

PORTLAND SAND AND GRAVEL

SITE DESCRIPTION

Portland Sand and Gravel is 31.5 acre site located in Multnomah County on S.E. 106 and Division Streets (Figure 1, S.E. 1/4 Section 3, T1S, R2E Willamette Meridian).

Initial mining at the site began in 1918, with more extensive excavations beginning ten years later in 1928. Aggregate resources at the site will continue to be mined for approximately one more year at which time the site will be available for alternate uses.

LAND USE

The site is located within the Metropolitan Service District and within the Urban Growth Boundary. Zoning in the area was recently changed from M-3 to LM (light manufacturing). Zoning approval to convert the site to a sanitary landfill involves amending the current land-use code to C-S (community service designation) via a hearing process with Multnomah County. Surrounding land uses include residential, industrial, commercial and park land.

DESCRIPTION OF IMMEDIATE VICINITY

The west side of the fill is bordered by residences and a school, the north side by a strip of county park land, the east side by residences and the south side by Division Street.

ACCESS

The site is directly accessible from S.E. Division Street. Major arterials intersection Division Street are S.E. 122nd (.6 miles from the site) and Interstate 205, which is currently under construction (also .6 miles from the site).

CAPACITY

Estimated capacity of the site is 2,750,000 tons.

CLIMATE

Annual rainfall is 50 inches.

Prepared by Metro Staff

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7675/122

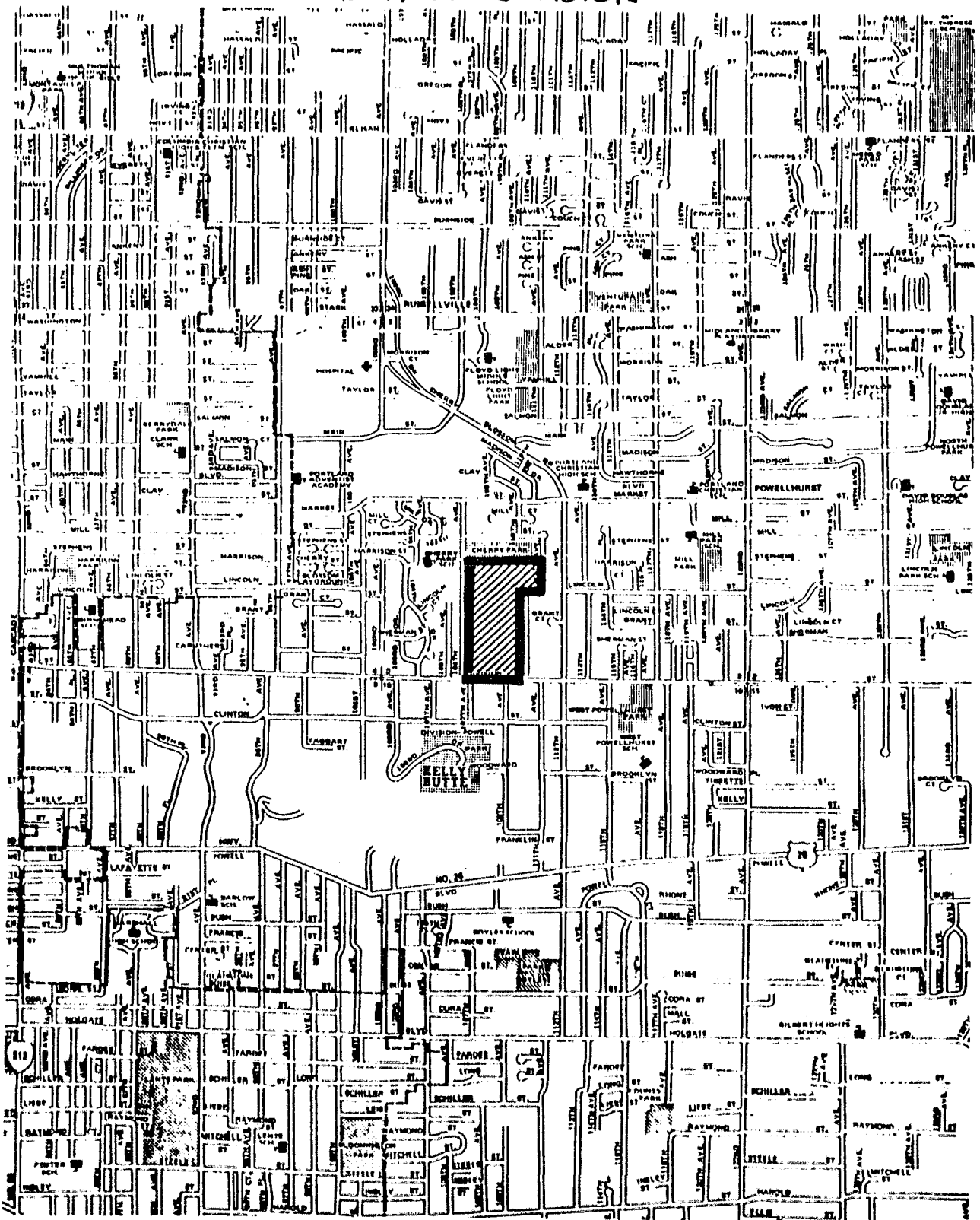
Portland Sand & Gravel

Landfill Summary

Existing Use	Gravel Pit
Surrounding Uses	Residential Commercial Park
Owner	Bill & Rose Craswell
Area	31.5 Acres
Physical Features	Gravel Pit
Access	Division Street
Cover Material Availability	Mostly Imported
Unusal Features	Large Gravel Pit
Capacity (tons)	2,750,000
Perimeter	5,300 feet
Area Bottom	740,000 feet ²
Area Top	1,078,000 feet ²
Depth	140 feet
Site Life *	8 years

* Based on 350,000 ton/year generation rate

FIGURE 1
PORTLAND SAND AND GRAVEL
0717 SE DIVISION



GEOLOGY

Geologic Units

The bedrock underneath the 106th and S.E. Division site consists of several lava flows known collectively as the Columbia River Basalt. The basalt is probably 1,000 feet thick and was extruded between 11 and 25 million years ago, during late Miocene time.

The Sandy River Mudstone, a sedimentary deposit of sands, clays and mud, overlies the Columbia River Basalt under the site. It is early Pliocene in age (10-12 million years ago) and ranges in thickness from 9 to 975 feet thick. Another sedimentary deposit, the Troutdale Formation, overlies the Sandy River Mudstone. It contains gravels, sands, and clays. The Troutdale Formation is mid-Pliocene in age (6-10 million years ago) and can be up to 900 feet thick.

The gravel deposits exploited at the 106th and S.E. Division site are from the Fluviolacustrine Deposits, which rest upon the eroded surfaces of the more indurated gravel of the Troutdale Formation. The Fluviolacustrine Deposits are commonly assigned to Late Pleistocene (1 to 3 million years ago) time, and can be up to 150 feet thick (Hogenson and Foxworthy, 1965).

Geologic History

Gravel and sand deposits at the 106th and S.E. Division site are considered to be of fluvial origin and to have been deposited both by rapid river flows and by ponding. They were deposited by the Columbia and Willamette Rivers during and after their impoundment by either floods or rising sea levels. Even when the streams were impounded, a forceful current apparently passed through the lake--an action that resulted in gravelly layers being spread intermittently over parts of the basin. The deposits are slightly indurated--enough to stand for several years in nearly vertical cliffs. These deposits were emplaced during late Pleistocene times when glacial ice occupied upstream regions of the Columbia River Basin.

Before the gravels and sands were deposited, the Troutdale gravels were deposited as alluvial fans and delta and channel deposits. These were emplaced over the Sandy River Mudstone lacustrine sediments, which overlie the Columbia River Basalt.

GROUND-WATER RECHARGE AND MOVEMENT

The Fluviolacustrine Terrance deposits are a local recharge zone for the shallow ground-water flow system. The chief source of recharge is direct precipitation supplemented by

about 10 mgd of domestic sewage effluent. The recharge migrates vertically downward, mixing with water in the upper ground-water body. The penetration depth is limited by variations in vertical hydraulic conductivity (ie. clayey zones) and the hydraulic potential of the upper ground-water in relation to deeper aquifers (Quan et al., 1974).

The direction of ground-water movement in the shallow water table aquifer (Fluviolacustrine Terrance deposits) below the 106th and S.E. Division site is uncertain. However, based on the work by Quan (et al., 1974) and the geologic cross sections shown in Figure II-4, the inferred direction of ground-water flow is south ultimately discharging to Columbia Sloughs.

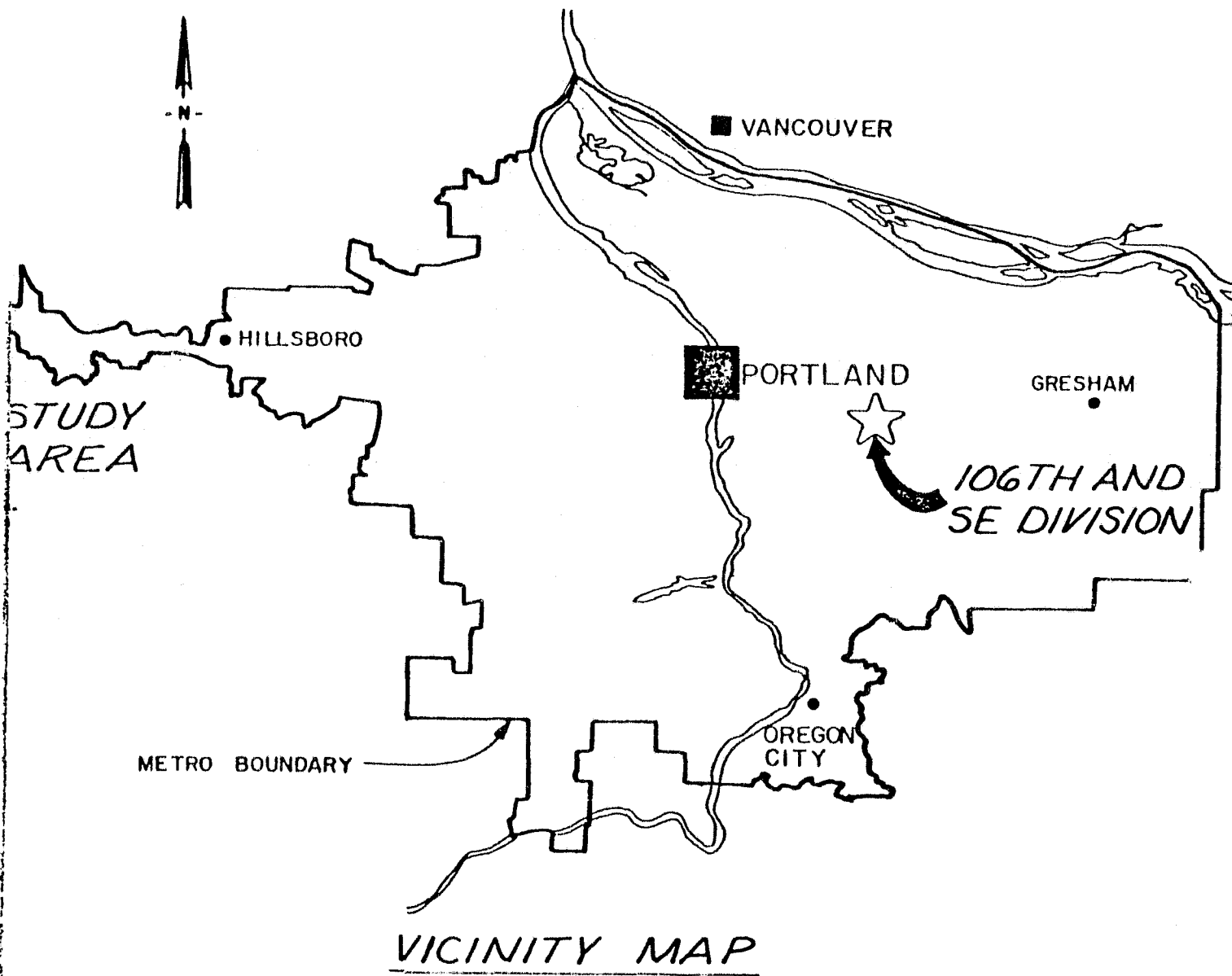


FIGURE 2.

**METROPOLITAN SERVICE DISTRICT
 POTENTIAL SANITARY LANDFILL SITE
 LEACHATE IMPACT AND CONTROL
 FOR 106TH AND SE. DIVISION SITE
 MULTNOMAH COUNTY, OREGON**



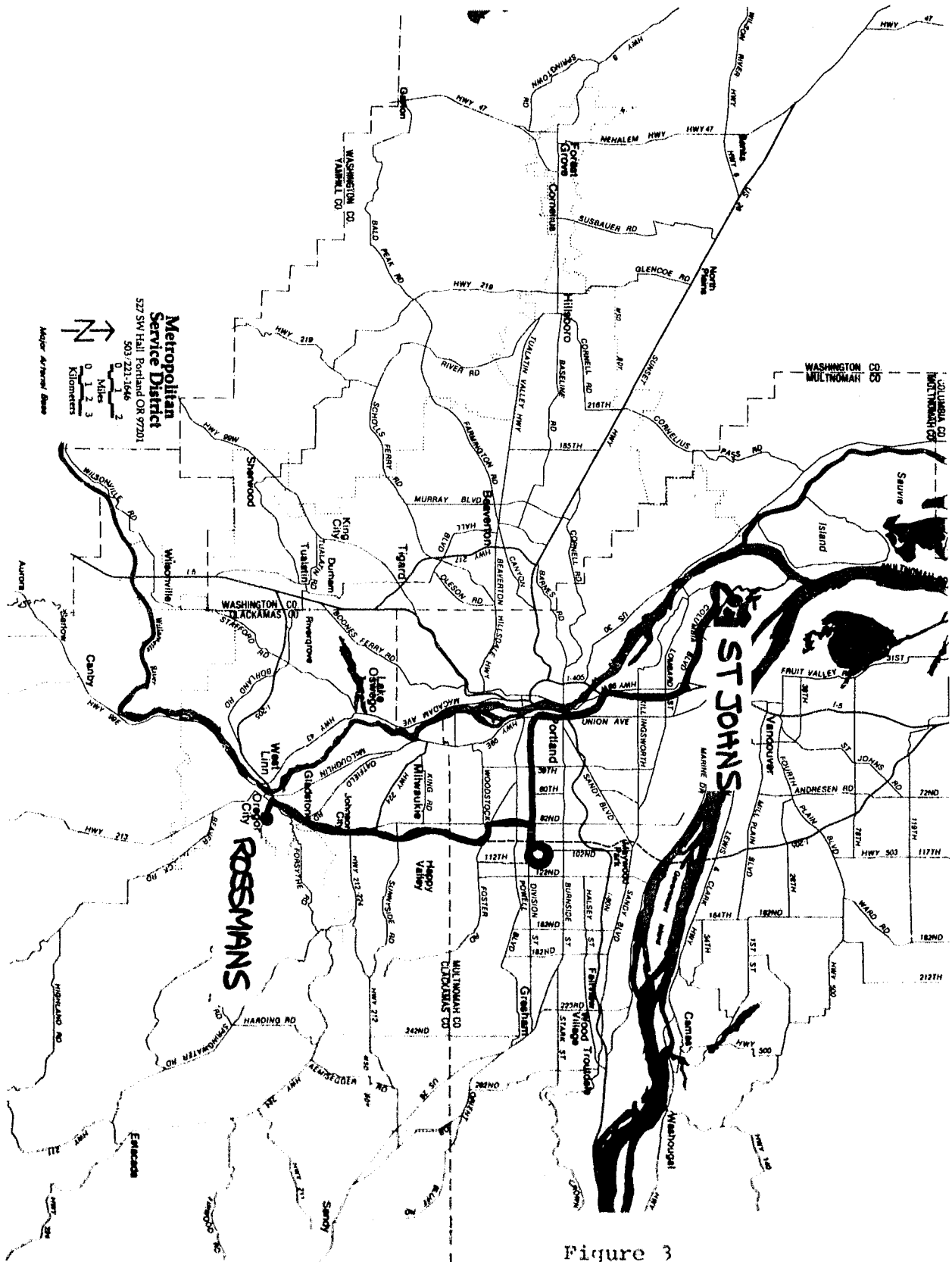


Figure 3
 Access to Portland Sand & Gravel
 from Rossmans and St. Johns Land-
 fill



Figure 4
 Geology Portland Sand & Gravel
 Lacustrine deposits
 1:2400

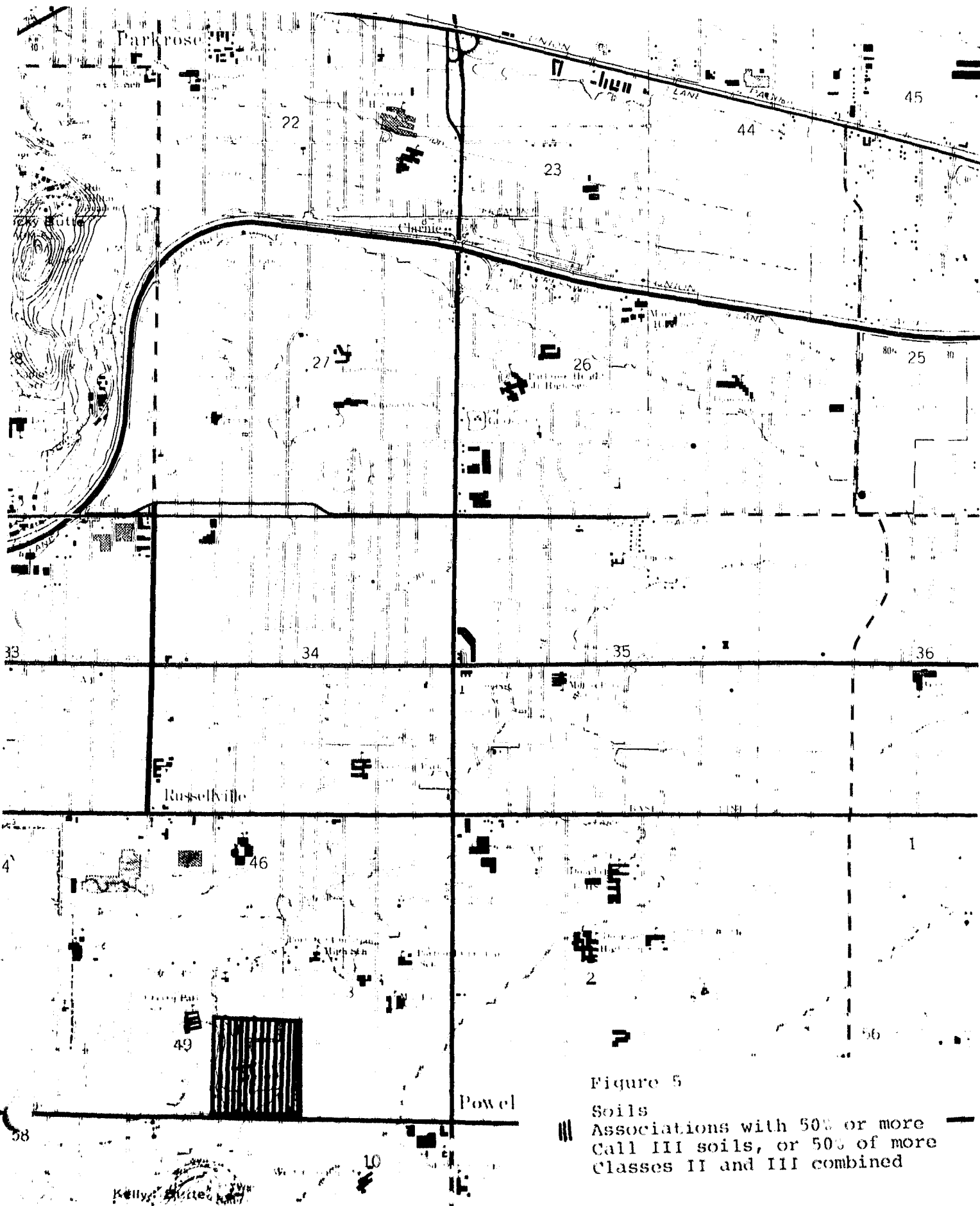


Figure 5

III
 Soils Associations with 50% or more Call III soils, or 50% of more Classes II and III combined