



OKANAGAN AGGREGATE POTENTIAL PROJECT

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INTRODUCTION

The Okanagan Aggregate Potential Project was initiated in 1996 by the Geological Survey Branch of the Ministry of Employment and Investment (Matheson et al, 1996). The aim is to evaluate the aggregate potential of the Okanagan from the United States/Canada border to the Shuswap Lakes. The major parts of sixteen, 1:50,000 map sheets were covered over a five week period, and a total of 267 pits were examined. An additional 41 sites had yet to be evaluated.

Additional funding made available to the Ministry of Employment and Investment by the Ministry of Municipal Affairs and Housing, the Regional District of Central Okanagan, the City of Kelowna and the Ministry of Transport and Highways, enabled the Geological Survey Branch to complete the site examinations of the remaining 41 pits from the previous year, as well as an additional 19 new pits. The 60 pits were examined in the field over a ten day period in August, 1997.

GEOGRAPHIC LOCATION

The demand for aggregate is greatest near densely populated areas where the need for sand and gravel reflects the active construction industry. Numerous pits in the Shuswap area and near settlements such as Salmon Arm (82 L/11), Vernon (82 L/6), Kelowna (82 E/14), Penticton (82 E/5), and Keremeos (82 E/4) form the majority of active aggregate extraction operations.

The sixteen map sheets covered for this study include 82/ E 3, 4, 5, 6, 11, 12, 13, 14, and 82/L 3, 4, 5, 6, 11, 12, 13, 14, covering a north/south corridor some 80 kilometres wide and 200 kilometres long.

Field Work

Pits identified in the study area were photographed and documented under the following notations: name of pit, unique identity number and license, licensee or operator and development status. Additional data included measuring pit dimensions and exposed sections that would allow the interpretation of facies, depositional history and quarry type. A hand-held global positioning system unit and the 1:50,000 N.T.S. maps were used to accurately

define the pit location which was then plotted using UTM coordinates on the N.T.S. maps and soil maps for the Okanagan Valley.

Data Compilation

A database was compiled consisting of the licensing information, field observations, air-photo interpretations, delineation and identification of landforms. The aggregate pits have been digitized as points on the sixteen map sheets. This information will later be combined with water well-logging and previous geotechnical reports to create attributes for each pit for display in ARC-view, and the GIS software used for plotting the data.

CONCLUSIONS - DISCUSSION

Locating Future Deposits

Exploration for future deposits should be in the low-lying areas where glaciofluvial deposits tend to be common. When urban development and expansion have limited the aggregate potential for these areas, smaller but similar deposits located adjacent to the large valleys could be used in the future. Such landforms may be located on the aggregate potential maps, and with ground truthing and more detailed air-photo interpretation, will allow accurate identification of aggregate resources for future use.

Value of Aggregate Program

There will always be a demand for aggregate and consequentially it is essential to have a well documented inventory for future use in general development planning for construction, and the resulting infrastructure of transportation networks. Thus, an inventory and evaluation of potential aggregate resources in areas of British Columbia should be completed, so that they may be used in a more effective manner.

REFERENCES CITED

Matheson, A., MacDougall, D., Bobrowsky, P.T., Massey, N.W.D. (1996): Okanagan Aggregate Potential Project, in Geological Fieldwork 1996, B.C. Ministry of Employment and Investment, Paper 1997-1, pages 347-352.

