

SEARCH TEAM NEWS

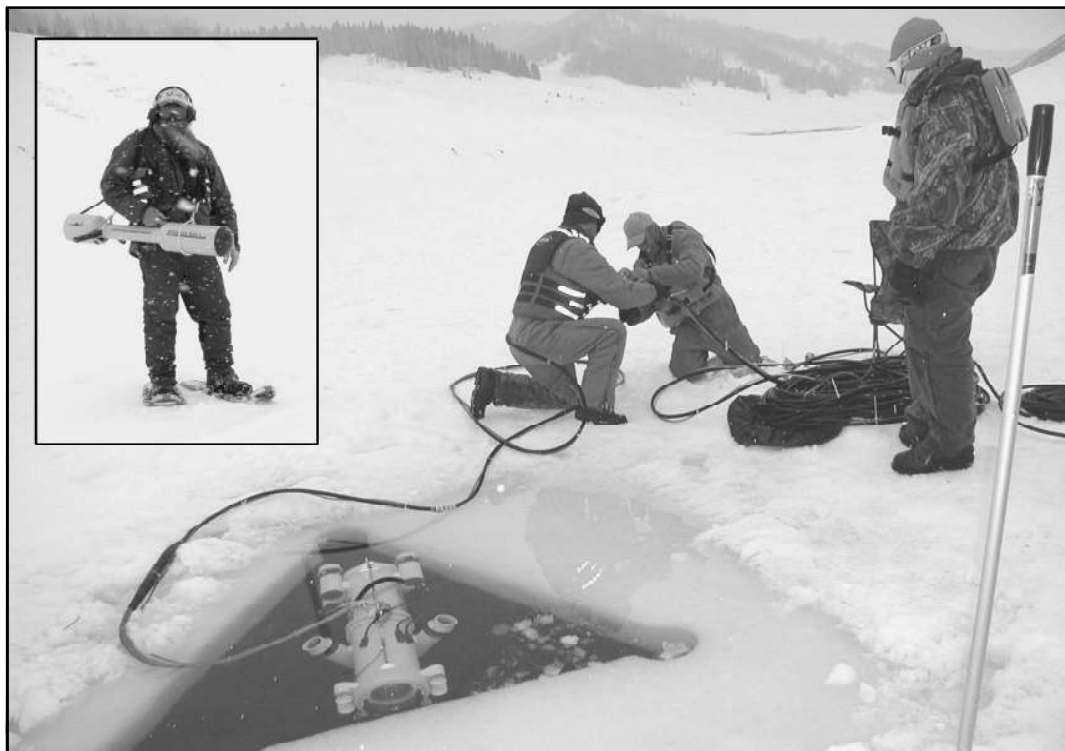
JW FISHERS MANUFACTURING INC.



UNDERWATER SEARCH NEWS

ISSUE 14-1

ROV SAVES POWER COMPANY MILLIONS



SEALION ROV DEPLOYED THROUGH HOLE IN ICE FINDS LEAK IN HIGH ALTITUDE RESERVOIR, WINGS IN SNOW SQUALL WITH DIVER MAG (TOP)

Capt. Wings Stocks, owner and president of Adventure, Depth and Technology (ADT) a remote imaging and underwater survey company based in Santa Cruz, CA. The company recently joined forces with Advanced Diving Systems (ADS) from Mesquite, Nevada to investigate and document a 10,000 gallon per minute water leak from a high altitude reservoir in Utah. If not controlled, the leak would cause the shut down of a power plant, at an estimated cost of \$80 million a month.

During the summer, divers were brought in to locate the source of the leak. With extremely poor visibility from algae growth and summer runoff, they were unable to do so. The power company made a decision to wait until winter when the lake was frozen, knowing water clarity would be at its peak, and thinking the ice would provide a stable platform to work from. The plan was to bring in an ROV and deploy it through the ice. However, having no prior experience in remote sensing, plant officials had some concerns whether an ROV could do the job.

In February the ADT and ADS teams were called in. ADT brought to the party their Fisher SeaLion ROV and Diver Mag 1 hand held magnetometer. The crews spent 9 frosty days working at an altitude of 8,500 feet in near zero temperatures with snow falling every day. The remoteness of the site required all equipment be transported in by snowmobiles and transport sleds. Once on-site a dive station and electronics room, a 12 by 18 foot canvas tent, was set up close to the suspected fault lines. The ice camp was reminiscent of early expeditions to the North and South Poles, with one exception, the addition of a 55,000 BTU heater!

Capt. Stockton reported, "After cutting a triangular access hole through 18 inches of ice, a survey grid was established and the SeaLion went to work. The ROV would locate a fault area and the operator would bring it straight up until it was resting

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CHILEAN COMPANY USES ROV FOR ENVIRONMENTAL STUDIES AND VIEWING SHIPWRECKS

Dr. Carlos Guerra Correa, a marine biologist, and his wife Alejandra, an aquaculture engineer, operate Search Ltd. in Antofagasta Chile. They bought their Fisher SeaOtter ROV to perform environmental surveys in the area's lakes, rivers, and bays, but found there were many more uses for their underwater eyeball than they first realized.

"The primarily application we had for the ROV was monitoring benthic communities that are near industrial discharges of warm water", says Dr. Correa. "It is much easier to assess the environmental impact when you can see the marine animals and the condition of their habitat, rather than just relying on water quality samples. Once we started using the ROV and saw it's potential, many other projects began to develop. One we hope to complete this summer is a study on the interaction among various marine species. We'll be looking at feeding behavior, symbiotic relationships, nocturnal behavior, etc."

"In addition to our scientific studies we have begun providing

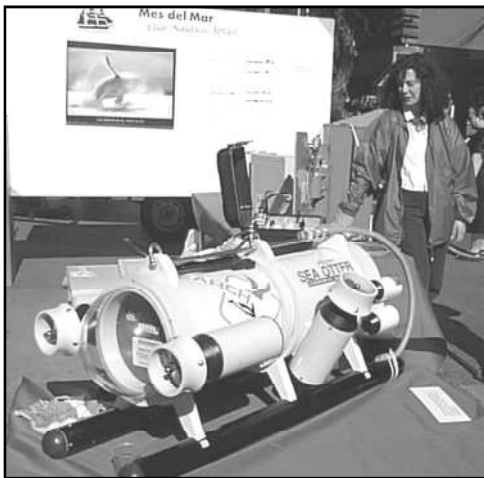
(continued on page 2)

Chilean company (from page 1) inspection services on outfall pipes and dock structures. We also examine the affects of tides and currents on sand movement along our coastal beaches.”

When we are not working with the SeaOtter, Alejandra and I enjoy taking our 31 foot boat to some of our local shipwreck sites. We send the ROV down and get hours of pleasure watching the beautifully colored fish swimming around the wrecks, and marveling at the collection of sponges and anemones growing on these artificial reefs.”



ON THEIR DAYS OFF CARLOS AND ALEJANDRA USE THE ROV TO VIEW THEIR FAVORITE SHIPWRECK SITES



ALEJANDRA WITH SEAOTTER AT “MONTH OF THE SEA” EXPOSITION

“Recently we displayed the SeaOtter at an open-air exposition in Antafogosta. The festival was held to celebrate our country’s “Month of the Sea”. There were lots of people with questions, from school children to grandmothers, asking about our “submarine”. Now that more companies are becoming aware of our capabilities, we are looking to expand our business.”

Carlos can be contacted at searchlt@vtr.net. **JWF**

INTERNATIONAL NEWS

.....New Zealand marine services company Seaworks purchased Fishers CT-1 cable tracking system to locate power and communications cables. Reports Seaworks operator Nigel Fluit, “We recently used the CT-1 to locate and track fibre optic cables that were buried more than a meter deep in the sea bottom. We followed one cable for 1.5 kilometers and another for over 2 Km. The cable tracker works great and really exceeded our expectations.”

.....G-Tec Geophysical Exploration in Belgium is using the DDW-1 deep dive wing to tow a variety of instruments says Lucien Halleux. “Using the wing allows us to reduce the amount of tow cable and it gives extra stability to the towed instrument. The wing works very well.”

.....Marine Services Co. Perence Venezuela is using the CT-1 cable tracking system to locate and mark the position of power cables in Port of Spain harbor in Trinidad before dredging operations can be performed.

.....Applied Systems in Mumbai, India has purchased a Pulse 8X detector for an Indian government agency says spokesman Manoj Modi.

.....PT. Buanereka Pratama Cipta in Jakarta, Indonesia is using Fishers side scan sonar and SeaOtter ROV for their search and survey operations reports spokesman Dr. S. Milano.

.....Arcocea Int’l in Seyssinet-Pariset, France is using Fishers Pulse 8X metal detector with 10” and 16” coils on an underwater archeological project in the Philippines. Says spokesman Gerald Schnepf, “The 8X works very well!”

.....Constructora Subaquatica Diavaz in Colonia del Valle, Mexico has purchased Fishers Pulse 12 boat-towed metal detector and is scanning for metal objects before performing dredging operations reports Armando Guemes.

.....Ocean Modules in Linkoping, Sweden purchased a Pulse 8X detector with 16” coil. Says spokesman Claes Drougge, “The Pulse 8X has been used for several applications and tests by a government institution. We have loaned them the detector for evaluation and if all goes as expected, they will be placing an order for a quantity of units .”

.....Pacific Engineering Company in Sakhalin, Russia is using their SeaLion ROV for investigation of underwater objects discovered by side scan sonar in De-Kastri Bay under a contract with Exxon Neftegas Ltd. The ROV was also used for a drilling rig inspection project says spokesman Sergey Ryazanov.

.....Digital Horizons Co. in Port Harcourt, Nigeria has purchased Fishers SSS 100/600K dual frequency side scan sonar, Proton 4 mag, and Pulse 8X metal detector to perform survey operations before oil and gas pipelines are laid down says Akhigbe Klein Irenen. **JWF**

Treasure Hunter Finds Virgin Wreck in Canadian Waters



JOE AMARAL (ctr) LOCATES TREASURE SHIP OFF CANADIAN COAST

Joe Amaral has been around diving and treasure hunting for almost 30 years. He first learned to dive in the military. When his hitch was up, he trained as a commercial diver, then worked in the oil patch for a few years before opening a dive shop on Cape Cod. About that time he started getting involved in some serious salvage projects, including working on the Brother Jonathan wreck off the California coast.

Joe reports, “Last year we located a virgin wreck off the eastern coast of Canada. In our first season working the site we found 1,700 hundred coins with our Pulse 8X detectors. The coins were of various denominations, in both gold and silver, from Spain, Portugal, France, and England. One of the very interesting things about this site was the number of personal items we recovered like the initialed silverware of the crew, jewelry, buttons, shoe buckles, sword handles, and a variety of other items.”

“When you’re working a remote site like this one, you need equipment that is really reliable. The 8Xs performed consistently, day after day, and were the real workhorses of our operation. We tried using some of those multi-frequency detectors, but they didn’t perform nearly as well. The 8X has the best sensitivity and stands up to the rough treatment by divers in the water 8 to 10 hours a day. **JWF**



ONE OF 1,000’s OF COINS FOUND

COMMERCIAL NEWS

.....Frank Schierbaum, a commercial diver in Cypress, IL says his Pulse 8X hand-held metal detector is doing an "outstanding job" for him. "I have located numerous propellers buried in deep mud with my 8X."

.....Parker Diving Service in Forest Knolls, CA is using Fishers Pulse 8X with a 16" coil to locate and track buried pipelines.

.....Commercial shrimp fisherman Houston Winn of Cleveland, TX has purchased Fishers SSS 100/600K dual frequency side scan sonar. "I'll be surveying possible fishing areas with the sonar to locate underwater debris that can cause severe damage, or even loss of a net. Avoiding these snags will save us a lot of time and money."

.....Marine services company Fugro West in Ventura, CA is using Fishers DDW-1 deep dive wings with several of their towed survey systems reports Jeff Carothers.

.....Ocean Mar in Kent, WA purchased Fishers RMD-1 remote metal detector which is specially designed for attachment to ROVs. The detector was installed on a Deep Ocean Engineering Phantom.

.....Hurst Diving & Mobile Welding in Gardnerville, NV is using Fishers DHC-1 diver-held camera system. "We can video tape an inspection job or welding project so our customer can see exactly what our diver sees", says owner Matt Hurst. "The camera is working out great for us."

.....Outer Banks Diving Services in Morehead City, NC use their Pulse 8X for a variety of projects from finding lost keys in the marina to locating and tracking pipelines says owner Mike Forbes.

.....Mark's Underwater Marine Services in Ft. Myers Beach, FL love the Pulse 8X says owner Mark Loveland. "I've been using my 8X for years to find all kinds of things from lost jewelry to propellers."

.....Destin Reef Construction LLC in Destin, FL is using their Fisher dual frequency side scan sonar and TOV-1 towed video system to find lost objects and map artificial reefs along the state's west coast. "Each one of these debris piles is an ideal fishing and diving spot", says owner Mike Collins.

.....Colombo Engineering, a commercial diving company in Sri Lanka, used their Fisher MC-1 mini camera to videotape the rudder pintle bearing on the cargo carrier *Chettinad Princess*. The camera clearly showed movement in the bearing which meant it would need replacement before the ship could sail. The ship's owners were very surprised the camera could detect such a very small movement said Colombo CEO Kiran Atapattu. *JWF*



CAPTAIN WINGS STOCKS

(Contd. from Page 1) under the ice. The Diver Mag 1 was used to pinpoint the ROV and a GPS position was taken. Doing this repeatedly, a significant trail of anomalies was discovered and video taped. Capt. Stockton reported, "The SeaLion worked flawlessly, 7 hours a day, for nine straight days." The chief geologist repeatedly commented on the performance of the ROV - not only on it's ability to fly and hover, but on it's reliability despite the extreme weather conditions. With comments like, "This is a Kodak moment" and "You should operate the Lunar Lander", the value of the durable SeaLion flown by a proficient operator was readily apparent. The daily entourage of company executives was testimony to the high regard they developed for our team and the ROV. Upon successful completion of the project to the satisfaction of all involved, we were happy to return to the warmth of home.

Capt. Stocks qualifications include USCG 100 Ton Skipper, Master Diving Instructor, Dive Operations Supervisor, and Trimix Rebreather Instructor. He has worked on a number of high profile salvage projects including the Brother Jonathan recovery, Andrea Doria expeditions, and the Pilar project in Guam. He recently returned from a 3 month wreck hunt in the Pacific which involved rebreather diving to 100 meter depths.

Wings can be contacted at adv-depth-tech@pacbell.net. *JWF*



WINGS IN HIS BOAT WITH ARSENAL OF U/W SEARCH EQUIPMENT ON DOCK

GOVERNMENT AGENCIES & UNIVERSITIES PERFORM UNDERWATER SEARCHES

.....United Arab Emirates Environmental Research and Wildlife Development Agency routinely performs acoustic surveys of fish stocks says Dr. Gary Morgan. "Although our echosounder gives high resolution images of schooling fish, it is not detailed enough to verify species. We are using a Fisher TOV-1 towed video system in both tow mode, and as a dropped camera, to identify the fish we see on the sounder and to calculate the total quantity of fish by species. This information will be used to help develop a commercial fishery in UAE waters."

.....US Naval Special Clearance Team One has purchased Fishers Diver Mag 1 hand-held magnetometer. The mag will first be used in a Middle East location reports a team member.

.....University of California's Scripps Institute of Oceanography has purchased Fishers Pulse 8X detector with optional 18" boat-deployed coil. "We'll be taking the detector to New Zealand", says spokesman Paul Harvey. "We've placed a number of instrument packages in shallow coastal waters there. The tide and currents sometimes cover the instruments with sand. Even though we have a GPS position on each one, having a diver locate them can be time consuming. Using the 8X with a coil we can deploy the boat will us help us locate the instruments quickly, and save a lot of needless dive time."

.....The Central Arizona Project (CAP) in Phoenix, AZ is using Fishers TOV-1 towed video system for search and survey operations says Steve Rottas. CAP is responsible for the 336 mile canal system that carries water from the Colorado River into the desert state for irrigation and drinking water. "We use the TOV-1 to look at the intake towers in Lake Pleasant, for pre and post construction surveys, and also to search for anything that falls into the canal."

.....Paducah-McCracken County Emergency Management Service has purchased Fishers Diver Mag 1 hand-held magnetometer. Says spokesman Kent King, "One of the first jobs we have for the mag is to search for a small plane that went down in a local lake. We'll also be using the mag to find cars that go into the river and get swept downstream. Sometimes it takes the divers days to locate them."

.....State of Connecticut's Agricultural Experimental Station in New Haven has purchased a TOV-1 towed video system with high resolution color camera. "We'll be using the underwater camera to view and videotape marine vegetation in the shallow waters along our coast", says spokesman Greg Bugbee. *JWF*

.....Ivan Mason with the Island Lake Tribal Council in Manitoba, Canada reports, "Some time back we purchased a Fisher DV-1 dropped video system. This underwater camera is used to locate drowning victims, search for snowmobiles that have fallen through the ice, and to find sunken vessels. It has proven it's performance over and over, and exceeded our expectations in search and recovery operations." He went on to say, "Recently another u/w camera maker came in trying to sell us one of their little video systems. It did not have anywhere near the picture quality of the DV-1 system."

.....Orange County Sheriff Dept. Harbor Division in Corona del Mar, CA has purchased a Pulse 8X detector for evidence searches reports deputy Brad Lofland. "The Pulse 8X works great!"

.....Napa County Sheriffs Dept. in Napa, CA is using a Pulse 8X detector for their search and recovery operations says dive team member Det. Scott Hancock.

.....Houston, TX Police Dept. Dive Team has been using Fishers Pulse 8X detectors for years says dive team coordinator Don Richey. "Not too long ago we used our 8X in a pond to locate space shuttle debris. Some people from the Navy were working the site with us. The Navy personal were really impressed with the performance of the 8X. They came back a few days later with four of their own."

.....Clatsop County Sheriffs Office in Astoria, OR is using the Pulse 8X for their evidence recovery operations says dive team member Kenneth McCoy.

.....Lincoln Fire and Rescue in Lincoln, NE have located a number of weapons for area police departments with their Pulse 8X detector says diver Pat Borer.

.....San Mateo County Sheriffs Office in San Fran, CA has purchased two Pulse 8X detectors for their evidence recovery ops says dive team member Jeffrey Baehr.

.....St. Louis Fire Dept. in St. Louis, MO has purchased Fishers dual frequency side scan sonar the SSS-100/600K for the search and recovery operations. "We are routinely called in to search for drowning victims in the Mississippi", says spokesman Dave Riter. "With the near zero visibility, current, and all the debris on the bottom it is extremely dangerous to deploy divers in the river. The sonar works great here. It lets us search large areas quickly, something that's impossible to do with divers, and we get highly detailed images of the river bottom."

.....Broward County Sheriffs Office in Ft. Lauderdale, FL is using Fishers SeaLion ROV for their port security operations reports Sgt. Mike McDermott.

.....Miramar Police Dept. in Miramar, FL has just added a Pulse 8X detector to their crime fighting arsenal reports Sgt. Jeff Levine.

.....West Metro Fire Protection in Lakewood, CO is using Fishers Pulse 8X with the optional 18" boat deployed coil and 100 feet of cable to search for capsized boats and sunken vehicles.

.....Thomas County Sheriffs Office in Thomasville, GA has added a Pulse 8X to their dive equipment locker.

.....Sitka Fire Dept. in Sitka, Alaska has purchased Fishers UA-2 altimeter and DDW-1 deep dive wing to use with their Fisher TOV-1 towed video system equipped with 500 foot cable. The equipment is being used in deep water search operations for drowning victims and sunk vessels says a dept. spokesman.

.....The dive team of Columbia County Emergency Management Agency in Martinez, GA is using Fishers TOV-1 towed video system in their underwater search operations reports team member Mike Chambers. "We use the TOV-1 in conjunction with our divers, that way we can search more area, faster. The camera has helped us find drowning victims quickly and assist the sheriff's dept in their search for stolen items."

**COLUMBIA COUNTY
EMERGENCY MANAGEMENT AGENCY'S DIVE
RESCUE AND RECOVERY TEAM USE FISHERS TOV-1 TOWED
VIDEO SYSTEM TO LOCATE DROWNING
VICTIMS AND SEARCH
FOR STOLEN ITEMS**
*"The TOV-1 is doing a
great job for us!"
Team member Mike
Chambers*



RING RECOVERED - TWICE!



VIRGIN ISLANDS TREASURE HUNTER BARRY SHIPMAN (right) WITH ROBERT ARMSTRONG AND RECOVERED RING

Virgin Islands treasure hunter Barry Shipman, known throughout the islands for his ability to locate lost jewelry, was recently called upon to perform an unusual search. He was asked to find a ring - he had already found once before. Robert Armstrong, chief engineer at the Buccaneer, one of the island's premier hotels, lost a ring that had significant sentimental and monetary value. Mr. Armstrong wrote this account.

When I got married my wife bought me a platinum wedding band that loosely fit my finger. I wanted it loose because I have a fear of getting it caught on something when I'm working. One day when tossing cans of cold soda from a cooler to friends on the beach, the ring slipped off and landed in the sand. After several hours of frantic searching I decided we were never going to find it without getting technology involved.

Referred by friends who knew of his success finding lost items, Barry and his Pulse 8X metal detector appeared on the scene. Before long he was holding my ring in his hand. Capping off this feat of seeming magic with a refusal to accept any reward, I just couldn't thank him enough.

Well the years went by and before I knew it I had three young children and had traded in my racing sailboat for a family deck boat. After a recent outing, I was washing down the boat and the ring slipped off my finger descending to the silty bottom of the marina. I had lost my wedding band again!

A co-worker who is a member of the local dive club put out the word that I needed help. Hearing this, one of the members called a guy he knew "that could find anything". Yes, Barry Shipman was on the case! Working in 8 feet of water with his Fisher 8X he moved carefully through the sand, silt, weeds, and holes. Finally after 40 minutes of hunting - success!

On hearing this story my friends all joke, "The third times a charm. You better hope Barry sticks around!" JWF

COMPANY NEWS

NEW PRODUCTS

A SPECIAL CAMERA DESIGNED TO INSPECT VERY LONG PIPELINES



THE PIC-1 PIPE INSPECTION CAMERA

Inspecting the inside of pipes that are more than a few hundred feet in length has always been a problem. Many long water supply lines have never been inspected because of the technical difficulties involved. Using divers to perform the inspection can be dangerous and expensive. Diving in an overhead environment with no clear access to the surface, coupled with possible decompression risks makes liability issues a significant concern. Low Cost Remote Operated Vehicles (LCROVs) can sometimes be used, but most can only operate with hundreds of feet of umbilical. The problem is how to inspect a pipe that is thousands of feet (or even miles) in length at a reasonable cost?

Fishers PIC-1 pipe inspection is specially designed for this type of operation. The PIC-1 has a computer controlled video camera mounted in it's waterproof housing. The camera films the inside walls, floor, and ceiling of a pipe as the PIC-1 travels through the pipe.

The PIC-1 is an autonomous system, completely self-contained with no umbilical cable. It's propulsion comes from the natural flow of the water through the pipe. The housing's streamlined design and unique ballast system keep it perfectly aligned with the water flow while the on-board computer controls the on/off time of the camera and lights. The viewing angle is operator adjustable for up, down, or straight ahead viewing. The system can traverse pipes with 90 degree turns and up/down vertical shafts. As it travels through the pipe it videotapes a clear, well illuminated picture of the inside of the pipe. The videotape can be viewed on any TV and still pictures can be produced on a PC for printing or e-mailing.

Priced at thousands less than other pipe inspection systems, the PIC-1 is a rugged reliable system backed by Fishers exclusive two year warranty. For more information visit the website www.jwfishers.com or call for a free brochure (800) 822-4744. **JWF**



DIVER TAKING THE PIC-1 TO THE INPUT WATER RISER PIPE

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; FAX (508) 880-8949; Email: jwfishers@aol.com

CUSTOMER FEEDBACK

.....John Twinchek of Bottineau, ND says, "I bought a Pulse 8X when I was living in Japan. I had more fun searching the beaches there. I found lots of yen, several gold rings, some with cultured pearls, and even a 35mm camera that still works today. The value of my finds far exceeds the cost of the detector."

.....James Reedy, a nautical archeologist with R2 Underwater Consultants in Moorehead, NC says, "I've used my Pulse 8X on a number of shipwreck projects over the past several years. It is one of the most rugged and reliable detectors I've ever worked with, and I've used a bunch. People ask why I choose to use the P8X, and I reply, because it works everytime."

.....Here's an e-mail received from a fellow that doesn't even own a JW Fisher detector. "I have been using a multifrequency metal detector for the past 3 years and have found only the usual clad coins on the 54 beaches that I've searched. Recently I was on Hampton Beach hunting the wet sand area during the outgoing tide, still finding only clad coins. Ten feet behind me was a gentleman by the name of Ned Warren using your Pulse 8X and following in my footsteps. I noticed him digging two targets I had just passed over so I stopped to ask what he had found. The answer was quite a shock! He had found a gold and diamond wedding ring, and a gold toe ring. I asked if he would pass the targets under my coil to see if my machine was malfunctioning. To my surprise, the toe ring did not register, but the wedding ring did. Now I thought it strange that I missed them, but the kicker is when we put them in the moist sand, all I got was a broken up signal on the wedding band and still no reading on the toe ring. I thought I had the best machine, but I was wrong." Paul Schmitt, NY **JWF**

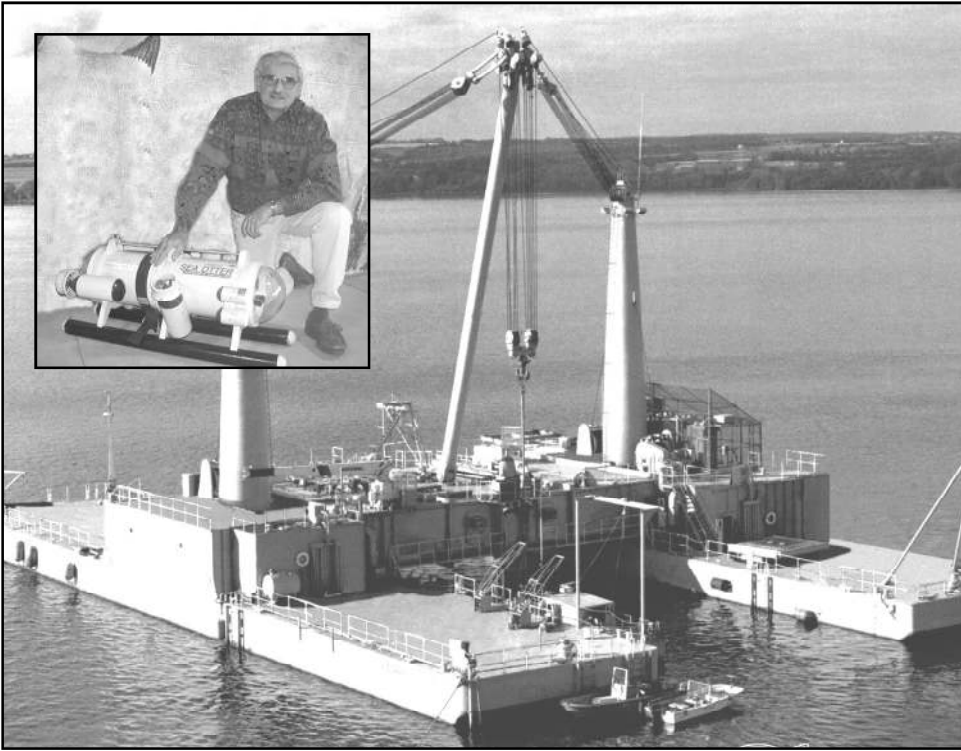
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ROV SOLVES SENECA LAKE MYSTERY



NAVY'S SENECA LAKE TEST FACILITY, JOE WITH SEAOTTER

Aquatic Center of Rochester is a full service dive shop in Henrietta, NY. In addition to carrying a complete line of scuba equipment, and offering full range of scuba training courses, company owner Joe Plano also provides ROV inspection services. Several years ago Joe purchased his Fisher SeaOtter ROV to perform an inspection on one of New York's barge canal system locks. The job involved penetrating a tunnel at the bottom of the 40 foot deep lock to locate and examine a 1/2 ton steel gate that had jammed in the open position. The SeaOtter was able to complete the inspection, in near zero visibility, and a videotape was supplied to state canal engineers. Since that first job Joe has become quite proficient at handling the SeaOtter and has gained a reputation as a skilled ROV operator.

Recently Joe was hired by a Massachusetts firm to help with the recovery of some acoustic equipment from Lake Seneca, the site of the US Navy's sonar test platform. The Seneca Lake Sonar Test Facility is a field station of the Naval Sea Systems Command (NAVSEA) and is world renown as a sonar test site. The 650 foot deep fresh water lake provides a controlled environment for acoustic testing in weather conditions that are relatively calm in comparison to the ocean or Great Lakes. The facility offers heavy load-handling capability, an abundance of power, and is located only an hour from Syracuse or Rochester airports.

An automobile size device had been lowered from the platform and anchored to the bottom for testing. When the tests were completed, an explosive charge was supposed to sever the cable between the device and the anchor, allowing it to be raised to the surface. However, after detonating the charge, the device wouldn't budge, even under 4,000 lbs of pull from the on-board crane. A decision was made to call in Joe with his SeaOtter and have a look at what was going on.

Maneuvering the ROV through the tangle of cables to the bottom 500 feet below was no easy task, but Joe finally managed to locate the acoustic device. He positioned the ROV to view the cable connecting the device to the anchor. Using his "underwater eyeball" he could clearly see the problem. The explosive charge had severed the cable, but as the cable passed through the eye of the anchor, it became twisted and hung up. Once engineers were able to see the problem, a solution was quickly implemented and the device was raised to the surface. Use of the ROV had eliminated the need for a very expensive deep water commercial dive operation.

Joe can be reached at info@aquaticcenterroch.com JWF

SEALION INSPECTS TUNISIAN OIL FIELD

Jack Mead, an experienced ROV pilot employed by OceanScan UK Ltd, was recently hired by Lundin Petroleum to operate a SeaLion ROV the company had purchased from JW Fishers. The project involved inspecting the FPSO (floating production storage off-load) tanker *IKDAM* in the ISIS field off the coast of Tunisia.

Jack writes, "The job required the SeaLion to dive to a depth of 70 meters (220 feet) to locate and inspect the anchor chains, pipes, and subsea structures. After connecting the system to a generator to eliminate some problems with the ship's power supply, I rigged up a 40 meter shot line to act as a tether management system to keep the umbilical vertical, and clear of the boat's propellers. The ROV was then launched from the anchor-handling tug/supply boat. The SeaLion's powerful vertical thrusters allowed it to easily descend to the required depth. There it was able to quickly locate the chain and follow it across the bottom to the anchor. As the SeaLion flew over the ocean floor, the tug followed with the aid of a Fugro USBL (ultra short base line) positioning system and an acoustic beacon attached to the ROV. We recorded the entire inspection operation direct to DVD."

He went on to say, "The system performed flawlessly. I've operated many ROVs and was very impressed with the SeaLion's power and maneuverability."

JWF



**JACK MEAD (center rear) WITH OTHER
MEMBERS OF "THE CREW" AND SEALION**