State of Utah
DEPARTMENT OF NATURAL RESOURCES
UTAH GEOLOGICAL SURVEY

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Charles Theobald
Creamer and Noble Engineers
P.O. Box 37
St. George, UT 84771

Dear Mr. Theobald:

The Utah Geological Survey has reviewed the geology, energy and mineral potential, and geologic hazards of the Kanab airport area as provided in Utah Geological and Mineral Survey Bulletin 124, The Geology of Kane County, Utah-Geology, Mineral Resources, and Geologic Hazards, by Doelling and others (1989). The area is underlain by Quaternary alluvium with small windows of the Triassic Chinle Formation exposed locally. The bedrock underlying the southernmost part of the airport is the lower Shinarump Member of the Chinle Formation, while the upper Pertrified Forest Member underlies most of the airport.

There appears to be little energy and mineral potential in the vicinity of the Kanab airport. There is low potential for oil and gas since the strata underlying the airport are very low in the stratigraphic column and few prospective units (the Kaibab Formation, Redwall Formation, and Precambrian Chuar Formation) are preserved below the airport. Drilling to date has only reported minor shows of oil from these units.

There are no coal resources under the airport, and above-background radioactivity has not been mapped in the Chinle Formation in the airport area, indicating no uranium or vanadium mineralization. Precious metals are not reported in the area.

The Petrified Forest Member of the Chinle Formation is reported to contain manganese nodules, but the ore horizon is thin, and the mineralization is lean and not economic. The Pertified Forest Member is also known to contain beautifully silicified petrified logs, which have sold for more than $1,000, but in the airport area this unit is obscured by the overlying alluvium. The only mine in the airport vicinity is one small gravel pit that is located immediately to the southeast of the airport on the east side of Highway 89. This pit occurs in the lower, conglomeratic Shinarump Member of the Chinle Formation, and similar exposures of this member found near the south end of the airport may also be prospective for gravel or aggregate.

Geologic hazards at the airport include problem soil and rock conditions and potential erosion and bluff retreat along Kanab Wash. The Petrified Forest Member of the Chinle Formation and soil derived from it contain expansive clays, which can damage runways and buildings. Collapsible soils are found in alluvium such as that underlying much of the airport, and such soils have been reported elsewhere in the Kanab area. Kanab Wash flows along the western edge of the airport, and erosion and undercutting of bluffs near the airport could impact the property. We recommend that a thorough geologic hazards and geotechnical report be prepared addressing these and other possible hazards prior to construction.

If you have any questions, contact either Dave Tabet (801-537-3373) or Bill Lund (435-865-8126).

Sincerely,

Dave Tabet
Energy and Mineral Resources Program

William R. Lund
Geologic Hazards Program