CANADA
DEPARTMENT
OF
MINES AND TECHNICAL SURVEYS

GEOLOGICAL SURVEY OF CANADA

LEGEND

CENOZOIC

PLEISTOCENE AND RECENT

POST-GLACIAL

17 — *Fill*

SALISH GROUP (11-16)

16a,16b — *Swamp and FRASER FLOODPLAIN DEPOSITS; floodplain and channel deposits:* **16a**, *peat up to 23 feet thick, resting on silty clay and clayey silt up to 15 feet thick;* **16b**, *clayey silt and silt up to 5 feet thick, resting on 6 inches to 2 feet of peat, and up to 15 feet of silty clay and clayey silt*

15a-15c — *FRASER FLOODPLAIN AND RICHMOND DELTA DEPOSITS (in part); floodplain, channel, estuarine, and deltaic deposits: silt, sandy silt, and sand;* **15a**, *sandy silt and silt up to 5 feet thick resting on 50 feet or more of sand;* **15b**, *sand in bars and islands of South Arm, Fraser River;* **15c**, *fine to medium sand and minor interbedded silt up to 50 feet or more thick*

14a-14c — *FRASER FLOODPLAIN AND RICHMOND DELTA DEPOSITS (in part); floodplain, channel, estuarine, and deltaic deposits: silty clay, clayey silt, silt;* **14a**, *up to 12 feet thick, resting on 50 feet or more of fine to medium sand;* **14b**, *6 to 12 feet thick;* **14c**, *6 inches to 6 feet thick*

13 — *Channel and floodplain deposits formed by lowland streams: silt, silty clay, fine sand, organic clay; up to 25 feet or more thick*

12 — *Beach deposits: medium to coarse sand and gravel; up to 25 feet thick*

11a,11b — *Deltaic and channel deposits formed by mountain streams:* **11a**, *marine deltas; medium to coarse gravel; up to 50 feet thick;* **11b**, *channel deposits; medium to coarse gravel interbedded with coarse sand; probably not over 25 feet thick*

SALISH AND CAPILANO GROUPS

10 — *Marine and alluvial deposits: sand; up to 25 feet thick; probably includes floodplain and channel sand of SALISH GROUP and littoral and beach sand of CAPILANO GROUP*

CAPILANO GROUP (7-9)

9 — *BOSE GRAVEL (raised marine shore deposits): raised beach gravels up to 15 feet thick. Also occurs throughout the area as a thin mantle up to 3 feet thick of wave-washed lag gravels overlying NEWTON STONY CLAY and SURREY TILL (5)*

8 — *SUNNYSIDE SAND (raised littoral and beach deposits): medium to coarse sand 3 to 15 feet thick resting on NEWTON STONY CLAY and SURREY TILL (5)*

7 — *CAPILANO GRAVEL (raised, marine deltaic and channel deposits): medium to coarse gravel and interbedded sand up to 50 feet or more thick; may be in part glacio-fluvial related to post-Vashon piedmont ice*

POST- GLACIAL AND GLACIAL

CAPILANO AND VASHON GROUPS

6 — *CLOVERDALE SEDIMENTS AND NEWTON STONY CLAY (marine and glacio-marine deposits): clayey silt, silty clay, and stony, clayey silt, up to 25 feet or more thick*

GLACIAL AND INTERGLACIAL

VASHON GROUP (4,5)

5a,5b — *NEWTON STONY CLAY AND SURREY TILL (glacio-marine and glacial deposits):* **5a**, *sandy to silty till and minor substratified drift up to 60 feet thick but generally less than 20 feet, overlain in most places by glacio-marine stony clayey silt, and minor interbedded marine clayey silt, silty clay, and sand, up to 25 feet thick but generally less than 10 feet;* **5b**, *areas in which the deposits included in 5a are generally less than 25 feet thick and rest on Tertiary bedrock (2). In a few places minor sand, silt, and gravel separate bedrock from till. Locally the bedrock may be more than 25 feet deep. Throughout the area 5a and 5b are mantled by boulders and poorly sorted sandy gravel up to 3 feet thick (BOSE GRAVEL) Included here are some areas of fill that were not mapped separately*

4 — *MARYHILL OUTWASH (glacio-fluvial deposits): medium to coarse gravel up to 100 feet thick; minor till lenses*

SEMIAMU, QUADRA, AND SEYMOUR GROUPS

3 — *Glacial, marine, and non-marine deposits: sand, gravel, silt, clay, varved clay, till, and minor peat. These deposits normally underlie SURREY TILL (5) but are exposed in places in cutbanks along streams and rivers and in seacliffs. May be up to 500 feet or more thick. Some gravel included here may belong to VASHON GROUP*

PRE-GLACIAL

TERTIARY

EOCENE AND YOUNGER (?)

2 — *BURRARD AND KITSILANO FORMATIONS: sandstone, siltstone, shale, conglomerate, and minor volcanic rocks at or within 10 feet of surface. Where bedrock is not at surface it is overlain in most places by till*

MESOZOIC

PRE-TERTIARY

1 — *Rough mountainous country in which granitic and associated rock types occur at or near the surface. Where bedrock is not at surface it is overlain by till and outwash sand, gravel, and silt*

Geological boundary, mainly gradational . . . . . .
Operating gravel and sand pit . . . . . (G)
Operating peat plant . . . . . (P)
Dry hole drilled in search for oil or gas . . . . . (O)
One or more drilled holes in search of water . . . . . (W)
One or more drilled holes, 25 feet or more deep to test foundation material . . . . . (T)
(only holes on which information is on file are shown)
Areas in which artesian and non-flowing artesian water supply has been developed for industrial or domestic use; some not in use now, replaced by Greater Vancouver Water System . . . . . (A)
Pleistocene fossil localities; marine shells . . . . . (Fs)
plants, peat, and wood . . . . . (Fp)

For details on bedrock geology see Geological Survey Paper 53-28

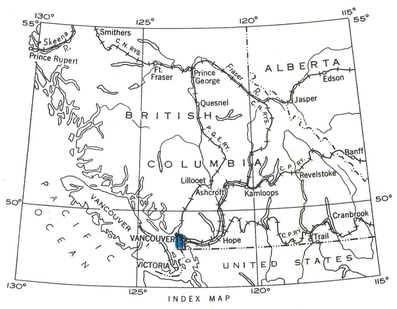
Geology by J. E. Armstrong 1949-1952 and W. L. Brown 1949,1950

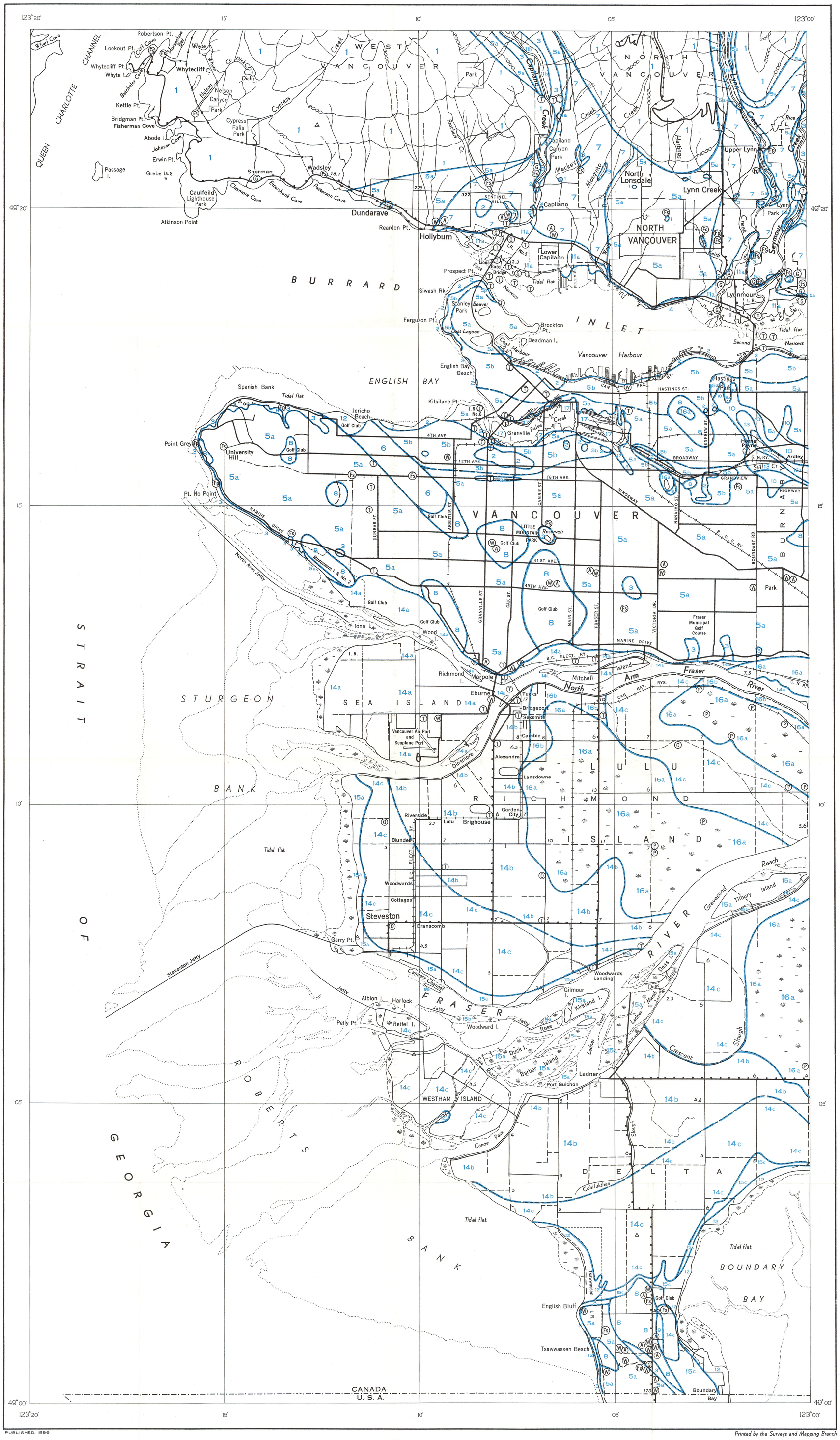
Main highway . . . . . .
Other roads . . . . . .
Electric power line (along main road) . . . . . .
Municipality boundary . . . . . .
Horizontal control point . . . . . △
Marsh . . . . . .
Contours (interval 1000 feet) 1000
Height in feet above mean sea-level 12

Approximate magnetic declination, 23°40′ East

Cartography by the Geological Cartography Unit, 1956

Air photographs covering this map-area may be obtained through the National Air Photographic Library, Topographical Survey, Ottawa, Ontario





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PRELIMINARY MAP 55-40

SURFICIAL GEOLOGY

VANCOUVER AREA

NEW WESTMINSTER DISTRICT

BRITISH COLUMBIA

Scale: One Inch to One Mile = $\frac{1}{63,360}$

Miles

1 ½ 0 1 2 3

PRELIMINARY MAP 55-40
SURFICIAL GEOLOGY
VANCOUVER AREA
BRITISH COLUMBIA

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