

## **CHAPTER SEVEN**

### **DATING DETERMINATIONS**

I. Absolute Dating (“Timer Markers”)

II. Dating Notions



Figure 387a & b This 1911 Liberty (Morgan) dime was discovered in 2007 in Unit 1S3E (above left).

(Right) This is what the reverse side of this same type of dime looks like. Photo from author's coin collection.

A second coin, also found on March 17, 2007, and from the new Unit 1S3E. One was a 1926-S Lincoln Penny.



Figure 388. This "1939" California license plate (320-384) was found on 11/8/2003 in Feature 1 Depression/ Refuse Fill in Level II, 48-60."

Top reads, "CALIFORNIA WORLD'S FAIR 39"



Figure 389. This near mint condition "1939" CA License Plate is owned by Francis Musser of Genesee, Plumas County, California, that shows its original brilliant colors: embossed in bright yellow for the letters and numbers with navy blue background. Photo secured by author, 2005.

# I. Time Markers

Table 12. "Time Markers"

Year	Specimen Number(s)	Horizontal Provenience	Depth	Description
<u>1911</u>	[Found in 2007]	1S3E	0-6"	Coin, U.S. Liberty (Morgan) dime 1911 <sup>1</sup>
<u>1912</u>	320-250	3N3E	0-6"	Gun shell .45 Automa. Colt revolver
<u>1926</u>	[Found in 2007]	1S3E	0-6"	Coin, U.S. Lincoln penny, 1926-S
<u>1935</u>	320-281	Feature 1	0-48	Bottle (tablets & salts) <sup>2</sup>
<u>1937</u>	320-216	3N3E	0-6"	Bottle, Alka Seltzer Co. w/ 12 Diamond (O-I) 7 <sup>3</sup>
<u>1939</u>	320-384	Feature 1	48-60"	California License Plate with motto "California World's Fair '39" <sup>4</sup>
<u>1940</u>	320-277	Feature 1	0-48"	Bottle liquor (whole) <sup>5</sup> w/ Diamond (O-I) '40
<u>1940</u>	320-278	Feature 1	0-48"	Bottle liquor (whole) w/ Diamond (O-I) '40
<u>1940</u>	320-280	Feature 1	0-48"	Bottle liquor (whole) w/ Diamond (O-I) '40
<u>1940</u>	320-361	Feature 1	72-84"	Bottle liquor (whole) w/ Diamond (O-I) '40
<u>1941</u>	320-276	Feature 1	0-48"	Bottle liquor (whole) w /Diamond (O-I) '41
<u>1941</u>	320-364	Feature 1	72 - 84"	Clear glass base frag. w/ 20 Diamond (O-I) '41

1 See Figures 386 and 387 (opposite).

2 See Figures 171 and 211 on page 352.

3 See Figures 208 and 205 on pages 345-347.

4 See Figures 388 and 389 (opposite).

5 See Figure 120 on page 357.

<u>1941</u>	320-396	Feature 1	84-90"	Bottle liquor (whole) <sup>6</sup> SCHENLEY with Glass Containers, Inc. '41
<u>1941</u>	320-290	Feature 1	0-48"	Bottle base/body frag. Coca-Cola Co., w/ 2 Diamond (0-I) 41 <sup>7</sup>
<u>1941</u>	320-279	Feature 1	0-48"	Wine bottle, Lt green <sup>8</sup> Roma Wine. Fresno w/ 20 Diamond (0-I) 1
<u>1945</u>	320-552	Road Seg. #4	0-6"	Gun shell .32 Military <sup>9</sup>
<u>1947</u>	320-398	Feature 1	84 - 90"	Beer bottle, amber w/ 20 Diamond (0-I) '47 Also w/"Duraglas" script and stippling <sup>10</sup>
<u>1951</u>	320-365	Feature 1	72-84"	Bottle, amber shade <sup>11</sup> Animal vaccination w/ 7 Diamond (0-I) 1
<u>1959</u>	320-549	Road Seg. #4	0-6"	Bottle, amber shade <sup>12</sup> Animal vaccination w/ 7 Diamond (I) 9
<u>1963</u>	320-283	Feature 1	0-48"	Bottle, amber shade <sup>13</sup> Animal vaccination w/ 7 Diamond (I) 3
<u>1984</u>	320-490	Road Seg #1	0-6" 0-6"	Gun shell .223 Military
<u>1989</u>	320-487	Road Seg #1	0-6" 0-6"	Gun shell .223 Military
<u>1989</u>	320-488	Road Seg #1	0-6" 0-6"	Gun shell .223 Military
<u>1989</u>	320-489	Road Seg #1	0-6" 0-6"	Gun shell .223 Military

<sup>6</sup> See Figure 233 on page 366.

<sup>7</sup> See Figure 395 with interpretations on page 534 (below).

<sup>8</sup> See Figures 214 and 215 on page 353.

<sup>9</sup> This brass cartridge shell casing was made in "1945" at the U.S. Military munitions factory in Salt Lake City, Utah, as claimed by John Martin of the Department of Gunsmithing, Lassen College, Susanville, CA.

<sup>10</sup> See Figure 171 (page 320) and Figures 234 and 235 on page 367. "The Duraglas (script) mark first appeared in 1940. On beer bottles, it was used in conjunction with stippling (Bill Lockhart 2004 "The Dating Game" Bottles and Extras).

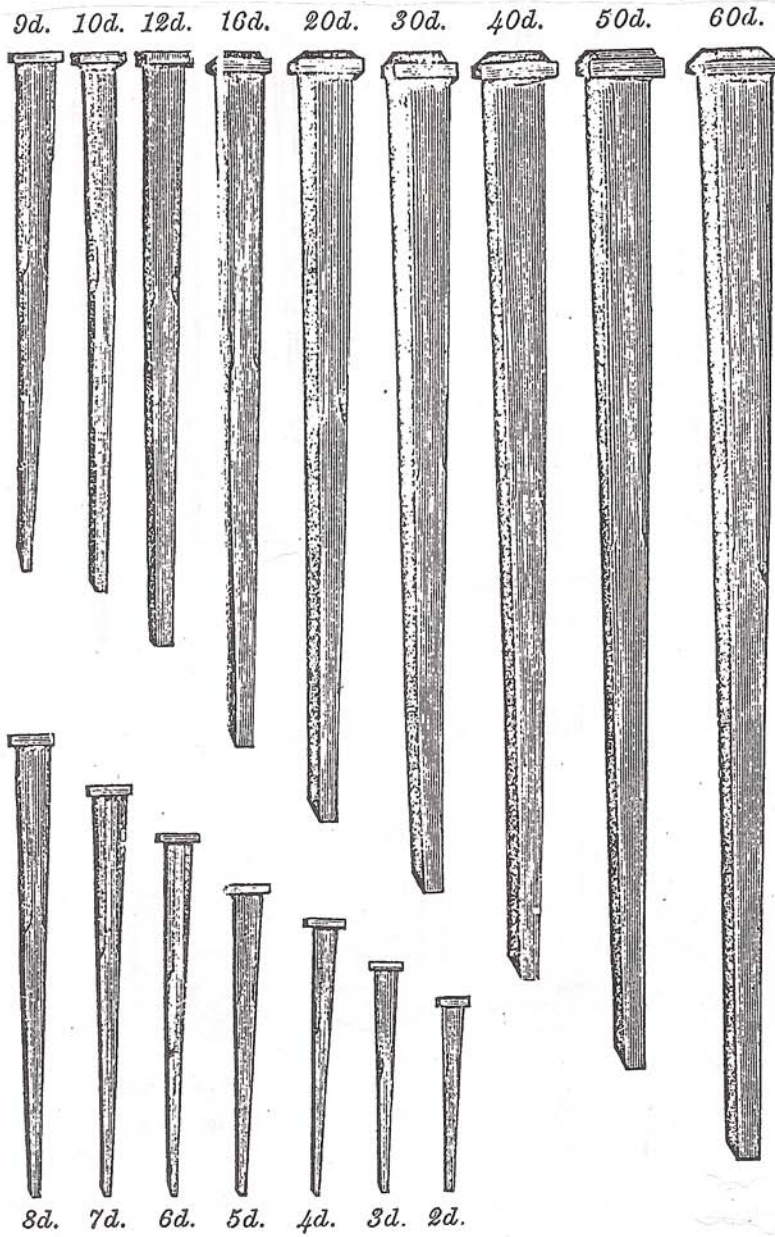
<sup>11</sup> See Figures 216 and 217 on pages 354-355 respectively.

<sup>12</sup> See Figures 216 and 218 on pages 354-355 respectively.

<sup>13</sup> See Figures 216 and 219 on pages 354-355 respectively.

## **II. Dating Notions**

# COMMON CUT NAILS



ACTUAL SIZE

Figure 390.  
S. D. Kimbark's Catalogue (n. d.)

## A. Nail Analysis (Temporal Notions and Uses)

It is significant that great quantities of nails were found. And why was this the case? The nails collected were also informative because a relative dating notion of the site's overall age could be determined by calculating the percentage of cut (square) versus wire (round) nails found. Also, because nails are made in varying sizes for varying functions, different stages of carpentry / construction observed can be interpreted.

Nail types: Nails occur in most United States archaeological sites in three broad types or varieties: (1) hand-wrought (hammered), (2) cut (square), and (3) wire (aka in the literature as "modern," "round," and "common," and "French"\* nails. Hand-wrought nails are tapered on all four sides of the shank toward the point. Some have the "T-Head" or the "Rose-Head" nail attributes (See Adkison 2002:4:1). Cut (square) nails are tapered on two sides of the shank only, while wire (round) nails have the distinguishing trait of being round.

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\*The name, "French" nails, originates from the fact that the French first invented wire nail manufacturing in 1830 and completed automated wire-making machines in 1855 (Adkison 2002:4.3).

Total Numbers of Nails Collected. Regarding the site's total collection of artifacts and non-artifacts, 1,245 nails were found. This amounted to nearly a quarter (24.3%) of the total specimens collected (152/624). The percentage of site specimens collected made of metal materials that were nails, came to over half (125/214 = 58%).

Three construction enterprises at the site help explain the great number of nails. These projects involved ranching activities, inclusive of corral with feed shed construction and fence maintenance work; and work on two other structures, the Hi Good sheep camp cabin (which was constructed of board and batten style, as seen in the early "Hi Good Cabin" photo, Fig. 108) and the portable line cabin, vaguely recalled to have been relocated from downstream in 1928 or as late as probably after the big flood year, 1937.

1,245 nails were collected at the site. Cut versus wire nail types are part of this total. They were only distinguished as to type and then counted. No attempt to measure the fragment nails was undertaken. While larger, hand forged metal objects were found at the site, none of these are assigned as hand-wrought forge-hammered nails.

Almost all of the nails recovered were found in unit excavations. Metal detector sweeps of the quadrants and of Feature 4 Road Segments amounted to only 67 nails collected ( 67 / 1,245 = 05%).

### Nail Type Total Percentages and How Age Notions Are Determined

The percentage counts - At the Hi Good site work at the 5 1/2 units and metal detector sweeps resulted in the approx. 1,245 nails / fragments collected, of which 787 or 63.2% of the total were cut (square), while the remaining 458 or 38.8% were wire (round) nails.

Again, no hand-wrought (hammered) nails were found. Why were none found? It is possible that some of the broken or fragment nails found, particularly those that were burnt, were simply unrecognizable as to the way they were made. More likely, the site is later in time than the hand wrought era.

## Relative Dating Application and Explanation

Generally, since nail types are often mixed within the context, the larger the percentage of hand-wrought and/or cut (square) nails, the older the site.

About forming effective and reliable site temporal analyses by using nails collected, William Hampton Adams (2002:66-85) emphasized that historical archaeologists need to focus on the mass-production dates of nails instead of simply relying on their invention and patent dates. Significant about the greater availability through mass-production methods of the “wire” nails that began to replace cut nails are two dates: 1887 and 1890. The year 1887 was the first year when the price of steel was low enough to make wire nail manufacturing profitable due to the invention and introduction in 1879 of the Bessemer steel-making process, and 1890 is the year when the production of wire nails outpaced that of cut (square) nails.

While Adams (2002:85) announced that his model “has particular utility in dating ephemeral sites, particularly in the West,” he also cautioned that “Places like homestead cabins. . . may last too short a time and have been occupied by people too poor in material culture to produce satisfactory artifact dates.”

Generally, since nail types are often mixed within the context, the larger the percentage of hand-wrought and cut (square) nails, the older the site.

Table 13 (below) is an “Index” for age notions based on the above described nail types.

<b>Table 13. Nail Age Notions (Index)</b>			
Adkison (2002:4:3) from Gillio and Utah (1980). Related reference is: Adams (2002:66-88)			
Hand-wrought/Cut Nails versus Wire Nails			
<u>Age of site</u>	<u>Cut Nail type/ percentages</u>		
1886 [or earlier]	100.0% cut nails		
[Unknown]*	63.2%	“	Recovered at CA-TEH-2105H
1890	-	50.0%	“
1895	-	25.0%	“
1900	-	15.0%	“
* Remains unknown in view of site use variability.			

Temporal Notions for Hi Good Cabin Site - This researcher has been advised that the sample of nails collected during 2003-2004 is too small; hence the overall “site variability” and “age” REMAIN UNKNOWN. For the record, however, 63.2% of the nails collected at the Hi Good Cabin site were cut (square) rather than cut (wire) nails. This percentage was suggesting an age notion of “no later than “1889 thereabouts.”

Recall that Adams (2002:85) announced about his Index model that it “has particular utility in dating ephemeral (short-lived) sites, particularly in the West.” The Hi Good sheep operation was believed to have been “actively underway in Section 21 during 1866-1870, which calls for 100% cut nails thereabouts to have been used during Hi Good’s span of time. The major source for the 38.8% introduction of the later wire nails type is attributed to the subsequent property owners and/or tenants, who resided at the site post 1870.



Table 14. Nail Types Percentages Count  
Recovered at Hi Good Cabin Site, 2003-2004.

Site	(Earlier type) <u>Local</u> <u>Cut Nails Total</u>	(Later type) <u>Wire Nails Total</u>	Percentage (%) <u>Cut</u>	Percentage (%) <u>Wire</u>
Four Quadrants* 28		0	100.00	0.0%
Road Seg. #4	1	0	100.0%	0.0%
4N10E	333	12	96.5%	3.4%
Road Seg. #2	12	1	92.0%	8.0%
Road Seg. #3	8	3	72.0%	28.0%
Road Seg. #1	9	5	64.0%	46.0%
6N10E E1 / 2	194	120	61.8%	38.2%
3N1E	62	42	59.6%	40.4%
Feature 2	182	233	43.8%	56.2%
3N2E	30	39	43.0%	56.0%
3N3E	90	152	38.0%	62.0%
Feature 1	29	86	25.3%	74.7%
2S12E	0	0	0	0

\* Not all nails found in the metal detector sweeps were collected.

“Oldest” locals of the site are assigned. Based on the above numbers, Unit 4N10E certainly stood out as the relatively oldest unit, with Unit 6N2E E1 / 2 ranked second oldest, followed by Unit 3N1E in approximate third place. Also, the SW quadrant suggested “having some age.” Reliability for these claims (notions), of course, are dependent on whether each of the locations had a significant sampling (large enough quantity of nails collected to be of consequence). The 72% of cut nails from Road Seg. #3, for example, involved only eleven nails found. This is not significant statistically. Road Seg. #2, whose area is inclusive of Unit 4N10E, also had a high percentage (92%) of cut nails. This was only to be expected since Unit 4N10E was assigned as “oldest.” But here again, its sampling of only 13 total nails, statistically speaking, is unreliable.

Regarding the trench (3N1E, 3N2E, and 3N3E), curiosity is stirred by the trend of the percentages of cut nails increasing as they do, in a westerly direction. Observe how Unit 3N1E had the highest concentration (59.6%) of cut nails. This remains an incongruity that Unit 3N1E, the most distant unit in the trench from Unit 4N10E, would have the notion of being the older of the three. A rally of support that Unit 3N1E is, indeed, “old” came from the nearby SW quadrant, where only cut nails (100%) were found.

About the site quadrants. Only the SW quadrant (using metal detector sweeps for recovery) with 100% cut nails, is intriguing enough to mention. Of the 28 total cut nails collected from all four quadrants, 85.7% of them came from the SW quadrant (24/28). The NE quadrant had only three nails (10.7%). The SE quadrant had only one cut nail. The NW quadrant had none. One wonders just how close to the datum, and fairly close relative to 3N1E, that those 24 cut nails were found?

Also, upon carrying out the sweeps, observed were obvious “dumps” and burning areas where old wood (and nails) were concentrated.

#### Determined Age (Years) Notion for the Study Area

The indicated age of use for the Hi Good Cabin site area is the latter half of the 19th century. The 96.5% of cut nails in Unit 4N10E, if extrapolated, invariably brings up a much earlier year than 1889, for this unit. This author is not a mathematics whiz, but it is normally the rule that for any numerical set when the percentage level or yield “approaches” 100%, the mathematical probabilities become more variable. That is to say, the possible years “back in time” for the study area increases exponentially. A review of the list of vintage artifacts and faunal materials recovered from especially Unit 4N10E during 2003 and 2004, make for a compelling argument that the area of the site was used during the Hi Good era, 1867 through 1870.

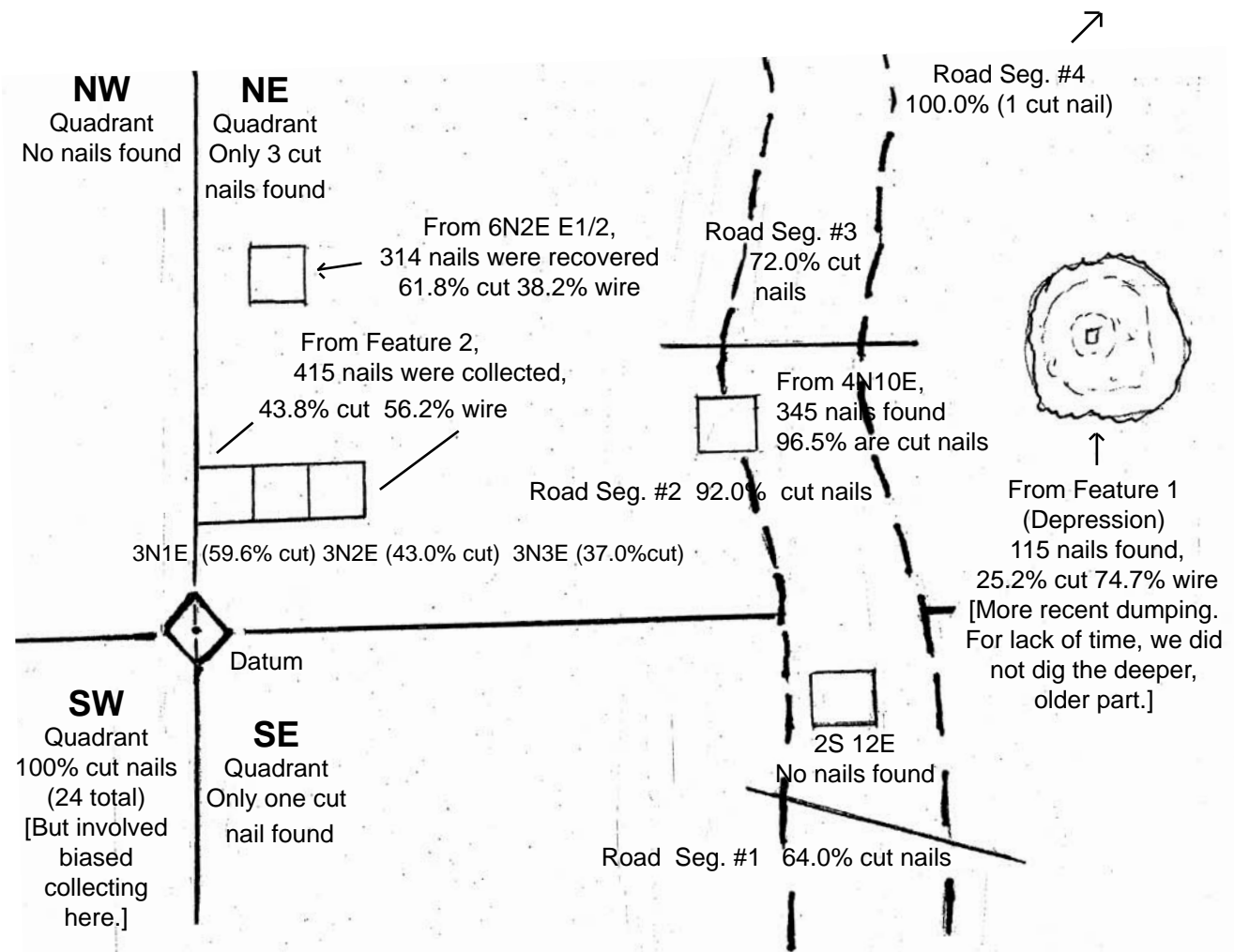


Figure 391. Map: "Nail Analysis, Hi Good Cabin Site, 2003-2004"  
For the age of the entire site, 63.2% cut (square) nails recovered suggests an average age of "1889 or earlier."

This site's age notion remains "unknown" in view of the sample size and site use variability.

[Index -Adkison (2002:4:3); Gillio and Utah (1980); Adams(2002:66-88)]

Site Locations of Age Ranking Based on Cut Nails Found	
Oldest	4N10E, inclusive of Road Seg. #2
2nd oldest	6N2E E1/2
3rd oldest	3N1E
4th oldest	SW Quadrant

## Nail Size Uses

Nail Functions. Uses are generally identified based on respective pennyweight sizes (Adkison 2002:4.3). The largest nails, 20d and above, are typically used for house-framing, fence construction, etc. Nails in the 6d to 16d range are general purpose, used in the different phases of construction. Generally, nails classed from 2d to 5d are used in the final stages of carpentry.



**ACTUAL SIZE**

Figure 392. The 2d cut nails from UNIT 3N3E.

The 2d to 5d nails “for final stages of carpentry” (Adkison 2002:4.3), were mainly from three places: Unit 3N3E at 0 -6” bottom surface (See Fig. 392 below), the Figure 1 Depression at 72-84” bottom surfaces, and 6N2E E 1/2. At 3N3E, 87 such nails were recovered (of which the cut and wire types were of about the same quantity, 43 cut and 45 wire nails). They could have been used for making boxes or barrels or some household furnishings, such as a wooden cupboard perhaps. Their precise uses remain undetermined.

Unit 6N2E E1/2 had the second highest frequency regarding the small nail numbers. Here, a total of 31 nails (all cut) at level 0 -6” were recovered, while two small nails only were found at the deeper 6 -12” level (320-571 is one cut 4d; 320-575 is one wire 2d nail).

Feature 1 Depression had two cut nails (1 -4d and 1 5d) at 0 -48” depth, but 28 wire nails (only) uncovered down at 72 -84” bottom surface.

Number Collected	Size Pennyweight	Horizontal Provenience	Specimen Number
1	16d (cut)	Feature 1 at 0-48”	320-315
9	16d (cut)	SW quadrant	320-480
1	16d (cut)	SW quadrant	320-481
1	16d (cut)	3N1E	320-587
3	16d (cut)	6N2E E 1/2	320-018
7	16d (wire)	Feature 1 at 0-48”	320-328
2	16d (wire)	Feature 1 at 0-48”	320-332
4	16d (wire)	Feature 1 at 72-84”	320-389
2	16d (wire)	3N2E	320-089
2	16d (wire)	6N2E E 1/2	320-023
<u>14</u>	16d (wire)	6N2E E 1/2	320-023
46 total collected (of which 15 were cut nails and 31 wire nails).			

Data for likely “general construction” activity and respective location(s) is provided by Table 14 (below) involving the mainstay 16d nail of which 46 were retrieved from the study area. 30.4% (14/46) of them were collected from Unit 6N2E E 1/2. This is also from where the only wood screws were found at the site, five all total (See Fig. 399). Unit 4N10E, on the other hand, stands out as conspicuous, being the one location where no 16d nails were found. In relationships to the Hi Good Cabin structure with chimney, the Unit 4N10E environs appears to have been the porch where cleaning one’s guns and getting dressed had more priority as opposed to general construction activities.

## About the 20d Nails and Larger for House-framing and Fence Construction Found

The archaeological record does not suggest that any major house framing nor related construction activities took place in earlier times. Of the 1,245 whole nails and fragments collected, only 35 nails were 20 pennyweight (d) or larger, which is .028% of the total. The following numbers breakdown in Table 4 (below) shows that 82% (29/35) of the “big” size nails came from the Feature 1 “Depression.” And because they are overwhelmingly wire nails, whatever construction activities did transpire, they were more recent activities, probably in the early 1940s, as based on the other items retrieved that were datable from Feature 1.

Noteworthy, too, is that of the cut (or square) nails that are the relatively older type, only three of the bigger cut nails made the list (below). Unit 4N10E remained consistent by not having any bigger nails as was the case with 16d nails. It seems that any early cabins that were built in the study area were small enough that they did not require big nails for their construction. The more recently constructed feed shed, corral enclosure with windmill, appears to have invited more big nail usage. This may help explain why 29 bigger nails were recovered from Feature 1.

**Table 16. Nail (20d-60d) Count**  
(House-framing/ fence Construction Type Nails)

Number Collected	Size Pennyweight Size
1	60d (wire) from Feature 1.
1	50d (wire) from Feature 1 at 72" - 84"
1	40d (wire) from Feature 1 at 0 - 48"
1	40d (wire) from 3N2E
1	30d (cut) from SW Quadrant
2	20d (cut) from Feature 1 from 0 - 48"
5	30d (wire) from Feature 1 at 0 - 48"
15	20d (wire) from Feature 1 at 0 - 48"
4	20d (wire) from Feature 1 at 72" - 84"
2	20d (wire) from 6N2E E1/2
1	20d (wire) from Road Seg. #1
1	20d (wire) from 3N3E

35 total, of which 3 were cut nails and 32 were wire nails.

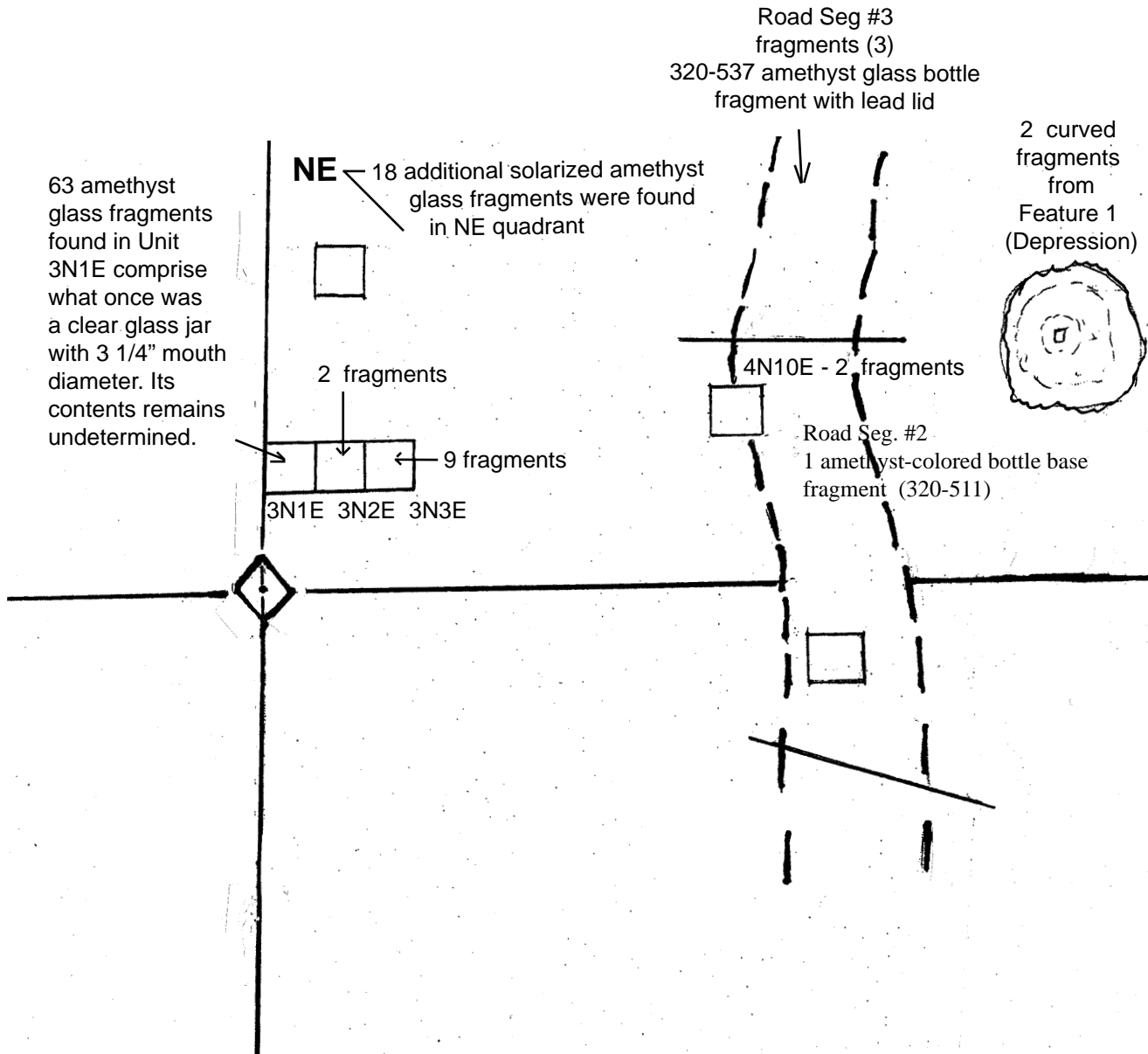


Figure 393. Map: "101 Solarized Amethyst Glass Fragments Distribution Recovered from the Hi Good Cabin site (They are site indicators that "pre-1920" vintage artifacts were deposited with them.)

## B. Solarized Amethyst Glass Age Notions

Glass produced that was originally clear glass but tints over time to a purple ( amethyst) color from exposure to the sun, is referred to in the literature as “solarized” amethyst glass, and is referred to here as such in this report. Archaeologists today consider solarized amethyst glass, when found at sites, as “an excellent temporal indicator. It can be reasonably dated “pre -1920” (Adkison 2002:1.22), except where containers were curated or “heirloomed.”

101 solarized amethyst glass fragments were found at the site (See Fig. 393. map). The biggest cluster were 63 pieces collected from Unit 3N1E. When taken together, they comprise at least one very shattered glass jar. Its 10 rounded rim pieces were given specimen number 320-614 (See Fig. 194).

The notion of pre-1920 for the artifacts recovered from Unit 3N1E was corroborated by the 59.6% cut nails collected. Only two solarized amethyst fragments came from Unit 4N10 [that had the site’s highest cut nails percentage, 96.5%]. It is the opalized aqua glass found in Unit 4N10E that further corroborates that Unit 4N10’s contents are “older” (See Fig. 10 Map: “Aqua Glass Distribution”).

18 Solarized amethyst fragments were found in the NE quadrant. This suggests that the NE quadrant was where pre-1920 and activities that centered around “general use” glass contents, namely: activities that involved kitchen group items, such as food and condiment jars, and recreational indulgences, such as liquor bottles. The Road Segments 2 & 3 contained five total amethyst fragments.

One other solarized amethyst glass fragment found in road segment 3 of special interest was 320-537. The amethyst glass is a bottle neck fragment that protrudes from a lip with lead seal. The height of this lead seal or band on the bottle’s lip is 1.” The bottle’s diameter mouth approaches 1.” The amethyst glass tint again dates this specimen as “pre 1920.”

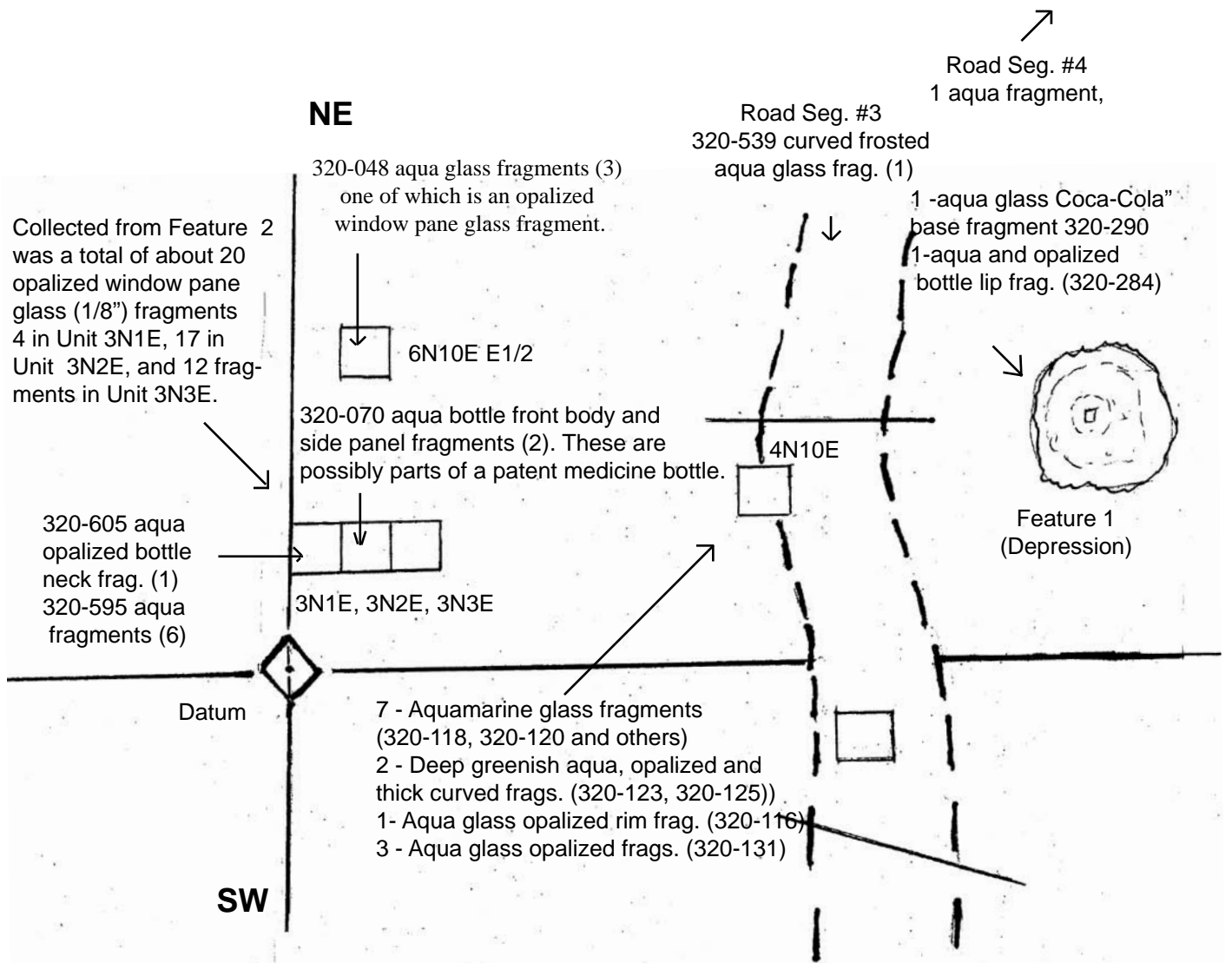


Figure 394. Map: "Aqua Glass Fragments Distribution" (for 70 fragments found at CA-TEH-2105H)

"Aqua Glass dates for general, versatile usage is 1880 to 1920" (Adkison 2002:1.22).



## C. Aqua Glass Age Notions

70 aqua colored glass fragments were found at the site (See Fig. 394 Map) of which 20 are opalescent window pane glass fragments collected mainly from Feature 2 "Brick scatter." Some of these perfectly flat, 1/8" thick glass fragments may have come from a small window that faced west of the Hi Good sheep camp's cabin. One more identical window pane, aqua glass fragment was collected from Unit 6N2E E1/2. This writer believes that the projected "1880 to 1920s" years for these aqua-colored window pane glass fragments uncovered (from four different units but not from Unit 4N10E) are 1880, if not earlier. They are all opalescent. As aforementioned, the window pane glass from Unit 3N1E, is likely from the pre-1870, Hi Good Cabin structure.

Aqua colored glass is described in the literature as having been popular during 1880-1920 for "general, versatile usage" (Adkison 2002:1.22-1:23). Aqua, as well as clear, amber, and pale green, were common whiskey bottle colors (Adkison 2002:1.16). Clearer and lighter colors around 1880 became more desired for patent medicines, which were "usually aqua or light green" (Adkison 2002:1.13).

About this last description, a possible fit were the two "light" aqua colored glass fragments (320-070) recovered from Unit 3N2E (Fig. 198). This author believed they are of a patent medicine bottle or elixir. These two fragments are of a classic rectangular shaped bottle with inset panels (Adkison 2002:1.13).

Regarding the concept that aqua glass can "sometimes" be used as indicators of the 1880s -1920 time frame (Adkison 2002:1.22), this writer believes that this is especially likely when the aqua glass fragment found is also "opalized." The aqua glass Coca-Cola bottle base fragment found in Feature 1 depression/refuse fill, is a case in point. This aqua fragment was not opalescent. Rather, this bottle base fragment (with the letters "GALLUP" embossed on its base), was determined to be the later date of "1941." [Note: Determination of "1941" was only possible because retained also on the bottle body fragment was its telltale Diamond "0-1" bottle maker trademark, with "1" date code (see below Figures 395 and 396).

On the other hand, the "1880 to 1920" aqua glass time frame seems appropriate for the one small, glass blown and opalized bottle lip fragment (320-284) found in Feature 1 (Fig. 223). This bottle lip fragment, along with another lip fragment (320-285), the second one made of clear glass, may possibly be the two oldest artifacts collected from Feature 1. This writer believes they were found in the study area, maybe during a general clean up effort of the Hi Good Cabin flat area in about 1950, by the new property owner. Then they were apparently dumped into the Feature 1 depression/refuse fill, and mixed with several bottles of the 1940s and 1950s era.

## Aqua-Colored Glass Artifact

Specimen Number	Horizontal Provenience	Depth	Description
320-290	Feature #1	0-48"	"COCA-COLA" fragment Aqua-colored. Owens-Illinois Glass Company's trademark embossed on body of bottle; "Gallup" on bottle base. maker's trademark with codes. <b>1941</b> , bottle manufactured.

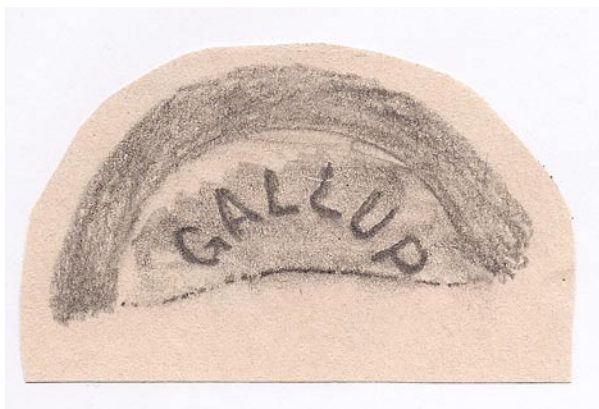


Figure 395. Actual size of "Coca-Cola" base fragment (320-290) embossed with, "GALLUP," New Mexico, the place where the drink was "bottled." Drawing by Janice Newton.



Figure 396. Actual size of maker's mark, 2 -Diamond "O-I" - 41 (Fairmont, W. VA, Owens-Illinois -1941)

Absolute Dating: *Terminus post quem* for "COCA-COLA" (that is, the company's starting point of a period, year). For when "first marketed" -1886 (Atlanta, Georgia); for year "first bottled by J. A. Biedenhorn" - 1894 (Vicksburg, Mississippi). for when "first registered its trademark for the company" - 1893; "first Coca-Cola" script -1899; "first standardized Coca-Cola bottle" invented -1915.

By custom, the Owens-Illinois Glass Company placed to the right of their maker's mark the date (year) code. To the left of their maker's mark the plant's location where the bottle was manufactured (not necessarily where bottled). One or two digits were used for both (Lockhart 2004d:1).

For this particular bottle, the number, "41" is 1941 (Toulouse 1971; Lockhart 2004d:1; Adkison 2002:1:10).

Relative Dating Soft drink bottling technology changes: 12 FL. OZ. bottles became popular in 1934 (Adkison 2002:1:18). Period when bottles were embossed with the name of the city and state where the product was bottled" -1916 -1955 and same was resumed in 1963; 'first marketed in plastic bottles" - 1970 (Adkison 2002: 1.17 & 1.18).

Plant codes: Keeping with the Owens-Illinois Glass Company practices, the "2" to the left of the maker's mark, is the plant location where the "generic" Coca Cola bottles were manufactured. ] Note: The bottling "with drink" and city / state embossing on the bottle's bottom takes place normally in the respective city / state locations.]

This "2" is translated by referring to Dr. Julian Toulouse's 1971 Table 1 chart on page 395 of Toulouse's definitive work titled, *Bottle Makers and Their Marks*. Or refer to Bill Lockhart (2004d:5) who reprinted Toulouse's Table 1.

Answer: Plant #2 is Fairmont, West Virginia, with respective Dates of Operation, 1930-present (1971). Hence, after the bottle was manufactured in Fairmont, West Virginia, this bottle was shipped to Gallup, New Mexico. There it was bottled and embossed respectively "probably" in about 1941.

Future research/ resources: To determine the Absolute Dating( year, month, and even day), when the bottling in Gallup, New Mexico, occurred, recommended is Bill Porter (1996). *Coke Bottle Checklist*. (Privately printed); *Coca-Cola Collectors News* (newsletter) PMB 609, 4780 Ashford Dunwoody Road, Suite A, Atlanta, GA 30338. website: <www.cocacolaclub.org>