



Marine Geology & Geophysics Equipment Status



Published: Wednesday, August 09, 2006

Updated: Wednesday, August 09, 2006

System *Bathymetry*

<i>Retro'd</i>	<i>VENDOR</i>	<i>MODEL</i>	<i>DESCRIPTION</i>	<i>STATUS</i>	<i>SPARES</i>	<i>LOCATION</i>	<i>COMMENTS</i>
<input type="checkbox"/>	Simrad	EM120	Multibeam sonar system	Operational	Spare parts are the responsibility of ECO, although RPSC maintains a SUN Ultra 10 system to serve as a spare for the EM120 system console	Nathaniel B. Palmer	The EM-120 was installed in July 2002 to replace the SeaBeam 2112. The Simrad is fully operational and provides significantly improved performance and coverage over the SeaBeam system. The amount of data or ping editing required has been reduced dramatically.
<input type="checkbox"/>	Simrad	EK-500	Single-beam "fish-finding" sonar equipped with three frequency ranges: 38, 120, 200 kHz	Operational	No	Nathaniel B. Palmer	
<input type="checkbox"/>	ODEC	Bathy 2000	3.5 and 12 kHz Sonar	Operational	A Knudsen 320 B/R system	Nathaniel B. Palmer	Upgraded to a Bathy W with a 8.3 KW transmitter in October 2001
<input type="checkbox"/>	ODEC	Bathy W	3.5 and 12 kHz 10 KW Sonar	Operational	Knudsen 320 B/R	Nathaniel B. Palmer	
<input type="checkbox"/>	Datasonics	SIS-1000	Sidescan/sub-bottom profiler	Operational	Yes--Full set of spares for towfish and deck unit	Nathaniel B. Palmer	
<input type="checkbox"/>	Knudsen	320 B/R	3.5 and 12 kHz Sonar	Operational	Yes--Bathy 2000 Backup System (NBP) and full spares kit	Nathaniel B. Palmer	
<input type="checkbox"/>	Knudsen	320 B/R	3.5 and 12 kHz Sonar	Operational	Yes--full spares	Laurence M. Gould	



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System *Coring*

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<input type="checkbox"/>	Ocean Scientific	Mega Core	Corer takes many small undisturbed cores	Operational	Yes	Punta Arenas, Chile	
<input type="checkbox"/>	Accurate Machine Works	N/A	Standard Piston Core	Will be operational when new parts are received.	Yes--Four coring heads plus the hardware that it take to get this operational are onboard	Nathaniel B. Palmer	
<input type="checkbox"/>	Woods Hole Oceanographic Institute (WHOI)	N/A	Jumbo Piston Core	Operational	Yes--Three core heads, six trigger arms, 200-meter releases and all necessary hardware for the Jumbo Piston Core.	Nathaniel B. Palmer	There is enough equipment to build three 8-foot core systems. When used with the rail deployment system the maximum core length is limited to 50 feet.
<input type="checkbox"/>	Kahl Scientific Instruments	Smith-Macintyre	Grab Sampler	Operational	Yes--Two Backups	Nathaniel B. Palmer	Two units--Two stainless steel Grabs and one non-stainless Grab. Spare units are in the Punta Arenas Warehouse

System *DAS*

Retro'd	VENDOR	MODEL	DESCRIPTION	STATUS	SPARES	LOCATION	COMMENTS
<input type="checkbox"/>	RPSC	RV-DAS	Linux-based DAS	Operational	Fully redundant hot spare/backup with additional critical spares (Disks, power supplies, memory, etc.)	Both Vessels	



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System Gravity

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<input type="checkbox"/>	LaCoste & Romberg	Air-Sea Gravity Meter	Gravimeter	Operational - The last two gravity ties have shown very little sensor drift.	Yes--spare boards and power supplies	Nathaniel B. Palmer	Leak in oil-filled shock absorbers was repaired during NBP06-02 -replaced O-rings and re-filled shocks with oil. The meter was sent to the vendor for upgrade following NBP04-03 in May 2004. The table was returned to the NBP in mid-December 2004.

System Magnetics

Retro'd	VENDOR	MODEL	DESCRIPTION	STATUS	SPARES	LOCATION	COMMENTS
<input type="checkbox"/>	Marine Magnetics	Seaspy	Overhauser Effect magnetometer	Operational	Complete set of spares	Nathaniel B. Palmer	Replaced the Geometrics G-877. Arrived and tested in May 2006.
<input checked="" type="checkbox"/>	E G & G	G-811	Gradiometer	Operational	spare boards and tow cable termination kits. New Cable and repaired splitter.	Removed/Retrograded	Retrograded out of the USAP after NBP03-04D in October 2003.
<input type="checkbox"/>	Geometrics	G-877	Proton Precession Magnetometer	Lost at sea during NBP06-02	No	Nathaniel B. Palmer	Replaced with Marine Magnetics Seaspy (see other entry for this magnetometer). Arrived and tested in October 2003.
<input checked="" type="checkbox"/>	E G & G	G-866	Proton Precession Magnetometer	Operational-data noisy-Retrograded	Two complete systems.	Removed/Retrograded	Retrograded.



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System *Navigation*

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<input type="checkbox"/>	Simrad	Seapath 200	Primary navigation for Simrad EM-120 and all other systems on the NATHANIEL B. PALMER. Provides pitch, roll, position, speed, acceleration and heading data to the EM-120. The Seapath data are currently logged to RV-DAS.	Operational	Fully redundant systems	Nathaniel B. Palmer	Both systems are fully operational as of NBP05-02.

System *Other*

<i>Retro'd</i>	<i>VENDOR</i>	<i>MODEL</i>	<i>DESCRIPTION</i>	<i>STATUS</i>	<i>SPARES</i>	<i>LOCATION</i>	<i>COMMENTS</i>
<input type="checkbox"/>	Benthos		Benthic Camera	Lost at sea.	batteries	Nathaniel B. Palmer	Lost at sea during NBP06-03 when a large piece of ice from a calving iceberg caused the ship to roll significantly and quickly, snapping the cable.
<input type="checkbox"/>	Shaftstall Corp.	Quickcopy	Multiple-copy tape duplication system	Operational with new DDS-4 tape drives	spare tape drives, general PC spares (motherboards, memory, drives, etc.)	Nathaniel B. Palmer	Has port for attaching an external SCSI drive.



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System *Plotters*

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<input type="checkbox"/>	EPC	1086	Thermal Plotter	Operational	No. EPC 9800 plotters can be used to fulfill this function.	Nathaniel B. Palmer	Film and paper are onboard
<input type="checkbox"/>	EPC	9802	Thermal Plotter	Operational	The NBP has three 9802's and spares	Nathaniel B. Palmer	Film and paper are onboard
<input type="checkbox"/>	Raytheon/Ocean Data Equipment Corp.	TDU-850	High Resolution thermal plotter for Bathy 2000	Operational	No	Nathaniel B. Palmer	
<input type="checkbox"/>	EPC	1086	Thermal Plotter	Operational	No. EPC 9800 plotters can be used to fulfill this function.	Laurence M. Gould	Film and paper are onboard
<input type="checkbox"/>	EPC	9802	Thermal Plotter	Operational	Yes--spares	Laurence M. Gould	Film and paper are onboard



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System *Seismic*

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<input checked="" type="checkbox"/>	Syntron	RCL-3	Cable-levelling Birds for Multi- Channel Streamers	Retrograded - Birds were failing and are no longer repairable or supported by manufacturer. Obsolete system.	N/A	Nathaniel B. Palmer	Once the new system Digicourse cable leveling system was up and running the RCL-3 system was retrograded from the USAP inventory.
<input type="checkbox"/>	Syntron	GCS-90	Seismic Gun Controller	Operational	Yes--spare fire control and cycle control boards	Nathaniel B. Palmer	
<input type="checkbox"/>	Seismic Systems	N/A	6 G.I. Seismic Air Guns-- 210cu. In.	Operational	Yes--Spare parts	Nathaniel B. Palmer	In Seismic Van.
<input checked="" type="checkbox"/>	Digicourse	5010	12-bird Cable-levelling system for Multi- Channel Streamers	Operational	Yes	Nathaniel B. Palmer	In Seismic Van. The old Syntron RCL-3 system will be retrograded from the USAP inventory.
<input type="checkbox"/>	Greeneridge Sciences		VHF Radio for sonabuoy reception	Operational	No.	Nathaniel B. Palmer	Primary system. Yaesu receiver is backup.
<input type="checkbox"/>	S/N Technologies		48 channel analog solid streamer w/ bird coils, 8 sections @ 150m	Operational	O-rings	Nathaniel B. Palmer	Several cracks have formed in the streamer jacket that go all the way down to the Kevlar strain member. This cable will need to be repaired or replaced before the next cruise needing a multi-channel streamer. A replacement streamer received from USGS stock is being refurbished for use on upcoming seismic cruises.



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<input type="checkbox"/>	Yaesu		VHF Radio for sonabuoy reception	Operational	No.	Nathaniel B. Palmer	Backup to Greeneridge Science Receiver
<input type="checkbox"/>	LMF (NBP)	N/A	Seismic Air Compressors	Operational	Yes--Dual Compressors	Nathaniel B. Palmer	
<input type="checkbox"/>	Price (LMG)	N/A	Seismic Air Compressors-LMG	Removed	Removed-spares will be available	Laurence M. Gould	These compressors were removed from the LMG in Port Fourchon, Louisiana in 2004. They were tested and certified and are being stored by the vendor until needed?
<input type="checkbox"/>	Seismic Systems	N/A	1 G.I. Water Gun--15 cu In.	Operational	Yes--Spare Parts	Nathaniel B. Palmer	In Seismic Van.
<input type="checkbox"/>	S/N Technologies	Stealtharray	Seismic streamer cable; 1200 meter, 48 Channel Cable w/ 300 M lead-in	Unrepairable	No	Nathaniel B. Palmer	A replacement streamer received from USGS stock is being refurbished for use on upcoming seismic cruises..
<input type="checkbox"/>	Bolt	1500LL	Up to six guns may be used at once. Available gun volumes are one each of 1000, 800, 500, 450, 400, 350, 300, 200, 145, and 80 cu In.	Operational	Yes--Spare parts	Nathaniel B. Palmer	In Seismic Van.
<input type="checkbox"/>	Oyo	DAS-1	Seismic Recording System	Operational	Two complete Oyo DAS-1 units and spares	Nathaniel B. Palmer	Two Fujitsu 3490 tape drives are available for using the OYO's in standalone mode.
<input type="checkbox"/>	Benthos	15/10 P	Oil-filled Single-Channel Streamer Cable	Not Functional	Yes--a spares toolkit including three hydrophones, a pre-amp and all necessary tools, spare skin.	Nathaniel B. Palmer	Damaged on NBP05-02. Not functional.



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<input type="checkbox"/>	Triton Elics International	TEI 1000	48-channel seismic data logger	Operational	Full redundant disk with critical spares inventory	Nathaniel B. Palmer	This equipment is the shared responsibility of the IT and ET personnel. Refer to the Triton Elics entry under the ET section for more information.
<input type="checkbox"/>	Innovative Transducers, Inc.	Stealtharray	Single-Channel Streamer Cable	Operational	Yes--Spare hydrophones and pre-amplifier kit	Nathaniel B. Palmer	Tested on NBP05-02. Works well.
<input type="checkbox"/>	Triton Elics International	Delph Seismic	Seismic data logger networked to the Oyo-DAS1. Data is logged in SEG Y format to the Triton PC hard drive.	Operational	None for the Triton Elics. The two Oyo DAS-1 units can be operated standalone if necessary.	Nathaniel B. Palmer	Replaced Lookout Geophysical data logger in October 2002.
<input type="checkbox"/>	ASA	N/A	Fix box	Operational	Yes. Backup system	Nathaniel B. Palmer	

System Winches

<i>Retro'd</i>	<i>VENDOR</i>	<i>MODEL</i>	<i>DESCRIPTION</i>	<i>STATUS</i>	<i>SPARES</i>	<i>LOCATION</i>	<i>COMMENTS</i>
<input type="checkbox"/>	Markey (winches) Rochester/ McWhyte (tow cables)	DUSH 4 DUSH 5 DUSH 11	LMG Winches and Cable	Operational	N/A	Laurence M. Gould	Winch Capacities: Dush 4-7,000m of .322" Electro-mechanical or 1/4" mechanical cable; Dush 5-10,000m of .322" EM cable; Dush 11-5,000m of .680" EM or 7300m of 9/16" mechanical cable.
<input type="checkbox"/>	Markey (winches) Rochester/ McWhyte (tow cables)	DUSH 5; DUSH 5-5; Two DUSH 9-11 winches	NBP Winches and Cable	Operational	Yes	Nathaniel B. Palmer	Winch Capacities: Dush 5-10,000m of .322" Electro-mechanical cable; Dush 5-5-10,000m of .322" EM or 5/16" Mechanical; Dush9-11-10,000m of .680 EM or 9/16" mechanical cable.
<input type="checkbox"/>	State University of New York and Ocean Instruments	N/A	Kasten Core (2 ea)	Operational	Yes. Six cutter noses; six standard core barrels and one 20-foot core barrel	Nathaniel B. Palmer	