

University of Colorado at Boulder
Department of Facilities Management
Office of the Campus Architect

Front Range Sandstone Quarries

Boulder to Lyons, Lyons to Carter Lake, and Carter Lake to Horsetooth Reservoir

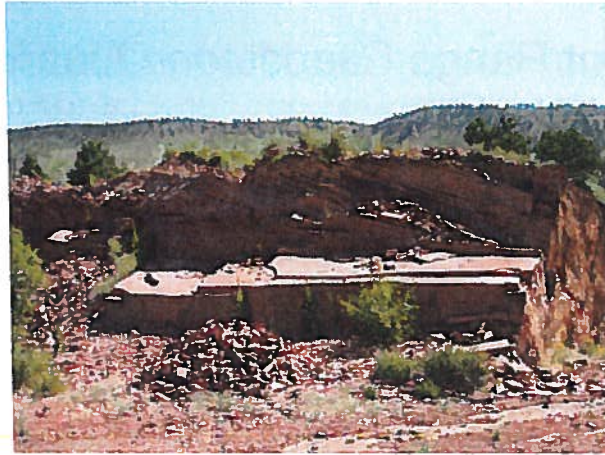


Original St. Vrain Quarry

Includes Quarry Names, Locations, Status, Maps and Details

William R. Deno, FAIA
Campus Architect Emeritus
October 15, 2008

Contents



- Page 3: Table of Quarry Names and Other Details
- Page 8: Boulder to Lyons Table and Notes
- Page 9: Map of Quarry Locations from Marshall to North Boulder
- Page 10: Map of Quarry Locations from North Boulder to South Lyons
- Page 11: Lyons and Carter Lake Areas Table and Notes
- Page 12: Map of Quarry Locations in Lyons and Carter Lake Areas
- Page 13: Carter Lake to Masonville Table and Notes
- Page 14: Masonville to Bellevue Table and Notes
- Page 15: Map of Quarry Locations from Carter Lake to Masonville
- Page 16: Map of Quarry Locations from Masonville to Bellevue

Note: All information contained in this document is in draft form: that is it is current as of the date shown on the front cover and is subject to change. The author welcomes all input from any source in the form of corrections and suggestions.

Front Range Sandstone Quarries

June 22, 2006 Draft Rev. 10/15/08

| Names/ Operators | Quarry Area | Quarry Location | Opened | Colors/Stone Types | Current Status / Availability |
|---|------------------------|--|---------------|---|---|
| American Red Sandstone Co. | Bellevue | West of Bellevue, south of CR52E | 1895 | Ingleside red/orange sandstone cut into blocks | Ceased operation in early 1930s |
| Anderson | Boulder | West of NCAR in Skunk Canyon (visible from south Boulder) | 1880s | Buff and Peach | Closed, in Boulder Mountain Parks |
| Arkins Park, Judy Sprague | Masonville | South of Masonville | 1870s | White to gray with gold and brown staining | Active, available at Arkins Park yard in Loveland |
| Barnard, Chester, (Past operators – Kimball) | Lyons | South end of Beech Hill | 1880s | Lyons Red | Open, availability at various yards |
| Bear Canon | Boulder | Bear Canyon west of Table Mesa | 1870s | ??? | Closed |
| Bergheim - Wood | Boulder | In Bluebell Canyon west of Enchanted Mesa | 1900s | Peach | Closed 1920, now in Boulder Mountain Parks |
| Blue Mountain Stone, (Past operators – Ohline, Buster, Burdick) | Lyons | Beech Hill, also loosely called Blue Mountain | 1880s | Lyons Red, Blue Top, Bacon Strip | Active, now operated by Raul Vasquez |
| Boone (Past operators: Murphy 1880s to Brodie in 1916 to Sterling in 1958 to Perdue in 1990s to Boone) | Lyons | Northwest of Lyons, east of Steamboat Mountain and south of Beech Hill | 1880s | Lyons Red | Open, available at various stone yards |
| Brodie, (see Boone) | | | | | |
| Brodie | Lyons | Small quarry on the south end of Beech Hill | 1880s | Lyons Red | Closed |

Front Range Sandstone Quarries (Cont)

| Names/ Operators | Quarry Area | Quarry Location | Opened | Colors/Stone Types | Current Status /Availability |
|--|---------------------------------|--|----------------------------------|---|---|
| Burdick, J.C. | | | | | |
| Buster | Lyons | Beech Hill | 1890s | Lyons Red | Available |
| Case (Wilson-Case, Dr. Bond) | Boulder | West on Wagon Wheel Road from intersection with Lee Hill Road | 1884 | Creamy white with reddish- brown staining | Closed, in private ownership |
| CLE Carter Lake Enterprise (Philip Sprague) | Masonville | On CR27 south of Masonville | 1890s | Masonville Buff in cut and polished stone | Available at Arkins Park Stoneyard |
| Colorado Flagstone (Douglas Bachli & Wayne Phipps) | Masonville | On CR 27 south of Masonville | 1880s | Masonville Buff in cut, shaped, and polished stone | Available at various stone yards |
| Crona Hill (Hall, University, others) | Lyons | Southwest of Lyons | 1951 | Red, Pink, Bacon-Strip, Raspberry, Blue Top | Closed in 1961, now in Hall Ranch Boulder County open space preserve |
| Fort Collins Red Sandstone, (Lee Brothers, Brunton, Ed Stout, Les Stennette) | Fort Collins | Santana Cove at north end of lake in Soldier Canyon | Late 19 th century | Ingleside formation red/orange sandstone in large massive blocks | Ceased operation by 1930s |
| Fraser-Grant (Mt. Sanitas, University) | Boulder | Mt. Sanitas, west of Dakota Ridge on east side of Mt Sanitas | Early 1900s | Red and Pink | Closed in 1927 (re-opened in 1946 to 1948 for Farrand dorms and addition to McKenna) |
| Hall Ranch See Crona Hill) | Lyons | | | | Property transferred in 1995 to Boulder County for open space preserve |
| Heil Valley Ranch (See Geer, Ingersoll (Pace), No. 3, Vickery/Whitestone) | Left Hand Canyon | | | | Property transferred in 1996 to Boulder County for open space preserve |

Front Range Sandstone Quarries (Cont.)

PBACH

| Names/ Operators | Quarry Area | Quarry Location | Opened | Colors/Stone Types | Current Status /Availability |
|--|-------------------------|--|-----------------------------|--|---|
| Ingersoll, (Past operators Ingersoll, Pace, University) | Heil Valley Ranch | Two miles north of Geer Canyon trailhead off Left Hand Canyon Drive | 1891 or maybe earlier | Red, Pink, and some Buff in many variegated colors and staining. (See Sewall Hall) | Closed in 1962, now in inaccessible Boulder County open space preserve |
| Kimball, (see Barnard) | | | | | |
| Loukonen | Lyons | Beech Hill (two quarries) | 1890s | Lyons Red, Blue Top, Lykins | Open, available at Loukenen Stone Yard, Lyons |
| Loukonen (Weaver Quarry) | Masonville | First quarry south of Masonville on CR27 | 1950s | Masonville Buff | Open, available at Loukenen Stone Yard, Lyons |
| Lyons Sandstone | Masonville | On CR27 south of Masonville | 1880s | Masonville Buff | Available at various stone yards |
| Marshall | Marshall | 2 miles east of Marshall in long draw | 1870s | Blocks of foundation stone grayish in color | Probably Laramie formation first sandstone quarried in area |
| Masonville (Spragues, Lleukonen, Phillips, Vasquez) | Masonville | South of Town | 1890s | White to gray with gold and brown staining | Open available from quarry operators yards. |
| McCall, Ed, (see Sprague, Neil) | | | | | |
| Mt. Sanitas (See Fraser-Grant) | | | | | |
| Murphy, (see Boone) | | | | | |
| No. 3 Quarry | Heil Ranch | South of Ingersoll/Pace in Plumly Canyon | 1890s | Dep reds to pinkish reds with with good staining. (See campus buildings 1927-1962) | On inaccessible Heil Ranch Boulder County open space preserve |
| Noland | Lyons | Noland Townsite | 1880s | | Open, available at various yards |

Front Range Quarries (Cont.)

| Names/ Operators | Quarry Area | Quarry Location | Opened | Colors/Stone Types | Current Status /Availability |
|--|------------------------|---|---------------|--|---|
| Ohline, Art (see Blue Mountain) | | | | | |
| Pace, (see Ingersoll) | | | | | |
| Phillips | Lyons | West side of Noland Townsite | 1880s | Lyons Red, Blue Top, Bacon Strip, maybe Picture Rock | Open, available at Phillips Stone Yard, Lyons |
| Shinkle | Boulder | West of Mapleton Rehab Hospital on Dakota Ridge | 1890s | (Dakota formation sandstone in white to gray cut blocks) | Closed, now in City of Boulder mountain park |
| Sprague, Judy | Carter Lake | South of Carter Lake | 1956 | Golden Sunset, Gold Stain, Berthoud Pink | Available at Arkins Park stone yard |
| Stennette, Les, See Fort Collins Red Sandstone) | | | | | |
| St. Vrain, (See Boone) | Lyons | | | | |
| Sterling, (see Boone) | | | | | |
| Stout, Ed, (see Fort Collins Red Sandstone) | | | | | |
| Summers, Dewey, (Historical owner/operator) | | | | | |
| T-Bone | Lyons | Beech Hill | 1890s | Lyons Red, Blue Top | Open, available at various yards |
| University, (See Fraser- Grant, Ingersoll/Pace, and Crona Hill) | | | | | |
| Vasquez, Raul (See Blue Mountain) | | | | | |
| Vasquez, Ignacio | Lyons | Noland Townsite | 1950s | Lyons Red, Blue Top | Active, available a Blue Mountain Stoneyard |

Front Range Quarries (Cont.)

| Names/ Operators | Quarry Area | Quarry Location | Opened | Colors/Stone Types | Current Status /Availability |
|---|-----------------------|-----------------------------|--------|----------------------------|------------------------------------|
| Vickery Brothers (Jess and Ben) | Heil Ranch | West face Red Hill Gulch | 1950 | Buff, Red, Picture Rock | Closed in early 1960s |
| Virgil | Lyons | Blue Mountain | 1880s | Lyons Red, Blue Top | |

Other Information and Descriptions

| Sandstone Formations in Area | Current Stone Yards and Locations | Stone Colors | Common Names |
|---------------------------------|---|-----------------|---|
| Entrada (Jurassic Age) | Arkins Park, Loveland | Reds | Lyons Red, Sunset Red, Blue Top |
| Ingleside (Pennsylvanian Age) | Blue Mountain Stone, Lyons | Pinks | Berthoud Pink, Lykins |
| Laramie (Crustaceous Age) | Colorado Stone, Longmont | Bufs | Loveland Buff, Masonville Buff |
| Lyons (Permian Age) | Loukonen Brothers Stone, Lyons | Variegated | Golden Sunset, Lykins, Bacon Strip, Gold Stain, Picture Rock |
| | Phillips Stone Company, Lyons | Peach | Peach |
| | Sandstone Unlimited, Brighton | | |
| | Tribble Stone Company, Foothills Hwy | | |
| | Virgil Stone, Sedalia | | |
| | Western Stone Company, Lyons | | |

NOTES: "Blue Top" is underlying deeply bedded stone which has more dense hard-to-cut characteristics.

"Dendrites" are imperfections seen on the surface of stone caused by chemical process imperfections.

"Picture Rock" is stone of varied colors with unusual markings

Sandstone Quarry Names

(Keyed to map of quarries in Boulder to Lyons area)

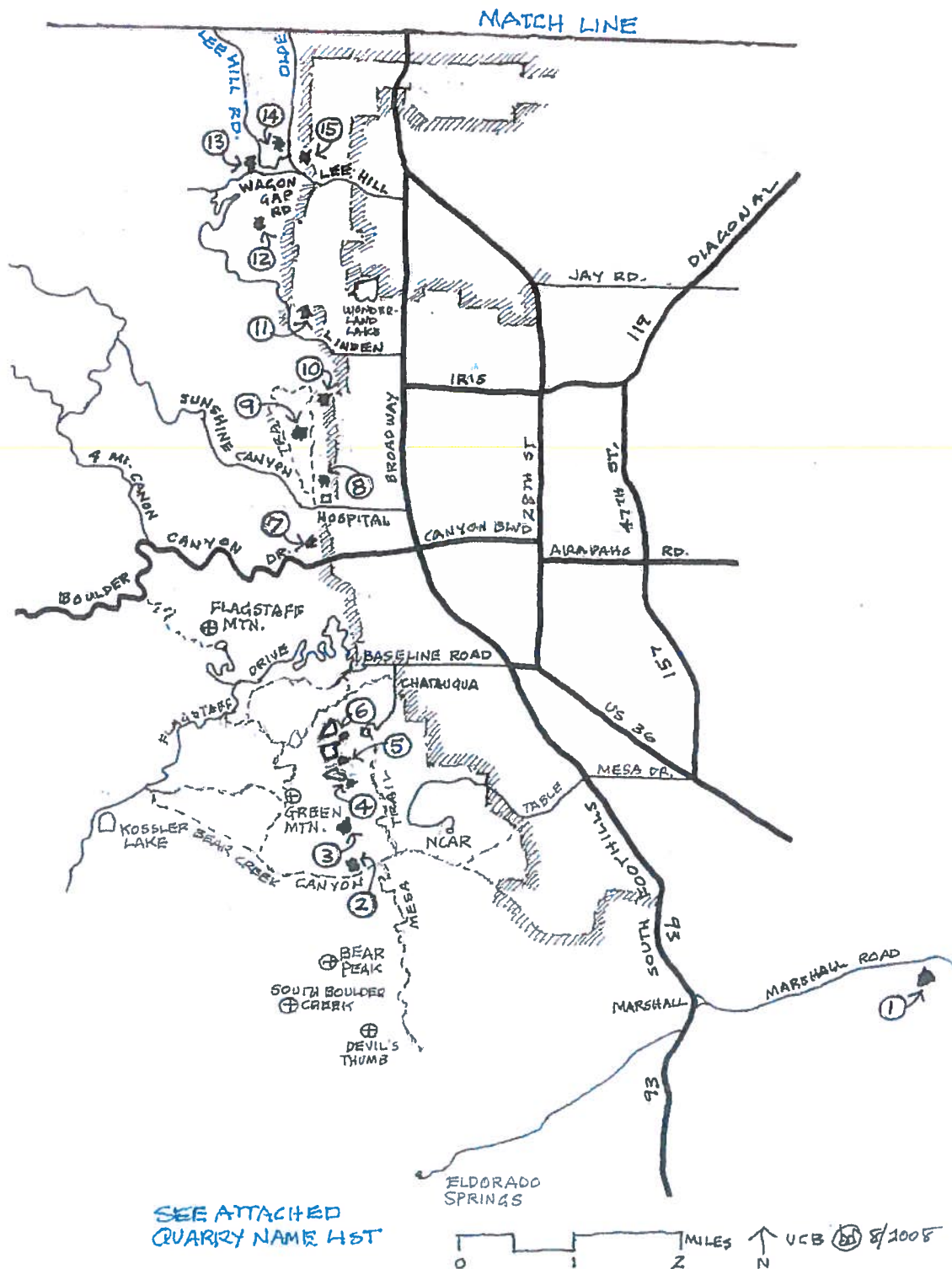
| No. | Name(s) | No. | Name(s) |
|-----|---------------------------------------|-----|----------------------------|
| 1 | Marshall | 13 | Case (Wilson-Case/Dr. Bond |
| 2 | Bear Creek | 14 | Un-named |
| 3 | Anderson | 15 | Limestone |
| 4 | Bergheim-Wood | 16 | Un-named |
| 5 | Third Flatiron | 17 | Geer |
| 6 | Bluebell | 18 | Un-named |
| 7 | Settlers Park | 19 | Un-named |
| 8 | Shinkle | 20 | No. 3 |
| 9 | Mt. Sanitas (Fraser-Grant,University) | 21 | Un-named |
| 10 | Anton Spier | 22 | Ingersoll (Pace) |
| 11 | Mr. Hurlburts's | 23 | Vickery/Whitestone |
| 12 | Two Mile | | |

Note: All quarries listed are either closed, abandoned, or on public or private lands often with limited or no public access.

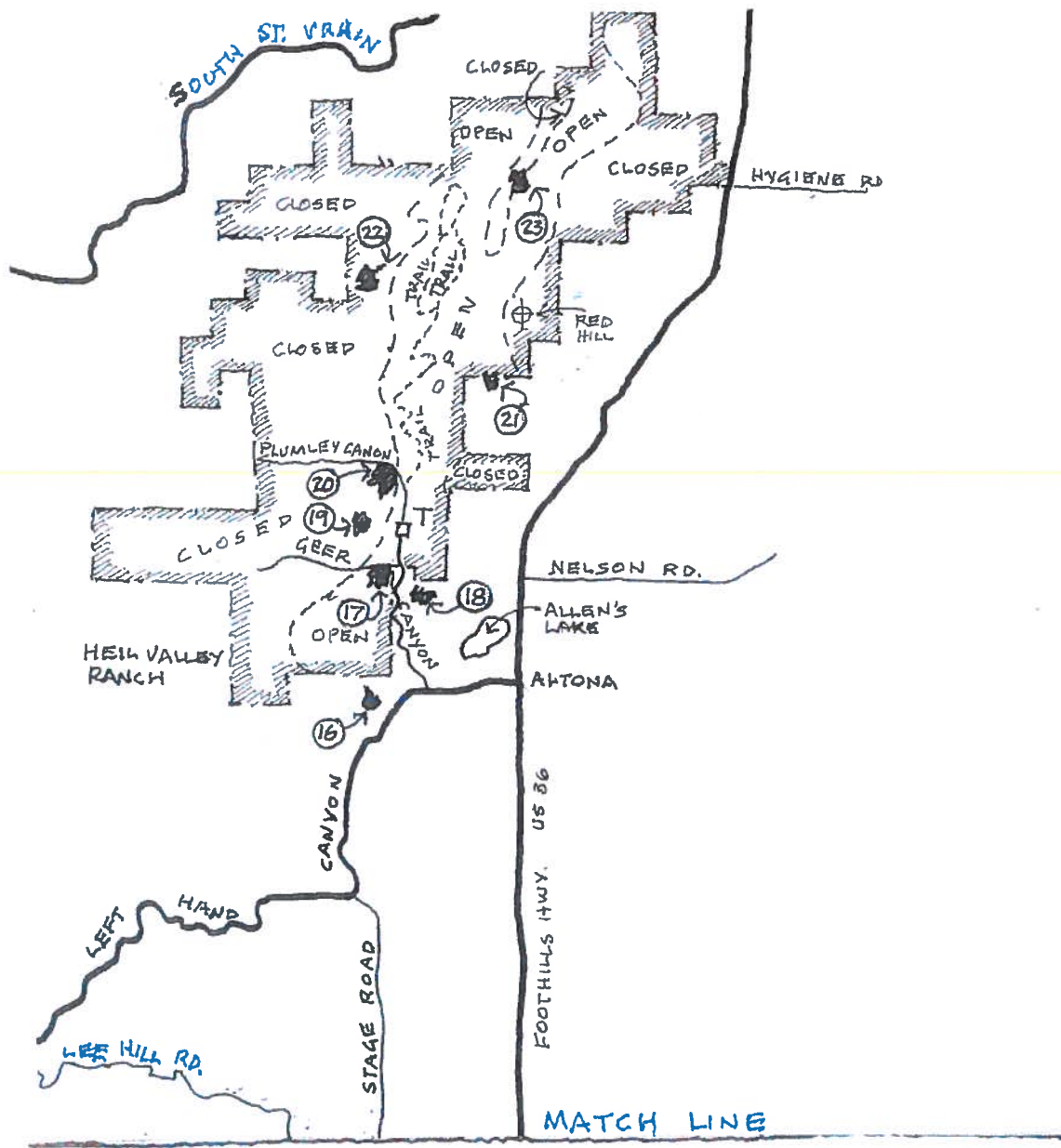
References: "Use of Native Stone in Boulder Construction" , Silvia Pettem and Ed Raines, 1999, "A History of the Lyons Sandstone Quarries" by Alfred C. Pace, 2006, and mapping sources of all kinds.

File: Planning>Campus Design>Sandstone>Front Range Quarries Booklet.doc

Quarry Map Marshall to North Boulder



Quarry Map North Boulder to Lyons



SEE ATTACHED
QUARRY NAME LIST



Sandstone Quarry Names

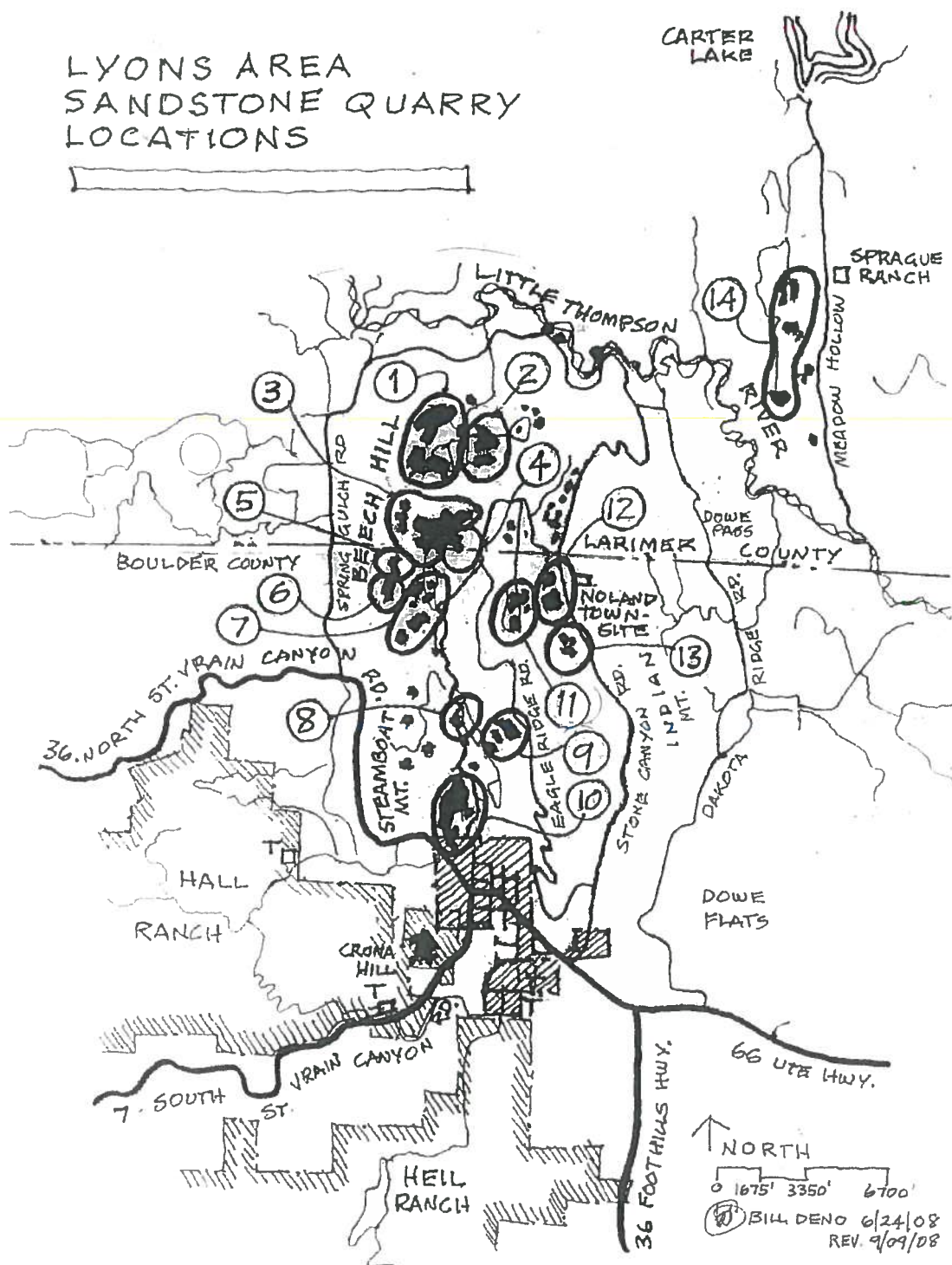
(Keyed to map of quarries in Lyons and Carter Lake areas)

| No. | Name(s) | Owner/Operator/Lessee |
|-----|---------------------|---|
| 1 | Lyons Sandstone | Buster, leasing small portion to Virgil |
| 2 | J.C. Burdick | Burdick, currently leasing to Raul Vasquez |
| 3 | Blue Mountain Stone | Raul Vasquez |
| 4 | T-Bone Stone | Richard and Linda Boersma, leasing to Bill Tenori |
| 5 | Pablo Vasquez | Pablo Vasquez |
| 6 | Chester Barnard | Barnard, currently leasing to Raul Vasquez |
| 7 | Loukonen Brothers | Loukonen Brothers |
| 8 | Neil Sprague | Neil Sprague (Old McCall Quarry) inactive |
| 9 | Montea | Montea |
| 10 | Boone | Boone, currently leasing to Perdue |
| 11 | Noland Stone | Ignacio Vasquez |
| 12 | O & A Stone | Arthur Vasquez |
| 13 | Phillips Stone | Phillips |
| 14 | Arkins Park Stone | Judy Sprague (3 principal quarries available) |

Note: All quarries listed are active as of this date, or as noted. Names and operators/lessees are subject to change from time to time.

References: "A History of the Lyons Sandstone Quarries" by Alfred C. Pace, 2006, personal review by Paul Frysig, Western Stone, various quarry operators, and Al Pace.

Lyons and Carter Lake Quarry Map



University of Colorado at Boulder
Office of the Campus Architect
October 9, 2008

Sandstone Quarry Names

(Keyed to map of quarries from Carter Lake to Horsetooth Reservoir)

| MASONVILLE AREA | | MASONVILLE AREA | |
|-----------------|--|-----------------|---|
| No. | Name(s) | No. | Name(s) |
| 1 | Weaver Quarry (Loukonen) | 4 | Arkins Park Quarry (Judy Sprague) |
| 2 | CLE Quarry (Philip Sprague) | 5 | Arkins Park Quarry (Judy Sprague) |
| 3 | Lyons Sandstone Quarry (Southwick & Bacon) | 6 | Rocky Road Quarry (Colorado Flagstone, Douglas Bachli and Wayne Phipps) |

Notes from a Rocky Road Quarry tour provided by Doug Bachli to Al Pace and Bill Deno and other various sources:

Those quarries identified by number in the Buckhorn Valley below Masonville are active operating quarries of Lyons formation buff sandstone. Those quarries un-marked by number are abandoned quarries no longer in operation. This includes those shown on the east and west sides of Carter Lake.

Quarries on the west mountain side of the valley are the Permian age Lyons formation unique in color and hardness. The hills(hogback) east of the valley contain stone from the Dakota formation period which is difficult to quarry and work as the Lyons sandstone is easy to work.

Masonville buff stone ranges in earth tones from off white to dark brown, but no reds. It can be split along fracture lines much like stone around Lyons, but it is more dense and can be polished to a high gloss, a unique feature of this particular stone.

Sandstone Quarry Names

(Keyed to map of quarries from Horsetooth Reservoir to Bellevue)

| HORSETOOTH to BELLEVUE AREA | | HORSETOOTH to BELLEVUE AREA | |
|--------------------------------|---|--------------------------------|---|
| No. | Name(s) | No. | Name(s) |
| 1 | Fort Collins Red (est. 1889) | 7 | J.J. Bradley (est. 1887) at least 4 quarries along the shore an inland |
| 2 | Weison (est. 1886) | 8 | Frey quarries above Quarry Cove along present shoreline. |
| 3 | Metcalf Lease (1894) | 9 | Batchelder along shore between Quarry Cove and Dixon Cove. |
| 4 | American Red Stone (Brewster) (est. 1895) | 10 | Both Lord and Kane operated quarries north of Inlet Bay |
| 5 | A.E. Lee, Hale and Brunton Fort Collins Red Sandstone (Satanka Cove) | 11 | Batchelder had a major quarry between the Kane operation and Inlet Bay |
| 6 | Hale and Brunton Fort Collins Red Sandstone (Soldier Canyon and a quarry or two off-shore under water. | 12 | The Stout Quarries were four major operations north of the town called Stout, now Horsetooth Heights. |

Reference and notes from Richard E. Lippoth and research from maps and internet searches.

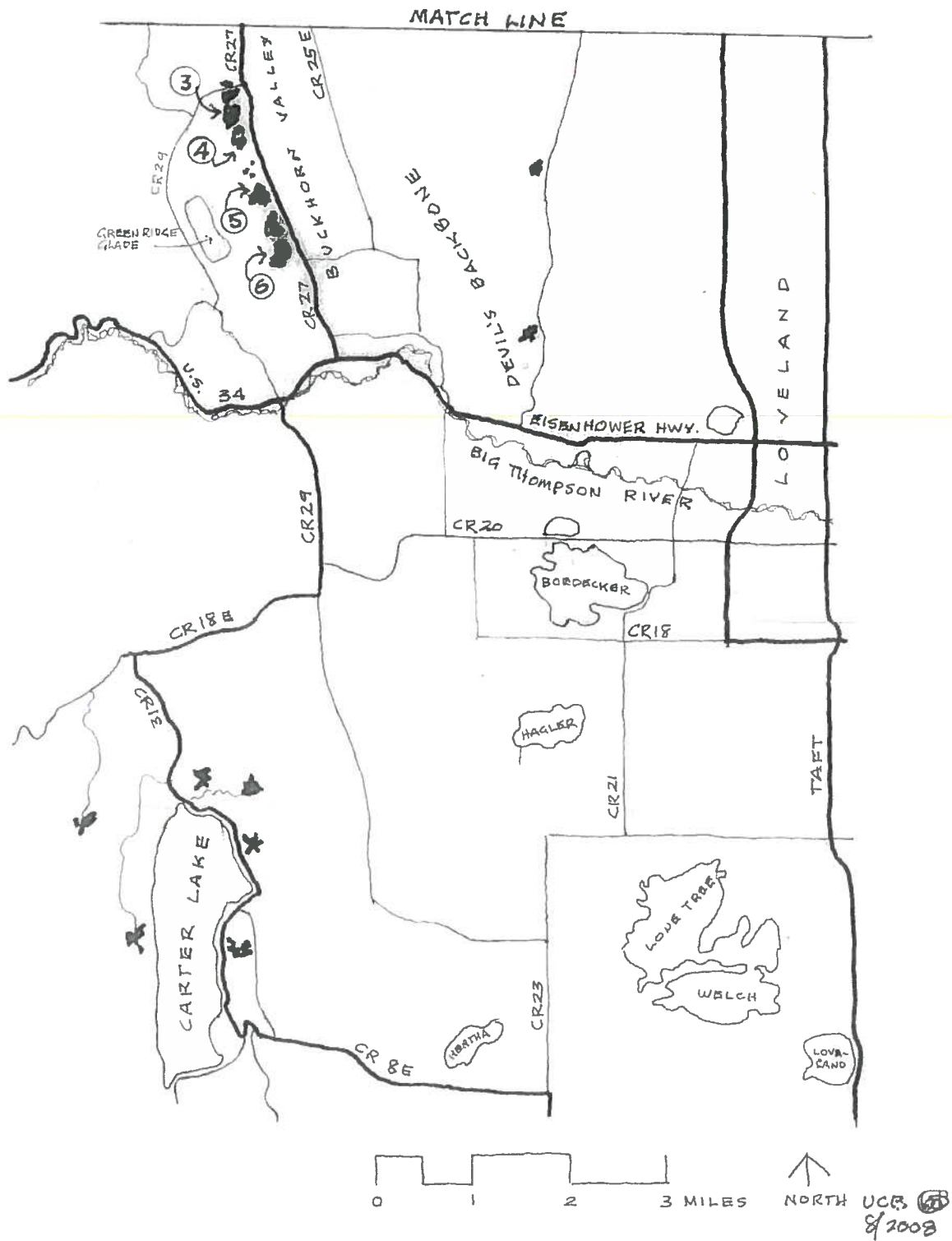
All quarries marked are either closed since the 1930s, abandoned, or on public or private lands often with limited access, for example, most reservoir shoreline quarries are only accessible by boat and some are now under water.

The numbered quarries were larger operations, the most being the Stout quarries operated by the Union Pacific Railroad. A spur line was used to carry the stone north to the main line. The American Red Stone Quarry near Bellevue was quite a large operation with its own rail spur and fabrication shops. Stone was rail-shipped around the state and beyond in the first decades of the last century.

Quarry locations not keyed on map are small operations also closed as above and are not named. Most were used by local masonry contractors on an as needed basis.

Generally, quarries located north of Eltuck Bay were Ingleside formation, massive red-orange sandstone, and those located south of that point were dominantly Lyons formation buff stone. Both did not have clear laminations and resulted in thick cut stone as opposed to thinner strip stone as found in the Lyons, Colorado area.

Quarry Map from Carter Lake to Masonville



Quarry Map Masonville to Bellevue

