

4.3.2 - Naturally Occurring Contaminants

Naturally occurring contaminants of concern considered for this assessment include iron sulfide minerals occasionally present in sand and gravel deposits. Such deposits when exposed to the atmosphere typically rapidly oxidize (rust) and may produce sulfuric acid drainage that would tend to reduce groundwater and nearby surface water pH levels. Such deposits are not economically useful for aggregate. Based on site observations, discussion with Karl Zahn, and widespread existing sand and gravel operations in the Wilton area, Aries does not anticipate that the site sand and gravel mineralogy includes a significant iron sulfide percentage that would be subject to oxidation and sulfuric acid production. Aries does not anticipate adverse iron or pH impacts to the Swift Water Council wells from the proposed sand and gravel excavation.

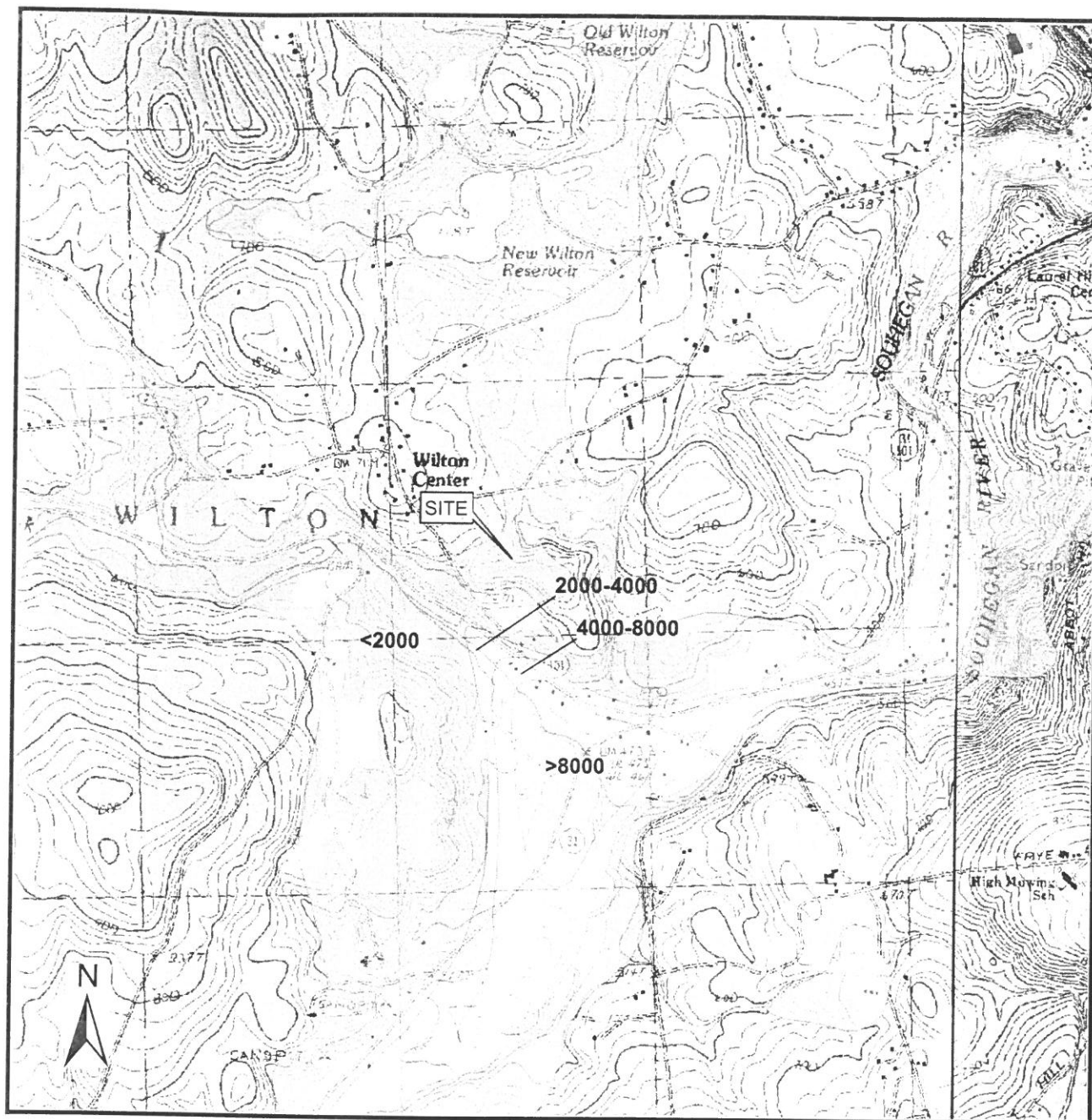
5.0 - CONCLUSIONS

Based on our site observations and review of available information as described in the preceding text, Aries concludes the following:

1. The Camp Anne Jackson public water supply wells are located hydraulically upgradient of the site.
2. The proposed sand and gravel removal operations would not likely adversely affect the Camp Anne Jackson public water supply wells.
3. The proposed sand and gravel removal operations would likely result in a negligible hydraulic impact beyond site boundaries.
4. The proposed sand and gravel removal operations would likely result in a negligible adverse impact to aquifer water quality.
5. While the proposed sand and gravel removal operations could potentially result in the discharge of diesel fuel, gasoline, hydraulic fluid, grease, and the constituents of these products to the site aquifer, employing best management practices and properly maintaining equipment would reduce the potential for petroleum contaminant discharge to the aquifer.

6.0 - RECOMMENDATIONS

Aries recommends the adoption of best management practices such as storing fuel and refueling on an impermeable pad, maintaining equipment in good working order, and training personnel in accidental spill response in order to reduce the potential for aquifer degradation due to the proposed sand and gravel removal operations.



PREPARED FROM: USGS GREENVILLE AND MILFORD, NEW HAMPSHIRE QUADRANGLES, 1986 AND USGS WATER-RESOURCES INVESTIGATIONS REPORT 86-9358, PLATE 2.



LEGEND:
Transmissivity of unconsolidated deposits
in feet squared per-day.

NOTES:
Aries developed the Locus Map from the New Hampshire Geographically Referenced Analysis and Information Transfer System (NH GRANIT) maintained by University of New Hampshire and the NH Office of State Planning.

Aries Project # 2006-022
File # 2006-022(C)6.06.mxd



HYDROGEOLOGICAL ASSESSMENT
K.M. ZAHN & SONS
PROPOSED SAND & GRAVEL EXCAVATION
WILTON, NEW HAMPSHIRE

STRATIFIED DRIFT AQUIFER PLAN
JUNE 2006 APPENDIX C