CERTIFICATE OF CALIBRATION

VOSS ASSOCIATES
DATE OF CALIBRATION: May 22, 2010

This report Certifies that Voss Associates has Calibrated said instrument and hereby attests to it's sensitivity to the Isotopes listed below:

Manufacturer: Technical Associates Model: Nex-Alpha Serial #: 011136

Description: The Nex-Alpha measures Alpha activity in water utilizing a 50 cc, flow-through measurement chamber. The manufacturer recommends this monitor for measuring Alpha emitters in drinking water.

Environmental Conditions During Calibration

Temperature: 72^0 F % R/H: 28%
Barometric Pressure: 29.90" Hg Background Radiation: 0.01 mR/hr

Instrument Operating Parameters

Nex-Alpha HV Setting: PMT "A" 400 V, PMT "B" 400 V
Nex-Alpha Window Setting: 100 to 1000 mV
Readings taken in "Co-incidence Mode"

Calibration Sources

Po-210	0.01192 uCi/L	SN #: 31F21-VA201002
K-40	0.02280 uCi/L	SN #: K40-VA201002
U	0.01280 uCi/L	SN #: U-VA201002

Background Count Rate With Clean Water: 204 CPM (3.40 CPS)
Po-210 Net Count Rate: 386 CPM (6.43 CPS)
K-40 Net Count Rate: 404 CPM (6.73 CPS)
U Net Count Rate: 616 CPM (10.27 CPS)
Counts Were Collected for 60 Seconds

CPS per uCi/L

Po-210:	539 CPS/ uCi/L
K-40:	295 CPS/ uCi/L
U:	802 CPS/ uCi/L

Limitations of this Calibration:
There were no observed limitations during the calibration of this instrument. The sources used for calibration consisted of Po-210 in equilibrium with its immediate parents (Bi-210 and Pb-210); K-40, and Uranium (U-238, U-235, and U-234) in equilibrium with their immediate short-lived progeny (Th-234, Pa-234m, and Th-231).

Measurement Uncertainty: 2% Overall Uncertainty: 5%

Calibrated By: James Tom Voss, NRRPT, CHP

Signature _____ Date: May 22, 2010
James Tom Voss, Lab Director and Chief Metrologist

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Tom Voss is a registered radiation protection technologist with the NRRPT, a Certified Health Physicist with the ABHP, and a Fellow of the Health Physics Society with 45 years of experience in Health Physics, beginning with sampling and analyzing nerve gas in 1965 at Dugway Proving Grounds then joining the Southern California Edison Company at the San Onofre Nuclear Generating Station.

He has published over 300 technical papers and he is a co-author of a textbook of radioactive aerosol sampling and analysis methods. His background includes field surveying, instrument calibration and repair, chemical analysis, water purification, procedure writing, technical training, and technical consulting. He is a member of the ANSI (American National Standards Institute) and IEC (International Electro-Technical Commission) standards development teams.

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