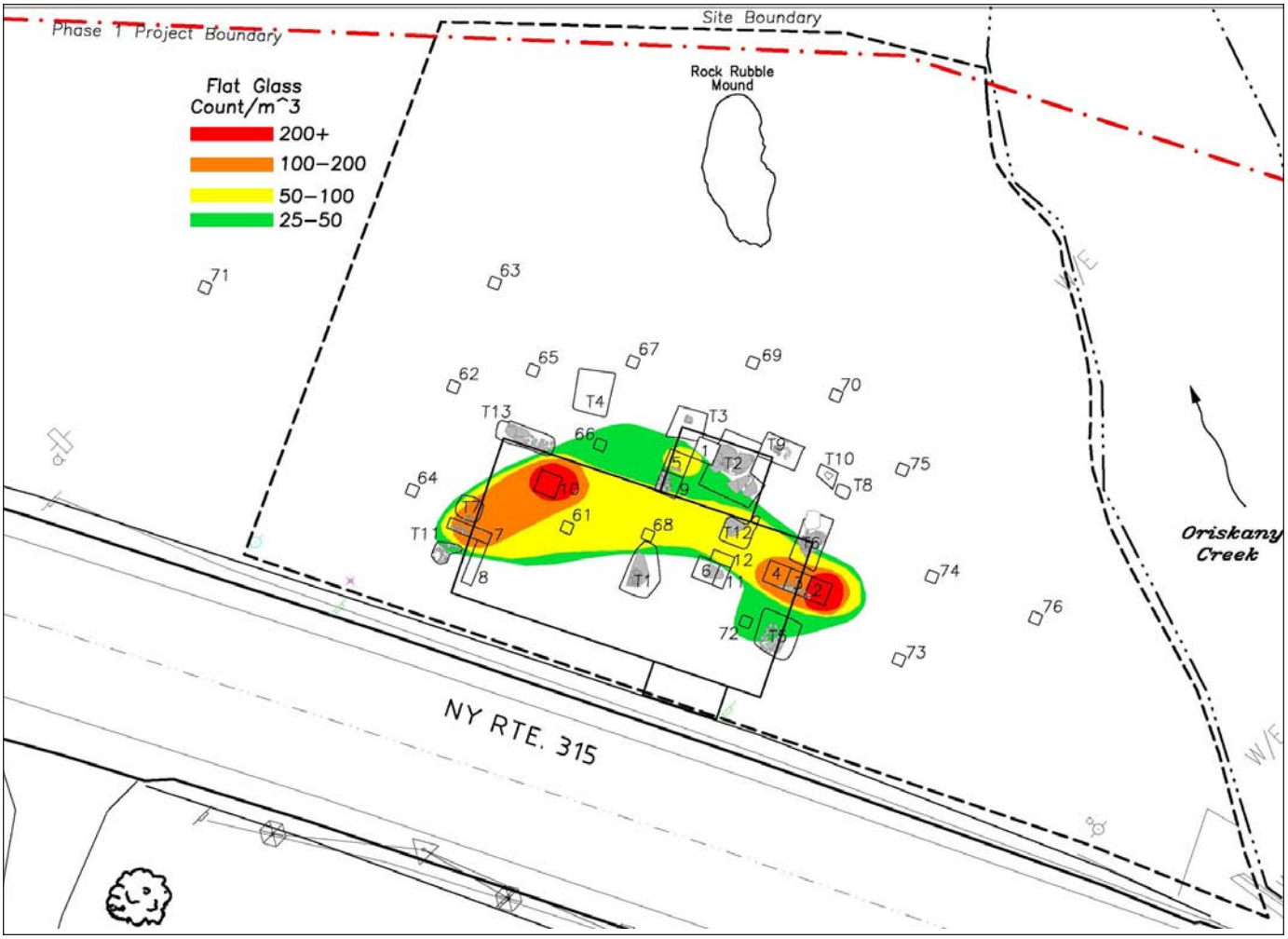

Figure 36. Distribution of Window Glass.

any event. The surface of the site was capped with multiple piles of masonry rubble and piles of soil, stumps, trees, and brush blended with litter and trash. Numerous loose limestone blocks were observed in these piles, lying scattered about the surface, and on the highway embankment. Pier 7 was apparently tipped by the growth of a tree at the base of the highway embankment. Several other masonry piers were toppled in varying directions and several were found with their upper courses clipped off and turned upside down. The highway and bridge were rebuilt around 1929, expanding the road width and raising the embankment for the bridge approach. This work doubtlessly impacted the structure. The road bed and embankment now covers approximately the western third of the structure footprint. The stratigraphy in TU 8 shows the fill used to raise the highway but it also shows an indistinct boundary at the base of this fill at the contact with the 1929 surface suggesting some grading and scraping. Pier 9 is a relatively dispersed area of rounded cobbles at an elevation above the sub base cobbles seen underlying other piers. It was interpreted as either a disturbed pier base or the sub base for highway construction as the cobble size matched the 1929 specifications. It is impossible to determine if the disturbances to the masonry piers are related to the razing of the structure, the 1929 highway construction, or refuse disposal in the last several decades.

Artifacts and artifact classes were found to be vertically and horizontally mixed. Modern debris is largely confined to the upper level, however melted glass was found in all three levels. If assumed to be related to the 1891 fire then the glass has been churned throughout the site strata. Alternatively, the melted glass is the result of multiple fires. Unfortunately, distinct multiple fires were not discerned during these investigations. Laboratory glass was also recovered from multiple levels. Here again, this glass could be related to the

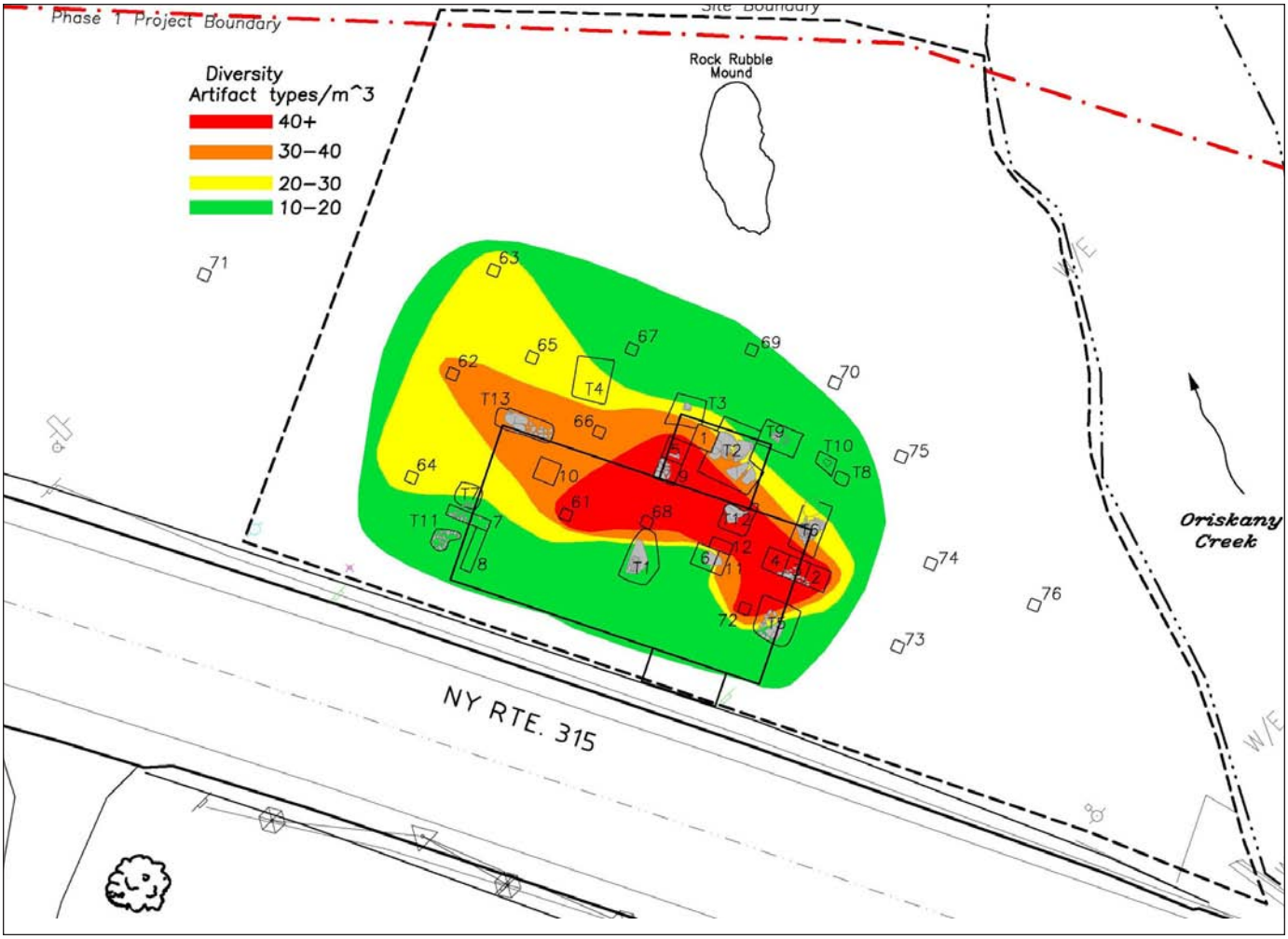

Figure 37. Artifact Diversity.

pre-1891 cheese factory operations alone or could plausibly represent both pre- and post-fire operations. Again, there were no observable separations. Both 32 and 22 cal. cartridges and bullets were recovered from three levels in the southern end of the factory. It is difficult to imagine indoor gunplay was a recurring event in the creamery therefore it likely represents the vertical mixing of artifacts associated with a single event. Lastly, fragments from a single agateware doorknob were recovered from three separate levels in TU 12. Once refit, the doorknob was still only half complete. The distribution of this doorknob argues for considerable vertical mixing prior to the last several decades and incorporation of modern items into the near surface level. It may also argue that the lab glass and the melted glass could plausibly be from the single 1891 event.

As presented in the site structure section, the distributions of artifacts and artifact associations clearly identified the boiler shed and related system. The position of the collapsed chimney was also defined. Vague and generalized patterns of functional areas were isolated when looking at larger artifact groupings. For example, receiving and cooking operations probably occurred in the southern half of the building, a pattern predictable on the basis of the historic record. However, a closer look revealed recurring and overlapping concentrations of these functional artifact associations and these concentrations were found to co-occur with architecturally related artifacts such as nails and window glass. A simple count of artifact diversity in each excavation unit found the greatest number of artifact types in these same "hot spots". Sixty percent of the melted glass at the site was found in TU 4, just inside the south wall of the factory. We could assume that all activities overlapped in space or, perhaps more plausibly, that these concentrations represent debris piles from the 1891 fire or the 1929 demolition of the building or both. Further refining our assessment of horizontal mixing, the distri-

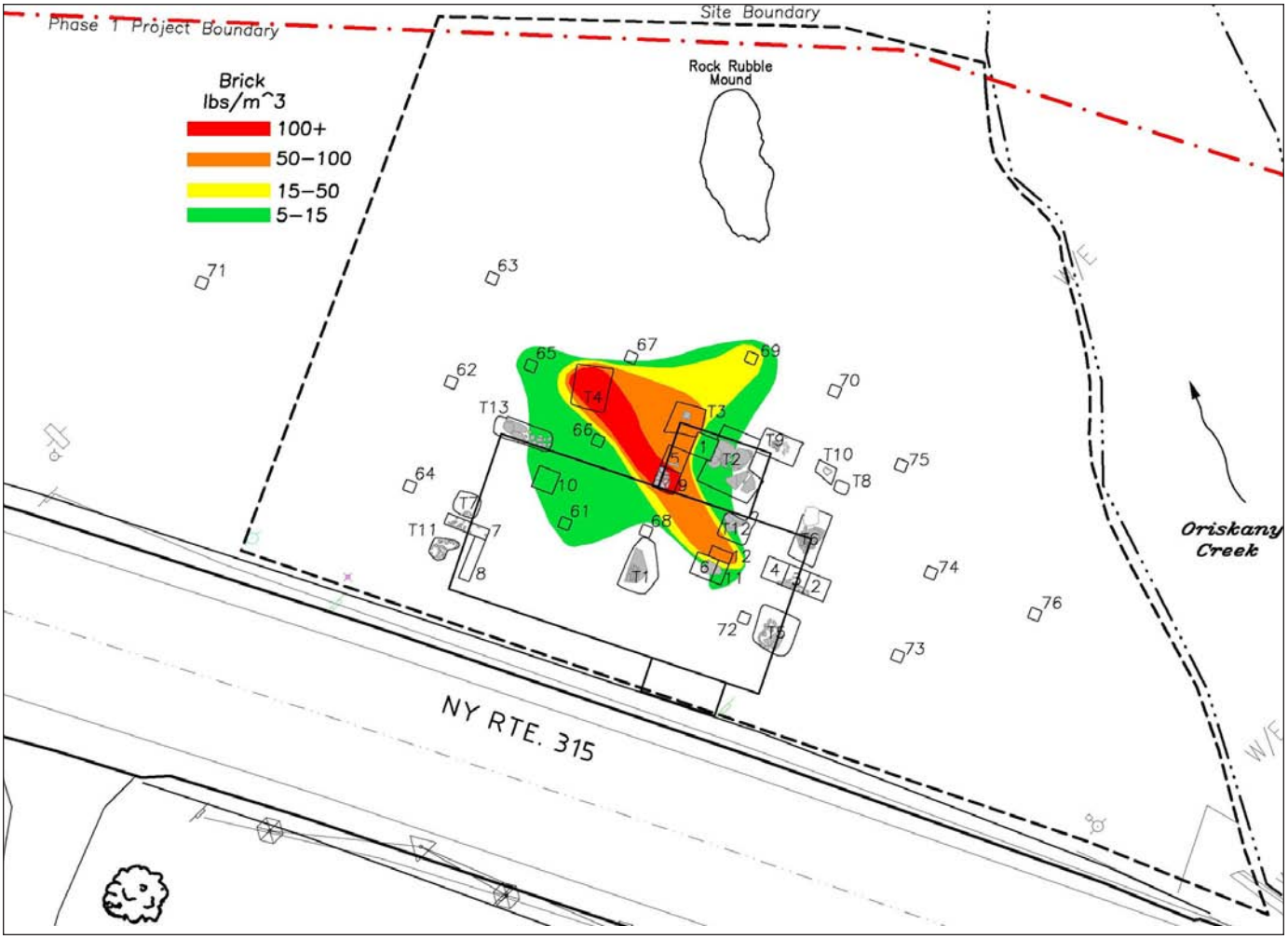

Figure 38. Distribution of Brick, Brick Fragments, and Mortar.

bution of matched items suggests some generalized smearing. Several identical cast iron brackets were recovered from STP 70 and TU 2. A third identical bracket was recovered from a Phase I STP just north of TUs 5 and 9. Assumed to be part of the same piece of machinery these are separated by approximately 8 m (26 ft). Likewise, shards of curved red glass, possibly part of a light globe or a "fire retardant bomb" were recovered from Trench 10 as well as TUs 2 and 3. Calibrated laboratory glass would be expected to be found at or near the delivery window or in areas used for heating the milk and processing curds. Its distribution was much wider. The weigh can gate handle was located near the north wall of the boiler shed. This artifact should have been positioned near the receiving window now under Route 315.

Plumbing related artifacts were limited to several burned out boiler grate fins; noticeably absent were significant lengths of pipes and pipe fittings. The paucity of plumbing related artifacts suggests that much of the boiler system had been salvaged at some point.

Based on historical records we know or can assume that the factory building was built around 1886 and cheese and butter were made until 1891 when the entire operation was totally destroyed by fire. The factory was rebuilt and made cheese, butter, and possibly condensed milk until at least 1902. The company dissolved in 1911 and one might assume had systematically liquidated any machinery and equipment by that date. The structure was used for a gate manufactory and as a storage building but noted in a dilapidated condition during the 1920s. There is no recollection of what happened to the structure but a 1929 road construction plan shows the "old factory". It is likely the remaining building was salvaged or simply demolished at that time. Subsequently the lot was used to dispose of various refuse. Archaeological investigations have revealed much about the initial development of the property and

the construction of the masonry piers. Unfortunately, various events and post-depositional processes have negatively impacted the deposit's integrity thereby limiting our ability to isolate functional activity areas and largely preventing chronological discrimination of events.

INTERPRETATION

The Deansboro Creamery Co. site (NYSM 12220, A06514.000044) was interpreted as a deposit of primarily historic late nineteenth and early twentieth century industrial and architectural debris with a small amount of domestic debris associated with a stone masonry footer or piling and stone paved foundation slab that likely represented a late nineteenth - early twentieth century creamery or cheese factory (Staley and LoRusso 2009). These subsequent investigations have largely corroborated that general interpretation and have added additional details.

The precise date of construction is not known through historical or archaeological evidence but it is likely the structure was built in 1886 or 1887. Site stratigraphy indicates this low lying parcel of land was cleared, with much of the brush and trees used to fill the lowest swales. This roughly flattened area was capped with smaller brush, bark, and possibly rough lumber to create a relatively dry working surface. A trench was excavated and a water pipe laid from a spring on the west side of Route 315 to the building site. The destination for this pipe line was ultimately the eastern wall of the factory. A wooden plank was used to roughly mark the building orientation, layout of central piers, and grade for the building. Clean fill was brought in to raise the site elevation and cover the organic debris and the board lay out marker. Construction proceeded with the excavation of pits at the locations of primary and secondary piers. With minor variations, a sub foundation of rounded cobbles and occasional brick and whitewashed cobble filled most of these pits followed by several courses of unmortared limestone rock. These piers, based on undisturbed examples at the site were all built precisely level, spaced 11-12 ft (3.4-3.7 m) apart between main beams and 8 ft (2.4 m) between supports along a beam. They outline a 24 x 48 ft (7.3 x 14.6 m) building with an attached 10 x 14 ft (3 x 4.3 m) shed on the back. Smaller piers were used to support the shed, which rested at a lower elevation than the factory floor. Inside this shed outline, a masonry platform was built using the same techniques as the piers.

Knowledge of this superstructure is limited. Due to the inability to separate the early structure from the later structure, the architectural artifacts present could be associated with either building. A small fragment of tongue and groove lumber in the water trench hints that the floor or the siding of the initial building consisted of 1 in thick lumber. Beyond that artifact, all others describe a composite building. The presence of window glass and window hardware suggests multiple windows and that the windows were equipped with blinds. Metal flashing and other items provide only a faint picture of the roof. The absence of plaster or lath nails indicate neither structure had plastered walls or ceilings.

The first factory building was totally destroyed by a fire in 1891. Historic records tell us that the creamery had been under the ownership of at least two individuals and was managed by a third during this period. Documents also suggest the lot was resold and either the new individual or the corporate owner rebuilt the factory within the year and was producing cheese by 1892. There is no evidence the facility was rebuilt anywhere except on the 1886 piers. The best evidence related to the post-1891 structure comes from the historic maps of the building and also the historic photographs. Archaeologically, it is interesting to find the ratio of machine cut nails to wire nails ranging from 8/1 in the lowest levels up to 1.3/1 in the upper level, a pattern one might expect with construction dates of 1886 and 1891. However, the distribution of other artifacts may suggest that this phenomenon is coincidental.

The incorporated company, the Deansville Cheese, Butter, and Condensed Milk Factory, produced cheese, butter, and possibly evaporated milk up until at least 1902. The cultural deposits at the site include several items that are directly associated with the dairy industry but unfortunately might be used for any of the products. The deposits at the Deansboro Creamery Co. site include fragments of weighing scales, dairy thermometers, laboratory glassware, and a weigh can gate handle. The distribution of boiler related artifacts strongly suggests the separate shed was successful in keeping boiler wastes from the cheese manufacturing space. The distribution of various other artifacts and artifact classes suggest a general association with the receiving/weighing and cooking processes in the southern half of the building. More precise segregation of activity or process areas or chronological separation is not possible.

The last documented production at the factory was 1902 but the Deansville Cheese, Butter, and Condensed Milk Factory finalized the sale of the property in 1911. One might assume that the company had systematically dismantled and liquidated its equipment during this period. The property was later reused as a gate factory and as a storehouse. The boiler may have remained with the building during this phase. The boiler and the majority of piping were removed from the building at

some point. After several years the building was left abandoned and by the 1920s was in a dilapidated condition. Perhaps this is when firearms were discharged in the building. The 1929 construction plans for Route 315 illustrated the "old factory" but there is no local recollection of what happened to the structure. Archaeological evidence suggests that the building may have been demolished and pushed westward away from the roadway. Pier 9 may represent a disturbed pier or a lobe of specified sub base material. A very indistinct boundary at the base of road fills in TU 8 hints that the right of way had been graded as a preliminary step in the construction. The distribution of artifacts and a measure of artifact diversity suggest that the debris may have been pushed into piles and left to decay. The concentration of melted glass in TU 4 might mean that one of the piles was burned. Again, it is impossible to separate the 1891 fire and subsequent clean up from subsequent events. The distribution of brick fragments and mortar supports the westward collapse of the chimney and building.

The site has been used as a dumping location for masonry construction rubble, rubbish, stumps, brush, and trees over the last fifty years or more. The upper level of the site has incorporated numerous recent or modern items.

Deansville, and later Deansboro, was a typical agriculturally based small business community in upstate New York. The community bustled with small services, small manufactories, multiple mercantile businesses, hotels, churches, and social clubs. The community enjoyed a direct link to the rest of the world through its railroad. Deansville was serviced with eight stops a day in the mid 1880s. This cheese factory was not the first dairy industry in Deansville. Although details about its predecessor are scanty, it is assumed that this factory never directly competed with that entity. The local dairy industry provided diversification to the hops oriented agriculture that boomed through the late nineteenth century and there are some indications that there was some competition between the two agricultural industries. The cheese factory in rural communities was a social center where people would congregate each and every day. This particular factory and business was established at the tail end of a cheese boom in New York and in the country. The industry benefited from the wide availability of published expert guidance on the construction and proper operation of cheese factories and creameries. These publications outlined the structure of the workforce and historians have observed that through time, women lost their dominance of this industry. The period of operation brackets the demise of the cheese industry and its final days mimics those of other factories throughout the area. Historians have posited several varying reasons for the collapse including the enlarging milk shed of New York City and the increasing dominance of railroad controlled milk stations, the shifting profit margin for products such as cream and butter, the development of the condensed milk industry, international tariffs on cheese, and a cheese quality issue or scandal prior to 1885. This factory site shared a community and overlapping histories with a railroad, a milk station, and a milk condensery factory.

SIGNIFICANCE ASSESSMENT

The Deansboro Creamery Co. site includes sedimentological and stratigraphic evidence and masonry features that provide detailed information about the site preparation and construction of this late nineteenth century cheese factory. The upper levels contain the unstratified and intermixed remains of the 1886-1891 structure burned in a fire, the reconstruction of the factory and its dairy industry use between 1891 and 1902, its reuse as a gate factory and warehouse from 1911 until 1920, and structural demolition in 1929. The near surface layer at the site includes an indeterminate blend of all of those events and also incorporates items associated with the use of the location for refuse disposal. Based on the dispersed nature of Pier 9 and the indistinct boundary at the base of the current road berm exposed in TU 8, it might be assumed that the foundational piers and artifactual deposits of the western third of the factory have been destroyed by the 1929 road construction. The upper courses of several of the piers and the boiler foundation have been toppled or overturned. These impacts may have occurred during this road construction, during demolition of the building, or subsequently during the later dumping and earthmoving activities.

The site boundaries established during Phase I investigations were corroborated. Artifact distribution was found to be largely limited to the factory footprint and a 5 m (16 ft) perimeter. Deed research found that the horizontal site boundaries virtually match the metes and bounds of the "cheese factory" parcel. Given a very sparse scattering of artifacts beyond that zone and that some form of waste drainage system is expected but as of yet undiscovered, it seems wise to keep the current boundaries. The depths of artifact bearing deposits were highly consistent as were the levels of organics and clean fill used in original site development. The average maximum depth of artifact deposit was 41 cm (16 in).

Several significant avenues of research could potentially be addressed by the Deansboro Creamery Co. site. As previously noted, this factory was established at the

peak of cheese industry success and it brackets the period of its regional and national demise. The structure was built during a period marked by expansion of agricultural science, the professional application of that science, and the proliferation of published literature about and for the dairy industry. Included in that body of literature, were detailed plans for cheese factories and creameries. How closely did the builders of the Deansboro Creamery follow those recommendations? Where did they diverge from them and why? In addition, these publications also provided operational guidelines such as the internal configuration of the factory and organization of the workforce. Historians have described the trend of fewer women employed in the dairy industry through time. What was the internal configuration of the factory and does it conform to those published plans? What can be interpreted about the workforce, its constituents, and their lives? Local newspapers provide a basic framework or schedule for cheese making operations. Archaeological data could fill in some of the details regarding the workers and the seasonal ebb and flow of labor in the factory. The demise of the cheese industry and the local/regional cheese factory system has been linked to larger national and international issues such as product quality regulation, product image, and international tariffs. It has also been attributed to competition from other dairy businesses that were present in Deansboro, mainly the railroad milk station and a milk condensery. Further, the demise has been related to shifts in profit margins for each dairy product. What factor or factors negatively impacted the Deansboro Creamery and this local cheese factory? How did management adjust to this competition? Is there any evidence of shifts or changes in the facility or its operations? How did the business adapt to changing market demands?

The initial paragraph of this section foreshadowed some of the inherent limitations of the site and its deposits and their ability to approach many of these questions. The masonry features and lower deposits of the site provide information about site selection, site development, and the construction of the foundation. The original builders ignored published directions to avoid low, swamp ground. Instead they cleared a streamside area and brought in fill. The piers were built to the recommended spacing, depths and mass and incorporated a unique cobble sub base. The developers provided the factory with a supply of spring water. Less is definitively known about the construction of the superstructure. Published guidelines call for tight fitting wall boards, plastered walls, plentiful controllable windows, and a separate boiler room. Archaeological evidence suggests tongue and groove lumber was used, there were numerous windows and that those windows had shades or blinds. The builders did place the boiler in a separate shed and, according to the distribution of coal, clinkers, and slag remaining, the waste from that process was successfully kept from the factory floor. The paucity of plaster and lath nails implies the builders ignored that particular recommendation.

The number of personal artifacts is extremely limited. Excluding gun cartridges and bullets, we have three buttons, a possible clothing snap, and two pipe bowl fragments. From these, little can be posited about the gender, lives and working conditions of the factory employees. Despite published accounts regarding the cheese factory as a social center, little can be said about the daily convergence of the local dairying population.

The artifact assemblage did include several distinctive artifacts such as vat hardware, scale fragments, thermometers, and calibrated laboratory glassware. Despite the presence of these artifacts and a thorough analysis of spatial patterning, the internal organization of the factory could not be clearly defined. Ultimately this may be related to the factory floor being built upon piers and not on low walls. The divisions between process or activity areas may not have been defined by structural walls. Many of these process stages or areas were associated with a similar set of tools, facilities, and materials. Despite these issues, a vague general pattern was revealed in that the receiving, cooking, and curd processing functions were found in the southern half of the building. Another realization is that many of these same industry related artifacts are used in the production of all of the various products such as cheese, butter, and condensed milk. These facts inhibit the capability of this site to answer questions about internal organization and identify or discern the dairy product being produced.

Perhaps the most detrimental condition of this site is its lack of stratigraphic integrity. In some other cases, vertically and horizontally disturbed cultural resources can retain their ability to provide information. For example, prehistoric lithic scatters located in a disturbed plowzone can be used to investigate prehistoric technology. The artifact bearing levels of this deposit have been seriously compromised by a series of occupational and post-depositional events. The 1891 fire and subsequent clean up and reconstruction likely blended any spatial patterning. The salvage or decommissioning of the factory between 1902 and 1911 removed much of the industry specific artifacts and facilities. The reuse of the structure as a gate manufactory likely clouded functional or activity areas further. Impacts to the upper levels of the masonry piers and recurring patterning of numerous artifact classes more strongly suggest the structure was ultimately demolished and pushed into piles left to rot or were burned. All of this mixing pro-

hibits all of the research questions pertaining to adaptive responses through time.

To arrive at a conclusion regarding research value and significance, one has to evaluate ones expectations for historical archaeology and cultural resources. Is it enough to expect historical archaeology to identify or verify particularistic historical facts? Are apparently unique archaeological phenomena such as industrially distinctive artifacts or features significant by themselves? Should historical archaeology be used to enlighten us about the lives of lesser known individuals, classes of people and groups? Should a researcher expect that historical archaeology and cultural resources be useful in answering questions about larger historical trends, broader relationships, and processes?

The Deansboro Creamery site has yielded some information about site selection, site preparation, and the construction and layout of the factory building foundation. This information can certainly be applied to the question about conformity with published construction plans. The site represents the only cheese factory or creamery archaeological site reported to date in New York that used masonry piers rather than full or footer walls. It is also one of the few sites in the state containing artifacts definitely associated with the dairy industry and it provides another example of the types of artifacts to be expected in this type of site. The site and its archaeological deposits confirm the existence of a cheese factory or creamery at this location and that this facility had burned. The site has very limited potential to yield additional information regarding those aspects of the site. Perhaps more importantly, beyond these unique characteristics and the verification of historically documented facts, the site has very limited potential to yield information related to larger, more synthetic research topics about the cheese industry, management, labor conditions, adaptations to changing markets, or the industry's ultimate demise.

IMPACT ASSESSMENT OF PROPOSED WORK

The site area is being considered for use as a detour around the existing bridge. A temporary roadway may access a temporary bridge. This scope of work could potentially destroy the remaining intact piers and further disturb artifact bearing deposits.

RECOMMENDATIONS

Investigations at the Deansboro Creamery Co. site have gathered sufficient data suggesting the site contains several functionally distinctive artifacts and its lowest levels contain information about the initial construction and lay out of the factory structure. If that level of inquiry is considered worthy or adequate for eligibility to the National Register of Historic Places, then I would suggest the site is eligible, yet its research potential is exhausted and no further work is recommended. However, I would argue that a greater level of research potential is necessary for eligibility. The majority of site deposits lack adequate vertical and horizontal integrity necessary to conduct research regarding the local, regional, state, or national cheese industry, corporate adaptations, work conditions, or the causes for the industry's collapse. Therefore, it is recommended the site is not eligible for listing on the National Register of Historic Places. No further work is recommended.

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