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October 29, 1982

Wayne Dyok
Acres American Inc.
Suite 305
1577 C Street
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RE: Acres P.O. # 1176

Dear Wayne,

Enclosed are references and a summary on water quality in streams crossed by the transmission line corridors of the proposed Susitna hydroelectric project. The computer printout of U.S. Geological Survey suspended sediment data, which supplements the data that you already have, is also enclosed.

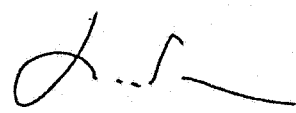
The agencies that I contacted either have no data or are cooperators with the U.S. Geological Survey's data collection program. Larry Peterson conducted a study for Golden Valley Electric Company on the Nenana River at Healy that included some water quality data. He is not aware of any other data for the Healy to Fairbanks corridor.

Bob Madison has been working on regional sediment/discharge relationships for the U.S. Geological Survey. I recommend that you let him review your description of water quality and potential impacts. The main emphasis should be on differentiating those streams with glacial origin from those that are clear. This information can be derived from the Alaska regional profiles and from topographic maps.

Pat Still recommended conducting the computer search by using polygon coordinates so that any new miscellaneous stations not listed on her indexes would be included. Steve Bredthauer reviewed the search area to determine whether stations that fell outside the corridor would be useful.

Please contact me if you have any further questions.

Sincerely,


Linda Perry Dwight

LPD:sa

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SUMMARY

A literature search was conducted to obtain information on water quality in streams crossed by the transmission line corridors of the proposed Susitna hydroelectric project. The transmission lines would extend from the dams to Gold Creek, along the Anchorage-Fairbanks intertie, from Healy to Fairbanks, and from Willow to Anchorage. The search was focused on information describing sediment concentrations in streams that would be crossed.

In describing the water resources of Alaska, Feulner mapped the range of estimated normal summer suspended sediment concentrations in the state. His small-scale (1 inch/50 miles) maps are shown in the Alaska regional profiles (Alaska, University, Arctic Environmental Information and Data Center 1974, 1976) and Balding (1976). These reports contain regional descriptions of physiography, climate, geology, and hydrology. The Alaska regional profiles also contain regional descriptions of topography and soils, with erosion potential.

Still (1975, 1976, 1980) has indexed specific data collected by the U.S. Geological Survey. The earlier indexes list stations on both lakes and streams, whereas the 1980 indexes only list stream stations. The earlier indexes also contain station location maps. New indexes will be published for the period ending September 30, 1983.

A computer printout of U.S. Geological Survey sediment data in the corridors was obtained. All stations in the Susitna river basin listed in the field data index (R&M Consultants, Inc. 1982) were excluded, as this data has already been provided to Acres American Inc. Following discussion with Bob Madison, U.S. Geological Survey, the search was limited to sediment data and stations in Anchorage were also excluded. Pat Still conducted the computer search using coordinates for a polygon of the corridor just north of Gold Creek through Healy to Fairbanks. The printout lists daily suspended sediment for the Nenana River at Healy and

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periodic suspended sediment for the Nenana River near Windy, Healy Creek near Suntrana, Healy Creek at Suntrana, Healy Creek 0.1 mile above French Gulch near Usibelli, Lignite Creek 0.5 miles above mouth near Healy, Lignite Creek near Healy, and Francis Creek 100 feet above Lignite Creek near Suntrana. The printout was reviewed with Steve Bredthauer, R&M Consultants, Inc. No other relevant stations are located in the vicinity of the corridors.

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REFERENCES

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- Feulner, A.J., J.M. Childers, and V.W. Norman. 1970. Water resources of Alaska. Unpublished. Water Resources Division, U.S. Geological Survey. 274 pp.
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- _____. 1980. Index of streamflow and water-quality records to September 30, 1978; south-central Alaska. U.S. Geological Survey. Open-file Report 80-600. 54 pp.
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