

XIII. Radioactive Materials

Section XIII of the Modifications of Activities Planned for 2005-2006 lists any changes in the radioactive materials used during this time period and provides information regarding their form, nuclide, site, and specific use.

Add

<u>PROJECT</u>	<u>NUCLIDE</u>	<u>FORM</u>	<u>SITE</u>	<u>USE</u>
A-143-M	¹³⁷ Cs ²⁴¹ Am	¹³⁷ Cs – Sealed source ²⁴¹ Am – Sealed source	McMurdo Station and vicinity	Advanced Thin Ionization Calorimeter (ATIC)
B-002-N	³ H ¹⁴ C ³⁵ S	³ H – Leucine ¹⁴ C – Dimethylsulfonylpropionate ⁴ C – Dimethyl Sulfoxide ⁴ C – Glucose ⁴ C – Glutamic Acid ³⁵ S - Dimethylsulfonylpropionate	R/V Nathaniel B. Palmer	Impact of solar radiation and nutrients on biogeochemical cycling of DMSP and DMS in the Ross Sea, Antarctica
B-006-M	¹⁴ C ³ H	¹⁴ C – Alanine ¹⁴ C – Amino acid mix ¹⁴ C – ATP ¹⁴ C – Leucine ¹⁴ C – Sodium bicarbonate ³ H – Lysine ³ H – Uridine ³ H – UTP	McMurdo Station and vicinity	Energetics of protein metabolism during development of Antarctic echinoderms

PROJECT	NUCLIDE	FORM	SITE	USE
B-134-M	³⁵ S ¹⁴ C	³⁵ S – Amino acid ¹⁴ C – Methylated proteins	McMurdo Station and vicinity	Towards an understanding of protein homeostasis in cold-adapted Antarctic fish
B-016-L	¹⁴ C	¹⁴ C – Sodium Bicarbonate	<i>R/V Laurence M. Gould</i>	Long Term Ecological Research Project: Climate migration, ecological response and teleconnections in an ice-dominated environment.
B-045-L	³ H	³ H – Leucine ³ H - Thymidine	<i>R/V Laurence M. Gould</i>	Long Term Ecological Research Project: Climate migration, ecological response and teleconnections in an ice-dominated environment.
B-050-L	¹⁴ C	¹⁴ C – Sodium Bicarbonate	<i>R/V Laurence M. Gould</i>	Free drifting icebergs: influence of floating islands on pelagic ecosystems in the Weddell Sea
B-195-M	³⁵ S ³ H ¹⁴ C	³⁵ S –Sodium sulfate ³ H – Thymidine ¹⁴ C – Acetate ¹⁴ C – Sodium bicarbonate ¹⁴ C – Sodium acetate ¹⁴ C – Methylamine ¹⁴ C – Methane	McMurdo Station and vicinity	Microbial diversity and function in the permanently ice-covered lakes of the McMurdo Dry Valleys

PROJECT	NUCLIDE	FORM	SITE	USE
B-200-N	³ H	³ H – Leucine ³ H - Thymidine	R/V <i>Nathaniel B. Palmer</i>	Impact of solar radiation and nutrients on biogeochemical cycling of DMSP and DMS in the Ross Sea, Antarctica
B-203-N	¹⁴ C	¹⁴ C – Sodium Bicarbonate	R/V <i>Nathaniel B. Palmer</i>	Impact of solar radiation and nutrients on biogeochemical cycling of DMSP and DMS in the Ross Sea, Antarctica
B-211-M	¹⁴ C ³ H	¹⁴ C – Sodium bicarbonate ³ H – Leucine	McMurdo Station and vicinity	NASA-ASTEP: Subsurface ice and brine sampling; Life detection and characterization in the McMurdo Dry Valleys using an ultrasonic gopher
B-228-E	¹⁴ C	¹⁴ C – Sodium Bicarbonate	R/V <i>Yuzhmorgeologiya</i>	Plankton Community Structure and Iron Distribution in the Southern Scotia Sea
B-230-M	¹⁴ C	¹⁴ C – Sodium bicarbonate	McMurdo Station and vicinity	Project Title: Environmental and Ecological Regulation of Differences and Interactions between Solitary and Colonial Forms of Phaeocystis Antarctica

PROJECT	NUCLIDE	FORM	SITE	USE
B-272-N	¹⁴ C	¹⁴ C – Sodium Bicarbonate	<i>R/V Nathaniel B. Palmer</i>	Interaction of iron, light and CO ₂ on phytoplankton community dynamics in the Ross Sea
B-300-M	¹⁴ C ³ H	¹⁴ C – Alanine ¹⁴ C – Sodium bicarbonate ³ H – Thymidine	McMurdo Station and vicinity	Biogeochemistry of dissolved organic material in Pony Lake, Ross Island
B-310-M	³ H ¹⁴ C	³ H – Thymidine ¹⁴ C – Leucine	McMurdo Station and vicinity	What limits denitrification and bacterial growth in Lake Bonney, Taylor Valley?
B-386-N	¹⁴ C	¹⁴ C – Sodium Bicarbonate	<i>R/V Nathaniel B. Palmer</i>	Interaction of iron, light and CO ₂ on phytoplankton community dynamics in the Ross Sea
B-422-M	¹⁴ C ³ H	¹⁴ C – Toluene ¹⁴ C – Sodium bicarbonate ¹⁴ C – Leucine ¹⁴ C – Toluene ³ H – Toluene ³ H – Thymidine	McMurdo Station and vicinity	The Role of Natural Legacy on Ecosystem Function and Structure in a Polar Desert

PROJECT	NUCLIDE	FORM	SITE	USE
B-423-M	¹⁴ C	¹⁴ C – Sodium bicarbonate ¹⁴ C – Sucrose	McMurdo Station and vicinity	The role of resource legacy on contemporary linkages between biodiversity and ecosystem processes in a cold desert ecosystem: The McMurdo Dry Valley LTER program
G-083-N	¹³⁷ Cs	¹³⁷ Cs – Sealed source	<i>R/V Nathaniel B. Palmer</i>	SHALDRIL, a demonstration drilling cruise to the James Ross Basin
O-176-M	²⁴¹ Am	²⁴¹ Am – Sealed source	McMurdo Station and vicinity	Antarctic Troposphere Chemistry Investigation (ANTCI)
O-398-N	⁵⁷ Co	⁵⁷ Co – Vitamin B-12	<i>R/V Nathaniel B. Palmer</i>	Interaction of iron, light and CO ₂ on phytoplankton community dynamics in the Ross Sea