Sand and Gravel Resource Potential Map of the Eagle Quadrangle, Ada County, Idaho

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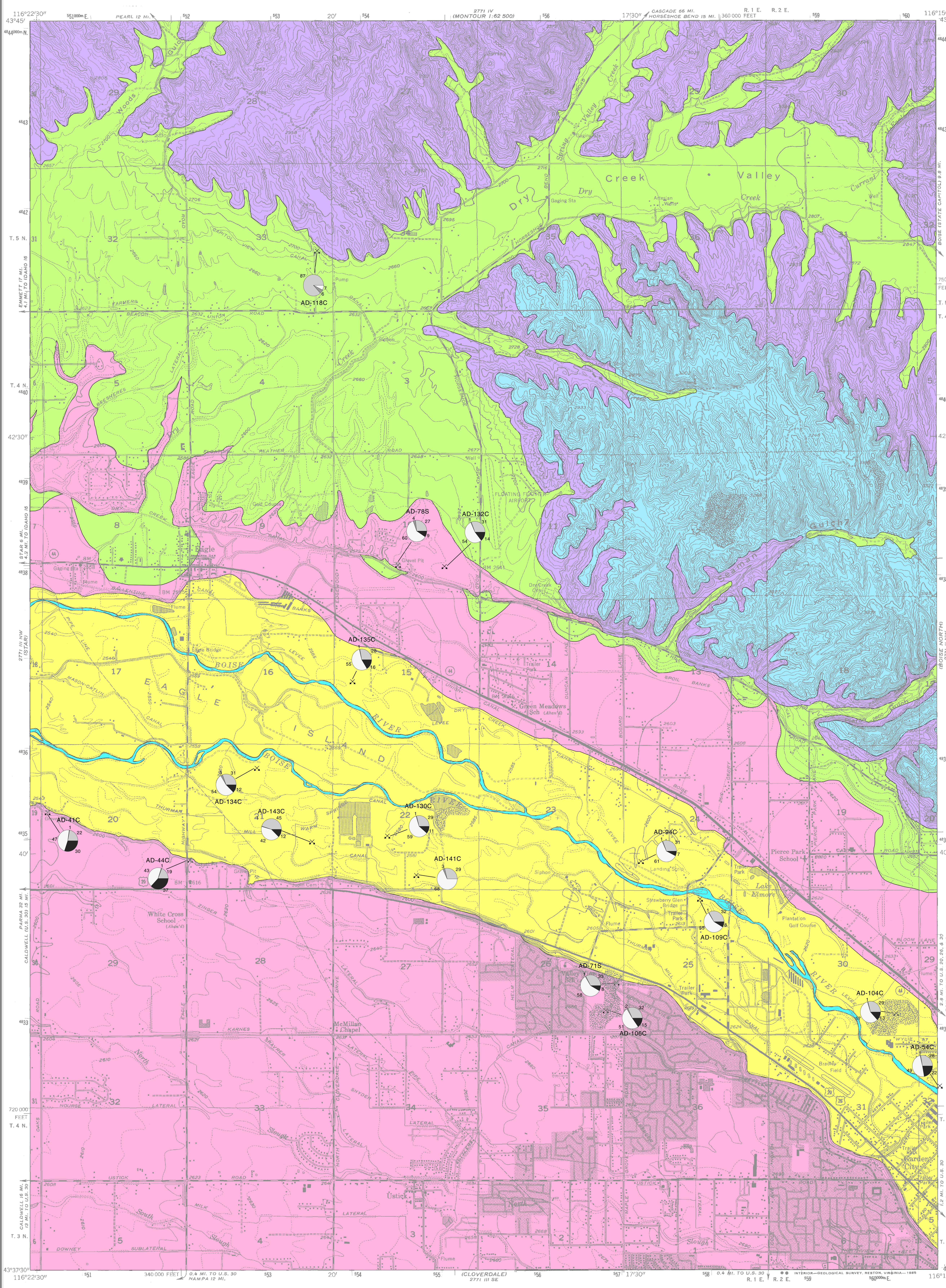
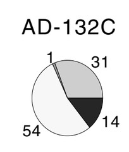
J.A. Walling, 1998, Sand and gravel resource potential mapping in the Eagle 7½-minute quadrangle: Applications for land use planning: Boise State University, M.S. thesis, 86 p.



MAP UNITS

- Gravel, high quality (Qa)
- Sand, higher quality (Qas, Qfs, Qds)
- Gravel, good quality (Qbg, Qwg)
- Sand, lower quality (Tps)
- No known resource (Ts, Ttc, Tbv)

SYMBOLS



Distribution of grain sizes at a pit location, reported in percent by weight. Pie chart indicates results of analysis by the Idaho Transportation Department.

Size ranges:

- Clay and silt, less than 0.074 mm
- Sand, 0.074 mm to 4.75 mm
- Gravel, 4.75 mm to 76.2 mm
- Cobbles and Boulders, greater than 76.2 mm

Table showing percentage of stone lithologies for two sites

Stone Lithology	AD-78S NE4 SW4 & SE4 SW4, 10, T4N, R1E	AD-141C SE4 SE4, 21, T4N, R1E
Basalt	0	2
Granitic Rocks	60	44
Volcanic Rocks	37	52
Quartz	2	1
Unidentified	1	1

GEOLOGIC UNITS

Qa *ALLUVIUM OF ACTIVE STREAMS*—Mostly sandy pebble and cobble gravel of the Boise River. Granitic rocks and porphyritic felsites dominate the lithologies of the gravel clasts; 5-10 percent of clasts are unweathered basalt. Thickness of gravel 7-11 meters (24-35 feet).

Qas *SANDY ALLUVIUM OF DRY CREEK VALLEY AND FANS AND VALLEY BOTTOMS OF THE BOISE FOOTHILLS*—Medium to coarse sand inter bedded with silty fine sand and silt. Includes quartz, feldspar and mica grains in amounts similar to the source granitic rocks. Thickness is variable: 8-30 meters (26-100 feet) in Dry Creek and 9 meters (30 feet) thick in alluvial fans.

Qbg *GRAVEL OF THE BOISE TERRACE*—Sandy pebble and cobble gravel of the first terrace above the floodplain. Granitic rocks and porphyritic felsites dominate lithologies of the gravel clasts; 5-10 percent of clasts are unweathered basalt. Thickness of gravel ranges from 11 to 15 meters (35-50 feet).

Qds *SAND OF DRY CREEK TERRACE*—Medium to coarse sand inter bedded with silty fine sand and silt. Remnant of ancestral Dry Creek valley.

Qfs *SAND OF INCISED ALLUVIAL FANS*—Medium to coarse sand inter bedded with silty fine sand and silt. Thickness ranges from 1-15 meters (3-50 feet).

Qwg *GRAVEL OF WHITNEY TERRACE*—Sandy pebble and cobble gravel of the second terrace above the modern floodplain. Granitic rocks and porphyritic felsites dominate the lithologies of the gravel clasts. Thickness of gravel is 5-24 meters (16-80 feet).

Ts *SAND AND MUDSTONE OF STREAM AND LAKE SEDIMENTS* - Medium- to coarse-grained arkosic sand, sandstone, and claystone. Includes interbeds of fine gravel, locally cemented, and sandy siltstone.

Tps *SAND OF THE PIERCE GULCH FORMATION*—Pale yellow-gray arkosic sand overlain by pebble to cobble gravel. Sand is compact but uncemented.

Ttc *SILTY CLAYSTONE FACIES OF THE TERTELING SPRINGS FORMATION*— Mostly silty claystone with interbeds of arkosic sandstone. A facies assemblage of sediments and sedimentary rocks of mostly lacustrine and lake-shore depositional environments.

Tbv *BASALT VOLCANIC ASSEMBLAGE*—This unit is widespread in the Boise foothills southeast of the Eagle quadrangle. It contains several associated lithologies originating from nearby basalt volcanism.

BIBLIOGRAPHY

1. Othberg, K.L. and L.R. Stanford, 1990, Geologic map of the Eagle Quadrangle, Ada County, Idaho: Idaho Geological Survey Technical Report 90-5, scale 1:24,000.
2. Othberg, K.L. and L.R. Stanford, 1992, Geologic map of the Boise Valley and adjoining area, western Snake River Plain, Idaho: Idaho Geological Survey Geologic Map Series, scale 1:100,000.

Base map from USGS Digital Raster Graphic, 1979.

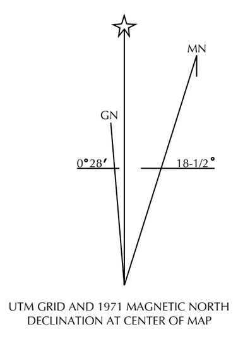
Topography from aerial photographs by multiplex methods and by plane-table surveys 1953. Aerial photographs taken 1951

Photorevised 1979

Control by USGS and USC&GS

Projection, Transverse Mercator, Idaho State Plane, west zone, 1927 North American Datum

10,000-foot grid based on Idaho coordinate system, west zone



SCALE: 1:24,000

1 1/2 0 1 MILE

1 0.5 0 1 KILOMETER

CONTOUR INTERVAL 40 FEET
DOTTED LINES REPRESENT 20-FOOT CONTOURS

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