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Golder Associates

CONSULTING GEOTECHNICAL AND MINING ENGINEERS

GA FILE No P871157

9 JULY 87

CURRAGH RESOURCES
117 INDUSTRIAL ROAD
WHITEHORSE Y.T.
Y1A 2T8

ATTN: MR M.H. PELLEY P.Eng.
VICE PRESIDENT

RE: VANGORDA PROJECT
GEOTECHNICAL STUDIES

DEAR SIR:

DURING OUR TELEPHONE CONVERSATION ON 25 JUNE 87, YOU REQUESTED THE NAMES OF ENGINEERS THAT GOLDER ASSOCIATES COULD PROVIDE TO CARY OUT THE GEOTECHNICAL AND HYDROLOGY STUDIES FOR THE DEVELOPMENT OF THE VANGORDA PROJECT. YOU ALSO REQUESTED THE CHARGE RATES FOR THE PROFESSIONAL SERVICES OF THESE PEOPLE.

YOU INDICATED THAT THE GEOTECHNICAL STUDIES REQUIRED ON THE VANGORDA PROJECT WOULD INCLUDE:

- * ASSESSMENT OF ROCK QUALITY, SHEAR STRENGTH PARAMETERS, AND JOINT ATTITUDE DATA RELATIVE TO STABLITY ASSESSMENTS FOR PIT SLOPES
- * FOUNDATION INVESTIGATIONS AND STABILITY ASSESSMENT FOR PROPOSED WASTE ROCK DUMPS
- * ASSESSMENT OF HYDROLOGY AND STREAM DISCHARGE DATA, AND DESIGN RECOMMENDATIONS FOR DIVERSION OF SURFACE DRAINAGE.

KEY PERSONNEL

THOSE ASPECTS OF THE GEOTECHNICAL STUDIES RELATING TO ROCK GEOMECHANICS, AND THE STABILITY ASSESSMENT FOR CUT SLOPES IN ROCK WOULD BE CARRIED OUT BY P.F.STACEY, P.Eng. MR STACEY HAS MANY YEARS EXPERINCE IN THE DESIGN AND ASSESSMET OF ROCK CUTS FOR OPEN PIT MINES ACROSS CANADA, AS WELL AS WORLD-WIDE.

WORK RELATING TO THE STABILITY OF PROPOSED WASTE ROCK DUMPS, INCLUDING FOUNDATION INVESTIGATIONS AND ASSESSMENT OF STABILITY WOULD BE CARRIED OUT BY D.B. CAMPBELL P.Eng. MR CAMPBELL HAS PROVIDED PROFESSIONAL SERVICES RELATING TO THE STABILITY OF MANY OF THE WASTE ROCK DUMPS IN B.C., AND HAS PROVIDED ADVICE FOR WASTE DUMPS IN THE UNITED STATES, AUSTRALIA, AND ELSEWHERE.

WORK RELATING TO SURFACE HYDROLOGY, DESIGN DISCHARGE RATES, AND SIZING OF STREAM DIVERSION CHANNELS WOULD BE CARRIED OUT BY BRUCE KENNING P.Eng OF KER PRIESTMAN & ASSOCIATES, WORKING AS A SUBCONSULTANT TO GOLDERS. KPA HAVE RECENTLY BEEN INVOLVED WITH SURFACE HYDROLOGY STUDIES FOR THE CANAMAX PROJECT, AND HAVE ASSEMBLED, AND ANALYSED ALL OF THE AVAILABLE DISCHARGE DATA FOR THE AREA. BRUCE KENNING PROVIDED ASSISTANCE TO US IN THE DESIGN OF THE PROPOSED SPILLWAY CHANNEL THAT WOULD BE PROVIDED ON ABANDONMENT OF THE ROCK FILL ACCESS ROADWAY ACROSS THE NORTH FORK OF ROSE CREEK.

CHARGE RATES

CHARGES FOR PROFESSIONAL SERVICES PROVIDED TO THE PROJECT WOULD BE MADE ON A TIME AND RATE BASIS. CHARGES FOR THE SERVICES OF MESSRS STACEY AND CAMPBELL WOULD BE AT \$80.00 PER HOUR. BRUCE KENNING'S SERVICES WOULD BE CHARGED AT \$57.00 PER HOUR.

EXPENSES INCURRED IN THE CONDUCT OF THE WORK WOULD BE CHARGED TO THE PROJECT AT COST PLUS 5% TO COVER HANDLING COSTS.

I TRUST THAT THE INFORMATION CONTAINED IN THIS TRANSMITTAL PROVIDES YOU WITH THE INFORMATION THAT YOU REQUIRE AT THIS TIME.

YOURS TRULY,



DAVID B. CAMPBELL P.Eng.

GOLDER ASSOCIATES