

DIVING COMPANIES FIND SUBSEA CABLES



Hydro Marine's team repairs power cable on their barge Inset; Southern Gulf divers with cable tracker probe

Trying to locate damaged subsea power and communications cables has always been a difficult job. Regulations require cables be buried from several feet to several meters under the ocean bottom to prevent snagging by boat anchors, fishing nets, and lobster trawls. The amount of overburden on a cable often means it's too deep to be located with conventional metal detection equipment. The device that has proved most effective in finding them is a cable tracker. This system has two parts, a signal injector and a probe. The injector is attached to the shore end of a line and induces a signal into one of the conductors. The probe is carried by a diver, or used from a boat in shallow water, and detects the electrical pulse transmitted through the wire.

One company that recently completed a job with help from this tool is Hydro Marine Construction, a division of The Castle Group. Company founder William Castle has been providing marine and structural engineering services for almost 30 years, and has served on a number of industry boards including the Association of Diving Contractors (ADC). Hydro Marine was called on to assist Atlantic City Electric in locating and repairing a dam-

aged submarine power line off the New Jersey coast. The first hurdle they faced was finding the cable, which was buried 4 to 9 feet under the ocean floor. Using JW Fishers CT-1 cable tracker, a signal was induced into the shore end of the line. Hydro's divers then used the CT-1 probe to locate and follow the cable until they pinpointed the exact location of the break. Buoys were deployed to mark the spot, and a water jet was employed to excavate the cable. Divers rigged it with a sling, and raised it to the surface with a crane. Once on top, the cable was anchored onto the company's barge. A crew from the electric company worked with Hydro's team to cut out the faulty section and splice in a new piece. When repairs were complete, the power line was lowered back to bottom and reburied.

Located in the United Arab Emirates is Southern Gulf Surveys, a company with substantial knowledge and experience in Hydrographic and Geophysical Surveys. Best known for their work in dredging and reclamation, they provide services to many international clients. (continued on pg 5)

INSIDE...

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Page 3 - Government agencies & military units perform underwater searches

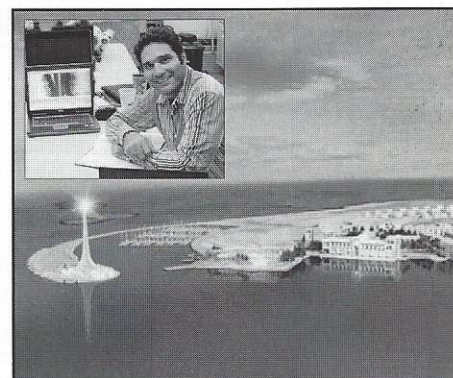
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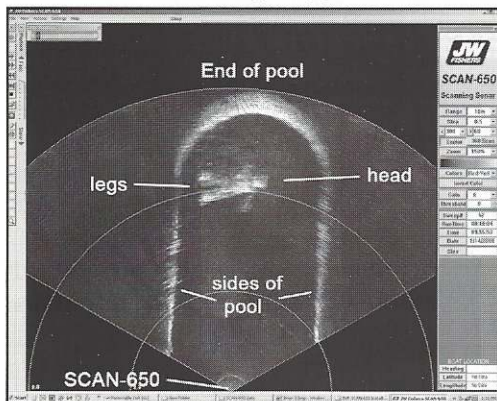
KAUST UNIVERSITY ADDS ROV AND SIDE SCAN SONAR

Many universities are now adding ROVs to their marine science programs. These remote controlled camera systems assist in a multitude of operations including underwater archaeology, monitoring the health of benthic habitats, behavioral studies of fish and other marine species, and performing specialized research. In addition to their high resolution cameras and lighting, the ROVs can carry a variety of other sensors including sonars to explore beyond the visual range of cameras, manipulator arms for sampling, and temperature and depth probes to measure and record environmental conditions. One school that recently acquired an ROV is King Abdullah University of Science and Technology (KAUST) in Saudi Arabia, a graduate level research institution with a \$10 billion dollar endowment. The marine services department is run by Capt. Ahmed (continued on pg 2)



KAUST in Saudi Arabia; inset- The University's Capt. Ahmed Shaker

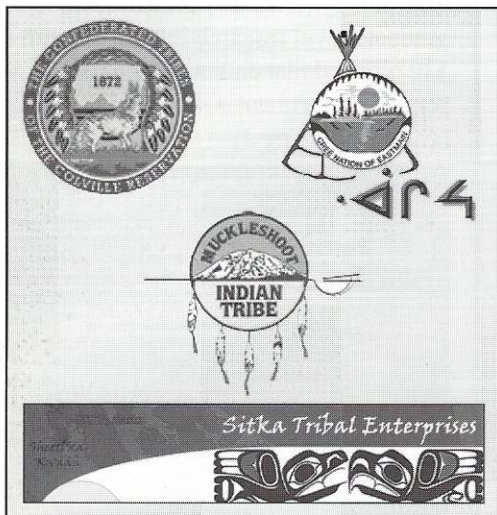
Indian tribes use u/w search equipment



SCANNING SONAR IMAGE OF BODY IN A SWIMMING POOL

Indian nations operate as independent governments. They have their own elected officials, schools, courts, and police forces, and are responsible for all of the natural resources on their lands. A number of tribes are acquiring underwater search equipment to aid in a variety of tasks that include environmental monitoring, fisheries management, exploration of cultural resources, and search and recovery missions.

One is the Confederated tribes of Colville Reservation (CTCR) in Washington state. The group has 9,000 descendants of 12 aboriginal Indian tribes. The reservation covers 1.4 million acres and takes in parts of 5 rivers and a lake. CTCR is part of a cooperative endeavor, the Lake Roosevelt Fisheries evaluation Program, which includes the Spokane Tribe and Washington's Dept. of (contd pg 4)



Logos of some of the tribes using Fishers underwater search equipment

International News

.....Bactec International, a company specializing in EOD, bomb disposal, and landmine clearance has purchased Fishers Diver Mag 1 hand-held magnetometer.

.....Petro Vietnam Engineering, a company offering surveying, inspection, repair and maintenance services to the country's oil and gas industry, is using Fishers SSS-600K side scan sonar and Proton 4 magnetometer with Tracker software, UA-2 altimeter and two of the DDW-1 depressor wings for deep water towing.

.....Watergate Technical Services, a Nigerian company providing survey data to the oil and gas industry, has purchased Fishers Pulse 8X metal detector and Diver Mag hand-held magnetometer.

.....Sources Workshop Equipment, a commercial diving and marine services company based in Dubai, UAE has added a SeaOtter-2 ROV to their extensive list of equipment. The company has been a longtime user of Fishers equipment.

.....DUC Diving, a commercial diving company in Holland has purchased Fishers SSS-100K/600K dual frequency side scan sonar with 100 meter cable, deep dive wing and mapping software. 'We are very pleased with the performance of the sonar', reports owner Henk Kapitein.



DUC DIVING IN HOLLAND WITH SIDE SCAN SONAR & DIVE WING

.....Denholm Offshore Ltd, is a UK company offering complete power and telecom cabling service, including installation and maintenance. They are using Fishers CT-1 cable tracking system to locate and track power and fiber optic cables.

.....Trindive Underwater Service in Trinidad is using Fishers DHL-1 diver-held light with two 250 watt bulbs. The system is surface powered which enables it to supply lighting for an unlimited amount of time.

.....Chamarel Marine Services, a France Telecom Marine subsidiary, successfully used Fishers CT-1 cable tracking system to locate and track several submarine power cables around Reunion Island in the Indian Ocean.

University adds ROVs and sonar (Continued from pg 1)

Shaker, who has degrees in oceanography, business management, and engineering. He's also a PADI master scuba instructor. With the university's remote location, the marine services department is responsible for a variety of missions. In addition to providing vessels and equipment needed to conduct scientific research, the department has also been tasked with locating and mapping the area's many historic shipwrecks and other submerged cultural resources. They are also responsible for search and recovery operation should a person or vessel go missing.

The diverse missions require a broad spectrum of equipment. The department has 17 vessels of various sizes from a 200 foot ship to a 70 foot Hatteras to several Boston Whalers under 30 feet. The university also purchased several underwater search systems from JW Fishers including an ROV, side scan sonar, and diver-held metal detector; good choices for the differing array of assignments. The sonar was equipped with 500 foot cable, a deep dive wing, and mapping software. The long cable and wing will be extremely useful in surveying deep water sites. Map coverage software will show the operator the complete area scanned so no part of the search grid is missed. This is an ideal system for mapping shipwreck sites, surveying reef structures, and even locating drowning victims.

Capt. Shaker travelled to Fishers factory for a quick training course on operation and basic maintenance of each system. "We selected Fishers", said Shaker, "because the equipment is ruggedly built, reasonably priced, and because the company has such a great reputation." **JWF**



Capt. Shaker at Fishers factory with ROV and JWF tech Brian Awalt

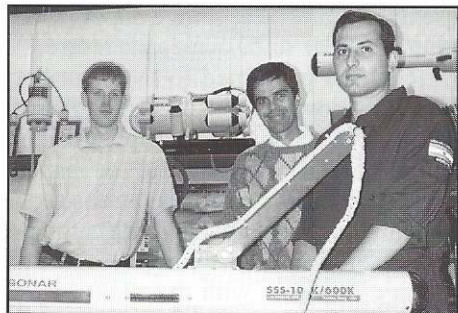
GOVERNMENT AGENCIES, UNIVERSITIES, & MILITARY PERFORM U/W SEARCHES

.....Universidad de la Republica in Uruguay has purchased Fishers Pulse 8X metal detector. The detector will be used by the Dept. of Humanities and Education Sciences for archaeological surveys around the Rio de la Plata, a river near Montevideo, which is rich in history and the site of many shipwrecks.

.....Lebanon's Ministry of Defense has purchased Fishers MFP-1 multifrequency pingers and PR-1 pinger receiver with boat-deployment kit. The pinger is used to mark the location of underwater instruments and mines. The receiver can be deployed from a boat to quickly relocate the pinger.

.....Arkansas Game and Fish Commission is using Fishers DV-1 drop video system and Pulse 6X metal detector in their monitoring and enforcement operations.

.....Argentina's Perfecta Naval (PNA), an agency similar to the US Coast Guard, has purchased their second Fisher SSS-100K/600K dual frequency side scan system.



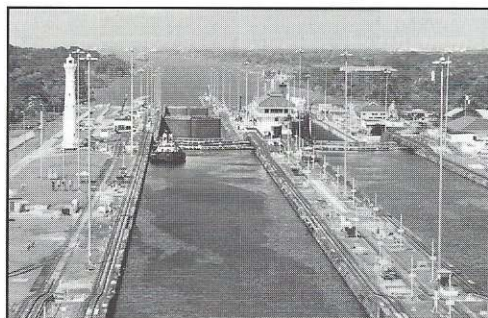
PNA officer Levato (r) at Fishers factory with Argentinian distributor Patricio Nicoletti (c) and Fisher tech Brian Awalt

.....University of Alaska's School of Fisheries and Ocean Sciences has acquired a SCAN-650 scanning sonar for their SeaOtter-2 ROV purchased last year reports Dr. Peter Winsor, Prof. of Marine Sciences. According to Terry Whitledge, one of the researchers working with the ROV, it is being used to assist in the inspection and recovery of environmental monitoring instruments and the exploration of shallow water marine sediments. The sonar will help the ROV navigate in low visibility conditions.

.....University of North Carolina Wilmington's Center for Marine Science has purchased a Pulse 8X metal detector reports Asst. Director of Marine Ops Henry Styron.

.....US Navy's Underseas Warfare Center is using Fishers MFP-1 multi frequency acoustic pingers. One application of pingers is attaching them to explosive devices, such as torpedoes, so they can be relocated- should it be necessary to retrieve one. **JWF**

Magnetometers Aid Panama Canal Expansion



ENLARGED LOCKS AT THE CANAL CAN ACCOMMODATE BIGGER SHIPS

Almost 100 years after the Panama Canal was first opened, a major expansion project is now underway. The 50 mile passageway was originally designed to accommodate vessels up to 965 feet long, 106 feet wide, with a maximum draft of 39 feet. Today a new generation of megaships is making the canal obsolete. From freighters to cruise ships, vessels greater than 1,000 feet in length are common. To handle these larger hulls a seven year development program has begun that will add a third lane to accept ships up to 1,200 feet long, 160 feet wide with drafts up to 50 feet.

The massive project, expected to cost in excess of \$5 billion, involves constructing new locks, miles of new waterways, and deepening and widening some existing passageways. On shore giant earthmovers are busy excavating a new path for ships, while at sea huge dredges are working to increase the size and depth of the channels.

The expansion project is yielding some interesting "artifacts". A number of railroad wheels and a dredge bucket dating to the early 20th century were recently uncovered. Encountering this debris during dredging operations can dramatically impede progress, and equipment can be damaged running into these underground obstructions. To counter the problem officials at the Panama Canal Authority (contd on page 5)



**EARLY 20TH CENTURY DREDGE
BUCKET AND RAILROAD WHEELS
RECOVERED AT CANAL DIG SITE**

COMMERCIAL NEWS

.....W.F. Magann Crop a heavy industrial, marine, and concrete construction contractor in Virginia is using Fishers SeaOtter-2 ROV. Recently the company performed a reservoir inspection for the US Marine Corps in Quantico, VA. ROV operator Gary Parsons reports, "The SeaOtter performed beautifully. We had the Army Corps of Engineers on site observing the operation. Everyone involved was impressed with our work and the ROV's performance."

.....Kurt Erlandson with Randive Commercial Diving Services in New Jersey reports the Pulse 8X metal detector located a large propeller." The propeller was made of stainless steel and buried very deep in the mud. We actually detected the shaft key, retaining ring and seizing wire which enabled us to pinpoint the propeller."



LARGE PROPELLER LOCATED BY RANDIVE WITH PULSE 8X

.....Fugro Pelagos in San Diego, a company specializing in offshore survey services, is using Fishers TOV-1 towed video system reports Resources Technical Manager Juan Gardner.

.....PetroSeis, a company providing geophysical and hydrographic survey services in Malaysia is using Fishers CT-1 cable tracker to locate submarine power cables reports project manager Cheah Hin.

.....Nisqually Aquatic Technology, a commercial diving company owned and operated by the Nisqually Indian Tribe in Washington, is using Fishers TOV-1 towed video and DDW-1 deep dive wing for search and inspection jobs reports general manager Dennis Lucia. The company has trained more than 700 tribal harvest divers since 1995.

.....Neel Underwater Services in Cochin, India is using Fishers Pulse 10 boat-towed metal detectors for a variety of subsea search and recovery operations. **JWF**

INDIAN TRIBES (contd from pg 2)

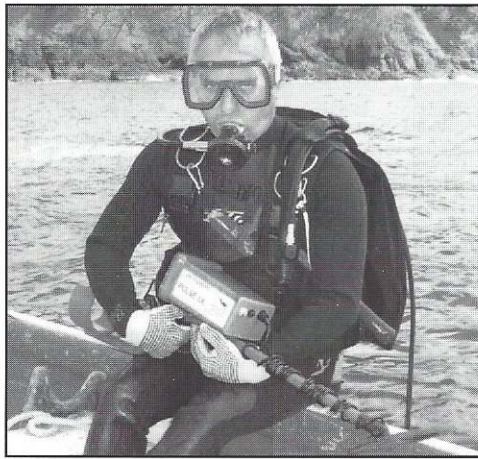
Fish and Wildlife. The objective of the program is to develop strategies to effectively manage fish populations which were dramatically impacted by the construction of the Grand Coulee and Chief Joseph Dams. To aid in the research and monitoring efforts the group is using Fishers SeaLion-2 ROV. This highly maneuverable camera system allows the team to observe and record fish stocks and environmental conditions in the habitat.

Alaska's Sitka Tribe is also using high tech underwater equipment. Their lands include Baranof and Chicag of Islands in the southeastern part of the state. The tribe has procured a Proton 4 magnetometer to aid in search missions. This super sensitive metal detector assists when there is a need to locate a sunk boat or a vehicle that goes through the ice, track a pipeline, find a lost anchor, or pinpoint a missing mooring. For any task that requires locating an iron or steel target from a great distance, the Proton 4 is the perfect tool.

The Cree Nation of Eastmain in Quebec, Canada has secured a SCAN-650 scanning sonar. The scanning sonar operates in water similar to the way radar operates in air. The SCAN-650 transducer is lowered to the bottom and a sonar beam sweeps a 360 degree circle out to a distance of 60 meters. The sonar saves many hours of dive time when searching for a drowning victim or a snow mobile that has gone through a frozen lake.

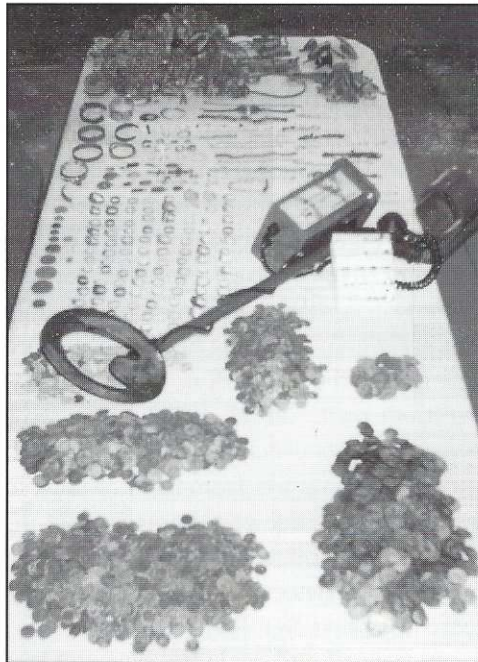
The Muckleshoot Indian Tribe, comprised of descendants of the Coast Salish people in the pacific northwest, is using a Pulse 8X metal detector. The 8X is a popular tool with police and military dive teams for locating weapons and explosive devices; but "we have another use for it" reports Les Hoffer, an official with the tribe's Preservation Dept. "The detector will help in investigating and mapping some of the old burial grounds. Once other departments hear about our use of it, they will waste no time asking to borrow the detector to locate utilities and other things around the reservation." **JWF**

.....FROM THE TREASURE CHEST



CAPT. MARCH WITH HIS PULSE 8X

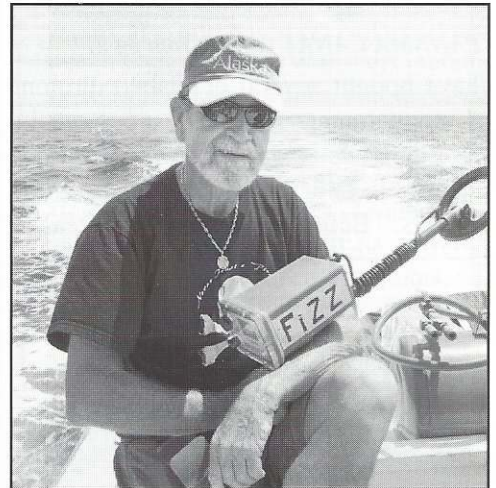
.....Capt. Charles March is having great success using his Pulse 8X detector. He located hundreds of coins and pieces of jewelry working a "virgin beach" in Panama.



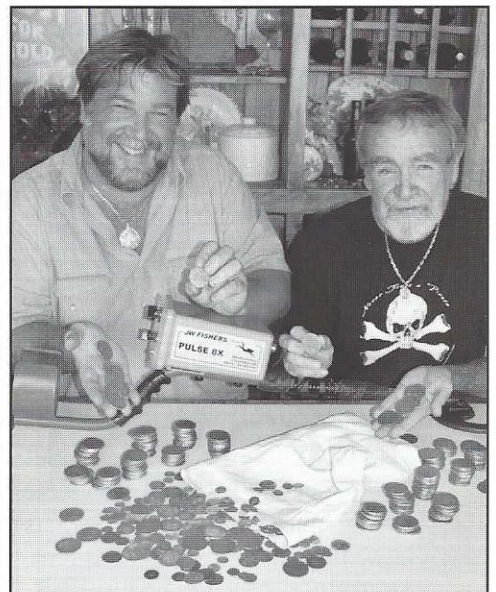
HUNDREDS OF COINS AND PIECES OF JEWELRY FOUND BY CAPT. MARCH ON "VIRGIN BEACH IN PANAMA"

.....Anchor Research and Salvage (ARS-DR), based in the Dominican Republic, was founded in 2009 "for the purpose of seeking, documenting, and rescuing significant historical shipwrecks in Caribbean waters", says founder and CEO Robert Pritchett. The company is using Fishers side scan sonar, ROV, and underwater metal detector to assist in their operations. Most recently they added a Diver Mag hand-held magnetometer. ARSDR has already located and identified several wreck sites.

.....Renowned treasure hunter Carl Fismer, who has worked numerous shipwreck sites around the world including ones in Sri Lanka with author Arthur C. Clark, has received the prestigious Mel Fisher Lifetime Achievement Award. The award is presented annually to a person who has shown "immense perseverance in following their Quest in Life. Such a Quest would exemplify the person's ability to achieve in life what others might only dare to dream." Carl has been actively involved in the search for historic wrecks and recovery of artifacts for more than 40 years. Because of his extensive experience he was selected to host the Dish TV series *Treasure Divers*. Carl's detector of choice; the Pulse 8X.



WORLD FAMOUS TREASURE HUNTER CARL FISMER WITH HIS PULSE 8X



FISMER AND ASSOCIATE ROBERT LEWIS KNECHT WITH LARGE BATCH OF SPANISH COLONIAL COINS - PHOTOS BY KNECHT -

DIVING COs FIND (contd from pg 1)

Recently the company was hired to find and track several power cables. Managing director Stephen Hart reports, "The CT-1 cable tracker did it's job. The cables we were searching for are 11 KVA and 50Hz. The probe gave us good signals both on the beach and offshore, and our divers were able to track the cables across the bay. We found the cables to be about 70 meters out of position and buried down 1.5 to 2 meters. They were supposed to be 15 meters apart and buried down half a meter. The client was extremely pleased and commented that we've done what no one else managed to do!" **JWF**

PANAMA CANAL (contd from pg 2)

have bought several of Fishers Proton 4 magnetometers. These super sensitive metal detectors can locate iron and steel objects at a range of hundreds of meters. Before excavating an area, a



WORKERS DEPLOY THE PROTON 4

team surveys the sector with the mag. If any ferrous objects are buried there, the Proton 4 will sound an alarm and show a change in the readout. Tracker software allows the mag data and GPS coordinates to be displayed and stored on a laptop. The mag operator can see the track of the survey boat on a computer as it moves over the search area to ensure no part is missed. Once the survey is complete the team can quickly relocate the targets and remove them before dredging begins. Armed with the new equipment, authorities are confident the project will progress according to schedule and be finished on time. **JWF**

LAW ENFORCEMENT AND DIVE RESCUE NEWS



TAFTON FIRE'S JOHN TANDY (r) AT FISHERS FACTORY WITH NEW SONAR

.....Pennsylvania's Tafton Fire Company Scuba Team has added a Fishers SSS-600K side scan sonar. The 600K is the perfect tool to locate submerged vehicles, sunken boats, and drowning victims. The department's Jon Tandy came to Fishers factory to pick-up the sonar and take a short training course.

.....Lt. Lee Chaffin with the Tennessee Highway Patrol Special Operations Unit reports, "We have used the DV-1 underwater camera many times with great results".

.....Los Angeles Police Department's Dive Unit picked up a Pulse 8X. Reports officer Doug Datria. "We had some old detectors that just weren't holding up, then we heard how rugged the Pulse 8X is. After purchasing it our team ran the detector through a battery of tests checking ranges on a variety of buried targets from shell casings to weapons. We were very impressed."

.....Chicago Police Marine Unit is using two Pulse 8X detectors for their underwater search ops says Sgt. Ray Mazzola.

.....Florence/Lauderdale Emergency Management Agency in Alabama has added a SCAN-650 scanning sonar. The sonar will assist in locating drowning victims, submerged vehicles, and sunk vessels. The agency already owns a Pulse 8X metal detector and DV-1 drop video system.

.....Bridgeport Police in Connecticut have purchased Pulse 8X detector for their scuba team.

.....Homeland Security Dept. in Sabine Parish, Louisiana is using Fishers SCAN-650 scanning sonar for their underwater search operations.

.....Washington County Sheriffs Office in Minnesota is using the SeaOtter-2 ROV. The dept. previously purchased the SSS-600K side scan sonar. Dive team member Jim Anderson reports, "In two recent searches we used the side scan to locate a snow mobile in 74' of water and a truck in 26 feet. The ROV was then deployed to inspect the targets. This equipment makes these operations, faster, easier and safer."

.....Howell Fire District #1 in New Jersey is using Fishers Pulse 6X and Pulse 8X detectors for underwater searches.

.....Los Angeles Sheriffs Dept. Port Police has purchased Fishers DHC-1 diver-held camera. With this system the team can perform video inspections of ship hulls and other u/w structures.

.....Midland Sheriffs Dept. in Michigan is using Fishers SSS-100K/600K dual frequency side scan sonar with Splashproof computer and mapping software to search for drowning victims, sunk boats, and submerged vehicles.

.....Cape Breton Fire Dept. in Sidney, Nova Scotia, Canada have acquired a SeaLion-2 ROV with manipulator arm for their search and recovery operations. Chief John Nugent reports, "We're very happy with the ROV. It works better, and does more, than we ever expected."

.....Saratoga County Sheriff's Dept. in NY purchased a SeaLion-2 ROV for their search and inspection operations. Col. Richard Emery and Lt. William Siebert of the dept. came to Fishers factory for training. Both were impressed with the ROV's performance and commented on how easy the system is to operate.



SARATOGA SHERIFF'S COL. RICHARD EMERY(l) AND LT. WILLIAM SIEBERT

COMPANY NEWS and NEW PRODUCTS

From the mailbag...

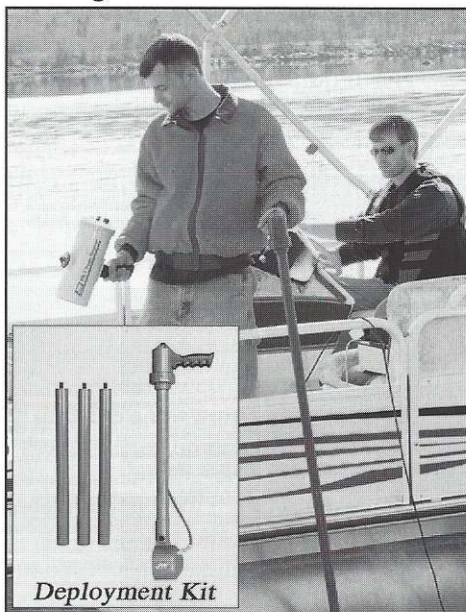
.....Kostas Tzouvelekis is working on an archeological project in the Aegean Sea off the coast of Greece. He reports, "The Pulse 12 detector we bought is a splendid piece of equipment and has given us great help and we are certainly glad that we purchased it."

.....Elliot Bristow with the Lake Champlain Maritime Museum reports, "I have received the new SSS-100K/600K side scan sonar and had an opportunity to try it the other day. It is fabulous! We did some practice runs on a known wreck and it performed beautifully showing great detail of the wreck."

.....Brad Gordon with Australasian Diving Academy in Australia writes about the Pulse 8X he recently purchased from JWF, "Thank you for the expedient and friendly service. It is always heartening to deal with a reputable company who also offers the service to back up their name."

.....John Dedeian in Washington writes, "If you have ever wondered why I chose your brand for my purchase, the main reason was that all the other brands sent brochures that displayed their products in totally unlikely situations and yours showed divers working a search site. None but you declared the likely operating parameters and performance limits. Their brochures declared "outperforms all the rest", while yours showed actual depth and width for likely search patterns. Give me the facts so I can make informed choices. Theirs couldn't and yours proudly did. I chose the best, in my book!" **JWF**

JW Fishers has developed a boat-deployment kit for their PR-1 pinger receiver. The kit allows acoustic pingers to quickly and easily be located from a boat. The kit consists of a hydrophone and a 6 foot sectional pole handle to lower the hydrophone into the water. Thirty feet of cable connects the hydrophone to the PR-1 receiver which stays on board the vessel. The operator slowly rotates the shaft changing the "listening" direction. When an acoustic signal is detected an audio sounds and LEDs illuminate on the receiver's control panel. A compass on top of the handle indicates the direction of the sound wave. As the receiver gets closer to the source, more LEDs light and the audio increases.



PR-1 receiver with boat-deployment kit



Side cameras now available for ROVs

JWF has added a new option for their popular SeaOtter-2 and SeaLion-2 ROVs; side cameras. The vehicles can now be equipped with two additional cameras mounted on the sides of the main housing, for an impressive total of four cameras on the ROV. Each side camera has its own separate underwater housing with a high intensity LED light ring. The viewing direction of the cameras is set by the operator. When aimed horizontally, the ROV becomes the ideal tool to inspect a seawall, dam face, bridge support, or any other vertical underwater structure. The cameras can be turned to face straight up, or straight down, for inspecting the inside of water tanks or pipelines. Upward looking cameras are also very useful for inspecting ship's hulls and similar operations required by homeland security. The side cameras are high resolution color, just like the ROV's primary cameras, with excellent low light sensitivity. Other options for the ROVs include a metal detector, scanning sonar, and a manipulator arm. **JWF**

If you have a story you would like to share, send us a photo and write-up, or call Chris or Jack at (800) 822-4744 or (508) 822-7330. Send faxes to (508) 880-8949, email: jwfishers@aol.com or visit the website at www.jwfishers.com.

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