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Comments and suggestions are welcome and
should be directed to the editor.

Henry Salvatori 1901 - 1997
This issue of Profile is dedicated to
the memory of Western Geophysical
founder Henry Salvatori, who
passed away in July at his home in
Los Angeles at the age of 96. A fea-
ture story on Salvatori, his career
and accomplishments begins on
page 20.

Front Cover: Ship’s bell on board the
Western Spirit, taken at sunrise.
(Photo by Lance Rosenfield, geophysicist, Party 935,
Profile photo contest winner)

President’s Page: Crewmember from
Party 363 prepares to load a hole on a line
in a west Michigan forest.
(Photo by Steve Sobrensen, safety supervisor,
North America Land Operations)
Training
Learning doesn’t stop in school—it’s for life. At Western, a wide variety of educational opportunities are available to help employees increase their knowledge and skills.

Consortia
Western’s participation in a number of constructive industry-university relationships, particularly consortia, yields a high return on its research and development investments.

Canadian Operations Expanded
Western Geophysical has reestablished its presence in Canada, providing oil and gas industry clients with high-quality products and services.

Capturing the Moment
Showcasing the photographic talents of the winners of Profile's photo contest.

President’s Page
A message from Western Geophysical President Richard White.

Management Briefs
Promotions and new assignments among Western’s managers and supervisors.

Western News
News briefs and items of interest.

HSE
Health/Safety/Environment programs including the HSE High Profile Award winner.

Information Station
Order form listing available brochures and technical papers.

Party Pickings
This issue of Profile features parties 159 and 375.

Milestones
Recognizing employee service awards, anniversaries and retirements.
Western Geophysical’s founder, the late Henry Salvatori, strongly believed our company should be a good corporate citizen and give back to the communities in which we operated.

Generous philanthropists, Salvatori and his wife, Grace, also gave of their personal wealth. The Salvatori’s helped support education, giving major gifts to institutions such as the University of Southern California, Stanford University, Pepperdine University, the University of Pennsylvania and Howard University. They also contributed to hospitals, children’s organizations, civic groups and the arts.

Today, Western proudly continues the tradition established by Salvatori more than 60 years ago. As a company, Western Geophysical helps support many worthwhile organizations, societies, groups, schools and foundations. Giving back to the communities in which our people live and work is a responsibility we take seriously. It also is a commitment we are delighted to make for the betterment of our society.

Our employees also give generously and enthusiastically of their time, talents and financial resources to their communities — to charitable organizations, educational institutions, healthcare organizations, and other deserving social causes.

Among the most visible examples of Western’s employee participation and commitment to improving the quality of life in our community can be seen in the results of the recent 1997 United Way campaign. I am proud to report that Western Geophysical employees not only met, but exceeded, this year’s goal of 60 percent participation and gave more than $80,000 to the United Way — our highest ever level of giving. Western volunteers, wielding paint brushes, rollers and buckets also participated in a very successful and rewarding United Way Day of Caring. (See related story on page 15)

Recognizing the importance of community involvement in our schools, Western also supports and encourages participation in the Houston Independent School District’s Business/School Partnership Program. Many of our employees — sharing their knowledge and experience — contribute up to four hours per month at several local schools, tutoring students on basic skills, serving as mentors, teaching language skills and giving at-risk students much needed individual attention.

Westerners also participate in the Christmas Kids program through Children’s Protective Services. Nearly every division in the Houston office gets involved in helping to provide Christmas toys and gifts to more than 200 needy children each year.

Just a few of the other organizations that benefit from the generosity of Western volunteers include the American Heart Association, the Multiple Sclerosis Association, the Blood Center of Houston, the American Red Cross and the Boy and Girl Scouts of America.

As a company, Western Geophysical also provides financial support to numerous educational and charitable organizations such as the American Cancer Society, Junior Achievement, Special Olympics, Spindletop Charities, Alzheimer’s Association, Sunshine Kids, and the United Negro College Fund. Western also provides assistance to many local schools throughout the U.S. through its participation in the K-12 Education Support program. And, we recently pledged to help support the Offshore Energy Center to help educate the public about the offshore industry.

Outside the Houston headquarters, Westerners help support charities such as the Princess Alice Hospice and the Children with Leukemia Foundation in London, and the Susan G. Komen Breast Cancer Foundation in Denver. Local crews around the world also get involved in the communities in which they work. Crew 398 in Nigeria, for example, helps by painting and making minor repairs to local village schools — providing a lasting testimony to the concern of its crewmembers and Western’s presence in the area.

By giving generously and from the heart, Western Geophysical and its employees can continue the legacy and spirit of philanthropy begun by our founder, Henry Salvatori. It’s a tradition we are proud to continue.

[Signature]

President, Western Geophysical
William H (Bill) Flores has been elected a corporate senior vice president and chief financial advisor for Western Atlas Inc.

Prior to joining Western Atlas, Flores served as an officer of Marine Drilling Companies Inc. since 1980, most recently as executive vice president and chief financial advisor. In addition, he was director of Marine Drilling from 1990 to 1997. Flores received a B.B.A. in accounting from Texas A&M University in 1976 and an M.B.A. from Houston Baptist University in 1985. He is a certified public accountant and member of the American Institute of Public Accountants, Texas Society of Public Accountants, and Financial Executives Institute.

Rex E Gwinn has joined Western Atlas Inc. as vice president of investor relations and will be based in Houston. Since 1992, Gwinn has worked as a senior analyst/portfolio manager in the equities-investments division at the Teacher Retirement System of Texas in Austin. He served as managing director of Sunbelt Capital Management, Inc., in Houston from 1988 to 1992 and as senior vice president of Financial Services-Austin from 1983 to 1988.

Prior to 1983, Gwinn was vice president and senior research analyst at Rotan Mosle, Inc. and also worked as assistant treasurer and manager of economics and planning at Kanep Services, Inc. His earlier career included management positions at Transwestern Pipeline Company and Conoco, Inc.

Gwinn holds an M.B.A. degree from Stanford University Graduate School of Business and a bachelor’s degree in management, economics and business administration from Whitman College in Walla Walla, Washington.

Gary E Jones has been promoted to president of Western Atlas Logging Services. Jones began his career with Western Geophysical in 1980, and following a number of promotions within Western, was named vice president, Latin America, in 1992. In 1996, he became vice president, Business Development for Western Atlas International.

Damir S Skerl, formerly president of Western Atlas Logging Services, will continue in his position as executive vice president, Western Atlas International, and senior vice president of Western Atlas Inc. He will have expanded corporate responsibilities for the integrated technology group and all business development and marketing functions, in addition to the company’s logging division.

Craig Beasley, has been promoted to vice president, Research and Development for Western Geophysical. He was formerly general manager for Western Geophysical’s Research and Development, Houston.

Beasley, who has been with Western for more than 16 years, received his bachelor’s degree in mathematics from the University of Houston in 1974 and his master’s degree from Emory University in 1977. He completed his Ph.D. in mathematics at North Texas State University in 1981 and joined Western Geophysical in Houston that same year.

Beasley has served in several capacities in both Computer Sciences and R&D, including a two-year assignment in Singapore as manager, R&D Far East and Australia.
SCOTT BRANNAN has been named manager of South Texas Land Operations. Brannan, who earned a degree in economics from the University of Colorado, joined Western in June 1995 as a senior account representative in the Spec Data Sales department. He was promoted to manager of Onshore Program Development in September 1995.

STEVE CHANG has been promoted to manager, Operations, Southeastern U.S. Region. Chang joined Western in 1988 after graduating from the University of Texas at Austin with a bachelor's degree in geology. He spent six years with streamer and transition-zone crews in the Gulf of Mexico, serving in various capacities including geophysical trainee, assistant party manager and geophysicist. For the past two years he has served as geophysicist and most recently as supervisor of Southeast U.S. Land and Transition Zone Operations. He will continue to be based in New Orleans.

RICH CIESLEWICZ has been promoted to area manager, Operations and Data Processing, Southeastern U.S. Region. Cieslewicz began his career with Western on a field crew in Alabama shortly after he earned his degree from the Colorado School of Mines in 1983. Since then, he has held a variety of management positions in land and marine operations and data processing. Most recently, he was manager, Southeastern U.S. Land Operations. He will continue to be based in New Orleans.

BILL DREW has joined Western Geophysical as manager for Canadian Operations, bringing more than 15 years of industry experience to his new position. He has served in a number of management positions internationally, as well as within Canada, with various companies including Sonic Exploration, DataGraphics and Veritas Seismic. Drew will be based in the Calgary office.

ED FERRIS has been promoted to manager of Western's Jakarta, Indonesia data processing center. Ferris has been with Western since 1988 and has held various key positions throughout the Southeast Asia and Australia data processing centers.

LYNDON FINDLEY has been named director of sales for Onshore Data Processing. Findley, who earned his degree in mathematics from Texas Tech, has served in many different capacities with Western since 1974. He transferred from Crew 722 to Houston Land Processing in 1975, was promoted to analyst in 1977 and to processing supervisor in 1981. Since 1986, he has been assistant manager of the Houston Land Processing Center.

TREVOR GATUS has been named assistant manager of the Houston Land Processing Center. Gatus graduated from Kingston-upon Thames Polytechnic University in 1976 with a degree in geology. He started with Western in 1977 as a seismic data processor in the London office and was made a geophysical analyst in 1979. In 1980 he transferred to the Houston Land and Special Problems Center where he was group leader. He was promoted to senior geophysical analyst in 1987 and in 1994 was promoted to quality control supervisor.

CHRIS HEAVER, manager of Infield Data Processing for the Far East and Australia, will be relocating from Jakarta, Indonesia to Singapore. This move will allow Heaver to dedicate more of his efforts to Western's infield data processing business.
Marion Hirsch has been appointed to a new position as marketing manager for Western Geophysical. In this role, she will be responsible for working with all Western departments to develop and implement a comprehensive strategy for marketing the company’s services and products worldwide.

Hirsch is a graduate of Trinity University, San Antonio, Texas and joined Western in 1980 as a marine seismic data processor. In 1994, she joined the Quality Department as worldwide training coordinator.

Andy Kitts has relocated to Singapore as director of Marketing and New Ventures for Western’s Far East and Australia division. Kitts earned his degree in geography and earth sciences from London University. Since joining the company in 1984, he has held several managerial and marketing roles throughout the world.

Doug Kuntz has been named Quality, Safety and Productivity (QSP) coordinator for North America Land Operations. Kuntz joined Western in 1980, working as a permit agent and later as data processor in the Western U.S. He also has served in West Texas as assistant party manager and party manager. He will be based in Houston.

Jerry Lawson has been promoted to operations supervisor for Canadian Operations. Lawson has been with Western for more than 19 years, working on field crews throughout the Western U.S. and mid-continent areas, serving in a variety of positions from observer to party manager. Most recently he was assigned to Houston as the Quality, Safety and Productivity (QSP) advisor for North America Land Operations.

Scott McFarlane has assumed the position of area manager of Finance and Administration for Western’s Far East and Australia division. He is now based in Singapore. McFarlane received a degree in business and economics in 1974 from McMaster University in Ontario, Canada and began his career with Western in 1982. He has held various accounting positions within the company, including controller for Western Atlas Canada and area manager of Finance for Western Hemisphere.

Laurent Meister has been named manager of Research and Development, Houston. Meister, with more than 30 years of experience in geophysical research and technology, is well known throughout the industry for his contributions to geophysical research. He received a geophysical engineering degree in 1959 from the Ecole Nationale Superieure du Petrole et des Moteurs in France. After completing his military service as a research scientist in a geophysical research program in the Kerguelen Islands, Antarctica, he attended Stanford University as a Fulbright exchange student in 1962. He earned his M.S. degree in 1964 and his Ph.D in 1967. Since 1967, Meister has held a variety of positions in research before being named senior research scientist at Western.

Kathy Morel has been promoted to quality manager and will be based in Houston to support Western’s quality efforts worldwide. Morel began her career with Western in 1983 as secretary for the Southeastern U.S. Operations group. She advanced to office manager of New Orleans Data Storage in 1984, and was promoted to manager for storage facilities in the New Orleans area in 1994.
Chris Morris has been promoted to field supervisor, Western U.S. Land Operations, and will be based in Denver. Morris, who graduated from Auburn University in 1982 with a degree in industrial management, worked with a variety of companies in North and South America before joining Western in 1993. He was promoted to party manager in 1994.

Stuart Porteous has been promoted to manager, Navigation Data Processing for Western Hemisphere Marine Operations. He was previously supervisor of Navigation Field Support.

After his graduation from Auckland Technical Institute in 1980 with a degree in telecommunications, Porteous joined Western's Latin America center working as a navigator, navigation technician, and 3-D quality control technician. In 1983, he transferred to EAME for two years as a navigator/technician and 3-D quality control technician.

Porteous rejoined Western in 1989 as a navigation field support engineer and in 1995 transferred to Western Hemisphere Marine Operations as a geophysicist.

Dennis Remmler has been promoted to field supervisor, West Texas/Mid-Continent and has relocated to Midland, Texas. Remmler joined Western in 1980 as a geophysical trainee in Hattiesburg, Miss. He also has worked as a permit agent for Crew 750 in Florida, Alabama, North Carolina, South Carolina, Virginia and Mississippi. Remmler has been party manager for Crews 708, 739, 320 and most recently Crew 321 in the Southeastern U.S.

Richard Romagnoli has been named HSE supervisor for Southeast U.S. Operations. After graduating from the Marine Maritime Academy with a bachelor's degree in nautical science, Romagnoli held various positions within the marine transport industry. He began his career with Western in 1992 as mate onboard the Western Caribbean and has worked in the HSE Department as a training coordinator, specializing in small boat training in conjunction with Western's land and marine operations worldwide.

Marty Sheridan has been promoted to processing coordinator, Deepwater Gulf of Mexico. In her new assignment, Sheridan will be responsible for the overall coordination of all the deep-water streamer processing in the Gulf.

Sheridan graduated from the University of Dallas in 1977 where she earned a degree in science. She began her career with Western in 1982 as a geophysical technician and advanced to analyst in 1989. In 1992, she spent a year working in the London Marine Processing group. After her return to Houston, she was promoted to supervisor in 1994.

Major Smith has been promoted to supervisor, Streamer Operations for the Western Hemisphere Marine Operations. After earning his B.S. degree in oceanographic technology from the Florida Institute of Technology, Smith started his career with Western's Latin America division in 1981 as a junior observer aboard the Western Surf. During the 1980s, he worked throughout Latin America and West Africa, rising to the position of party manager. In 1991, Smith was promoted to field supervisor and most recently has been operations supervisor for the PetroAlliance transition-zone crews operating in Kazakhstan.
PETER VAN BORSSUM has been promoted to operations manager for Western Hemisphere Marine Operations. Van Borssum, who earned his degree in industrial arts from North Texas State University, began his career with Western in 1978 as a junior observer aboard the Western Gulf. By 1981, he had worked his way up to party manager, managing a number of different streamer crews over the next several years. In 1988, he served as a safety advisor in the HSE department. In 1989, Van Borssum returned to operations as a supervisor for North America Marine Operations. He transferred to Brazil in 1991 as a field supervisor and was subsequently promoted to resident manager in 1992. He returned to Houston in 1995 as supervisor for Western Hemisphere streamer operations.

DAN VIROBIK has been promoted to supervisor of Navigation Field Support for Western Hemisphere Marine Operations. Virovik graduated in 1981 from the DeVry Institute of Technology, Phoenix, Arizona, with a bachelor's degree in electronic engineering technology. He joined Western's worldwide division in 1982 as a technician trainee aboard the Olga Bravo and later served on a number of crews as a navigator and navigation technician. Since 1987 he has been working in the Navigation Field Support group as a field service engineer.

BOB WILL has been named coordinator of 4-D seismic and reservoir monitoring activities for Research and Development. His responsibilities include gathering and disseminating market information and client requirements, monitoring Western's portfolio of research consortia and partnerships, and acting as a liaison between operations and technology groups. He will continue to be based in London.

Will began his career with Western in 1981 after completing an M.S. in geophysics at New Mexico Institute of Mining and Technology. He has held a variety of positions in marine operations and technology including area geophysicist for the Far East and, most recently, manager, marine technology, EAME.

CHARLIE YANEZ has been named area manager, Operations-Program Development, North America Land. Yanez began his career with Western in 1980, shortly after earning his degree in geology from Texas A&M University. He began on a field crew in south Texas and has worked his way through the ranks of various management positions in the south Texas area, most recently serving as operations manager. He will continue to be based in Houston.
Industrial Automation Spinoff Completed

The spinoff of the industrial automation segment of Western Atlas Inc. was completed on October 31, 1997. Western Atlas Inc. will now be solely an oilfield information services company, with three primary divisions: Western Geophysical, Western Atlas Logging Services, and E&P Services. It will be headquartered in Houston with annual revenues of about $1.5 billion.

"The business purpose of Western Atlas is very clear," said Vice President, Marketing Will Honeybourne. "We're in business to help producers find and recover more oil and gas faster and at a lower cost. We are the reservoir company — everything we do focuses on the reservoir. We help the producer find the reservoir, see it more clearly, understand its complexities, and reduce the cycle time to maximize the reservoir's economic value."

The decision to separate Western Atlas' oilfield services and industrial segments into two public corporations was approved unanimously by the company's Board of Directors in May 1997 to allow each segment to better focus on its distinctly different markets and opportunities. The new company, called UNOVA, will continue to be headquartered in Beverly Hills, California. As an independent company, UNOVA will start from a business base of about $1.5 billion and will concentrate on information and manufacturing technology systems and services.

Officers of Western Atlas Inc are: John Russell, president and CEO; Orval Brannan, senior vice president and president of the E&P Services division; Jim Brasher, senior vice president and general counsel; Bill Flores, senior vice president and CFO; Damir Skerl, senior vice president; Richard White, senior vice president and president of the Western Geophysical division; Gerry Gilbert, vice president; Rex Gwinn, vice president (investor relations); Tom Hix, vice president, finance and administration; Will Honeybourne, vice president (marketing and business development); Gary Jones, vice president and president of the Western Atlas Logging Services division; Al Moncrieff, vice president and treasurer; Lourdes Hernandez, secretary.

Western Offers Advanced Seismic Technology Seminars

"One of the best seminars I've attended," writes a client about one of Western's technical seminars. "Through seminars like this, we can follow advanced seismic techniques. I hope to participate again in the future."

In an effort to better serve its clients and foster more client/company interaction, Western recently launched a series of advanced seismic technology seminars, says Western's Marketing Manager Marion Hirsch.

"The idea of offering technical seminars came from feedback we received from the customer satisfaction survey we conducted a little more than a year ago," says Hirsch. "Our clients told us they wanted to see more technical presentations, and we responded."

Directed primarily to oil and gas company geoscientists, the seminars enable Western to introduce the latest technological developments to clients and discuss topics that are of interest to them. The seminars also provide an opportunity for Western to have more personal contact with its clients.

Begun in the spring, Western personnel have conducted half-day sessions in Aberdeen, London, Rome, Cairo and Paris, and full-day sessions in Houston, Denver, New Orleans and Dallas. Another seminar is planned for later this year in Calgary. Early in 1998, technical seminars are planned for Bogota, Caracas and Buenos Aires as well as in Midland, Texas.

Western Atlas Acquires Seismic Companies

Western Atlas Inc. has acquired Geosignal, Inc., a seismic data processing company, and Seismic Resources, Inc. (SRI), a provider of non-exclusive seismic surveys. The two sister companies are based in Houston.

"Geosignal has developed some of the leading seismic refraction processing methods in the industry," says Western Geophysical President Richard White. "These methods allow oil companies to successfully survey areas that historically have been 'no data' zones, because the seismic signals could not be accurately imaged. One of the typical areas of application are the mud zones in river deltas, which are highly attractive for hydrocarbon exploration. Based on their technology and expertise in these methods and geophysical areas, we believe that Geosignal and Seismic Resources will provide an excellent complement to Western's current capabilities."

"Historically, these two companies have concentrated their activities in a limited geographic area. Now, with the help of Western Geophysical, we will be able to expand the application of their technologies through our global organization. Their more than 70 employees, which include the management, will play a major role in these efforts," White adds.
Operations Around the World

Netherlands

Western Geophysical has begun a major speculative ocean-bottom cable (OBC) seismic survey over the Europoort holding area, under an exclusive license granted by the Dutch Ministry of Economic Affairs, with the data being made available to all interested oil companies.

Western’s OBC survey is being conducted within the 500-km² restricted zone of Europoort, a modern trans-shipping facility with more than 200 daily shipping movements. Recently, significant oil and gas field development has reached the perimeter of the restricted zone.

Earlier attempts at streamer seismic acquisition in this area were unsuccessful due to logistical difficulties. “Two seasons of successful Dual-Sensor™ OBC data acquisition in shallow, congested areas of the North Sea have demonstrated to the Netherlands government that Western Geophysical is the company with the required technology to perform this survey,” said William Rabson, Western Geophysical’s general manager of EAME marine/transmission-zone operations.

Norway

Western has been awarded a major contract to perform a large-scale 4-D reservoir monitoring study over the Statfjord field, offshore Norway, for a group operated by Statoil (Den Norske Stats Oljeselskap a.s.)

This will be a multidisciplinary project, involving both Western and Statoil personnel, to perform time-lapse or 4-D studies of three 3-D seismic surveys from 1980, 1991 and 1997. The study will determine fluid movements in the reservoir and generate hydrocarbon saturation maps at three different stages of production. This approach is expected to significantly improve oil recovery factors.

The joint reprocessing of vintage Statfjord surveys and processing of the new survey will be performed at Western Geophysical’s Stavanger computer center using proprietary time-lapse software modules with project management provided by Western’s London 4-D Reservoir Monitoring Services group. The resulting 4-D data will be analyzed using a number of industry-leading software tools, including Lamont 4-D™ software under license from Columbia University.

Western also was awarded a contract to perform the world’s first commercial 3-D, four-component (4-C) OBC seismic survey over the Oseberg field, offshore Norway, for a group operated by Norsk Hydro ASA.

Norsk Hydro’s objectives are to increase the life of the Oseberg field and allow for more accurate wells to be drilled into the...
reservoir channel sands. These sands cannot be fully imaged using existing methods.

The revolutionary 3-D, 4-C survey, which allows for the acquisition of shear-wave S) seismic data, will be performed using the C-Centurion. It is one of Western Geophysical's recently deployed purpose-built fleet of 4-D, 4-C OBC vessels.

"The Oseberg project will benefit from Western Geophysical's significant research and development programs to date, including a number of OBC 4-C pilot studies that acquired data in the North Sea and West Africa during late 1996 and early 1997," said Bill Schrom, Western Geophysical senior vice president, EAME. "These studies confirmed the viability of the technique and demonstrated its clear geophysical advantages."

**West Africa**

Western recently signed an exclusive agreement with the Ministry of Oil and Mineral Resources of Equatorial Guinea to carry out a major speculative offshore seismic survey. Drilling activity in Equatorial Guinea has seen an upturn during the past 18 months, resulting in a number of oil discoveries. These successes, plus the increased activity in the entire West Africa deepwater margin, have led to significant interest in this area.

One of Western Geophysical's 2-D marine seismic vessels will begin data acquisition during the fourth quarter of 1997. The vessel will utilize a 6000-m digital streamer, sleeve arguns, and Western's interactive Omega® onboard seismic processing system. The survey will consist of approximately 5000 km of data with a 5 km grid spacing in the major dip direction and some additional strike lines. The data will cover the offshore Bioko and the Rio Muni areas of Equatorial Guinea, neither of which has been fully explored.

Interest in West African deepwater (over 1000 m) hydrocarbon exploration has significantly increased, driven by large finds and the continuing developments in offshore technologies that have allowed exploratory drilling in deeper waters.

To facilitate the exploration of deepwater areas, Western Geophysical also has embarked on another speculative seismic data acquisition program covering offshore waters of Senegal.

In conjunction with PetroSen, Western has just completed the acquisition of 1700 km of new speculative seismic data in the St. Louis Profond, Cayar Profond, Rufisque Profond, and Sangomar Profond blocks in deep waters offshore Senegal. Data have also been collected in the Casamance II, III, and Casamance Profond blocks in the southern Senegalese offshore. The data have been collected by Western's 2-D seismic vessel, *Western Wave*, deploying the Titan streamer and recording system, sleeve arguns, as well as Western's interactive Omega® seismic processing system for onboard quality control.

Data are currently being processed at Western's London processing center and initial processed results indicate this area may be very promising.

To complement these newly acquired data, Western also is involved in reprocessing existing data from its African marine reconnaissance survey. This survey consists of 28,000 line km of 2-D data collected during the mid-1970s in a series of traverses from Gibraltar to Cape Town.

**Australia**

Western Geophysical has reached agreements with a number of oil companies to supply them with data from an extensive 3-D survey to be conducted on Australia's Northwest Shelf.

Seismic data from this survey, covering both held and open acreage, will also be available for licensing by other interested companies.

Continued on page 12
New State-of-the-Art OBC Cable Boat Under Construction

Western Geophysical has contracted with Service Marine Industries of Morgan City, Louisiana, to build a new state-of-the-art cable boat for ocean bottom cable (OBC) seismic surveys.

Scheduled for delivery in November 1998, the new cable boat is 196 ft. long and equipped with the latest OBC cable handling equipment. While the boat is purpose-built for worldwide usage, it will first be assigned to Western Geophysical’s Gulf of Mexico OBC fleet.

“The addition of the OBC cable boat is part of Western Geophysical’s continued commitment to support client needs with the latest equipment,” says Danny Stegall, vice president for Western Hemisphere Marine/OBC Operations.

The 4300-km² survey will cover some of Northwest Shelf’s prime acreage between the massive Gorgon gas field and quarter-billion barrel Barrow Island oil field. Combined with previous surveys in the area, this new survey will provide contiguous 3-D coverage over some 10,000 km².

The survey will be conducted using Western Geophysical’s 3-D vessel, the Western Legend. The Legend is the first vessel in Western’s fleet to be equipped with the recently announced Sentry™ sled-streamer technology.

“This technological breakthrough, developed jointly with Thomson Marcom Sonar Pty Ltd., Sydney, Australia, will dramatically reduce the lifecycle cost for streamers and improve both data quality and acquisition efficiencies,” says Chuck Toles, vice president, Far East, Australia and China.

Traci Read Named Assistant Editor

Traci Read recently re-joined Western Geophysical as assistant editor for Profile and IMAGES. Read previously worked for Western as a documentation analyst in the marketing department from 1987 to 1993. She also served as editor of the departmental newsletter INTERFACE, contributed articles to Profile magazine, and created promotional items for internal distribution and conventions.

Read earned a bachelor of science degree in business technology with an option in marketing and distribution from the University of Houston.

In her new role as assistant editor, Read will be contributing to both the magazine and employee newsletter – conducting interviews, writing news and feature stories, soliciting information for articles, editing, and preparing materials for production.

Westerners also will see Read with camera in hand gathering photos for publication.

“We are very pleased that Traci has joined our team,” says Editor Patty Chambers. “It is especially helpful that, having worked here before, she is knowledgeable about Western and brings a wealth of editorial talent and experience to the Profile office.”
New State-of-the-Art Seismic Streamer Vessels

Western Geophysical has contracted with Ulstein Verft AS of Norway to construct two new state-of-the-art super-seismic vessels at a cost of approximately $80 million, excluding seismic equipment. Both vessels, featuring the UT753 design, are designed for worldwide use in deepwater marine seismic surveys. The first vessel, scheduled for delivery in March 1999, will be first assigned to Western’s EAME fleet. The second vessel, to be delivered in November 1999, will be used initially to conduct seismic operations in the Asia Pacific region. The two vessels will be identical – 91 m long and 23 m wide with towing capability of 12 or more full length streamers. At 10,800 hp each, the vessels will be the two most powerful in Western Geophysical’s fleet.

“The addition of these streamer vessels will enhance our position as a market leader in marine seismic acquisition and reflects the strong demand for Western’s seismic services in deepwater projects throughout the world,” says Western Geophysical President Richard White. The two new vessels will be equipped to provide Western’s proprietary Sentry™ solid-streamer service, the first solid streamer in the industry. The automated backdeck of the two vessels will feature the latest in streamer and gun handling systems.

Crew productivity will be further enhanced with Western’s onboard MIDAS™ system (Marine Integrated Data Acquisition System), a fully automated data acquisition system in which all data are acquired, quality controlled, recorded and cataloged automatically.

Apache and Western Form Technology Alliance

Apache Corporation and Western Geophysical have entered into a technology alliance to jointly design, conduct and process seismic surveys on Apache acreage around the world, while applying Western’s considerable research and development (R&D) capabilities to seismic problem-solving. Apache President and Chief Operating Officer G. Steven Farris and Western Geophysical President Richard C. White have signed an informal agreement forging a much closer working relationship between the two companies.

“This goes much deeper than simply hiring a contractor to do a job for us,” says Farris. “Under the alliance, we’re forming Apache-Western employee teams to work on all aspects of a seismic operation, and through Western’s $50 million R&D program, we’ll have direct access to new technology and geoscience expertise heretofore available only to the majors through their in-house operations.”

“This is an ideal situation as far as Western Geophysical is concerned,” says White. “Relationships count. The better we get to know Apache and where they operate, the better we’ll be able to perform for them, which should translate into more business for Western Geophysical.”

The first project to be undertaken by the alliance is a comprehensive analysis of acquisition and processing parameters in Egypt’s Western Desert, where Apache has extensive operations and is the largest leaseholder in the country, with interests in 28 million acres.
The Miss Virgie Christened In Galveston

“Bless this boat and all who sail upon her I christen her the “Miss Virgie,” said Virgie Bryant at the dedication of Party 375’s new work boat in July. The Miss Virgie, now working on a 3-D prospect in Port Bolivar, Texas, is named after Western Geophysical’s longtime receptionist and “matriarch.”

“Virgie has been part of the extended Western family for many years,” says Will Forrest, vice president, Western Hemisphere Land and Transition Zone Operations. “Everyone knows Virgie; she’s the matriarch of Western Geophysical. We thought naming our new work boat after her was a fitting tribute to someone who has given so much of herself to Western.”

“I’ve been associated with Western for 47 years, beginning in 1950 when I married a Westerner,” says Bryant. After her husband, Ken, died in 1976, Bryant was offered a job at Western as a receptionist. She started the first day the new headquarters building in Houston opened its doors on March 1, 1976. She’s been in the same position ever since, cheerfully greeting clients, visitors and staff members.

Naming Party 375’s new transition-zone boat after Bryant was the brainchild of Jim White, general manager, North America Land and Transition Zone.

“We were visiting the manufacturer and discussing possible names for the new vessel,” explains White. “I had never named a boat before, but it seemed to me that Miss Virgie was a good name and a good way to recognize Virgie’s commitment to Western. Everyone thought it was an absolutely marvelous idea.”

“When Jim White stopped by my desk to tell me they were naming a work boat after me, big ‘ol tears came to my eyes,” says Bryant. “I was just overwhelmed. I am so excited and honored. I really appreciate everything and everyone who had a part in this. Western has always been like family to me.”

Greenpeace Seeks to End Oil Exploration

The environmental group, Greenpeace, has called for an immediate end to all oil exploration activity worldwide. The group maintains that burning fossil fuels such as oil causes global warming.

Chris Rose, deputy executive director of Greenpeace states. “There is no alternative to phasing out fossil fuel if we are to prevent climate change. Since we cannot burn all that we already have, exploring for more oil is not only futile, but extraordinarily irresponsible.”

According to the Greenpeace position, Western Geophysical would have to stop providing seismic exploration services to oil company clients. In an article in London’s Financial Times, Thilo Bode, international executive director for Greenpeace, says the group plans an international crusade to stop all new oil exploration. If Greenpeace were successful in its strategy, Western would, in effect, be out of business.

Greenpeace has sought to drive home its point through recent demonstrations at both BP and Conoco in the UK. In June, 15 Greenpeace activists gained access to Conoco’s London offices and chained themselves to the building when Conoco won the right to explore for oil in the West of Shetlands area in Britain’s most recent licensing round.

Several years ago, Greenpeace activists interfered with a Western Geophysical crew off the coast of Australia, claiming that seismic work was harmful to whales. It is now clear that Greenpeace seeks to greatly expand its attempts to shut down seismic exploration worldwide.
United Way Day of Caring

Wielding paint brushes, buckets, trays and rollers, more than 130 Western Atlas volunteers participated in this year’s United Way Day of Caring on September 12. The day-long community service project involved light indoor and outdoor painting at the Neighborhood Centers Inc. Ripley House in Houston’s Second Ward. Enthusiastic Westerners painted classrooms, picnic tables, bleachers, hallways, bathrooms, the basketball pavilion, outbuildings, and almost anything else that didn’t move and needed a fresh coat of paint.

The Ripley House, established in 1940, is one of 82 agencies supported by the United Way of the Texas Gulf Coast. The Ripley complex provides immunizations, dental screenings and other healthcare services; job training programs, educational and literacy programs; legal services; recreational activities for children and youth, child care and abuse prevention programs; senior citizen activities; and information and referral services to neighborhood residents.

“The day went great,” says Western’s United Way Campaign Coordinator Leslie Bell. “We got a lot of really good feedback – from our employees as well as the Ripley House. We completed all our work and I think everyone was pleased with the results of our efforts. One volunteer even commented afterward how proud he was to be a Western employee.”

“This was wonderful,” says Rebecca Castillo, volunteer coordinator for the Ripley House. “Everything looks so bright and cheerful with a fresh coat of paint. We are very thankful and happy – Western did a good job.”

All the volunteers agreed that this year’s project was better organized and much more productive than in previous years. Western took full charge of planning the day’s events, transporting the volunteers by bus to the work site, supplying its own materials for the project, providing all the food and beverages for its volunteers, and coordinating the work.

“Lucky” Lueckemeyer, maintenance foreman for Western Atlas, orchestrated the materials and supplies for the project, including 125 gallons of latex paint, 75 gallons of oil base paint, 100 pounds of rags, 100 paint brushes, 75 extension poles, 8 ladders and 100 drop cloths. In addition to Lueckemeyer, four facilities employees also helped with the volunteer effort.

“Last year was somewhat chaotic,” laughs Western Geophysical Training Instructor Marsha Mitchell, who also participated in the Day of Caring last year. “This year was certainly different and it was nice having all our employees working together on the same project. Participation also was up. I hope that’s an indication that contributions will be up too.”

“I think we all had a wonderful time,” adds Mitchell. “It was especially impressive that (Western Geophysical President and the 1997 98 Western Atlas United Way Campaign Chairman) Richard White was there painting along with everyone else. It was a great show of leadership on his part that makes an outstanding statement to employees.”

“This was the first time that I’ve ever done anything like this,” says Ray Louvier, an associate help desk specialist at Western Geophysical. “It was great to be outdoors and to do something constructive to help others. The most enjoyable part was getting to meet a lot of people from other Western Atlas divisions. Western is full of really good folks.”

Randy Woodruff, manager of Western Geophysical’s network systems and support, echoed Louvier’s sentiments. “This was a worthy cause and I was glad to be part of the Day of Caring,” says Woodruff. “It also provided a terrific opportunity to get to know people from other departments and divisions. And, it was a chance for us all to work together as a team. It was a fun and rewarding day.”
Party 799 demonstrates safety awareness and environmental concern

Party 799, with its exceptional history as a geophysical land crew, has learned to adapt and excel in the rugged terrain and often difficult conditions in Patagonia, Argentina. Along with their high level of productivity, Party 799 crewmembers also have maintained a high level of environmental and safety awareness.

The group is headed by Chief Party Manager Nelson Bonilla, Party Manager Mario Kieling and Assistant Party Manager Bernardo de Ipola. The crew’s HSE effort is headed by Eduardo Andrade along with HSE trainees Sergio Cortez and Duilio Fernandez. This group ensures high crew safety standards, conducts safety meetings, trains new staff members and conducts crew audits. They also analyze job procedures and environmental control systems to help preserve wildlife and habitat in the region.

Party 799 has established a variety of goals and objectives to help maintain their high level of safety awareness. The crew’s objectives are to ensure that new employees receive proper orientation, increase management and employee HSE consciousness levels and continue to improve existing HSE policies, reduce occupational illness, encourage recycling to reduce waste; work toward 750,000 man hours without a lost-time incident (LTI), establish contingency plans for possible emergency situations, and minimize environmental impact.

To achieve these objectives, the crew employs various training courses, procedures and analysis techniques. The results indicate a highly motivated HSE department, as well as a crew committed to striving together toward safety and excellence.

Training Courses and Procedures

A number of training courses are provided to crew members to inform and increase awareness of HSE policies and procedures. The first course every new employee receives is an orientation that covers HSE policies and procedures, with topics ranging from accident reporting to drug and alcohol policies, and from contingency plans to health and hygiene.

Over the course of a project, more specific courses such as first-aid training; the Safety Training and Observation Program, and a defensive driving course help to reduce the risk of on-the-job accidents.

At the beginning of every new prospect, Party 799 also provides its workers with an environmental orientation, informing them of special risks and dangers associated with the local terrain.

Job Safety Analysis

Party 799 provides many task-specific training opportunities to ensure that all members of the crew are safe and proficient in their jobs and are knowledgeable about any high-risk procedures they must perform.

Emergency drills and exercises

Party 799 has devised a number of contingency plans for emergency situations covering medical evacuation, fire fighting, helicopter and vehicle accidents, pipeline rupture, waste handling, fuel spills, explosives,
environmental damage and missing persons. Crewmembers receive an explanation of these contingency plans in their orientation, and drills are conducted monthly.

Policy and Performance

Party 799 is continually striving to improve its HSE program and utilizes input from all crewmembers, as well as outside sources. The primary methods used to analyze policies and procedures are team meetings, whether departmental or special committee, and internal audits.

Departmental meetings are regularly scheduled, well organized and properly conducted to discuss accidents or near misses, as well as safety conditions noted by the crew.

Tailgate meetings are held according to schedules determined by each department. Departments such as Survey and Recording hold tailgates every morning. Other departments, such as Laboratory and Quality Control, hold tailgates weekly. An environmental risk analysis team determines the environmental requirements and work conditions of all new seismic prospects.

An accident investigation and follow-up committee is formed to determine the causes of any incident and identify procedures to reduce the likelihood of recurrence.

A personal protection elements (PPE) analysis team is a permanent committee that analyzes and recommends PPE and instructs crewmembers in their proper use.

The medical advisor coordinates, evaluates and trains crew medical staff, and visits base camps regularly to advise the crew on medical matters.

Auditing Program

Monthly programmed audits detect risk factors and potentially hazardous work conditions and suggest preventive procedures.

Party 799 is very proud of its HSE program and has set its worker safety record goal for this year at 750,000 man hours worked without an LTI.
Houston

HSE Training Coordinator Carl Danley (third from right) conducted an HSE Marine Management course in Houston in July. Attendees (in alphabetical order) were Gun Mechanic Chancey Benoit, HSE Advisor Barbara Convery, Head Lineman Marlin Cormier, HSE Advisor Jennifer Jones, Captain Antone Kornman, Jr, Observer Mike Lang, Mate Kenneth Lepre, HSE advisors Joshua Mannke and Michael McCarthy, Sr, Gun Mechanic Tommy Means, Seaman Louis Mullican, Jr, Observer Roger Pierce, Head Lineman Reginald Porter, Jr, Observer Phillip Reynolds, Sr, Observer Brett Simmons, Captain Kenneth Smith, Supervisor Boris Trusevich (PAS), Mate Bree Watzak, HSE Advisor Chris Wilkes, QC Technician Mark Willis and Seaman David Wright.

“Train the Trainer”

HSE Training Coordinator Carl Danley (far right) conducted an OSHA course in Houston in July. The week long “Train the Trainer” course is designed to train crewmembers so they can train fellow crewmembers on OSHA requirements. Participants (in alphabetical order) were HSE advisors Carl Brickey, Jacob Brown, Barbara Convery, Jennifer Jones, Mike Lang, John Leonard, Joshua Mannke, Michael McCarthy, Jim Norman, Matt Webster, Chris Wilkes and Supervisor Boris Trusevich (PAS).

An HSE Land Seismic course was conducted in Houston in August. Attending (in alphabetical order) were HSE advisors Jaime Aleman and David Banda, Lineman Philip Bosarge, mechanics Scott Bywater and Santos Carrasco, Geophysical Trainee David Edmunds, HSE Advisor Javier Garza, Helper Joel Hinojosa, HSE Advisor John Leonard, Vibrator Assistant Mechanic Ray Maya, HSE Supervisor Richard Romagnoli, Field Supervisor James Swearengen, HSE Advisor Charles Upp, Junior Observer Archie Vasquez and HSE Advisor Jorge Vasquez.
Participants at the HSE Management course in Buenos Aires in August were (from left, front row) Diego Castellanos (Shell), Luis Stillo (YPF), Guillermo Montero (Perez Companc), Elena Vicente (Amoco), Jorge Gonzalez (Total Austral), Ricardo Aschermager (Total Austral), HSE Training and Compliance Manager Tom Atkins (facilitator), Secretary Natacha Billini; (second row) Claudio Haring (YPF), Eduardo Rossi (YPF), Marc Andriessen (Shell); (third row) Fabio Gonzalez (Tecpetrol), John McIntyre (YPF), HSE Advisor Clive Anderson; and (fourth row) Alberto Hurtado (Cia. Gral. de Combustibles), and translators Guillermo Casa and Ajustin Casa.

**Nigeria**

John Siegfried, centre, area manager EAME Marine, congratulates Crew 141 Party Chief Paddy MacCurtain (left) and Captain Lars Nielson on the achievement of one million manhours without a lost-time incident LT1.
Henry Salvatori 1901 1997

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Geophysical's founder, Henry Salvatori, died in July at his home in Los Angeles at the age of 96. Salvatori established Western in 1933, during the infancy of the geophysical industry. He served as Western's president until 1958 and continued as advisor to subsequent presidents, even after his retirement in 1968. Under Salvatori's leadership, Western Geophysical has grown from a one-man, one-truck operation to become the world's leading seismic services company.

The son of Italian immigrants, Henry Salvatori spent his early years on a farm in New Jersey where his father settled the family so that his mother, who spoke only Italian, could learn English in a leisurely way. He attributes his future talents as a scientist and industrialist to having grown up in the country where "I had all the time in the world to wander around and explore the various natural surroundings. In some indefinable way, those early days on the farm served to shape my character, basic nature, and even my philosophical outlook."

Henry's father commuted by train daily to his wholesale grocery business in Philadelphia, and after a short move to West Virginia, the Salvatoris settled in Philadelphia where Henry graduated from high school in 1919. In 1923, after obtaining a B.S. degree in electrical engineering from the University of Pennsylvania, he began working for Bell Telephone Laboratories. During the evenings, he attended Columbia University where he earned an M.S. in physics. On his last day at Columbia, Henry saw a small notice on
the physics department bulletin board that read: “Wanted: Men with graduate work in physics to do research in Oklahoma.” The notice intrigued Henry because he considered Oklahoma the wild west.

The job was with Geophysical Research Corporation, the very first geophysical company on record. Henry began work with GRC in the development of some of the earliest radioactive and electrical exploration methods. By 1928, the seismic reflection method was reality and Henry Salvatori was a pioneer.

It takes a lot of courage to set up a geophysical company in the middle of a depression, but Henry Salvatori had an entrepreneurial spirit and more than his share of courage.

On August 15, 1933, Henry set up shop under the name of Western Geophysical, with personal capital of $9,000 and a storefront office in Los Angeles. His first two employees constituted Party No. 1 and they set off to do a survey in Coalingua, California, adding six crews in rapid succession shortly thereafter. In 1937, Henry married a ballet teacher named Grace Ford and in the same year opened the field of marine operations with basically a recording truck on a barge in the U.S. gulf coast. By 1955, with a combined exploration boom in the Gulf and in South America, Western became the world’s largest offshore seismic contractor. From then until 1960, Western conducted more offshore work each year than all other contractors combined.
But there was more at work in Henry Salvatori's geophysical company than good science and good timing. Henry had an open-door leadership style that was based on the conviction that employees must feel a kinship with their company. As one of Western's earliest employees said, "The concept of a family working together is only one of the many ideals of Henry Salvatori that are part of the story of Western." Individuality with a common cause was part of his way of life and of conducting business. To back up his philosophy, Henry set up a profit-sharing program that enabled employees to be partners in Western at no cost to them.

Henry's ideals extended to other areas as well, and he became heavily involved in conservative politics. By 1960, his interest in politics was so time consuming, he decided to sell Western to Litton Industries. Litton chief Charles Thornton was a friend and fellow conservative who assured Henry that Western wouldn't lose its identity. Henry appointed a new president and, with the proceeds of a colossal transaction, was free to concentrate on political and civic endeavors. His friends were many, including William F. Buckley, Jr., Ronald Reagan, and Barry Goldwater.

He became a political advisor, campaign director, and major contributor to Republican party candidates. San Francisco Mayor Joseph Alioto once charged that Salvatori, not Reagan, was the real governor of California, through all the money he raised for Reagan and the influence he wielded. Henry was finance chairman of the Goldwater presidential campaign in 1964 and a major contributor to Richard Nixon in 1972. But he was a philanthropist as well, donating huge sums to the University of Southern California, Stanford University, Cal Tech, Pepperdine University, the University of Pennsylvania, and Howard

Salvatori's philanthropy and concern for higher education extended to many institutions, including Stanford University's Department of Geophysics, established in 1954.
University among others. The Salvatoris also contributed generously to hospitals, children's clubs, civic groups, and the arts.

Henry was a strong believer in the power of people to work together for a common goal. He instilled these principles in his company and practiced them throughout his life. "Many factors have contributed to Western's success," he said on the occasion of the company's 50th anniversary in 1983, "but one of the most important has been the company's genuine concern for the respect and dignity of its people."

"It has been said that the art of management is simply the handling of human problems on a human basis. By traditionally adhering to this precept, Western has created a working climate which evokes high motivation, self esteem, and unity among its personnel."

"My greatest achievement," Henry said, "was to establish a company with good morale and high satisfaction of all the employees. It was the family spirit which prevailed throughout the personnel that assured the company's success.”

"During the 61 years that Henry and I were closely associated, he proved to be a creative engineer and business executive, a great gentleman, and a man who profoundly influenced the leadership of our country. Most of all, he proved to be a really great American.”

Booth B. Strange, President, Western Geophysical (1965 - 1978)
Training
Learning Doesn’t Stop in School — It’s for Life

By Patty Chambers

Learning is a life-long process and does not end when we graduate from high school or college. Increasing our skills, updating our level of information and keeping abreast of the latest developments in our fields help us become more productive, valuable employees.

We only grow and improve ourselves by learning. If we do not continue our education outside the boundaries of a formalized degree program, we may not only become stagnant, but may fall behind in our jobs and find our careers are not progressing as we think they should.

Training and continuing education are important to our jobs and to our personal lives — keeping our minds active and stimulated with new, ever-changing experiences.

At Western Geophysical, a wide variety of training and educational opportunities are available to employees — from management and interpersonal skills courses to PC software classes, technical training, quality and safety.
Personal Development

While training has been a part of Western for many years, the company’s formal personal development training department was established a little more than two years ago, says Director of Training Rod Cotton.

“As a department, we have overall responsibility for personal development company-wide and help facilitate other types of training,” says Cotton who has been involved in training for more than 30 years. “There is a multiple responsibility to training,” says Cotton. “The company is responsible for providing training — offering pertinent courses and opportunities for employees. And, managers have a responsibility to see to it that their employees are encouraged to participate in training sessions and are able to attend appropriate courses. On the flip side, employees also have a responsibility to determine what kinds of training they want and need based on their career goals. Training is one positive step we can all take toward furthering our careers.”

The training and development department has made tremendous strides over the past couple of years and has greatly increased the number of employee development courses it offers during the year, adds Cotton.

“When we first got started, one of our top priorities was to build visibility and establish credibility for the department,” he says. They accomplished this by launching a lunchtime seminar program that, in turn, led to the development of the Red, White and Blue management training program.

The Red, White and Blue program is directed specifically to managers or those who may aspire to management positions. Each portion of the series consists of two full-day sessions. The courses are offered at various Western locations and times throughout the year.

The first of the series, the Red Course, includes topics such as communication, conflict resolution, standards of conduct, performance appraisals, coaching and counseling, and teamwork.

The next level, the White Course, consists of interviewing, situation analyses, team building, negotiation skills, motivation, delegation and leadership.

The Blue Course covers strategic planning, project management, control, problem solving, finance and accounting, and risk management.

It is Western’s goal, says Cotton, for every manager to go through the Red, White and Blue curriculum. The biggest problem initially with management courses was not money or the proper resources, he adds, it was the time commitment.

“We knew we needed supervisor and manager training,” says Cotton. “But in order to cover enough material and get much accomplished, managers had to make a two-day time commitment for each session.”
It was a little tough to convince them to do it first, but those who have gone through the series have found it to be very valuable.”

The lunchtime seminars, held every other Wednesday in the Houston headquarters auditorium, also have proven popular with employees. Lunch is provided during the hour-and-a-half session, is free, and is open to all Western Geophysical employees.

Employee development sessions cover a wide range of topics such as stress management, leadership, creativity, humor in the workplace, sexual harassment, and enhancing professional relationships. Health care topics including “heart-healthy” advice, back safety, getting better sleep, and eye-strain, as well as more technical topics such as ocean-bottom cable operations, data acquisition and data processing also are given occasionally.

Additional courses offered by the department, from a half-day to two days, include time management, presentation skills, business writing, customer service and meeting skills. The department also provides full and half-day courses for personal computer (PC) software skills with Word, Excel and Access, covering fundamental, intermediate and advanced levels.

“The presentation skills and interpersonal skills classes are among the most popular,” says Cotton. “We have already given those classes more than 30 times in Houston, New Iberia, London, Cairo, Port Harcourt, Singapore, Perth, Adelaide, Caracas and Buenos Aires. And, we’ve gotten a lot of good feedback. Many employees think it’s great that Western has made this investment in time and resources for the benefit of its personnel.”

The personal development team teaches most of the courses, traveling to Western locations worldwide. “We will, from time to time, bring in outside instructors and outsource some courses such as an indepth negotiating skills class,” Cotton adds.

Especially important, he continues, are course evaluations. Comments from attendees — both positive and negative — are encouraged so that courses can be “fine-tuned” and improved to better fit the needs of Westerners.

“It is very difficult to measure the value of training in dollars and cents,” says Cotton. “But, I’m absolutely certain that we’ve had a positive effect on the company in terms of boosting morale and helping to reduce employee turnover. As trainers, we like to call ourselves exchange agents.”

“Without training,” he adds, “we would not have a workforce that was ready for the challenges of the year 2000 and beyond.”
Quality Training

The Quality department designs its training program to reinforce basic skills most people already have, according to Director Terry Lehmann.

“We try to get people to think about what they do on the job and how they might do it better. Many of those things are common sense, but not always common practice,” says Lehmann.

Most of the courses offered by the Quality department focus heavily on communication skills and developing a sense of teamwork. In addition to general courses such as quality awareness, which gives an overview of quality concepts, improvement, methodology, process definitions and customer focus, the department finds the most effective courses are those targeted for a particular crew or project.

“We have found that the courses we teach work best when they are tailored to the job or crew,” says Lehmann. “We may talk in general about an overall quality effort, but then look at specific elements of a particular job. People respond better if the course is not generic and they can see how an improvement tool or technique applies directly to their job.”

The ultimate goal of the quality effort, adds Lehmann, is to have Western’s crews using the concepts of continuous improvement so that it comes naturally.

“We don’t tell our people how to solve problems — we teach them how to approach and solve things on their own,” he says. “We offer them techniques and help them develop problem-solving skills. We want quality improvement to become virtually second nature.”

Training, adds Lehmann, needs to be practical and applicable — founded in basic concepts but tied to real life experiences. “In the process of teaching a course, we often will select a relevant topic and work through the process of quality improvement,” he says.

“For example, one improvement needed in marine operations is to decrease the cycle time in getting a project started and in production,” says Lehmann. “We will analyze all the issues in a start-up, look at the things that work and those that don’t. We want to learn from past mistakes, develop solutions, and make recommendations that may help their crew and other crews prevent mistakes.”

One of the most difficult barriers Lehmann has had to overcome is the resistance to change. “We talk a lot about resistance to change and about looking at things innovatively,” he says. “It is basic human nature to get entrenched in doing something a particular way. If it works, we don’t see a need to change, even if it may be inefficient, and we continue along the same old path. We want to create an atmosphere at Western that is open to change — a climate where new ideas are encouraged. That’s when real change and improvement can begin.

“Most of our employees have found our...
courses to be fun, especially the team building exercises,” he continues. “Students often come in skeptical and somewhat reluctant and leave the classroom with a positive, growing experience. Our goal is for our employees to go back to their jobs with a different attitude and the skills necessary to help them make better decisions.”

Quality and continuous improvement is being able to critically analyze the way we do things and look for better ways, adds Lehmann. But, the real test of successful training is seeing whether employees actually use the skills and tools they learn in their jobs. “We want our employees to keep the momentum and motivation they got in class and carry it with them to work,” he says. “We want them to feel like they gained something by spending their day or week with us.”

**Health, Safety and Environment (HSE)**

The safety record of Western’s operation is critically important, not only to the company which is concerned for the welfare of its employees, but also to Western clients, says HSE Manager Jeff Howell.

“Our clients are interested in our safety record and we have, over the past five years, seen a dramatic decrease in lost-time incidents (LTI) and total recordable cases (TRC). We attribute that to an aggressive HSE training program that reflects positive improvements in employee safety awareness,” says Howell.

The HSE department sets goals to have at least 50 training courses offered this year and has established minimum standards for every crewmember at every level and job title — from cable operators and line supervisors to general managers and vice presidents. The Exploration and Production (E&P) Forum, International Association of Geophysical Contractors (IAGC), OSHA, and other government agencies’ guidelines were used in formulating Western’s HSE training direction.

“We want to encourage all our employees to go through as much HSE training as they can and a great number of our employees have taken advantage of our safety programs,” says HSE Training and Compliance Manager Tom Atkins. “We travel all over the world to conduct safety training for our crews — in the field as well as in the classroom.”

HSE training covers a wide variety of topics from safety management courses, accident investigations and HSE auditing techniques to firefighting, explosive safety, disease control and hygiene, defensive driving and first aid/CPR training. It also includes crew-specific safety courses such as vibrator, winching and chain saw safety for land crews, and helicopter/small boats and sea survival training for marine crews.

“Although the party managers have ultimate responsibility for their crews, every Western crewmember has a responsibility for safety, health and the environment” says Howell. “Our job is to see that they have the proper information and training.”
In addition to crewmembers, Howell says the department also makes a point of inviting clients to HSE management training courses. “We like our clients to see first-hand the company’s commitment to a safe work environment and many have taken us up on the offer,” he says. “From the feedback we’ve gotten, I think our clients are impressed with the level and thoroughness of our training. For some of our courses, such as firefighting and sea survival, we get outside experts to conduct our training. We make sure we have well-qualified, competent instructors.”

“When the group was formed, for example, part of the mandate was to provide navigation training — recognizing that navigation was about to undergo a transformation,” he explains. “That training was central to streamer operations in 3-D seismic surveying. We designed a series of classes that have since undergone even more fine-tuning as technology changes and we seek to keep personnel up-to-date.”

Much of the navigation training effort was originally theory driven to beef-up crewmembers’ knowledge of mathematics and statistics, says Michelsen. “Some of what we do is still pure lecture and theory,” he says. “But most employees prefer the instructor-led, hands-on type of training. In software training, we try to keep classes small to give everyone a chance to use the computer workstations.”

Among the topics developed for navigation training include new navigator orientation, concepts for ocean-bottom cable (OBC) navigators, basic marine surveying/theory, advanced theory for quality control personnel, streamer vessel sensor systems, OBC navigation systems and navigation data processing.

“The bottom line in our training effort is to reduce human error so that we produce a high-quality product for our customers. That is our top priority,” says Michelsen. “We want to broaden the knowledge base for our field personnel; promote job satisfaction and new levels of responsibility; help them develop an appreciation for the intricacies of their work; and encourage progression within the company.

“I would rate our training efforts as successful,” he adds. “The interaction of field personnel with the Applied Technology group has been fruitful — resulting in considerable feedback and a beneficial exchange of information.”

Applied Technology/Geodesy

The Applied Technology group, in addition to testing or designing new technologies, provides training to the crews who will need to use the latest piece of seismic equipment or specialized computer software. The group conducts training sessions in the Houston and London offices as well as directly in the field.

“Western invests heavily in its technical training to keep its employees well-informed and up-to-date on technological developments — whether it is new equipment or a new software program,” says Technical Trainer Rolf Michelsen.
Geophysical Software Development Training

Geophysical software training started almost 15 years ago when Western began licensing its software to outside clients, says GSD Training Manager Quentin Spradling.

“When we started licensing our geophysical software, it soon became apparent that we also needed to provide training support to our clients in the use of that software,” says Spradling. “While we still provide client training, we expanded our efforts and now focus primarily on providing training for our own employees, particularly for those in data processing.”

While most classes are conducted in either the Houston headquarters or in London, trainers also travel to Western data processing centers such as Denver, Buenos Aires, Caracas, Bogota, Cairo, Port Harcourt and Kuwait. The nine-member group also travels to many additional client locations throughout the world.

“The primary training we provide is in the use of our Omega™ seismic processing software,” says Spradling. Classes include basic Omega, advanced Omega, and Omega administration. “We also provide training on conceptual areas such as an introduction to petroleum geology and basic geophysics when there is a need.”

While Spradling estimates that 90 percent of their training is related to seismic data processing, the group also conducts courses in some field areas including 3-D seismic survey planning and acquisition, and field operations quality control.

So far this year, the group has conducted 95 classes for 1,061 students, says Spradling. Recently, the group started a new and intensive training program for new hires in land and marine data processing — primarily for those based in Houston. “We’re hoping this program will increase productivity by helping new employees get up-to-speed more quickly. And, by increasing their knowledge base, we also hope this program helps with employee job satisfaction,” says Spradling.

Western’s Goals for Training

Western provides its employees with numerous opportunities to increase their knowledge and skills. Whether in a traditional classroom setting, on a vessel, in the field, or in a high tech laboratory, the goals for continuing education are the same — to produce competent problem-solvers, effective communicators, self-directed learners, responsible employees and quality producers while also contributing to employee job satisfaction, boosting morale and gaining a more productive workforce.
Consortia
Partnerships in Research and Development

By Patty Chambers

Industry and academia have traditionally enjoyed mutually beneficial relationships — relationships that create positive interactions and stimulate developments between educational institutions and private companies. Consortia, partnerships, affiliations and sponsorships are usually win-win situations for both entities.
At Western Geophysical, participation in a number of constructive industry-university relationships, particularly consortia, yields a high return on our investment.

"A consortium allows us to leverage our research and development funds," says Craig Beasley, Western's vice president of Research and Development. "For our participation, we get access to early research results, published reports and technologies that may be developed by the institutions we help support."

A consortium is an agreement to fund basic research through selected universities, explains Beasley. The research may concentrate on a focused area of study in geophysics or may be more loosely defined and broad-based. Most consortia are open to a number of contributors. Western's support ranges from a few thousand dollars annually up to $35,000.

In many of the consortia to which Western belongs, participants include our competitors as well as software and hardware companies and major oil companies. A typical consortium may have as many as 20 to 30 industrial sponsors.

"Industry-led consortia give companies like Western a direct communication link to academia," says Beasley. "It provides us with an opportunity to interact with students and faculty and perhaps influence research and education by acquainting them with industry's needs — a kind of reality check of what is important to the industrial sector."

"Pure" academic research and development has experienced a turndown in funding over the past few years, says Laurent Meister, manager of Research and Development, Houston. Likewise, for many companies, a lot of research budgets were slashed during the industry recession of the early 1980s. Consortia agreements were developed so quality graduate scientific research could continue, aided by financial support from private companies.

"These arrangements give us value for some of our research dollars," says Meister. "They are a good partnership and provide a mechanism for technical exchange and a marvelous sharing of ideas."

There are other benefits too, says Fred Barr, manager of Research and Development Data Acquisition.

"In addition to the obvious benefits of receiving research results, software or documentation, a side benefit is the exposure to very bright students — fresh, new talent that presents good prospects for future employees," says Barr. "And, because many of our clients also participate, consortia create
Guggenheim Hall, with its famous gold dome, at the Colorado School of Mines.

a forum to discuss topics of mutual interest, future directions and common problems within the industry."

Western has participated in consortia and supported academic research and education for many years. That support has been increasing over the last five years due to a range of new research topics, such as 4-D seismic surveying, says Beasley.

"As imaging technologies improve, they open more areas for research. And, as we get better at estimating the subsurface and its properties, the more we can do with that information," says Beasley. "Technologies we routinely use now were only contemplated five to 10 years ago, but not tried due to lack of proper information. We need to develop and extend technology, and consortium research allows us to proceed."

Some of the largest and longest-running consortia projects currently supported by Western are with Stanford University, the Colorado School of Mines and Delft University of Technology. Western also supports projects, participates in industrial affiliations and sponsors other educational programs with several other universities including Rice University, the University of Edinburgh, the University of Calgary, the University of Newcastle and the University of Houston.

"University consortia play an extremely important role in research and technology development," says Dr. Ken Larner, previously with Western Geophysical and currently co-principal investigator at the Center for Wave Phenomena (CWP), one of two projects that Western supports at the Colorado School of Mines. Western was one of the first sponsors of CWP, joining at the consortium's inception 14 years ago.

"Given the oil industry's general reduction in in-house research, support of quality research programs in universities is multi-valued and highly cost-effective," says Larner. "The long-range, risk-prone, strategic research is what I believe university consortia might be best at conducting.

"Our relationships with our sponsors are wonderful," he adds. "They have a direct interest in the results of our research and our connection with industry keeps us reasonably on target in terms of the importance of various research areas. We get excellent input from our science through our involvement with industry's researchers."
While a lot of consortia opportunities have sprung up over the past few years, says Meister, there is a limit to how many projects Western can support.

“We get many requests each year from numerous universities to join a consortium,” he says. “We look at the quality of research being conducted and whether the topic fits with Western’s needs. It takes time, resources and manpower to follow each of the projects we support and we couldn’t possibly support every proposal we receive.”

Western also has an opportunity to review the research progress of its consortia at least once or twice a year to see how its money is being spent and to determine whether or not to continue supporting a particular project, says Meister. Many of the universities hold annual project review meetings that span several days and may have as many as 90 representatives from their sponsoring companies.

“We watch the progress of all our consortia,” says Meister. “We attend annual review meetings during the year to see what progress is being made and receive reports, copies of papers and graduate theses that are generated from the research. The graduate papers, especially if they are really good, generally end up being published a year later — but we have first access to the information.”

“During our stimulating annual review, the exchange of ideas is far from one-way,” adds Larner. “It is multi-path — in presentations by students and faculty, in open feedback from sponsors and in discussions among representatives of all the companies involved.

“Moreover, these meetings offer the finest opportunity for our sponsors to get to know the graduate students and thus establish contacts for both summertime and permanent employment,” he says.

“Consortia provide a unique environment,” says Beasley. “In today’s competitive world, this is an excellent way to leverage research funds. Participating in academic/industry consortia is good strategy. We minimize our investment and possible risk, and still get the benefit of ‘pure’ research. And, the financial support is extremely valuable to the universities. Everyone benefits from the relationship.”

Western Geophysical has long-standing research consortia projects with the Colorado School of Mines Center for Wave Phenomena. Research leaders at the Colorado School of Mines include: from left (back row) Ken Larner, Norm Bleistein and Ilya Tsukain; (front row) John Scales and Martijn de Hoop.
Canada is both breathtakingly beautiful and treacherously rugged — from the buttes and snow-capped mountains of Burmiss to the flat plains of Saskatchewan and dense forests of Fort St. John. While Canada seeks to boost its economy and bring the world its products and natural resources, the search for oil and gas in this diverse and sometimes harsh environment can present many challenges.
For example, temperatures during the busy seismic surveying season, November through April, can dip down to minus 55 degrees and last for weeks, forcing seismic crewmembers to stop periodically to warm their hands. And, burying seismic cable often involves digging trenches many feet into the snow and frozen ground.

With the purchase of Halliburton’s Geophysical Services (HGS) division in 1994, Western Geophysical returned to the Canadian seismic market after a three-year hiatus. While the return was initially conservative, Western became much more aggressive in 1996 in order to reestablish its presence in Canada and aid our customers in their quest for the flowing “black gold.”

Shooting proprietary work in conjunction with several large-scale 3-D speculative surveys proved to be a successful mix. Getting the ball rolling was the acquisition of a 125-square mile speculative survey at Rocky Mountain House, approximately one-and-a-half hours northwest of Calgary. That was soon followed by a 400-square mile program in the Olds/Carstairs area. This combined proprietary / speculative project is the largest single 3-D land program ever recorded in Canada.

This year was marked by continued growth with the addition of new personnel and a new data processing facility. In September, Western’s Calgary office welcomed Bill Drew as Canada’s new manager. Drew comes to Western with many years of operations experience in Canada as well as overseas.

Canadian operations also recently received a helping hand from Jerry Lawson as operations supervisor. Lawson comes to Calgary from Houston, where he was the Quality, Safety and Productivity (QSP) coordinator, North America Land. He also brings operational experience from his previous positions as observer, party manager and supervisor.
Another addition to the team, Daryl Robbins, arrived in January to a newly created position as geophysicist, Program Development. Prior to joining Canadian operation, Robbins was a party manager in India. He had previously been involved with Canadian operations in 1990-91 with the 3-D design team before being transferred. His overseas operations position included stints in Oman, Yemen, Romania and Mongolia.

Calgary's new data processing department welcomes back Jim Hostetler as the group's supervisor. Hostetler previously worked in Canada before moving with his family to Venezuela to work in Western's Caracas data processing center. He also spent two years in the Denver data processing center just prior to relocating to Canada. Assisting Hostetler is Laurine Behmer, a former HGS processor. The data processing group also will be welcoming John Wall back to Western. Wall is expected to come on board in November, after more than six years in the Middle East with Saudi Aramco.

Utilizing Western's Omega™ seismic processing software on an RS6000 model 590 computer, the data processing group is able to process small-to medium-sized
2-D and 3-D projects. Very large surveys can be processed on a remote basis utilizing the more powerful machines in Denver or Houston. The Calgary center is capable of providing its clients with high-quality data processing as well as the support of Western Geophysical's research and development teams.

In addition to its processing capabilities, Party 717 has made use of infield quality control (QC) using an on-site Omega processing system. This processing system has been particularly valuable for the large speculative 3-D seismic surveys the division is aggressively pursuing. From this field position, geometry has been quality controlled, first breaks picked and various levels of processing attained, including final migrated volumes. This type of quality control ensures that error-free data reach the data center, thus reducing the overall turn-around time on a project.

Along with its new faces, an existing core of experienced personnel gives the operation in Canada a well-rounded structure. Darrel Elliot, a long-time opera-
tions supervisor in Canada, remains in his position. His experience, particularly in the Northwest Territories, gives Western the competitive advantage to work in such places as Inuvik and Norman Wells. Planning is the key to operations in that harsh environment — where freezing temperatures and general lack of infrastructure can make operations a tricky proposition. Western is currently transporting equipment and making repairs to its supply of Chieftains and tracked vehicles in preparation and anticipation of a busy winter in the Northwest Territories.

The Calgary office is rounded out with Financial Controller Patty Evans, electronics supervisors Chuck Boyer and Jason Lewis, and Danny Stroich, purchasing and import/export coordinator.

In addition to the Calgary-based staff, Western also offers trained and experienced personnel who have been involved in previous Canadian and overseas operations. Garry Neis is party chief for Crew 717 and Cecil Parfitt runs Crew 716. With their leadership, Western conducts safe, quality and production-minded data acquisition operations.

Growth is further on our minds as Canadian operations intend to field at least three crews in the coming season. Crew 716, which spent last summer working in the Western U.S., will return to the Canadian market by Christmas. Crew 717 has remained in Canada, continuing to pursue proprietary bids and acquiring large speculative 3-D surveys. In August, the crew completed another 110-square miles of speculative 3-D surveys in southeast Saskatchewan. This has been added to 300 square miles of existing shelf data Western acquired in Rocky Mountain House and Olds. To its credit, the crew was able to acquire the 110-square mile project in
just over a month. Crew 718 will resume operations over the winter season in Norman Wells.

Along with pursuing the proprietary market, large speculative 3-D seismic surveys will continue to be a focus for operations in Canada. The division has a goal of adding another 1,000 square miles to its existing shelf data over the next three years. A large portion of this data will be acquired in Western's "core" area around Rocky Mountain House. Acquiring part of that goal, 200-square miles, is already underway as crew 717 extends the existing Rocky Mountain House survey to the northwest. With further input from its clients, Western intends to establish a second core area where an initial survey may be expanded in the coming years.

Western Geophysical appreciates the support it has received from its clients in its return to Canada. We are excited about the opportunities in the Canadian market and are committed to providing our clients with high-quality products and services. It is that commitment which establishes Western as the world's leader in seismic services.
Capturing the Moment

Many thanks to all the employees who entered Profile’s first photo contest. We hope to build on the interest and enthusiasm generated this year to make the contest an annual event. We proudly present our winners, whose photographic talents are displayed in the Houston library as well as on these pages.

Environment/Landscapes

First Place
Anthony Armato
Party 759
Temperate rainforest
in Northwestern
Washington State

Second Place
Lance Rosenfield
Party 935
Ship’s bell,
Western Spirit
**Third Place**
Jonathan Nelson
Marine Processing Group
Sunrise, Gulf of Mexico
from *Western Orient*

**Honorable Mention**
Carlton (Rico) Ricketts
Corporate Communications
*Western Monarch* in Bergen, Norway
Western Profile

*Geostatistical Reservoir Characterization Services (W97-329)
*Imaging and Velocity Estimation with Prestack Depth Migration (W90-162)
*Imaging Steep Structure: Dip-Moveout Processing (W89-313)
*Integrating Parallel Supercomputers into the Seismic Processing System (W93-331)
*Interval Velocity Inversion in 2-D (Gulf Coast) (W91-275)
*Interval Velocity Inversion in 2-D (Middle East) (W91-243)
*Inverse Q-Filtering: Compensation for Earth Attenuation and Dispersion (W89-115)
*LithoSeis® System (W93-119)
*Marine Statics (W86-067)
*Migration of Velocity Spectra (W91-086)
*Monochromatic Noise Suppression (W90-236)
*Multidip Trace Interpolation (W90-200)
*North Sea Imaging (W96-221)
*Omega® Seismic Processing System folder (W95-020)
• Frequently Asked Questions (W95-090)
• Geophysical Functionality – V 1.6 (W95-091)
• Hard-Copy Plotting Capabilities (W95-141)
• Installed Sites (W95-035)
• Interactive Facilities (W95-150)
• Interactive Velocity Processing (IVP) (W95-243)
• Large-Volume Productivity Tools (W95-122)
• Operating Environment (W95-093)
• Resource Management Systems (W95-151)
• Interactive Geometry Processing (W97-351)
• Poststack Signal Enhancement (W93-244)
• Prestack Frequency-Wavenumber (f-k) Migration (W90-345)
• *Pyramid™ 3-D Geological Modeling System (W97-129)
• Recursive Estimation of Acoustic Impedance (PAIT) (W91-094)
• Refraction Statics in the Gulf of Mexico (W96-381)
• Seismic History Matching (W97-381)
• *Spatial Dealiasing of 3-D DM (W97-402)
• Subsalt Imaging (W92-321)
• Surface Multiple Attenuation (W93-251)
• *3-D Depth Imaging of Complex Structures (W97-326)
• 3-D Dip-Moveout (W92-333)
• 3-D Dip-Moveout (W94-031)
• *3-D Depth Migration (W97-325)
• 3-D Prestack Depth Migration in the Gulf of Mexico (W95-107)
• 3-D Refraction and Reflection Statics (W91-141)
• Transmission Response Amplitude Compensation (TRAC) (W93-249)
• Wavefield Interpolation (W96-323)

**General/Reprints
*Data Management and Data Storage Services (W97-318)
4-D Seismically Enhanced Reservoir Monitoring (W97-032)
Smart 3-D® (W96-191)
4-D Seismic Improves Reservoir Management Decisions – Two-part article reprinted from World Oil, March and April 1996
Ocean-Bottom Cable Use Surges for Seismic Data Acquisition – Reprinted from Oil & Gas Journal, October 24, 1994
4-D Seismic Monitoring Grows as Production Tool – Reprinted from Oil & Gas Journal, May 1996

**Marine and Land Acquisition
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• Arctic Environments (W97-390)
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• State of the Art Land Survey Positioning (W95-320)
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SARGAS® Differential GPS System (W94-234)
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• Accuracy with Efficiency in Time Migration (W91-054)
• Air-Gun Signature Deconvolution (W90-435)
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• Amplitude Variation with Offset Analysis (W96-303)
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• DMO and Steep-Dip Migration (W91-276)
• Efficient Migration from Irregular Surfaces (W93-227)
• Efficient Wave Equation-Based Multiple Suppression (W88-375)
• Exploration and Reservoir Information Services (ERIS) (W97-299)
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- Seismic Characterization of Thermal Flood Behavior (W90-423)
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- Sparse-Spike Inversion Predicts Lateral Variation of Porosity (W92-162)

TECHNICAL PAPERS

- A Hybrid Refraction Algorithm (W0-150)
- A Simple Approximation to the P-Wave Reflection Coefficient and Its Implication in the Inversion of Amplitude Variation with Offset Data (W93-493)
- A WKBJ Correction for Diving Wave Phase Shift Migration (W94-145)
- *Abstracts of Western Atlas Papers Presented at the 67th International Meeting of the Society of Exploration Geophysicists (W97-341)
- Air-Gun Array Specs: A Tutorial (W89-263)
- Air-Gun Signatures and the Minimum Phase Assumption (W91-318)
- Air-Gun Source Instabilities (W87-501)
- Attenuation of Complex Water-Bottom Multiples by Wave-Equation-Based Suppression (W87-503)
- Cascaded Frequency-Wavenumber (f-k) Migration (W89-288)
- Cascaded Migrations: A Way of Improving the Accuracy of Finite-Difference Migration (W89-287)
- Cascaded (f-k) Migration: Removing the Restrictions on Depth-Varying Velocity (W88-502)
- Compact Sleeve-Gun Source Arrays (W88-666)
- Depth-Focusing Analysis Using a Wavefront-Curvature Criterion (W93-893)
- Determination of the Principal Directions of Azimuthal Anisotropy from P-Wave Seismic Data (W96-232)
- Dynamic Corrections for P-SV Reflections — Transversely Isotropic Solids (W90-105)

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WESTERN ATLAS

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Fax 713-963-2318
After being awarded “Crew of the Year” in 1996, Party 159 started 1997 with a challenging job in Cameroon. During mid-March, Party 159 finished a demanding shallow-water/ocean-bottom cable (OBC) survey on the Nigerian side of the Calabar river and started rigging up for another OBC project in Cameroon. A short port call was required in Duala to upgrade to a 24-bit recording system and install extra UNIX® machines for a near trace 3-D cube to be generated onboard. The job just inside Cameroon coastal waters near Ekundu, was to acquire 56km of high-quality, 3-D seismic data.

The survey area was tricky, with shallow-water, sandbars, surf zones and international borders to be negotiated. Processing planning and quality control (QC) ran smoothly and efficiently due to the efforts of QC leaders Stewart McFarlane and Zoran “ZZ” Zagorac. This was the crew’s first project that required a near-trace 3-D seismic cube. Cross training on the cube generation was provided by Toby Wardill from EAME processing support. Strong water currents in the area called for tight QC on the recomputation of receiver positions.

Shoreside administrators Trevor Davison and Mark Smithers ensured the smooth transition of operations from Nigeria to Cameroon and continued to provide excellent support for the duration of the survey. Mobilization didn’t take long and Party 159 arrived for the prospect on March 25.

The survey began the next morning, with Mount Cameroon shielding the rising sun. A navigation reference station was installed on pumping platform ESQ1 and the first production shot went off just after midday. With the **Western Sea** as the recorder and the **Western Tucano** as gunboat, the first swath was completed the first day. Airguns were provided by the **Western Tucano** with veteran driver Benson Teraseli and gun mechanic Kollbjorn “Hans” Hansen keeping her running without a hitch. **NavOne** and the **Valdan** were the bouy and phone laying vessels with navigators Richard Scarlett and Anthony Williams running real-time navigation software to accurately log drop positions. Chief navigators were Guy Northcott and Mick Jackson. Coordinator Charlie Deamer kept a watchful eye over the operation.

Safety is paramount on an operation such as this and the safety management system was implemented by HSE advisor Dave Sharpe. Crew safety awareness was excellent.

The **Western Sea**, which has seen a great number of seismic surveys over the years, is a modest vessel with a small, compact recording room. This added to the close-
knit team spirit that has developed on Party 159 over the past two years.

The survey was completed May 8 and the crew then headed back to Duala to de-rig the Western Sea and ship all equipment back to

Europe. A new vessel, the S/V Bligh, was chartered for the next survey in Holland and she was to be rigged up in Dublin. The crew followed the equipment to Dublin and began the rig-up.

Every new job brings new challenges for Party 159 – this is the nature of shallow-water operations. For this dedicated crew, there are no insurmountable problems – only solutions.

375 Louisiana

This has been an exciting year for Party 375, from being named the High-Profile crew in March to the commissioning of the Miss Virgie cable boat in July. Party 375 is a transition-zone crew with Western Geophysical’s Southeast U.S. Land Division. Area Manager Rich Cieslewicz and Operations Manager Steve Chang oversee the division from the New Orleans office. Also involved from New Orleans are senior geophysicists Dave Flentge and Frank Perkins. Field Supervisor Robert Johnson heads up the office in Lafayette and Party Manager Tom Pierce and Assistant Party Manager Steve Paine complete the management staff. The crew is currently working in Lake Pelto, Louisiana.

Party 375 records 3-D seismic surveys in shallow-water, marsh and land environments. The source vessels Jesse B and Western Voyager II enable the crew to work in and around shallow-water along the Gulf of Mexico’s coastal areas. A combination of airguns and dynamite are used as the seismic source. The shallow bays and marshy areas along the Texas and Louisiana coastline comprise most of the crew’s operations.

Overseeing operations from the recorder Brenda B, Chief Observer Dave Phillips’ vast experience with airguns and dynamite contributes to the success of the recording operations. Observer Rob Smith, Junior Observer Thomas Whiddon and Geophysical Trainee
Jeff Vanderhurst complete the recording crew and are committed to delivering high quality seismic data.

The navigation operations on a crew of this type are multifaceted. Alan Poche and Jay Wiltz are the chief navigators responsible for quality control, navigation data processing, surveying and navigation operations in the field. Navigators Oscar Valbuena and Donnis Myles operate the source vessels.

Head Linesman Phillip Bosarge supervises crewmembers who deploy and retrieve cables, boxes, phones and floats. The vessels in operation include the cable vessels Miss Virgie and Western Willa and the navigation boats, Nav I, Nav II, Nav III and Nav IV. Boat drivers are Tommy Melancon, Bo Melwain, Glenn Broussard and Paul Sims.

Airgun operations and maintenance are headed by Chief Gun Mechanic Kirk Bushee. Assisting Bushee are gunners Shane Maddux and Roy Strother and Compressor Mechanic Mike Klitzing. Piloting Party 375’s source vessels is Captain Roger Cornwall. Crew Engineer James Snelling, Outboard Mechanic Jerry Denman and Southeast U.S. Land Engineer Mark Visser help minimize down-time on the vessels.

Party 375 continues to place safety as its highest priority. The crew’s safety program was recognized by Western in March for outstanding Health, Safety and Environment (HSE) performance. The Quality, Safety and Productivity (QSP) program is fully implemented and includes daily safety meetings for each department, developed and coordinated by HSE Advisor Arie Moerkerken. Moerkerken oversees the fire team structure and crew safety policies. The crew’s continued commitment to Quality, Safety and Productivity strengthens its abilities to continue to meet or exceed client needs.

Crewmembers’ living and working accommodations range from the smallest single-engine work boat to a 40-man quarterboat and are maintained by Randy Prados and Richard Broussard. The kitchen staff’s attention to a safe, healthy and clean environment contribute to the pleasant living quarters.

Party 375 has successfully completed a year-and-a-half without a lost-time incident (LTI), an impressive accomplishment considering the crew’s size, work environment, and 24-hour operating schedule. Mandatory safety orientations for visitors and new hires are credited for much of this achievement.

Party 387’s source vessel Jesse B gathers data in the shallow waters of the Gulf of Mexico.
MILESTONES

Anniversaries

THEY SERVE

Service Anniversaries — August, September, October, November, December

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43 Years
Woelfel, Wilbert O.

38 Years
* Hudson, Mark N.

36 Years
Nebel, Robert L. Welshe, Robert G.

35 Years
Walker, Joseph F.

34 Years
Hubenak, Lawrence Mellen, John Soundy, Gordon

33 Years
Connor, Michael J. * Davis, Joe L. Gonzalez, Benjamin McCormick, Richard M.

32 Years

31 Years
Drira, Abdelfatah Hancock, Guy John * Karouia, Maklouf Lewis, William F., Miranda, Anthony F.

30 Years
Cain, James Larry Ferrari, Shirley * Hough, Derek * Hunt, Martin N. * Lee, Frank * Sadler, Terry J.

29 Years

28 Years
* Bergsrua, Wesley A. Camacho, Mario Cantu, Joe Chapman, Douglas L. Dingwall, Kenneth A. * Gabrieli, Tomaso * Garrett, Richard D. Hall, Derek Hix Jr., Thomas Boyd Jones, Robert Lansley, R. Malcolm Mason, Robert James Reynolds, M. Gerry Smith, Reardon Torres, Helen

27 Years
Bice, John Wilson * Byrne, Michael Crowell, Jarett Lee Garcia, Ben Garcia, Hugo F. Patton, Iris Marie Wisecup, R. Daniel

26 Years

25 Years

24 Years
Benanti, Tabbie P. * Branch, Roger Carter, Roy Coyle-Larner, Andrew J. Elliott, Darrel Bert * Favor, Mary Beth Fletcher, Keith D. Garza, Fernando Horwood, Patrick Jirschele, Robert V. Jolly, Barbara A.

23 Years
Senior Geophysical Analyst Brahma Swaroop (left) is congratulated on 30 years of service by Houston Land and Special Projects Manager Pat Peck.

Research and Development Manager Laurent Meister (left) accepts congratulations on 30 years of service from VP Research and Development Craig Beasley.

VP Western Hemisphere Data Processing Gary Fair (right), Marine Data Processing Manager Dennis Gallagher (left) and N. American Data Processing General Manager Judy Adams present Assistant Manager Larry Cain with his 30-year service award.

Logistics General Manager Martin Wiltshire (center) accepts congratulations on 30 years of service by Senior VP - Finance and Administration Jesse Perez (left) and Western Geophysical President Richard White.

E&P Services International Operations Manager Hans Bisewski (left) and Geology/Geophysics Manager Richard Chimblo (right) congratulate Special Projects Manager Tony Kudma on 30 years of service.

Purchasing Manager Dave Durham (left) accepts congratulations on 30 years of service from Logistics General Manager Martin Wiltshire.
Anniversaries

Driller Mechanic David Billips (left) accepts his 25-year service award from VP Western Hemisphere Land and Transition-Zone Operations Will Forrest.

Geophysical Technician Catherine Uherek (center) is presented with her 25-year service award by 2-D Spec Data Services Manager Patricia Greeson and Inventory Supervisor John Svatek.

Computer Operator Manager Don Clark (left) and VP Western Hemisphere Data Processing Gary Fair (right) congratulate Playback/Plot Room Supervisor Gale Gortemiller on 25 years of service.

VP Finance/Controller Don Smith (left) and Senior VP Finance and Administration Jesse Perez congratulate Accounting Supervisor Joan Rector on 25 years of service.

SPSD General Manager Roy Forschaw (left) presents Systems Support Manager Scott Denham with his 25-year service award.

Magana, Raul V. Mahar, Tim J. Peck, Patrick Allen Pleeggi, Sherri Pires, Alwyn Preston, Wilma J. Ramey, Walter Jeffrey Roberts, Kevin W. Smithers, Jim Whetzel, Mark Irwin Wilson, Larry L. Wright Jr., Clifford W.

20 Years

19 Years
17 Years

Agarwal, Vinod Kumar
* Anderson, Ronda B.
  Barker, Glen P.
* Barnes, John
  Barrett, Paul D.
* Boatman, Karen K.
* Bouras Ill, John
* Bromwich, Barry N. M.
  Bromwich, Connall
  Bryans, Bradley W.
* Cantlon, Gregory D.
* Cheng, Tsau Chou
* Clark, Christopher A.
  Cobb, Ronald E.
  Contino, Rosalia
  Cook, Raymond
* Correia, Fernando
  Cox, Michael J.
  Davis, John Roger
* Day, Richard A.
* Deamer, Charles A.
* Diable, Brian J.
  Doyle, Terry T.
* Duxie, Jamie
  Duley, Martin C.
  Ensom, Irene
  Ewell, Douglas W.
  Forman, Peter
  Frisco, Sandra
  Funke, Ruthanne S.
  Fyda, John William
  Gallagher, Dennis G.
* Garcia, Luis
  Gerber, Beverly G.
  Gerdan, Raymond S.
  Gharras, Ezzyat Shafik
  Gibson, David William
  Grabiec, John M.
  Gustin, Bruce E.
  Haggag, Ismail B.
  Haidar, Steve A.
  Hinz, Curtis E.
* Holmes, Terence J.
  Huey, Gregory J.
* Hunt, Deborah
* Hyden, John M.
  Joseph, Earline L.
  Kania Jr., Richard A.
  Kapadia, Deepak
  Kemp, Jon A.
  Khan, Mohidur R.
  Kicinski, Henry F.
  Lam, Ya Su
* Lambert, Anthony
  Leith, Simon A.
* Leonard, John H.
  Lloyd, William Albert
  Lopez, Alfredo T.
  Luhr, Nieves
  Makin, Clive
* Mansel, Wolfram Ewald
  McVinish, Michael L.
* Monson, Roger A.
* Moore, Neil R.
* O’Beirn, Michael P.
  Ortega, Donald R.
  Ozcandarli, Teyfik D.
  Palmer, Charles Alex
  Paskalis, Paul B.
* Perez, Henry
* Perez, Jesse

White, Richard C.
Zavala, Enrique Cuba
Zelum, Michael Joseph

18 Years

Barlow, Richard Benn, Anthony R.
Bottrell, Yvette
Bradley, Ian A.
Burchall, Robert J.
* Butler, Helen E.
* Cant, Steven W.
Carey, Douglas J.
Carvill, Charles V.
Cistone, Stephen A.
Collier, Wyatt
* Colllison, Anthony B.
Contreras, Betty
Cook, Ian Edward
Crate, Patrick M.
Curry, Michael C.
Cusken, Pete
Davidson, Trevor
Doyle, Paul
Dudley, Timothy
Ellis, Thomas
* Fann, Jerry C.
Fischer, Robert E.
* Galarza, Frank M.
Glasshof, Mark
Golder, Susan J.
Godsave, Christopher
Granle, Timothy W.
Grasell, Ned W.
Greve, Russell M.
Hanson, Harold
* Hatfield, David M.
* Hays, Leonard E.
Heinrichs, Wilhelm G.
* Hinwood, James C.
Inns, Christopher E.
Instone, Gerald B.
* Jones, Richard Robert
  Kearney, Robert G.
Keaveny, Michael J.
Kingston, Mark W.
* Kornman, Antone W.
* Laumayr, Donavan G.
* Little, Orman Dale
MacCurtain, Patrick
Marshall, Michael Dale
Moffett, John R.
Moore, Sheryn A.
Muthalathu, Joseph P.
Parker, Stephen M.
Plaths, Simon J.
Rando Jr., Noel M.
Rowlett, Susan T.
Ruvoino, Eduardo
* Salvatierra, Agustin
Scott, Larry M.
Taylor, Christopher
* Terpening, Michael E.
* Tran, Deborah Ann
  Trezins, Viesturs
Venghaus, Helen E.
* Wahedi, Abdul
Waring, Anthony T.
Watts, Christopher A.
* White, Annabelle
* Zimmer Jr., Edward D.

Field Service Quality Control Manager Lupe Rodriguez (right) is presented his 25-year service award from Director of Engineering/Applied Technology Paul Morgan.

Technology Support Manager Brent Brown (right) presents Field Service Engineer Joe Clegg with his 25-year service award.

Computer Operator Manager Don Clark (left) and Assistant Computer Operator Manager Dave Strickland (right) congratulate (from left) Senior Computer Operator Roderick Joseph and Shift Supervisor Juan Flores on 20 years of service.

Navigation Data Processing Manager Stuart Porteous (left) presents Navigation Services Supervisor Jan Polisensky with his 25-year service award.

Survey Supervisor Duane Eudy (center) receives his 20-year service award from N. America Land Operations/Program Development Area Manager Charlie Yanez (left) and W. Texas Area Manager Rick Drake.

System Support Manager Scott Denham (right) presents System Administrator Dave Cathey with his 20-year service award.
Anniversaries

- Phillips Jr., Alvin R.
- Phillips, Derek G.
- Pinto, Maria V.
- Prihata, Ijan M.
- Prozeller, David R.
- Purtill, Michael A.
- Randel, Elin
- Ray, Pamela K.
- Red, Garry Paul
- Richardson, Ian
- Richings, Alfred J.
- Ridgway, Stephen
- Roberts, Michael W.
- Robson, Colin
- Sangster, Joseph
- Schmalz, Larry Joe
- Scott, James H.
- Shoemaker, Jeffrey K.
- Simpson, June
- Smith, Ian R.
- Smith, Jonathan R.
- Smith, Kathy Ann
- Snyder, Deborah A.
- Sondagar, Ghanu
- Spoto, Thomas R.
- Starner, Gerald L.
- Summers, Joe C.
- Swafford, Dave L.
- Swerdlov, Richard S.
- Tabone, Elvis Leslie
- Tarrant, Mark R.
- Thompson, Frank C.
- Tseui, You-Hsin
- Ungless, Nigel G. E.
- Vanovac, Vladimir
- Waller, Andrew
- Waterman, Robert M.
- Williams, Mark L.
- Wilson, Colin Allan
- Wrana, Anthony
- Wu, Hae Pyng
- Yanez, Charles M.

- Esquivel, Patricio
- Flinders, Christopher
- Foil, Myrle Lea
- Foreman, Eleanor
- Franck, Sergio S.
- Frederick, Bruce W.
- Frenche, Mike A.
- Gans, John M.
- Ghaly, Wagih Matth
- Gibbons, Timothy John
- Goloway, Frances
- Gough, Connie J.
- Gregory, Michael J. F.
- Griffiths, Timothy J.
- Helps, Philip A.
- Hobbs, Alan P.
- Hodo, Robert Lee
- Holt, Kenneth Robert
- Huebner, Rick C.
- Hughes, Stephen Paul
- Johnston, Mark
- Jordan, William E.
- Keck, Donald W.
- Law, Andre R.
- Lapping, David
- Laws Jr., Randolph H.
- Leenheer, Jennifer D.
- Lewis, Richard P.
- Lowes, David
- Marshall, Donnie A.
- Martinez, Frances
- Mason, Peter C.
- May, Raymond J.
- McNeil, Charlotte A.
- Meeking, Matthew C.
- Mills, Scott A.
- Morrison, David A.
- Nichols, Murdoch A.
- O'Neill, Brian Vincent
- O'Sullivan, Brian P.
- Orozco, Fernando J.
- Ortega, Raymundo
- Paliwoda, David L.
- Parker, Diane Wallin
- Parker, William W.
- Parry, John Kenneth
- Patenall, Richard
- Pedie, Kim D.
- Pervis, Victoria
- Petree, Dannie Wayne
- Raiche, David M.
- Rayburn, Thomas G.
- Reel, Robin Marie
- Rincon, Rich
- Risbud, Sharad
- Rogers, Mary M.
- Rogers, Suzanne C.
- Roldan, Ramiro A.
- Rogers, Paul
- Ross, Stephen A.
- Sebzdza, Michael B.
- Sexton, Donald H.
- Shaw, Gregory C.
- Simonton III, Edwin C.
- Sims, Paul Morris
- Snyder, John C.
- Snyder, Michael E.
- Stanley, C. Warwick
- Tableman, Mark J.
- Tan, Sharon
- Taylor, Charles David
- Thomas, Stanley G.

16 Years

- Alexander, Georgia A.
- Alford, Robert D.
- Arthur, Johnny E.
- Atkins, John R.
- Bauers, Paul R.
- Blackwood, Randy S.
- Blair, Peter
- Blea, Cherie G.
- Brown, Peter R.
- Buckross, Paul Anthony
- Cardenas, Dora E.
- Chalacombe, Christopher
- Chase-Currier, Allen
- Che, Lawrence
- Cornelison, Samuel L.
- Cuevas, Joseph
- Dachenhansen, Lawrence A.
- Dangle, David S.
- Davis, Deborah A.
- Donnelly, Paul Howard
- Doremus, Glenn A.
- Drenckhahn, Frank J.
- Dumsday, Michael W.
- Egerton, Marc
- Enright, Theresa W.

Maintenance Services Manager Andrew Luna (center) accepts congratulations on 20 years of service from VP Administration/Contracts Bob Lowe (left) and General Services/Security Facilities Manager Frank Bertolino.

Geophysicist Tim Larson (second from right) accepts congratulations on 20 years of service from (far left) Marine Data Processing Manager Dennis Gallagher, Supervisor Terry Johnson and VP Western Hemisphere Data Processing Gary Fair.

(From left) SPSD Manager Bob Hardy congratulates Programming Supervisor Kip Haugen on 15 years, Senior Software Engineer Robert Chan on 20 years and Senior Programmer David Long on five years of service.

Houston Land and Special Projects Manager Pat Peck congratulates Analyst Margaret Farag on her 20-year anniversary.

Programming Supervisor Bill Hamill (left) receives his 15-year service award from SPSD Manager Bob Hardy.

HSE Manager Jeff Howell (left) accepts congratulations on 15 years of service from VP Administration/Contracts Bob Lowe.
MILESTONES

Anniversaries

15 Years
- Buffham, Wayne Gordon
- Congleton, Christopher
- Eisenhower III, Frank L.
- Fontenot, Lewis
- Fox, Christian F.
- Howell, Jeffrey Mark
- John, Norris F.
- Kneller, Steven L.
- Loveless, Jeffrey P.
- Penn, Gerald L.
- Shaver, Shaun R.
- Shinkle, Robert Keith
- Utech, Randal W.
- Young, Flora E.

14 Years
- Andrews, Clive V.
- Burdinski, Juergen
- Chodaniecky, Cheryl
- Cuddus, Rezene
- Gilbert, John R.
- Hunt, Belva R.
- Johnson, Robert H.
- Millson, Vivian
- Monk Sr., William A.
- Penrod, Eileen Knappe
- Robertson, Danny J.
- Savoie, John B.
- Symonds, Murray
- Terrazas-Rojas, Lucio
- Tomich, Richard V.
- Unsal, Gurer
- Venta, Charlene M.
- Watkins, Richard
- Wheeler, Robert W.
- Williamson, Mitchell N.

13 Years
- Behrens, Christine L.
- Bone, Gary R.
- Bradley, Philip
- Bryant, Iain
- Cain, Jimmy Darrel
- Cloke, Raymond H.
- Crowe, Patti L.
- Curd, Barbara W.
- Daniels, Ross Kevin
- Davis, Charles D.
- Dreikluft, Roger
- Egeli, Jan
- Elenga, Merle E.
- Engelbrecht, Les G.
- Eovaldi, James W.
- Evans, Stewart T. D.
- Giang, Tom
- Gonzales, Manuel
- Hansson, Tommy E. R.
- Helbig, Robert W.
- Hight, Linda D.
- Hodge, Martin
- Hodges, Allan J.
- Huber, Craig L.
- Ilagan, Maximo R.
- Kenkel, Kevin Shane
- Kitts, Andrew P.
- Love, Nathaniel P.
- McDonald, Michael
- McSwain, Marc B.
- Neale, Jonathan
- Newman, Alan G.
- Ortega, Ivan Javier
- Peel, Jeremy David
- Puskarcz, Eugene P.
- Redmond, Eamon
- Rupert, Jeffrey Paul
- Shabeeb, Jimmy H.
- Shen, Jing-Syang
- Sherwood, John Richard
- Silveri, Stefano
- Smart, Andrew S.
- Smith, J. MacDonald
- Smith, Kenneth J.
- Smith, Paul M.
- Souleris, Christos
- Thomas, Mark Dowling
- Tsao, John Tzu Yung
- Verboon, Timothy P.
- Walker, Patrick C.
- Walmisley, Geoffrey
- Watson, Ronald Dean
- Wigg, Laurence Bruce

12 Years
- Bassett, Julia
- Certenza, Levi B.
- Chia, Chor Keong
- Crittal, John
- DiPasquale, Guido
- Field, Mostyn
- Gajek, Richard
- King, Shannon Ray
- Malone, Joseph C.
- McCarthy, Alan Dennis
- McNell, Sandra L.
- McTernan, Patrick
- Mohagheghi, Farzad
- Mora, Walter V.
- Moshige, Rune
- Pfeffer, Penney
- Record, Derek D.
- Robinson, Geoffrey
- Saye, David B.
- Schafer, Brett Craig
- Scobey, James Robert
- Shackleton, Guy Simon
- Smith, Stanley L.
- Smith, Stephen L.
- Uhl, Narinder S.
- Utt, Jeffery N.
- Voland, Andrew P.
- Willis, Mark A.
- Yorath, Anthony

11 Years
- Bernal, Monica L.
- Byers, John Vivian
- Capes, Clark T.
- Coy, Jesus Amador
- Hensley, Terry F.
- Hibbert, David L.
- Martinez, Gilbert M.
- Nevarez, Joel J.
- Rigo, Stefano
- Riley Jr., Duncan W.
- Rodriguez, Jose M.
- Swarts, Stephen W.
- Theriot, Gustave J.
- Vasquez, Carlos Arturo

10 Years
- Network Support Manager Randy Woodruff (left) is congratulated on 15 years of service by SPSD General Manager Roy Forshaw.
- VP Western Hemisphere Marine/OBC Operations Danny Stiegall (left) and Marine/OBC Manager Larry Scott (right) present Western Hemisphere Marine Streamer Operations Supervisor Major Smith with his 15-year service award.
- Assistant Coordinator Gary Reed (center) accepts congratulations on 15 years of service from Western Hemisphere Marine/OBC Manager Larry Scott (left) and Party Manager Mike Murphy.
- Computer Operator Mark Tableman accepts his 15-year service award from 2D Spec Data Services Manager Patricia Greeson.
Anniversaries

Senior Coordinator Darrell VanMeter (left) receives his 15-year service award from Party Manager Joel Plessala.

General Manager of Western Asia Egypt Maurice Nessim (right) accepts congratulations on 15 years of service from Western Geophysical President Richard White.

Celebrating their 10-year anniversaries are (from left) Senior Analyst Rich Jones, Geophysical Technician Tim Hult and Head Computer Operator Dave Espinosa.

Williams, Brian R.
Wolford, Edward J.

10 Years
Al-Najem, Hashem
Bee, Helen
Bennett, Nigel
*Booiple, Michael W.
Buck, Joanne
Cade, Neil
Clark, Steven K.
*Cox, John D.
Davies, Robert N.
*Dyess, Earl W.
*Estrada, Pedro C.
Etie, Donald J.
Flores III, Martin
Foster, Eric D.
Gillbert, Edward
Glenister, Paul
Hadland, Arthur
Happe, Richard T.
Hult, Timothy E.
Hume, Hamish M. S.
Hydo, Roberta Rae
Jeffers, Mark
Johnson, Darrel R.
*Johnson, Michael W.
Jones, Anthony
Jones, Richard J.
Judge, David
Keighley, Alison
Kelly, Marie
*Kertesz, Thomas E.
Leathem, Mark Stephen
Magnetay, Pablito C.
Main, Michael J.
*Mallard, John R.
McIntyre, John J.
*Munoz, Irma R.
Nash, Robert Terry
North, Malcolm R.
Niece, Jimmy Lee
*Norman Jr., James F.
Nunez, Crispin S.
*Parker, Theresa B.
Parrado, Roberto L.
*Pell, Timothy James
Perrella, Michael R.
*Raack, Eric S.
*Reynolds, Phillip R.
Rodiexez, Anastasio N.
Ross, Michael S.
Samuels, Nora
*Schieberl, Andrew E.
Smith, William Frederick
Tham, Michelle
*Turner, Michael S.
Walsh, John B.
Wilkerson, Wayne V.
Wool, Gary D.
Wright, Stuart A.

9 Years
*Acosta, Edilberto
Akers, Billy J.
Akhtar, Mohammad A.
Anding, Charles W.
Aziz, Showki A.
Bailly, Ronald A.
Banik, William J.
Barker, Travis Thomas

Bartlett, Steven Scott
Betancourt, Guadalupe
Bhimbra, Mannmohan S.
Blackstock, Richard A.
Bracken, Stephen P.
Briggs, Kenneth E.
Brogan, James Patrick
Brunlow, Dorothy B.
Cadenhead, Steve F.
Campbell, Stephen J.
Champeon, Duane W.
Dahl, Earl M.
Dansa, Ashok R.
DeKeyzer, Cynthia J.
*Dehn, Jean Gerges
Elick, Janie S.
*Emery, Andrew J.
Etie, Darrin C.
Flanagan, Michael
Gilllet, Norman D.
Glenister, Paul
Gonzales, Erasmo
Hawkins, Charlotte A.
Innes, Stephen L.
Jackson, Craig Paul
Jaffer, Abdul A.
Jandu, Manjeet
Kent, Lindsay S.
Kukowski, David F.
Laycock, Neil A.
Lerbacken, Loren M.
Mackay, Mark
Manns, David
Marra, Jorge G.
Masters, James R.
McDonnell, Peter
Mesa, Johnny
Mikkelsen, Claus V.
Murphy, Michael C.
Paine, Stephen C.
Peñas, Martin
Raafat, Ismail
Rodriguez, Hernando S.
Routley, Geoffrey P.
Russell, Robert A.
Saleh, Delara S.
Sanchez, Roberto Lucio
Saunders, Jason E.
Smithee, Larry L.
Soto, Armando Garcia
Tagovailoa, Tagiliima C.
Taylor, Terry L.
*Teixeira, Ademir Ribeiro
Terry, Marshall
Thomas, Paul Joseph
Thomas, Richard Craig
Thompson, Barron R.
Tiemann, Terry W.
Truong, Dat N.
Tullis, Andrew
Wagoner, Roy W.
Weikart, Mark L.
West, Paul
Whidden, Stephen D.
Wise, Mark W.
Wong, Richard V.

8 Years
Abousaw, Bassam I.
Allan, Douglas R.
Andrew, Ernest J.
Barrett, Vincent George

Senior Tape Librarian Bobbie Hydo accepts her 10-year service award from Tape Library Manager Jon Kemp.
Anniversaries

Behal, Richard W.  
Bell, Richard T.  
Benford, Janice F.  
Boutte, Carl J.  
* Buaria, Nitish  
Calbat, Robert A.  
Cameron, Ian  
Choudhry, Ahmar  
Cole Jr., Rosco J.  
DeHaas, Jon H.  
Desta, Dawit  
Ditterich, Thomas W.  
Dobbs, Sammy M.  
* Dominey, Gordon P.  
Farris, David J.  
Finch, Fred Carl  
Furber, Andrew  
Gilroy, David  
Hartmann, David John  
Hurt, Paul Russell  
Jabirina, Rolando A.  
Jacob, Gavin J.  
Jager, Gerardo  
Jenkins, Laurie  
Joiner, Walter L.  
Jones, Sherry Lynn  
Lambert, Andrew N.  
Lee, Dominic  
Leija, Eliseo  
Lin, Wen-Jack  
Lopez, Francisco V.  
Maatoug, Brahim  
Marek, Tony Albert  
Menefee, Kimberly  
Mohammed, Osama  
* Nached, Ramez I.  
Nevearez, Oscar R.  
Newton, Timothy O.  
Nicholas, Helen  
Nicolli, Raul D.  
Pacheco, Pedro P.  
Pavitt, Timothy  
Porteous, Stuart J.  
Qayyum, Kamran  
Rajanathan, Logathan  
Roberts, James P.  
Robertson, Donald John  
Roberson, David C. B.  
Santee, Janie M.  
Scowcroft, Paul  
Stimpul, Jackson  
Sittow, Gary A.  
Stanton, William L.  
Trahan, Thomas R.  
Villacis, Carlos V.  
Walsh, Thomas  
Ward, Louis Joseph  
White, Richard Lewis  
Williams, Charles E.  
* Williamson, Andrea  
Wolff, Nancy M.  
Wolfe, Regina L.  
Zajac, Mark S.  

Barnes, Fred M.  
Barnwell, Richard  
Battaglini, Nicholas J.  
Beal, Victoria  
Benoit, Joan M.  
Bonner, Hazel A.  
Brooks, Earline  
Caisido, Remegio C.  
Campos-Palacios, Tulio R.  
Capper, David L.  
Cox, Claud Allen  
Diamond, Alan  
Dostal, James E.  
Eaton, Robert R.  
Elkins, John R.  
Estrada-Mora, Rogelio A.  
Evert, Christopher C.  
Faigle, Matt G.  
Franklin, Martin P.  
Frasier, David Nathaniel  
Garrard, Laird Nicholas  
Gilson, Carolyn D.  
Grimes, Joe  
Haaland, Oystein  
Hage-Youssef, Robert E.  
Hardy, Sharon L.  
Harmon, James D.  
Hayden, Leslie  
Hillyard, Mark  
Holm, Thad R.  
Kamal, A. Hafez  
Kinkle, Ivan D.  
Kitchens, Allendra  
Knight, William E.  
Lackey, Diana Lynn  
Langton, David R.  
Leblanc, Troy T.  
Linhart, Kaye Lynn  
Love, Nicky L.  
Madrid, Henry  
Mallon, Robert L.  
Manderfield, David J.  
Martinez, Frances S.  
McFarland, Stewart  
McInnis, John David  
McManus, John B.  
Montealm, William J.  
Mundy, James B.  
Nance, Eric  
Neilson, Iain  
O'Leary, Arthur Bernard  
O'Meara, Charlotte L.  
* Osborne, Michael Paul  
Palourea, Anthony G.  
Parnwell, Shirley  
Pechacek, Joseph N.  
Perkins, John B.  
Peterson, Nancy Carol  
Price, Ashley John  
Ramirez, Eduardo E.  
Raval, Reuben M.  
Remillong, David John  
Robbins, Daryl R.  
Rossier, Jill T.  
Rodriguez, Lynn M.  
Rosiak, Mark William  
Ruimveld, Stephen P.  
Ruttan, Marlo C. J.  
Sagra, Ramon  
Schram, Robert J.  
* Secker, Robin George

Houston Land and Special Projects Manager Pat Peck presents Senior Analyst Annabelle White (left) her 10-year service award and Senior Secretary Dewana Odneal with her five-year service award.

Systems Analyst Patricia Hirsch is congratulated on 10 years of service by Software Support Manager Kirk Johnson.

Chief Observer Jimmy Niece (center) receives his 10-year service award from Western U.S. Land Operations Field Supervisor Chris Morris (left) and Western U.S. Land Operations Manager Kevin Drake.

(From left) Senior Navigator Dennis Hall celebrates 10 years of service with Seaman Wayne Jarrell and Gun Mechanic Bill Monk who each celebrate five years of service.

Western Hemisphere New Ventures General Manager Mike McCormick (left) and Spec Data Sales Manager Jerry Peterson (right) congratulate Senior Marketing Representative Diana Shaw (second from left) on 10 years and Senior Secretary Shelley Einarsson on five years of service.
Retirement

Steve Williams

Land Processing Group Leader Steve Williams (center) was honored at a retirement luncheon in London for his 22 years at Western. Williams received well wishes from EAME Data Processing General Manager Chris Usher (left) and London VP-EAME Data Processing/New Ventures Angelo DiBattista.

In Memoriam

Joe T. Galen

Joe T. Galen, 21, passed away in August 1997 in San Angelo, Texas. He joined Western in November 1994 as a vibrator operator. He is survived by his parents and siblings.

Soulette Mellette

Soulette Mellette, 68, passed away in October 1996 in Houston, Texas. He retired as a supervisor in Spec Data Services in 1993 after serving Western for 39 years. He is survived by two sons, a daughter, and grandchildren.

Ed Plank

Ed Plank, 90, passed away in Suisun, California in August 1997. Former Western President Henry Salvatori hired Plank as a field supervisor on one of Western's earliest crews. He traveled extensively for many years before joining Western's Shreveport office in 1967. Shortly thereafter he was transferred to Houston where he worked in the tape library. Plank retired after serving Western for more than 30 years. He is survived by his daughter, Sarah Hedrick, and two grandchildren.

William J. (Bill) Walz

William J. (Bill) Walz, 65, passed away in March 1997 in Tomball, Texas. He began his career with Western in 1958 and served for 35 years, retiring as a senior geophysicist in 1992. He is survived by his wife, Laneta, his children and grandchildren.