



CITY

DEPOSITS

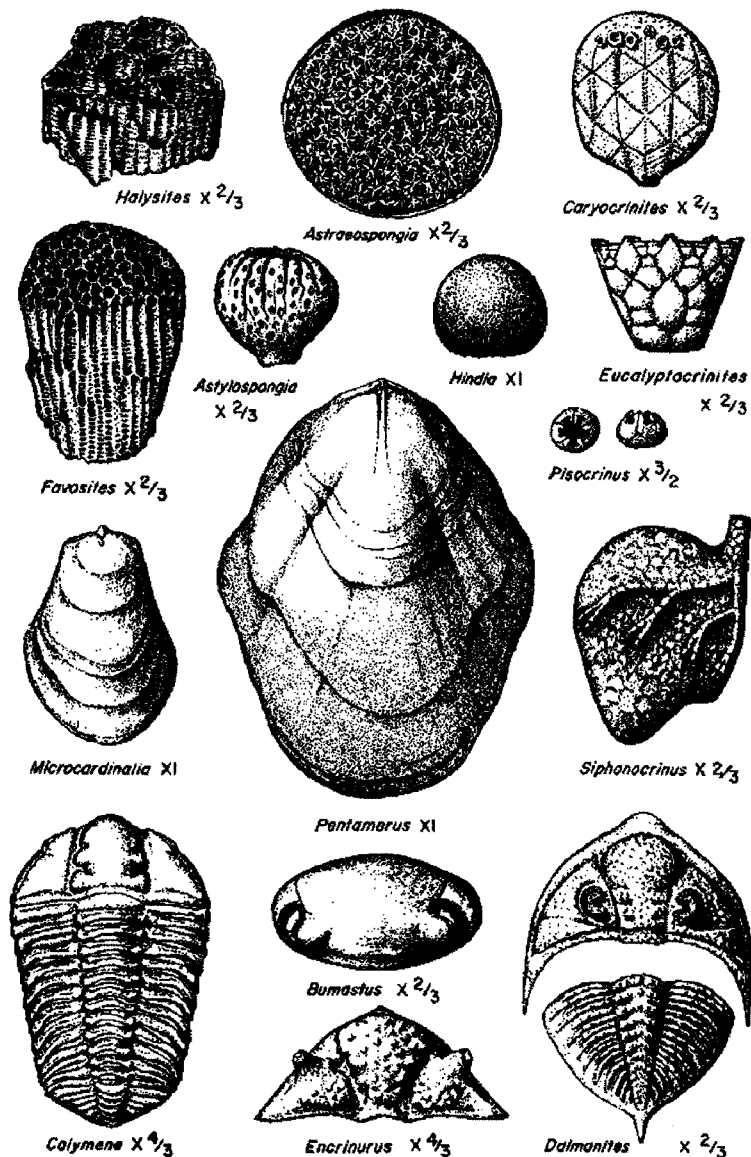


Fig. 8-12—Typical Silurian fossils.

CITY DEPOSITS

A Guide to Chicago's Limestone Quarries

1. Chicago Union Lime Works
2. Artesian Stone and Lime
3. Rice Stone Co.
4. Stearns Quarry
5. The Bridewell

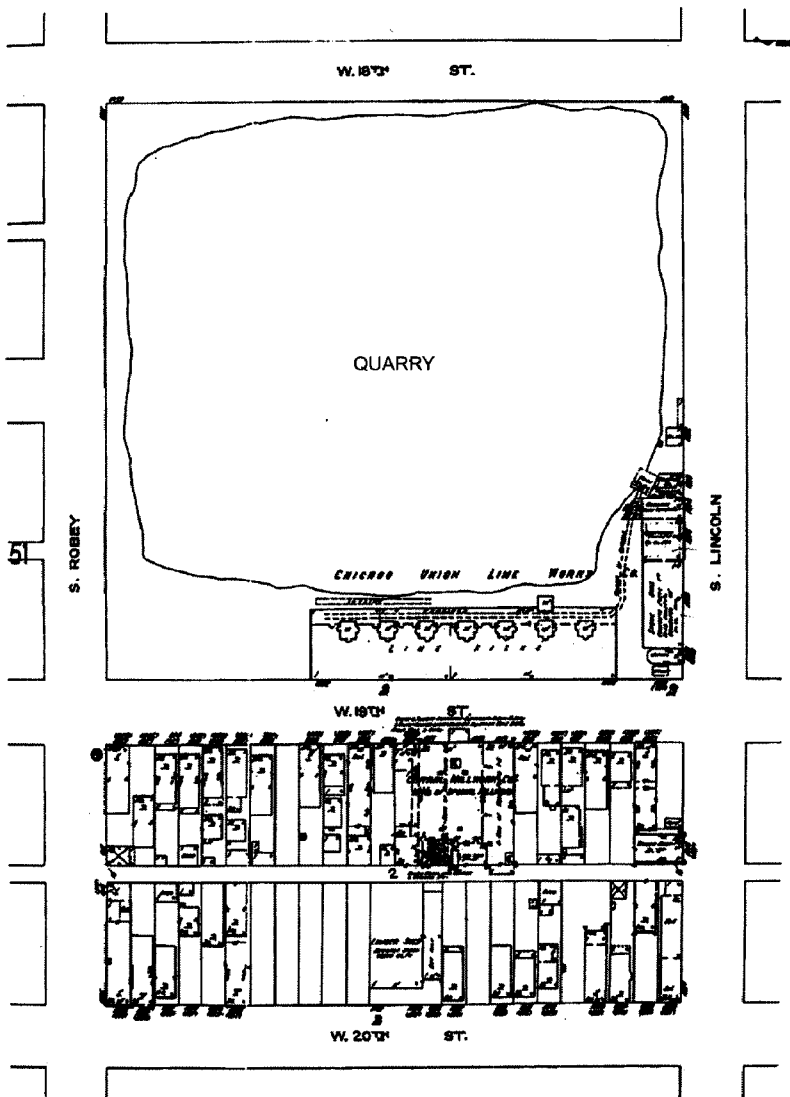
Limestone quarries in Chicago produced crushed stone, macadam, and lime, primarily for roads and buildings, from 400 million year old Silurian era dolomite. When all the stone was gone, the holes were filled with garbage.

Lime was also used as a soil sweetener for farming, and a conditioner for cess pits, as well as a flux for making steel, a disinfectant, a bleach, a medicine, a component of explosives and glass, for tanning leather, and for all kinds of building projects using plaster, mortar, or early cements. Its use in building was largely replaced by new portland cements (also made from dolomite) around the 1920s, which was also around the time when many of the inner city quarries were abandoned.

Macadam was named after John MacAdam, a Scotsman who came up with the idea in 1816 of making roads with layers of different-sized stones packed together and flattened with a heavy roller. Roads now made with asphalt and concrete still require enormous amounts of crushed stone as aggregate. And of course the cement for the concrete is produced by burning limestone.

Silurian era dolomite formed as reefs from the accumulated deaths and transfigurations of innumerable calcareous sea creatures. At the time, Illinois was positioned below the equator, and submerged. These reefs were more durable than the surrounding, softer, limestone sediments, which eroded over geologic time and were replaced with clay. Most of the accessible reef rock inside Chicago was discovered by accident. The quarries were constrained from sideways expansion by the grid of city streets, and could only go deeper until all the Silurian era stone was used up (400 feet, about the depth of a 30 story building, buried).

Reefs in the suburbs and downstate continue to be quarried to supply the Chicago road building and construction industries, but stone, like garbage, is expensive to transport. Local sources (and local depositories) are always preferred. Thornton Quarry, 20 miles south of the Loop, is the second largest stone quarry in the world, and has about 40 to 50 years of grade A stone left to remove. The Northern section, however, is already closed and will become a runoff basin for the Metropolitan Sanitary District's Deep Tunnel Project.



Chicago Union Lime Works

Between 18th and 19th streets at Damen (used to be Robey) in Pilsen; the Mexican Fine Arts Center and Harrison Park border the site to the east.

Depth: 380 feet at closure

Products: lime, macadam, concrete, crushed stone

Access: Open in all directions; a fringe of trees around the edge protects snoozing people from 90 degree heat. Vegetables and fruit are for sale out the back of a truck at the corner of Damen and 19th.

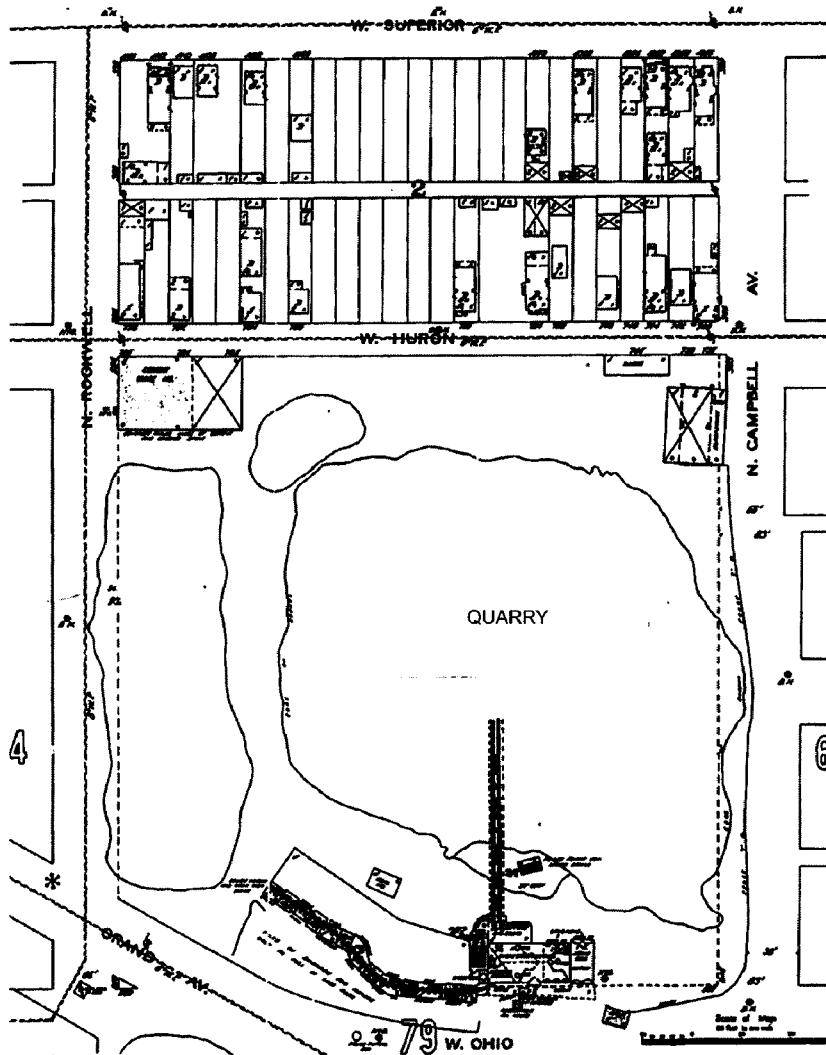
"... the limestone here is a dolomite with about 54 per cent carbonate of lime and 44 percent carbonate of magnesia, affording very strong lime. . . The beds are nearly horizontal, and so much fractured that no dimension stone is quarried." (Alden, 1902)

Because the stone was not suitable for building stone, most Chicago area limestone was quarried by blasting, and the fractured rock hauled out in wheelbarrows. Lime was burned in kilns on site. Heat separated carbon dioxide from the calcium carbonate, leaving quicklime, which reacted violently with water. This reaction could be avoided by "slaking" the lime with water first under controlled conditions. Slaked lime provided the base for making mortar for brickwork and could be transported less precariously.

Quarrying at Union Lime seems to have stopped in 1929 when the entire deposit of Silurian era dolomite had been removed to the rigid boundaries of the streets. The site immediately became a dump and was filled to the brim by the mid 1940's. In 1942, the Dept of Streets and Electricity reports dumping 516,734 cubic yards of trash here. The Chicago Park District acquired the site in 1950, and it is now a large playing field.

Someone told me that a core sample taken at the site retrieved all sorts of objects from the 30s that hadn't decomposed, including socks and cameras. But I can't find any hard data on that, and the person who told me this has retreated into obscurity. I also heard that the mound at the Northwest corner where the annual Good Friday Passion play is held gets smaller every year, and that when it rains, the fields stay wet, attracting ducks. In general, though, it has been very hard to find information on any of the inner-city quarries, or their subsequent lives as dumps. First there is the metaphysical problem of a hole, which isn't really a "thing," and then the problem of the hole being filled in, and covered up.





Artesian Stone and Lime

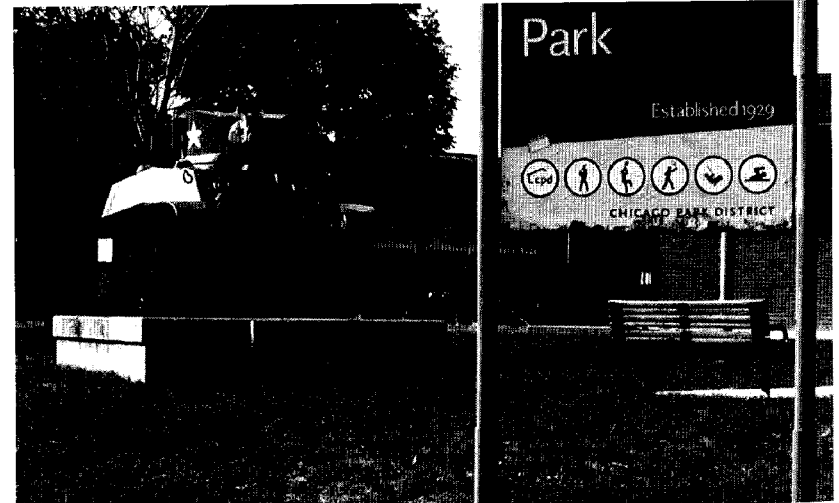
2526 W. Grand Ave., near Western, between Campbell and Rockwell

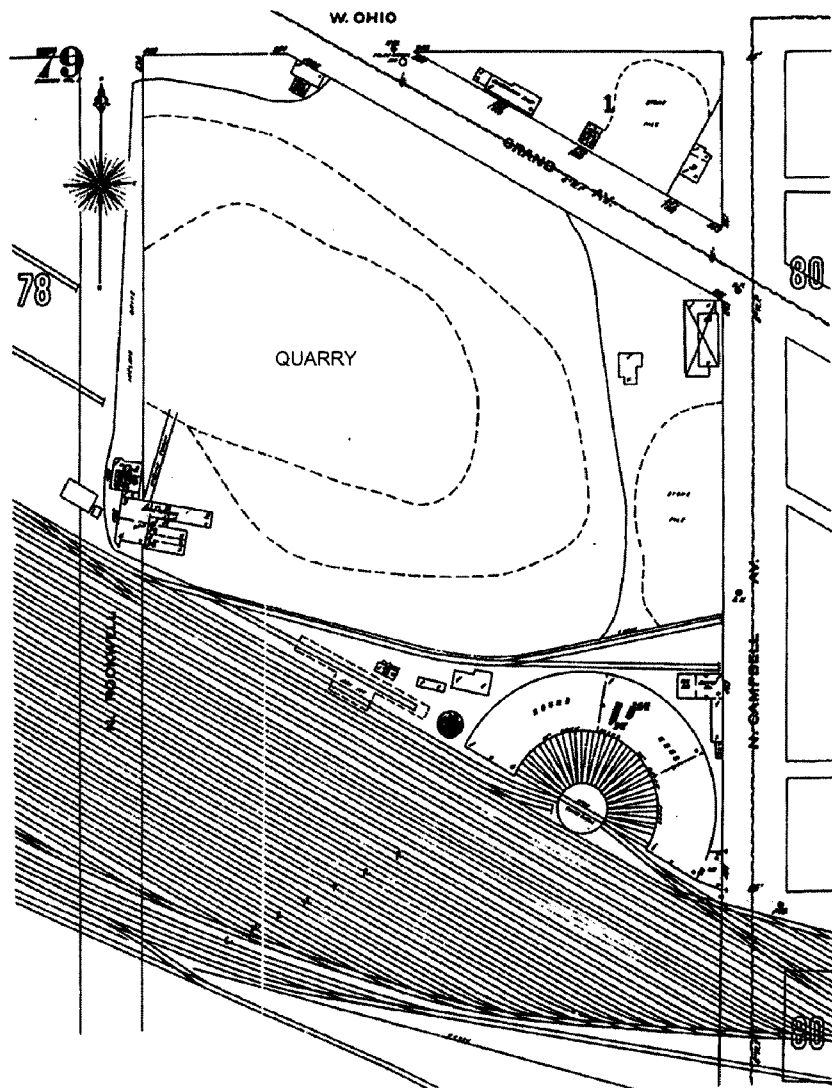
Depth: 250 feet in 1922

Products: lime, macadam, concrete, crushed stone

Access: Artesian Stone and Lime can be recognized by the elevated combat tank sitting on the north side of Grand Ave near the intersection with Campbell. You will also see a flagpole, seating area and signage for Smith Park; a fieldhouse and athletic fields stretch behind. If you are travelling west on Grand, turn right on N. Campbell and left on Huron, where you can get the broadest view of the site., and where you can park if you are driving.

Fire Insurance maps show the Artesian quarry at 110 feet deep in 1896; by 1922, the hole was 250 feet deep and had been excavated to the boundaries of the almost rectangular city block (with a corner sliced off by Grand Ave.). It must have been converted to a city dump soon after, because in 1929, the dump was completely full and the site transferred from the Department of Streets and Electricity to the Bureau of Parks and Recreation. It was named Smith Athletic Field, after the local Alderman at the time, and it used to be flooded in winter for ice skating. The blue outdoor pool on Grand Ave reminded me of the abandoned granite quarries in upstate New York where I grew up. They were thrilling and terrifying swimming holes of unknown depth. It seemed that a teenager died in one every year by diving from high up and cracking their head open on an underwater ledge. Or else it was the same teenager, and the story recycled her ghost to make us afraid. The Smith Park pool is entirely transparent, and 8 feet at the deep end.





Rice Stone Co.

2505 W. Grand Ave., near Western between Campbell and Rockwell.

Depth: 125 feet in 1896

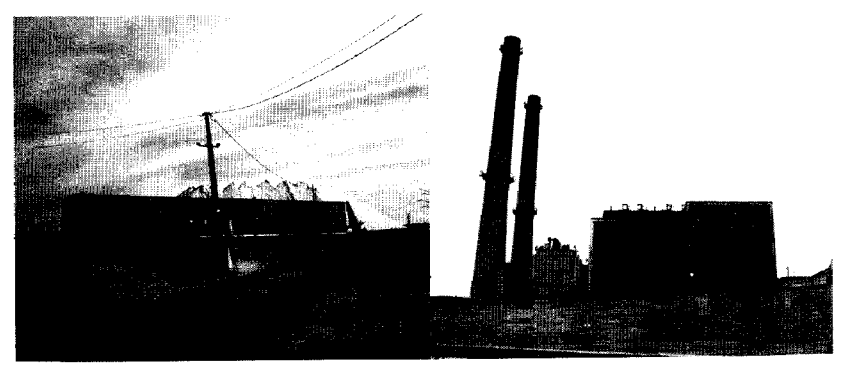
Products: crushed stone for macadam, and lime

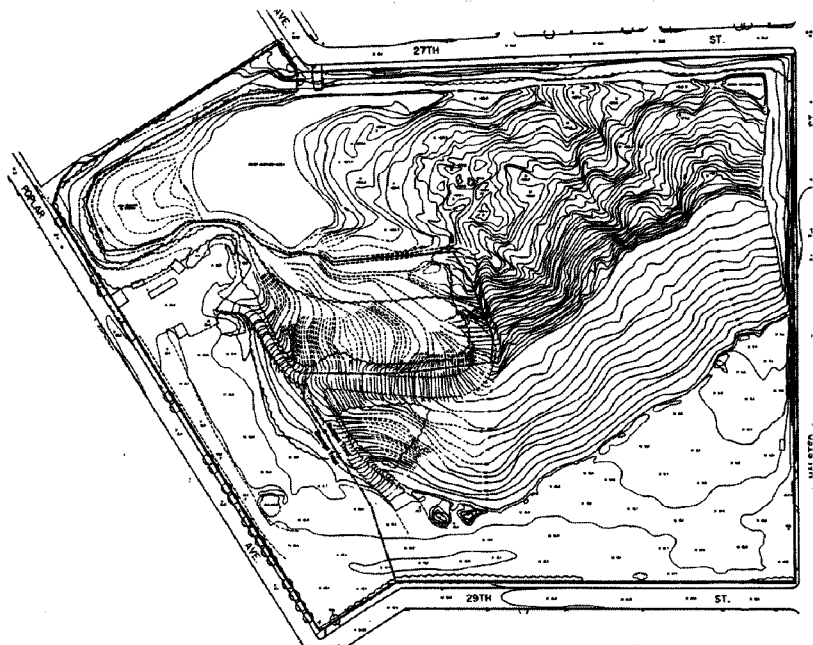
Access: Approaching the site of Rice Stone Co. from the west on Grand Ave., you will see a driveway heading up to an elevated yard paved in cracking asphalt and hosting piles of salt. The trailer office door is unlocked, but I didn't find anyone in. A little further east, on the southwest corner of Grand and Campbell, is the 1st Ward Streets and Sanitation office. That door seems to have been locked for a long time. Behind the site are Metra tracks which have replaced the massive railroad yard previously located there.

Some time between 1896 and 1922, the dates of the two available Fire Insurance maps showing this site, Rice Stone Co.'s quarry was transformed into a city dump. The elevation of the site suggests that the accumulated pile might have risen quite high above the street before it was capped.

In the 1960s and 70s Chicago burned most of its garbage in inner-city incinerators, and still had to find holes to dump the ash. The incinerators were plagued by technical problems and released a high volume of toxins into the air, which especially affected nearby residents. Most were shut down by the early 80s, but the Northwest Incinerator, located at Kilbourn and Chicago, was brought on-line in 1971 as the biggest and best version of a waste-to-fuel facility "in the northern hemisphere" and wasn't shut down until 1996. It was fought tooth and nail from its conception by an environmental justice coalition called W.A.S.T.E. —West Side Alliance for a Safe and Toxic Free Environment—which finally succeeded in shutting it down, only after it deposited lead and mercury and other unconscionable materials into the bodies of West Side residents for over 20 years.

The West Side was also plagued by illegal fly-dumping on vacant lots, facilitated by bribes to aldermen. The FBI's "Operation Silver Shovel" in the mid 90's engaged known fly-dumpers as moles to expose political corruption, meanwhile allowing piles of waste to accumulate for years in poor neighborhoods without intervening.





Stearns Quarry

S. Halsted St., between 27th and 29th Streets; Poplar to the west.

Depth: 354 feet in 1970

Products: 1830s: dimensional stone to build Chicago harbor

1850s-1970: lime and crushed stone for concrete and macadam

Access: Entrance on Halsted is locked, and high berms shield most views from the surrounding streets, but partway down 27th street before it turns you can see some distance into the center of the quarry.

I lived on Archer Ave, one block from Stearns Quarry, between 1987 and 1989, without any idea that the hole existed. The entire site was hidden behind high opaque fences and for some reason it didn't occur to me at the time to try to look inside.

When quarrying began at this site in the 1830s, anyone could extract stone for free. In a few short years, though, it became private property, and quarryers were hired as laborers by the new owner.

When all the usable stone had been removed to its maximum depth in the 1950s, plans were developed to continue quarrying by tunnelling sideways under the streets, but this didn't work out. Ambitious sixties-era proposals included turning the giant hole into an atomic bomb shelter, a sports arena, a cliff-hanging apartment complex, and a sewer overflow basin. Instead, the City of Chicago bought Stearns Quarry from the Materials Services Corporation in 1969 for 9 million dollars to use as a dump for construction and demolition debris and for ash from the yet-to-be-completed Northwest incinerator. The 17 acre hole was estimated to have a 12 million cubic yard capacity, if such figures are meaningful to you. For most of us, they are very abstract. Incinerator ash stopped being accepted in 1987 (it was sent to Will County), but construction debris continued to come in, much of it made, of course, of the same materials that had been taken out—cement, mortar, gravel, glass.

The Chicago Park District is now reconstituting the site as an unprecedented type of urban park, with dramatic topography, a fishing hole and scuba diving pool, a sledding hill, a preserved quarry wall with visible fossils, a "natural" amphitheater, and an elaborately engineered water management system. This system includes an underground pump to remove existing leachate draining toxins from the buried incinerator ash, and an overground sequence of ponds that collect and filter surface rainwater and prevent it from contributing to the leachate below. Artist and Landscape Architect Julie Bargman, of D.I.R.T. Studio, is acting as co-designer with the Park District. The project has the potential to provide access both to geologic and human histories of deposits, as well as the required recreational opportunities.

The quarry was placed on the federal superfund list in 1988 because of worry about toxins leaching out from the incinerator ash into Bridgeport's groundwater. However, although some of the fill is toxic, tests indicated that it didn't seem likely that toxins were travelling and the site was removed from the superfund list in 1989, the year I moved to California.

Contaminated waste and garbage was never accepted at Stearns, in large part because the Mayor lived there.



Known Solid Waste Disposal Sites inside Chicago's City Limits

*Harrison Park (19th / Wolcott)
 *Grand / Rockwell
 *Stearns Quarry
 *28th and Sacramento
 31st and Benson
 119th and Racine
 North of Lake Calumet
 103rd and Doty
 108th and Doty
 103rd and Lake Calumet
 125th and Doty
 118th and Doty
 59th / Wallace
 84th / Prairie
 86th / Wood
 81st / Wallace
 W. arm, S. fork, S. branch, Chicago river
 46th / Damen
 84th / Dorchester
 81st / Vincennes
 85th / Cottage Grove
 71st / Wabash
 80th / Emerald
 63rd / Racine
 84th / Buffalo
 Illinois Michigan Canal
 27th / Homan
 Chicago / Homan
 Ohio / Trumbull
 16th / Indiana
 26th / Wentworth
 Municipal Pier
 36th / Ashland
 33rd / Hamilton
 34th / Wood
 33rd / Wallace
 31st and Benson
 119th and Racine
 137th and Dorchester
 93rd and Wentworth
 109th and Loomis
 97th and Cottage Grove
 101st and Crandon
 114th and Cottage Grove
 U.S. Drum (135th and Hoxie)

Calumet Nu Earth (130th and Doty)
 95th and Michigan
 92nd and Stony Island
 Altgeld Gardens (130th and Indiana)
 95th and Van Vliissingen
 99th and Van Vliissingen
 93rd and Colfax
 95th and Torrence
 112th West of Torrence
 118th West of Torrence
 119th West of Torrence
 120th West of Torrence
 123rd West of Torrence
 129th at Calumet River Junction
 127th and Stony Island
 120th and Doty
 134th and Woodlawn
 132nd West of Little Calumet
 117th and Brandon
 135th and Brandon
 113th and Avenue O
 96th and Commercial
 101st and Manistee
 100th and Marquette
 93rd and Ewing
 119th West of Calumet River
 116th East of Calumet River
 114th East of Calumet River
 Wrightwood and Narragansett
 Fullerton and Narragansett
 Devon and McCormick
 Addison and Narragansett
 Grace and Campbell
 Horner Park (Montrose and California)
 Grace and Chicago River
 Irving Park and Chicago River
 Irving Park and Campbell
 Montrose Harbor
 North Lincoln Park (south of Foster)
 North Lincoln Park (North of Wilson)
 Lincoln Park (Barry and Lake Shore)
 Willow and Clybourn
 Paxton Landfill (122nd and Torrence)
 Chirillow, Thomas (no address given)
 12200 S. Stony Island (Land and Lakes)

13416 S. Indiana (Land and Lakes)
 1258 e. 13th (LHL Landfill Company)
 Chicago Metro Sanitary District #2
 Palumbo Excavating
 Dept of Streets and Sanitation (site?)
 Ave "O"
 Calumet Harbor
 Rock Island R.R.
 Chicago Regional Port District
 116th Street Dump
 Cottage Grove Dump
 Pullman Incorporated
 Chicago Metro Sanitary District #3
 United States Scrap
 16th Ward Transfer Station
 Interlake Inc – Coke Plant
 William H. Power (no address given)
 Fargo Project
 Southeast Mobile Homes
 CID #2 / 138th and I-94

South Chicago Works
 Torrence Avenue Landfill
 Calumet Container
 Envirotherm
 JP Rubbish Company
 Chicago Metro Sanitary District #4
 Chemical Services
 Rapid Disposal
 Inland Metals Refining
 Sherwin Williams Co.
 113th East of Calumet River
 109th East of Calumet River
 110th East of Torrence
 107th East of Torrence
 108th East of Torrence
 79th and Western
 55th and Knox
 67th and Springfield
 Archer Ave and California

(1987, Chicago Dept. of the Environment)

Note:

Quarries and clay pits in the middle of the city seemed like obvious repositories for solid waste (nature abhors a vacuum). But the majority of disposal sites, and the most toxic, are located in industrial areas at the edges of the city in poor and minority neighborhoods. The ultimate example was the construction of Altgeld Gardens, a public housing project, on the site of a former dump at 130th and Indiana. The area around Altgeld Gardens and Lake Calumet has one of the worst concentrations of toxic waste in the nation. Hazel Johnson, a resident of the Gardens, created People for Community Recovery in 1982, more than a decade after her 41-year-old husband died of cancer, and she saw numerous other residents falling sick. Johnson and PCR were early heroes of what developed into the environmental justice movement.

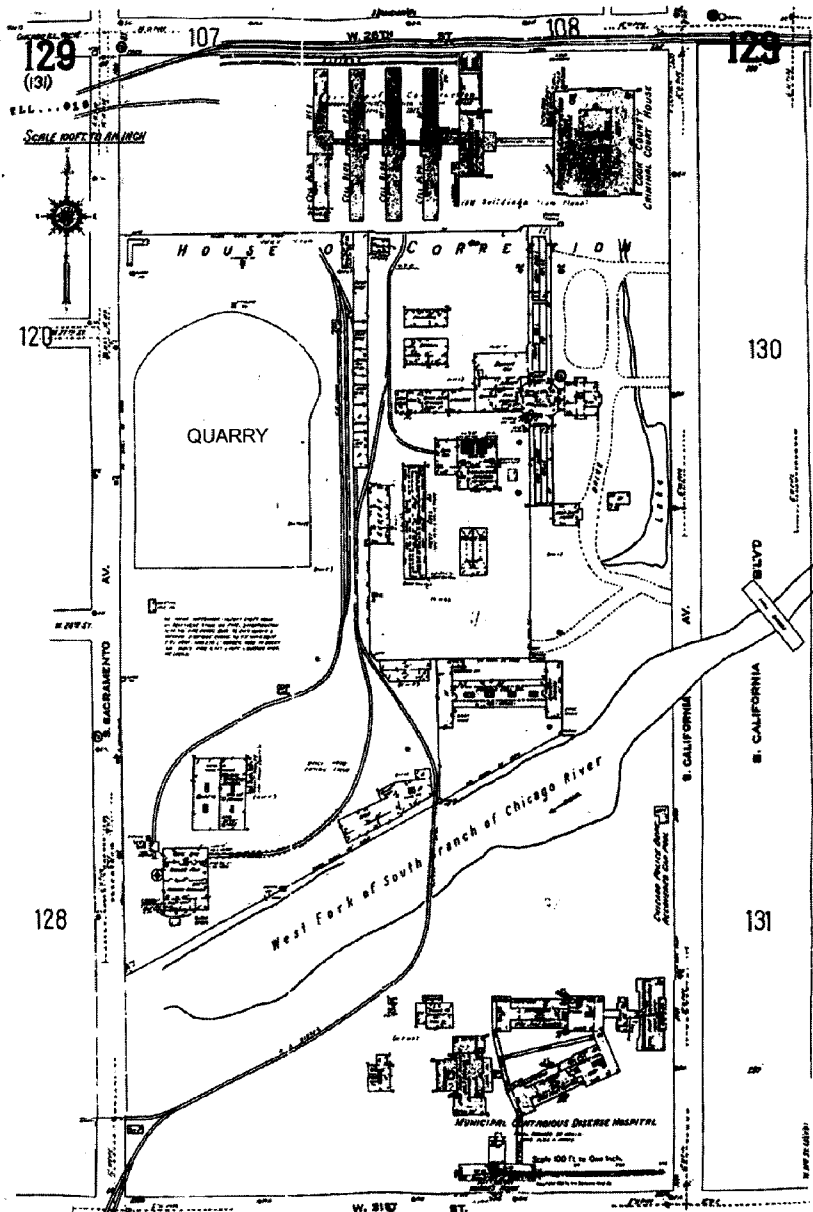
Mayor Harold Washington placed a moratorium on new landfills inside Chicago in 1984, and a 20-year ban was passed in 2005 by the City Council, but the effects of the existing landfills continue, neck in neck with the problem of where to put our waste. To make things worse, I would like to see all the garbage dug out of Chicago's former limestone quarries in order to re-open the holes, as, well, useless, cavernous, holes.

Stearns Quarry, 1907



Chicago Union Lime Works, 1907





The Bridewell

Sacramento Street, between 27th and 28th

Depth: 175 feet in 1923

Products: crushed stone

Access: no access

"Bridewell" was a generic term for a jail for poor people who couldn't pay fines for misdemeanors or were simply in debt. When Chicago's Bridewell, also called the House of Correction, moved to the 37 acre Sacramento Street site in 1871, prisoners were jailed 1 day for every 50 cents owed. In 1948 prisoners were jailed one day for every \$2 they owed. Most debts were under \$50. In 1970, the City's House of Correction was merged with the Cook County Department of Corrections.

In 1901 limestone was found in the clay pit and a quarry was opened. Between 1902 and at least through 1920 the Bridewell prison quarried and sold crushed stone, along with many other profit-seeking enterprises listed in annual reports by the private company contracted by the city to run the Bridewell. Ironically, trash recycling was practiced in the early years of the 20th century for economic reasons, but abandoned later as production became more automated, and cheaper. When the prison quarry became a dump, prisoners were employed in sorting trash for salvageable materials, including tallow and grease.

A Fire Insurance map from 1923 shows an outline of the prison quarry like a slice of toast located just inside what is now four layers of razor wire fence on Sacramento. In March of 1947 a 100 foot section of prison wall here collapsed because it was undermined by water seeping from the abandoned quarry, which was, at that time, an open dump. "Thousands of gulls and other carrion birds scavenge the dump by day. Rats from the dump formerly invaded the cell houses by night but their number has been reduced. We've killed thousands. The level of the dump in several places is more than 6 feet above the surrounding terrain." (Chicago Tribune) In that same year the Tribune also reported DDT used as a cleanser at the prison.



Bridewell Quarry 1907



Offenses

abandonment of wife
adultery
adultery and fornication
fornication
breach of the peace
conspiracy
cruelty to animals
embezzlement
gambling
petty theft
impersonation of officer
vagrancy
pandering
maliciously driving away a horse
malicious mischief
lounging and loafing
disorderly conduct
disorderly houses
debt

Products

bricks
brooms
chairs
cement ware
crushed stone
flowers and potted plants
laundry bags
leatherware
printing
tallow and grease (salvaged from dump)
rag picking (salvaged from dump)
unloading and hauling coal
1500 tons of ice from lake on front lawn
bread in large loaves
ginger cakes
buns and cookies
nets (women)
scrim (women)
laundry for the Chicago police (women)

SOURCES

Chicago Historical Society:

clippings file, "The Bridewell"
Annual Reports of Chicago's House of Correction
Annual Reports of the Dept of Streets and Electricity, and the Dept of Streets and Sanitation
On-line picture files (House of Correction)
On-line Sanborn Fire-Insurance maps (small sections of which were downloaded, xeroxed, scanned, and reprinted here without permission)

Harold Washington Public Library, Municipal Reference Collection:

"Historical Inventory of Solid Waste Disposal Sites in Northeastern Illinois,"
Chicago Dept of Environment
"Closure and Post-Closure Plans for Stearns Quarry"

David Naguib Pellow, *Garbage Wars: The Struggle for Environmental Justice in Chicago*,
MIT Press, 2002

Line Cohen, *The Chicago Reporter*, "Waste Dumps Toxic Traps for Minorities," April 1992

William Alden, *Geology of the Chicago Region*, 1902

Don Mikulic and Joanne Kluessendorf, "Classic Silurian Reefs of the Chicago Area,"

ISGS Guidebook 29, Illinois Geological Survey, 1999

Chicago Park District and D.I.R.T. Studio, "Stearns Quarry Park, Design Study," 2001

Websites:

Ellin Beltz,
About Lime Kilns
The History of Cement
Chicago Park District, Histories of the Parks
Encyclopedia of Chicago, Waste Disposal
Stone Quarries and Beyond: List of Quarries in Illinois and Quarry Links
Center for Neighborhood Technology
Cleveland Indy-Media 2005

Conversations:

Carlos Tortolero, Mexican Fine Arts Center
Bob Foster, Chicago Park District
Julia Bachrach, Chicago Park District Historian
Don Mikulic, Illinois State Geological Survey
Bob Sap, Material Services Corporation
Mr. X, Material Services Corporation: "I don't have anything to give ya on that, best of luck though"

A. Laurie Palmer, City Deposits, 2005