

GSI family weathers Hurricane Iwa in Hawaii

By SUE HOOD

Don't ever let it be said that Processing Services people don't lead exciting lives — just like Land and Marine people.

Barney, Betty and Mark Milner were flying back from Sydney for a

See related story, page 7.

few days in the sun in Hawaii before Barney took on his tasks as Dallas center manager. Suddenly, the plane started hitting air pockets — sideways air pockets. Stewardesses landed in people's laps and compartments flew open, strewn their contents all over.

When the Milners landed, they

found out they had just flown through Hurricane Iwa. Furthermore, she was following them to Honolulu and was due to arrive in about seven hours.

Though they were booked into a hotel on the beach, the family decided to rent a car and find a hotel off the beach for safety's sake. Not possible, Barney tells us. The point to Hawaii is its beautiful sun-drenched beaches, and that is where all the hotels are. However, the Milners managed to find a hotel slightly more set back from the beach than the others, with a room on the land side.

So, there they were safe and sound in the hotel, eventually sitting in the

dark when the lights went out, listening to the wind howl. Suddenly a window shattered, and Betty leaped up and ran to the hall door. She found the lights were on there, run by an auxiliary generator. Hotel guests gathered in the hall and rode out the storm sitting and talking and listening to the windows break and the wind whistle.

After the hurricane had run its course, the Milners moved to the hotel they had originally booked to enjoy the sunshine. They checked in and were given a room on the 24th floor. Much to their dismay, the lights soon went out. Three of four

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Barney Milner reflects on his hurricane-struck Hawaiian holiday.



Betty and Mark Milner wait out hurricane in hotel corridor.

First TI-990 navigation system goes to Haggerty in North Sea

By BRIAN SPRAETZ

"I've never been to the North Sea before," said a young and eager new recruit for GSI Marine Engineering. That was four years ago, and since

that fateful day the journey to the world of gray seas and skies has become a yearly pilgrimage.

What quirk of fate had brought me once again to that treeless cluster of prehistoric stones called Shetland Isles? Surely some strange power overcame me on that hot and muggy summer day in August. I suspect it was some kind of evil spirit that compelled me to volunteer to accompany the 990 navigation system on its maiden voyage.

See related story, page 15

Flying into Sumburgh airstrip, I was once again greeted by the barren beauty of the Shetlands. I was to meet the M/V *Haggerty* in Lerwick to install the first 990 navigation system for use on the coming prospect.

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View of hurricane from the Milners' hotel window.



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TI-990 nav

Continued

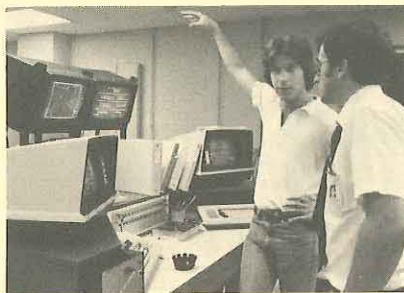
I had seen nothing but sunshine since my arrival in England, and I grew more and more nervous as the sunny days continued while I was waiting for the *Haggerty* to finish the last few lines before heading to port. My fear was that this unseasonal September weather would be followed by an equal and opposite swing in the other direction.

When the *Haggerty* finally arrived in port, the system installation went as expected. The few problems encountered were minor and were quickly resolved. The initial system tests were perfect and I climbed into my bunk for a good night's rest in preparation for an early morning departure.

When I awoke the next day, I didn't notice the motion of the ship. I was on my way down to the doghouse when it dawned on me that the ship was moving a little more than was usual in port. "We must have left early," I quickly concluded, but it didn't feel like we were steaming towards the prospect either.

I decided I had better take a look above. My fears had come true. The weather had changed. Undaunted, I gathered my wits and surmised two things. One, if the weather is bad, we won't go out. Two, the storm would not last forever. I was wrong on both counts.

The next ten days were an experience I will not forget. I had heard of the ferocious North Sea winters and had prepared myself as best I could. In my previous trips I had weathered a few storms, some big ones too, but



Brian Spraez shows Don Stuart the 990 nav system in Marine Engineering lab, Dallas.

I had never imagined a storm could last so long. Of my personal experiences let it suffice to say that I survived.

As for business, only a couple of problems were discovered with the system and they were solved. I particularly want to thank systems engineers Pete Willis and Colin Riley for putting up with my repeated rest stops and party manager Mike Swanson for his defense of the 990 navigation system when trouble did develop.

One morning a rumor reached me that the captain had been injured and was unable to get out of his bed. This was not the type of information I was hoping for at this time. I began to worry about being in the middle of a storm without the seasoned captain on the bridge. My fears were unfounded this time as the mate and his assistants handled their new responsibilities flawlessly. There was a silver lining to the captain's injury, though, as I was soon to find out.

My heart was buoyed by the news that we were headed to port. The captain was not feeling any better so the crew change was moved up a few days. My work was done and I was sure to be back in Dallas soon.

I should have known better, however, as both the operators I had just trained on the system were replaced with the crew change. I barely had enough time to slake my thirst at the local when I was asked if I could make myself available should any unforeseen problems occur with the new operators. In other words, "Lerwick is such a wonderful place to visit this time of year. Why don't you stay and see the sights."

I believe it took almost three hours to see all the sights of Lerwick. There was the old fort, the museum, and the sheep. I never did see a Shetland pony except on the post cards I sent home.

The plan was for me to wait in Lerwick until the boat shot a couple of lines to make sure that everything



Colin Riley at 990 nav console on M/V Haggerty.

was all right. It didn't seem like that would take long. Wrong again! My old friend, the weather, swung back into action the day the ship left, and I had a feeling that my stay in Lerwick would be a long one.

After a few days passed and everyone except the captain and I had left, word came for me to proceed to Aberdeen and await further instruction.

My stay in Granite City was short but good. I want to thank Bernie Marley for sharing his house with me. It was nice to sample some traditional British food and in return to offer some of our traditional Texas delights such as nachos and chicken fried steak. Word that the *Haggerty* was shooting again and all appeared well was my signal to start finding the quickest way home. It felt great to step off the plane into the heat and humidity of a late Dallas summer.

Thanks again to all the crew and administrators of the M/V *Haggerty* for their help, support and friendship. The last word I had from them was that all is still well. The next 990 navigation system is to be installed soon in an as yet undisclosed location. That evil spirit must still have me under its power. I just volunteered again.

Hurricane

Continued

major power lines in Honolulu were down because of Iwa, the first hurricane in Hawaii in 23 years, so the city was having rolling blackouts. You got lights for an hour, and Barney said, "Heaven help you if you were caught in an elevator on the hour." He didn't think it was too much fun going down 24 flights of stairs at the hotel in the dark "hanging onto everybody," either.

Anyway, all's well that ends well. The Milners had a wonderful rest-of-their-stay and are now safely settled in Dallas.

Do you think this was a portent of things to come, Barney?

Shotpoints

Dot Adler	Editor in Chief
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Sue Hood	Processing Editor
Dot Adler	Marine Editor
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LAND NEWS

From storage to production

Party 1642 gets up and running in Dubai

By **BOB CORNER**
and
ROB RICHARDSON

To look at Party 1642 now, with its trailers grouped neatly around the lawn, its smart vehicles, happy personnel and well-satisfied client, it's hard to imagine that when lead instrument engineer, Steve Stokes, and assistant instrument engineer, Alec Chambers, brought it over the border, it had just emerged from four months' storage in Oman.

They were met by party manager, Nigel Bateman, assistant party manager/lead surveyor, Terry Amos, and vibrator mechanic, Mark Croxson, who, together with our first contingent of Filipino labourer, set about the task of removing the moth balls and cobwebs.

Other crew members arrived and after two weeks of intense activity enough repairs and refurbishments had been carried out to enable the crew to move onto the client concession and start shooting around Dubai. With production underway, head mechanic, Bill O'Brien, with the help of Gordon Finlay and their team of Filipino fabricators, began a highly successful program to rebuild our entire fleet of light vehicles.

Expecting to have only one camp location while shooting the 600 line-kilometer prospect, the crew decided

to try to grow lawns in the center of the trailer compound. These have been a great success and together with the flushing bog (which was built on the crew), have done much to take the edge off the surrounding desert.

Dubai is a rapidly developing Emirate and a nearby road construction site is evidence of this fact. At one stage, noise from the site disrupted our normal operations. Undeterred, we simply resorted to shooting at night. Surprisingly, production actually increased during this period and when we find out why, we'll let you know. One reason may be that the four bulldozers (cutting tracks through the sand during the day) were able to keep well ahead. Our TR3 vibrators are kept in good shape by Scott "beam me up, Scotty" Netzer, Don Cameron and Mark Croxson.

The survey department, run by Terry Amos and Bob Corner, when not laying stakes across an ambiguous border, cope well with constant pestering from Rob Richardson and Mark Walker, whose work includes night processing and liaison with the client.

Our driller, Martin Woodrow, is the quietest and most reserved driller we know in EAME. As a new hire, he found our old Mayhew 100 something of a challenge, but is now

coping well with our uphole program.

Instrument engineers Steve Stokes, Wayne Glabais, Kieth Fenske, Alec Chambers and Kevin Fowler just keep on shooting with the DFS*V and FT-1 instruments, and at the present rate should complete the prospect on schedule.

Back in camp, chef, Eric Colley, ensures that we are well provided for. Crew morale has always been high, which is probably because of the good production and excellent crew/client relationship.

The acquisition of a radio telephone link with both the client and Phil Williams in the new Dubai TIMAP* center, has resulted in prompt reporting and better communications. Especially with Dennis Wood and Ed French, our town-based support personnel.



Rob Richardson and Bob Corner discuss the program.



Camp mechanic, Gordon Finlay, and his helpers carry out maintenance.



Vibrator mechanic, Scott Netzer, and labourers repair vibrators.

EAME Support Group successful, looks forward to next good year

By **BILL GREGO**

The Europe, Africa & Middle East (EAME) Land Data Collection Support Group was formed in January 1982, as both an evolutionary step toward providing better tools and systems to GSlers in remote areas and as a key part of the area's quality improvement program.

Headquartered in Bedford, the group serves crews operating in about 10 different countries. Major departments and supervisors are: Mobilizations, Richard Brambury; Equipment, Gary Dobbs; Logistics, Anne Dopson; Computer Systems, John Freeland; Procedures and Systems, Dave Kerr. Bill Grego heads up the group.

Support personnel are: Logistics, Sheila Spencer, Simon Evans, Simon Dray; Shipping, Sally Evans, Sherrie Hutton, Tracey Eglinton; Secretarial, Debbie Bliss, Maria Magurno, Val Shirley.

Some completed projects/tasks to date are:

- Preparation of cost estimates for more than 25 data collection projects.
- Design and implementation of a streamlined Receivables System. Data for the system originates in CIC and is transferred to the group's 990 for manipulation and report generation. It may be the first time in TI that this transfer has been accomplished.
- Development of models for each crew in the area, coupled with a computerized tracking system. Data for this system comes from Modplan. Transferring it to 990 may be another TI first.
- Publication of a Chart of Accounts Dictionary, sorted by item

name, as well as account number, which ensures that all crews are consistent in account number usage.

- Installation of 765 data terminals in area offices with inadequate telex facilities.
- Coordination of repair seminars for special equipment.
- Set up of a 24-hour emergency communications system.

In addition:

- Bedford became the first non-Dallas site to be integrated into the Material Control System, which enables the pulling/distributing of computerized status reports for Bedford purchases.

- Through active pursuit of cheaper sources of spares/supplies, obtaining volume discounts and in a few cases, flat refusal to pay for costs vendors incurred due to their mistakes, the group generated real documented operating cost savings of more than \$150,000. These identified items are expected to save an additional similar amount over the next twelve months.

Further estimated operational cost

savings, though difficult to prove, are the result of both the accomplishments listed and other activities, and totalled more than \$120,000 in the first six months. The group's goal is for operations to save at least \$350,000 dollars over the next 12 months.

Some of the plans for the next few months include:

- Implementing an automatic and interactive Cost Estimating/Bidding/Ordering/Mobilizing system.

- Programming and installing systems in the area offices and crews as hardware becomes available. These include local payroll, cash management, production reporting, and inventory and repair logs.

- Defining the requirements for improved crew level inventory, repair and other systems and laying groundwork for implementation.

- Helping to coordinate the area's P&AE efforts and integrate it with other systems.

Whatever success is achieved, though, will be the result of the efforts of many people in other locations. In addition to people in EAME operations, they include Rita Akins, Hank Guttormson, Eric Lewis, Wayne Lowry, Elwin Setliff and many other Dallas-based personnel.



Bill Grego, Richard Bambury, Dave Kerr, John Freeland and Gary Dobbs.



Anne Dopson, Simon Evans, Sheila Spencer.



Tracey Eglinton, Sherrie Hutton, Sally Evans.



Maria Magurno, Val Shirley, Debbie Bliss.

Research tests personnel as well as techniques

By NORM HARDING

When Don Saunders asked me if I would like to help him research some exploration techniques in a mountainous area among "a few trees," my imagination failed to fill in all the pertinent details. I have known Don since 1950, so I should have been a little more cautious.

The thought of carrying a 30 lb gravimeter on foot over mountains did ring a bell however, and I started taking my walking and jogging routines a bit more seriously.

Steve Terry and I left Dallas at the end of November carrying a L & R gravimeter, a Geometrics Model G-856 Memory Magnetometer, a Model G-866 base magnetometer, TI-59 calculator, and various and sundry office and computing supplies. We picked up a four-wheel drive at the airport, and drove to the work area where we met Rick Diefenderfer, surveyor, and two very able assistants, Donald Jones and Gonzalo (Sandy) Sandoval, who had driven in from Midland.

The objective was to cover a large area rapidly with backpack equipment, and a minimum number of people. No more than three or four people had been used at one time until our operation, which consisted

of six people. The techniques involved orbital and aerial photo interpretation, geochemical sampling, spot checks of surface geology, and follow-up traverses of anomalous locations with gravity and magnetics. No bulldozing or line cutting were allowed.

The infamous Hawaiian storm hit the area the day we arrived, and it snowed all day and all night, but we drove to the area in two four-wheel drives the next day, and got in on frozen forest trails. The trails were sort of tacked on the sides of canyon walls in places, and in others followed an abandoned railroad bed. In the thawed areas the vehicles seemed to have a tendency to slide towards the dropoffs rather than towards the bank on the other side, but we drove as far as we could, and Steve walked us into the center of one of the sites we were to survey. In any other contexts it would have been a beautiful view — a mesa cut with canyons and nice trees all around.

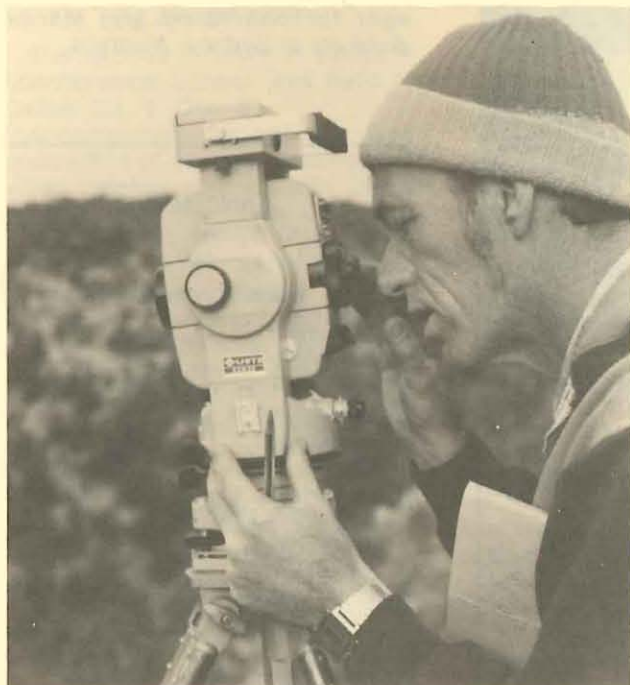
I suspect Rick was thinking "Look at all those !&X@! Christmas trees we have to survey around!" And I was thinking "Look at all those !&X@! terrain corrections I am going

to have to make!", but both projects had to be completed, and the data was needed back in Dallas in three weeks, so we had at it.

Rick, Sandy, and Don Jones initially handled the surveying with a T-2, a K&E Autoranger, and a tall staff with reflectors so we could shoot over the trees. Rick was used to surveying in West Texas where you can shoot a couple of miles at a crack and 50-to 100-ft shots tend to be exasperating. The other problem was that three people carrying the equipment on foot over hill and dale and thru the trees was quite a chore.

Steve called Bish Karko, Survey manager, and with the help of Rick, convinced Bish that this research program would be an ideal spot to check out the new generation Leitz and Topcon survey instruments which combined the EDM and theodolite in one package. Bish sent Tom Pidgeon and the gear, and that was a big help.

Sandy Sandoval and Steve Terry loped over the hills with the ease of mountain goats to the envy of the rest of us. I was able to provide Sandy and Don with some helpful suggestions on where to put the gravity stations. For instance "Listen guys, it disturbs my concentration when I have to sit on a cactus to read the gravimeter, please do not put the stations in cactus patches." It was a fun job, and thanks to some hard and tedious work by the surveyors, we managed to finish in time and get back for Christmas.



Left: Tom Pidgeon. Below: Norm Harding, Rick Diefenderfer, Don Jones, Sandy Sandoval.



GSI crew complements client's equipment, people

By JAVIER NUNEZ

Party 1504 operating in central Mexico is one of the oldest and smallest GSI crews. Its area of operation has included the states of Veracruz, Puebla, Morelos and Tlaxcala. GSI provides Party 1504 with technical personnel, general services and equipment to complement personnel and equipment provided by the client.

The crew is presently developing a program around Poza Rica, Veracruz. The base camp is located in a ranch called Ursulo Galvan and is one of the best equipped camps in Mexico. It is located only five kilometers northeast of the city and is very close to the airport. Personnel can arrive by plane but often opt for the bus because flights are unpredictable.

The program has been slow because of the rough terrain, rainy weather and solid rock the drillers run into. The crew has been working the prospect for the last 26 months at a rate of 18 to 20 days of work a month. Despite this, the client has been pleased with the results and plans to do some drilling to define structures.

Party 1504 has updated its recording system, first from the 8000 Explorer to DFS* IV, then from DFS IV to DFS V.

Party 1504 has a very important function for all crews in its area of operation. Being centrally located, it

is called upon to help when Party 1507 or 1508 has problems with parts or equipment. Party 1504 helps repair or deliver parts during the night so that no work time is lost. Their support and efficiency have been of great value to GSI.

People working with 1504 include: Ned Lofton and Manuel Forero, recently retired; Don Luster, instrument engineer/party manager; Mexico operations manager, Andres Ramirez; party manager, Rafael Centeno; observer, Carlos Martinez; geophysicist, Manuel Juarez, who just transferred to Party 1508; and cable repair person, Gonzalo Arias.



Recording truck.

Field Service Bulletins

Just a reminder: If you see a Field Service Bulletin title you think might be the answer to your problem, contact Buck Lamance at MSG DNGR or MS 3904 for more information and expert help.

- 82-13 Detailed drive-level guidelines for GSI vibrators
- 82-14 Correct dash number for Similarity Control card in VCU
- 82-15 Installing high-frequency servovalves on X2 vibrators equipped with low-frequency servovalves, and, Clarification of part numbers for old and new servovalves.

New assignments

Pat Woodman became GSI-Midland's administrator effective Dec. 15, 1982. Pat was formerly Support Supervisor in New Iberia, La.

Roy Schultz, who was mobilization manager in Dallas, replaced Pat as Support Supervisor effective Dec. 1, 1982.

Bill Keaton became Lower 48 spec data manager. He is now based in GSI's New Orleans office. Bill was formerly Western U.S. manager in Midland.

George Steel replaces Bill as Western U.S. manager in Midland. George was Area Exploration manager for both Land and Marine divisions in Sydney, Australia.

Land Quality update

Land's quality program has begun the second phase in both the North America and Europe, Africa and Middle East (EAME) areas.

Quality training kickoff sessions have been held in North America's and EAME's offices for supervisors and party managers. Quality training sessions for South America and the Far East are in the planning stages.

The training sessions are scheduled for twice a month for four months, for a total of eight sessions. During the training, employees will identify projects (problems in their areas) and

will utilize the Juran techniques being taught to resolve the problem. For example, one Dallas team identified a problem in GSI Land surveying. They gathered data to determine the causes of the problems and identified the lack of standard surveying procedures as the most significant cause. A standard survey manual is now being written and is scheduled for distribution in April 1983.

The next phase of Juran training includes field crew personnel. The program is designed to eventually reach every employee.

LAND NEWS

Kelly Long — Editor
Harry Lake — Dallas Coordinator

Local Coordinators

Al Wynn	Personnel
Bill Grego	Bedford
Bill Pailthorpe	Sydney
Rosita Lacorte	Mexico
Jasper Hart	Alaska
Dorothy Roy	Rocky Mts.
Cap Heath	U.S. Support
Shafik Zaynoun	Cairo
Terry Smith	Tunisia
Will Rountree	Houston
Chas Lednický	New Orleans
Steve Thomas	Singapore
Roberto Esparza	Lima
Hank Guttormson	Oman

PROCESSING NEWS

Milner, Stanberry, Ibbetson, White, on new jobs



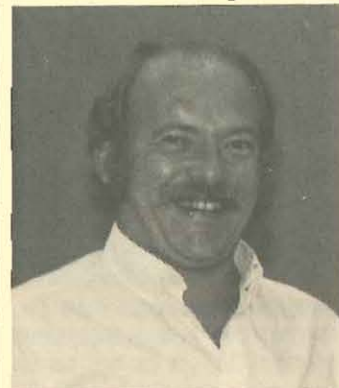
Barney Milner



Lee White



Ron Stanberry



Graham Ibbetson

Barney Milner is now manager of the Dallas computer center. Ron Stanberry is heading up TIMAP* IV deployment in Dallas. Graham Ibbetson is manager of the Bedford computer center. Lee White is Operations supervisor at the Denver computer center.

Barney was hired in 1963 as a display operator in Dallas, then worked as a computer operator and maintenance engineer. He went to the Houston center in May 1965 as a shift supervisor, then later became TIMAP coordinator, PP&C manager and computer center manager. He

went to Sydney to become Australia computer manager in 1980.

Ron was hired as a display operator in March 1964 (and trained by Barney, he said). He has worked as an 827 and 870 engineer, TIMAP engineer, and on TIMAP IV development. He is an unusual GSIer in that he has spent his entire GSI career in computer services in Dallas.

Graham came to GSI in April 1965, hiring on at Bromley, England, as a tape librarian. He has worked as an operator, surveyor, on an input crew, as PP&C rep and Croydon center manager. He was Processing Ser-

vices Central PP&C manager in Dallas from mid-1981 until late 1982 when he went to Bedford to take on his new responsibilities as center manager.

Lee came to Austin TI in March 1972 as a mechanical assembler. He transferred into Austin ASC* group as a computer operator in January 1975 and advanced to shift supervisor. He transferred to the Calgary center in April 1981 to help with the 3033 startup and worked as shift manager of A shift.

TIMAP* II Maintenance School held in Dallas

By ALLAN KOH

The second TIMAP* II Phase II Maintenance School was held in Dallas Oct. 4 -Dec. 3.

A prerequisite for attending was completion of 10 units of self-paced video training courses with topics ranging from the study of device controllers to peripherals. After completion of the video courses, students receive a Phase I diploma.

Twelve students graduated from TIMAP II Maintenance School and received diplomas from John Brockett and George Chrisman. Some students also received Phase II diplomas during the presentation ceremonies.

Participants came from centers including Australia, Singapore, Bedford, Houston, Calgary, Dallas, Midland, New Orleans and Argentina.

A major emphasis was on the practical aspect of maintenance with theory classes held in the morning and the rest of the day spent in the lab.



TIMAP II, Phase II Maintenance class — Front: Luis Gelman, Lewis Waller, Ralph Charlton, Clive Broom, Greg Price, David Crawford, Chen Su Kiowng. Back: Allan Koh (instructor), Mark Bottcher, Larry Hubenak (hardware training manager), Robert Smith, George Nemer, Alan Coleman, Gerard Dawe.

Topics included 980 programming, TOS overview, drum and one-inch transport practical, ATP* 4, FPAP, telex formatter and IPS controller. Instructors were Allan Koh and Larry Hubenak.

It was not all work while the students were in Dallas. A group from non-U.S. centers took advantage of nice Texas fall weather and

the resumption of the football season after a lengthy strike to go see the Dallas Cowboys whip a visiting team at Texas Stadium. When I asked them whether they enjoyed the game they replied that the game was interesting but the cheerleaders distracted most of their attention from the playing field with their eye-appealing dance routines.

Ben Golafshan's GSI career is dynamic at Sydney



Ben Golafshan

By GUY-JOHN DALEY

Determination and hard work are two of the things that, undeniably, started GSI. It is not surprising to find that people possessing these qualities are attracted to this organization.

Ben Golafshan is one such person. Ben was studying data processing at college in 1977 when he heard about GSI. To supplement his study, Ben asked if he could operate one of GSI's computers, working without pay.

Supervisors, so impressed by not only his attitude, but also his ability, arranged employment full time as a TIMAP* operator in October that year.

Things didn't stop there for Ben. After six months as a TIMAP operator he was promoted to shift leader, and six months after that to shift supervisor.

In 1980 Ben was selected to go to Austin for intensive training in preparation for Sydney's 3033 start-up. He also completed training in PP&C procedures and when he returned he established Sydney's PP&C department. His training also included the TI-770 system. Ben was on constant call for all 770 problems until recently.

In June 1981 Ben was relieved of his operating responsibilities and promoted to permanent PP&C supervisor. This removed a lot of the inherent pressure that shift work imposes on married couples. He told me that this move was particularly

appreciated after the birth of his daughter, Michelle, in December 1980.

Ben's career at GSI is a dynamic one. In January 1982 he travelled once again to Dallas, this time for TIMAP IV training. When I asked Ben how these extended overseas trips affect his marriage he said he is able to strike a balance between his home and work life that he and his family find workable.

Ben's philosophy concerning work is simple: work at and with a purpose in mind and accept added responsibility when necessary.

Just out of interest, before writing this story a census was taken and 90% of the Sydney operations personnel had, to some extent, been trained by Ben over the years.

P.S. Don't let this story fool you. Ben has not been wasting his time. Locally, he is known as a bit of a card "sharp" and has, on occasion, relieved many an operator of his hard-earned if not substantial pay.

Sydney PA&E report

By GEORGE HAKOS

Sydney Processing Services P&AE activity during November resulted in the implementation of four MIRs.

These include:

(1) *Computerization of inventory system onto the 990 model 30 from Jim Sutherland* — Jim wrote a series of online inquiry and update programs. The final product provides a quick and efficient inventory control system, with the added advantage of providing online inquiries from management.

(2) *Computer paper savings from the Material Wastage Team* — The team's idea is to utilize the blank side of recyclable paper on the TIMAP* Mule systems instead of unused paper.

(3) *Film savings from Peter Carver* — Peter recommended using film offcuts from the splicing department for our Applicon plotter.

(4) *Computer printed labels from George Hakos* — Labels were printed for SPPR outputs, 770 full downloads, DT tapes and XY coordinate client tapes. This improvement reduced labour costs and increased efficiency and professionalism.

Profile: Grant Farrar, Sydney display

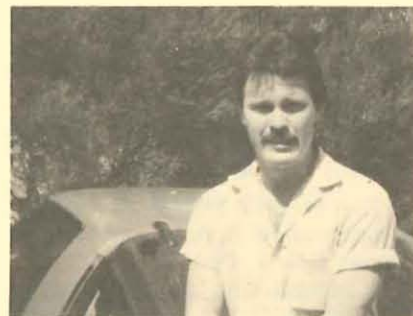
By GUY-JOHN DALEY

Grant Farrar was a self-employed writer and window dresser before starting with GSI-Sydney in February 1981 as a tape librarian. After just two weeks he was offered the opportunity of training as a Geospace operator. He jumped at the offer.

Since his initial training, Grant has become an important and very necessary member of our display team. He said that being a member of such a small team allows him the scope to find and suggest improvements in not only the day-to-day operation of Geospace and Applicon plotters, but also on occasion be involved with the more important policy decisions affecting both himself and other Geospace operators. Grant is very active with P&AE and has submitted several MIRs on behalf of his department.

However, there is a somewhat bizarre side to Grant's experiences at GSI.

It is believed by many operators that gremlins of one kind or other on occasion cause hardware havoc, but Grant claims that on one particular night while at work something more substantial than FHD memory problems occurred.



Grant Farrar

It seems that during dinner one night he and Gary Simons, working shift supervisor, watched an empty coffee cup move a foot across the table, unassisted. Grant said that this is not the only case of unusual goings-on, but by far the most extreme. Many a night shift, Grant feels a presence in the Geospace darkroom. Strangely enough, this sensation is shared by other Geospace operators both in Sydney and in Perth. The rest of us think that maybe too much developer is being inhaled.

Besides these esoteric interests, Grant enjoys water sports and sketching. His various caricatures of fellow employees are well-known in Sydney Processing Services.

Meet the good folks from Sydney processing center

Photos by Guy-John Daley



C-shift operators — David Petrovic, Yvonne Pigram, Silvio Mikulicin, Gary Simons. Not pictured — George Hakos (supervisor), Fortunato Ludovice.



A-shift operators — Ray Bayad, Alex Frog, Romeo Caesar Valdes, Vicki Langham, Guy-John Daley, Norm Coates (supervisor).



Geospace display operators — Jaja Koci, Grant Farrar.



Ted Hulbert — lead engineer. Engineers not pictured — David Crawford, Thu Nyugen, John Thompson, Lewis Waller.



Bryan Robertson, operations supervisor.



PP&C — Ben Golafshan, supervisor, and Lorraine Newson. Not pictured — Lynn Burnes.



Joanne Havron, keypunch; Val Tilley, secretary; Doug Timbrell, accounting/administrator.



Library — Rudi Cubik, supervisor (standing). Nigel Woods at terminal.



B-shift operators — Tony Gill (supervisor), Jim Sutherland, Steve Williams, Danny Ambat, Michael Waring (Geospace trainee), Con Theophani. Not pictured — Marlo Bustos.



Systems software — Warwick Teale (front). Debbie Byers, David Scales, Robert Watson.

On the road again, to do more TIMAP* training

By LARRY HUBENAK

With Midland dust still on the heels of my shoes I headed to the land of down under, Perth. This was to be the last worldwide TIMAP disk systems training presentation for 1982.

Twenty-nine participating engineers attended class in one of the four major centers, Calgary, Bedford, Midland or Perth. The engineers were: Gregory Price, Lewis Waller, David Crawford, Thu Nguyen, Ian Mockford, Brian Sharpe, John Johansson, Tim Latter, Derek Reid, Gerard Dawe, Ralph Charlton, Bob Jones, Geert Lindemulder, Albert Khoury, Ian Bearman, Pete Ostropolski, Brendon Gannon, Clive Broom, Bill Cox, Ron Stecko, Rodney Zimdars, Anthony Young, John

Hoffman, Lawson are top P&AE contributors for Nov.

By GEORGE CHRISMAN

Tom Hoffmann and Mike Lawson, Austin, are the P&AE contributors of the month for November for their implementation of a computer-aided system to assist with the design and layout of GSI computer centers. Tom and Mike are Computer Systems Facilities engineers responsible for the environmental specification and design of Processing Services computer centers.

Using a borrowed computer system, mostly during second and third shift, they have developed a set of data bases that provide the capability to quickly and accurately produce computer room layouts and construction design drawings. Included in the data base are the environmental specifications, power, dimensions, air conditioning, for all GSI computer hardware to allow Tom and Mike to interactively enter center configuration changes and produce updated drawings in real time on an electrostatic plotter. The system produces drawings with detail and accuracy to be used as construction prints, greatly reducing the manual drafting time and cost.

Mike and Tom have established a schedule to get all Processing Services computer centers on the system during 1983.



GSI processing center, Midland. "What can one say about Midland? As I momentarily glanced out the window during my presentation, I could gaze over the desolate land and concluded that it was time for me to hit the road again," said Larry.

Benyo, Jim Nichols, David Frank, Jeremiah Leflore, Luis Gelman, Mark Botcher and David Tigert.

The engineers learned how to perform Trident T300 head removal, replacement, alignment and electrical troubleshooting. There was comprehension of the PAD controller, both theory and practical, including troubleshooting techniques and diagnostics.

Enhancements of PIM controller, theory and practice with troubleshooting techniques and diagnostics was another accomplishment. The engineers learned how to generate TIMAP diagnostics and how to obtain source diagnostic listings. The diagnostic package was prepared by Allan Koh, Dallas TIMAP instructor.



EAME engineers — Albert Khoury, Geert Lindemulder, Clive Broom, Pete Ostropolski, Brendon Gannon.



While on his training mission, Larry visited Warwick Castle on the River Avon near Bedford. Besides its medieval towers it contains a fine armory, priceless furniture, paintings and relics. It was originally the home of the Earl of Warwick.



A view of the Swan River from downtown Perth.

Production Center of the Month

Calgary takes the honor for November; Midland for December

By JOHN BROCKETT

Calgary was selected as Processing Services production center of the month for November while Midland took top honors for December.

Due to continuing high performance in their TIMAP* area and with major improvements in both display and IBM areas, Calgary moved from second place in October to center of the month in November. Calgary IBM availability was 98.5% in addition to all TIMAP systems exceeding the TIMAP productivity goal. Display reruns were under goal and most cycle-time goals were met.

Midland, reporting an excellent score of 87% on goals achieved, took center of the month honors in December. Equipment availability was outstanding in all areas. Of particular note was the negligible hardware downtime on the TIMAP II and auxiliary system. Also, despite being a relative newcomer to SPPK, the center maintained a zero failure rate of FTPQC, which is a great improvement over the 10-15% failure rate encountered a few months ago.

Both centers are to be congratulated for their outstanding performances.

MARINE NEWS

Quality is the name of the game

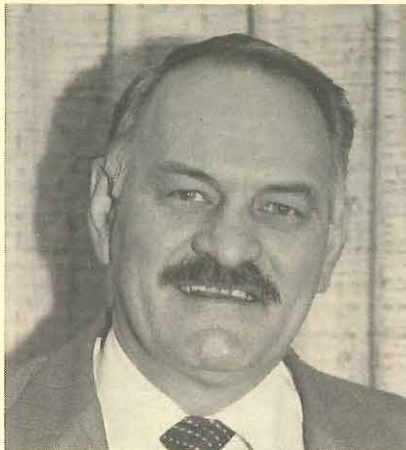
The Marine Division had a tremendous growth period from late 1977 through 1981, which caused a situation where experienced and trained personnel were scarce. During this period, the division instituted a very comprehensive training and career path development program. Several modifications to the program have improved and made it more practical such as:

- Travel schools allowing training in the real environment
- On the job training
- People and Asset Effectiveness (P&AE) program
- Backdeck training with Fleet Services.

Overall, by late 1981 we had developed our field people into what I believe to be the best operators in the industry. But not good enough! There is so much room for improvement.

We are now actively, and as a first priority, developing the QA/QC system for our vessels. This new software and hardware will allow us to improve the field product by a step function. Back deck procedures for preventative maintenance have been distributed and are being monitored by Fleet Services. New and more reliable software packages are being developed and deployed to data processing centers. These are all good things being done — but they are not enough!

Therefore, TI management starting with Mark Shepherd and Fred Bucy, has embarked upon a new quality program. To make quality work a way of life by all Tiers, we must develop a quality culture, and it is imperative to



Davey Einarsson

start at the top. This has started. The theme is simple:

"Do it right the first time."

You must start thinking and acting this way. It will change your life, not only professionally but personally. We must get rid of the "that's good enough" syndrome.

In the Marine Division, our fleet average of recording time is a relatively small percentage of the total time. How much of the non-recording time do you — each of you — think could be converted to recording time if everyone did it right the first time? In data processing, how many reruns do we have? How many of those could be eliminated if no input errors, program errors and field logging errors occurred? I would like to hear your estimates! Write to me.

You will be hearing more about

By **DAVEY EINARSSON**
Manager, Marine Exploration
Division

quality. It will become, in the Marine Division, as important a measurement of your performance as quantity and financials. Believe it, if you take care of quality first, the quantity and economics will follow.

As you read this article, you will probably be asking, "What can I do?" You can start by doing your job right. Do not accept anything less.

- Send in your P&AE ideas. Look for ways to prevent problems, not just fix them.

- When giving instructions, be sure you define the requirements of the job fully.

- When receiving instructions, be sure you understand the requirements clearly.

- Have 100 percent attendance at safety meetings and adherence to safety rules at all times.

- Make sure all logs are correct.

- Make sure you are proud of the data you send in.

- Spread the word.

- Check all data inputs prior to submission to eliminate reruns.

- Be sure you conform to the requirements set for the job at all times.

- Believe it is better to do it right the first time and act that way!

Right for GSI means meeting the customer's requirements. Right is "conformance to requirements." It does not mean a "Rolls Royce" when someone wants a "Volkswagen." If he wants a "Volkswagen," give it to him in running order on a timely basis.

It is a tremendous opportunity if we all only "do it right the first time." Go for it!

December Marine performance

By **DAVEY EINARSSON**

Congratulations to the crew and support staff of the M/V *Cecil H. Green II*, who won vessel of the month, and Bedford, the data processing center of the month for December.

Although December was a rough month, with bad weather almost everywhere, it was a good month from a sales standpoint, and we entered a record in net sales for one month. Spec data sales were brisk and helped our profit level.

Overall, 1982 was a fair year considering the market slide. We have a real challenge in 1983, and I know we're capable of meeting it.

Keep up the good work, be safe, think quality, and have a successful new year.

Bill Hunzeker appointed site manager in Perth

Bill Hunzeker is now GSI site manager at Perth, Western Australia, after transferring from Sydney. He will continue as Marine Exploration manager for Australia.

Field Service bulletins

82-36 Modification to PNU-CON* airgun spider ring, TI p/n 288674-1.

'Incredible Hulk' becomes GSI seismic vessel

By MIKE GAY-CUMING

I first set foot on GSI's new "versatile vessel," now M/V *GSI Explorer*, in Kingston upon Hull, England, in October 1981 while the M/V *Bering Seal* was in drydock nearby.

GSI had just bought the partially completed vehicle-and-water ferry (intended for use in the Middle East) which had been started in 1976. She was never completed as a ferry due to the closure of the company building the vessel.

My first reaction was to christen it "The Incredible Hulk," because a rusting hulk is all it was at the time. GSI did not have a name for it then, except "The Hull in Hull," as it was referred to by some of my colleagues.

The second time I saw her, only six months later, she was a transformed ship. She was no longer a "hulk," but she certainly was "incredible," resplendent in her new red and white livery. She was probably feeling a little confused about all the new equipment sprouting from her main deck, all the electronics and heavy machinery implanted into what would have been water tanks, a third engine added for towing the seismic equipment, an extra deck added over the forward part of the vessel to enclose the new accommodations, and the wheelhouse now forward instead of aft.

The original drop-down door for the vehicle deck had been removed and solid plating welded in its place. A conventional bow was not feasible, as the extra length would have put the vessel into another class. This would have required so much increase in ship's crew and equipment that there would have been no room for the seismic crew and their own equipment to do the job for which GSI had planned the ship.

The building of the vessel to GSI's requirements was undertaken by Ruscador Shipyard, under the supervision of Iain Havery, EAME Marine supervisor; John Cowan, naval architect; John Baxendale, the ship's captain; Eddie Moran, the local Lloyd's surveyor; and GSI's EAME Field Service department for the recording, navigation and seismic source equipment.

Having seen the ship in her partially completed original form, I can dispel the rumors that the garbage skip on the dockside was Iain Havery's scale model for the design; the ship



M/V *GSI Explorer* uses Hull originally intended for transport ferry.



Iain Havery supervised building of ship to GSI's specifications.

was already that shape!

The utilization of some of the original tanks for the compressor space, tape storeroom, food storerooms, and other machinery spaces meant somewhat restricted headroom in these areas, which gave rise to the vessel description "compact." I am glad that I am not very tall, and even Iain Havery was always seen wearing his hard hat! This led to new rumors about Tony Short setting up a personnel recruiting office in Switzerland to hire gnomes for crew!

The instrument room required a raised computer floor, so the deck above in the center of the ship, was also raised, and in this area are the galley, messroom, lounge, captain's cabin and party manager's cabin. Above the latter two is the wheelhouse, which benefits from the extra height.

April 28, 1982, was the day of the dedication ceremony at Hull, and the weather was bright and mild. Ann Lovelock, wife of EAME marine data collection manager John Lovelock, performed the christening, breaking a bottle of champagne on the ship's bow as she named the ship.

Celebrations continued throughout most of the night at the Cave Castle Hotel, in South Cave, just a few miles from the dock. The dinner was followed by many speeches from the



Ann and John Lovelock, with Jennifer Stuart at dedication dinner.

GSI Marine management team, several of whom had come over from Dallas. Half of the participants in the celebrations were the crews of the M/V *J. E. Jonsson* and the *GSI Explorer*, both in Ruscador Shipyard at the same time.

A few days later, after detail completion work, trials, loading stores and streamer sections, the *GSI Explorer* embarked on a non-exclusive survey for GSI in the North Sea, in and around a shallow bay area called The Wash. After some initial problems with propellor shaft lubrication and cooling water inlets, for which the vessel returned to the Ruscador drydock at the end of the survey, she headed across the North Sea to Denmark for another spec survey, then more spec work in the North Sea's Southern Gasfields.

During the first job, the new *GSI Explorer* caused much confusion among the regular commercial traffic in the North Sea. One freighter, approaching off our port bow, was called several times on the VHF radio, and finally acknowledged our call with "This is the Indian freighter two miles off your starboard quarter." The mate on watch pointed out their mistake and the reply was, "Oh my, goodness gracious, you're going that way, are you?!"

Continued next month

GSI deploys experimental airgun array in sea test on *Ross Seal*

Part 2 of a series

By ROD COTTON

The weather fortunately smiled on us for most of the time during our sea tests on the *M/V Ross Seal* in the Gulf of Mexico.

This was a two-fold benefit, as the queasy stomachs of normally desk-bound land-lubbers do not take kindly to the rough side of sea life, particularly if it is imposed abruptly. Also, most of the experiments, such as streamer noise analyses, can only be conducted in calm weather.

The vessel was visited by dolphins on several occasions, and we also became refuge for a little bird — a gold crest, we think — presumably blown offshore by one of the few squalls to punctuate our trip. The little fellow was clearly lost, exhausted and frightened. He was offered warmth, shelter and food in the customary hospitable style of sailors for a rescued victim of circumstances. A few days later he disappeared — I hope safely back to land, but I fear not.

Later, we were joined by a fat seagull who hungrily devoured some of the food offered but refused other offerings with haughty disdain. I don't think he was a victim of circumstances. More likely a lazy free-loader.

Toward the end of our trip, we decided we were in a position to play our best hand and go for maximum deployment of the new experimental airgun array system.

The day dawned beautifully with a bright sun glittering in a blue sea. We ordered a helicopter to do some aerial photography, and its appearance was one of the high points of

the trip, except maybe for Kirby Everette, who found his off-duty siesta in the sunshine rudely interrupted. Sorry, Kirby!

The helicopter gave us an impressive flying display as it took shots from all angles near and far, high and low. The *Ross Seal* will enjoy some considerable exposure in the future because of this.

On summing up our results that night, we decided on a triumphant report telex to our managers back in Dallas. Carl Smothers chose the opening words: "Break out the champagne!"

All our experiments worked, and a great deal of data for future analysis was gathered to keep us busy in the winter months ahead.

We demonstrated that GSI now has the latest technology for the deployment of versatile airgun arrays — as wide arrays for dual line shooting, as broadside arrays for noise cancellation, as extended arrays for directivity, and as conventional short arrays for point source work.

Thanks, *Ross Seal*, for all your help. We hope to see you again next year.

Seismic crew: Larry Rezek, Paul Johnson, Mick Stormonth, Mike Rihms, Kirby Everette, Randy Stone-street, Don Siebert, Rudi Baumann, George Blair, Randy Anderson, Walter Ewing, Wick Westmoreland.

Ship's crew: Norman Maucher, Captain; Richard Smith, mate; Robert Roberts, chief engineer; George Hutchins, second engineer; Frank Lang and Dennis Parker, able bodied seamen; Ed Johnson, cook, Bob Rukes, second cook; Butch Kennedy, messman.



Streamer sections on Galveston dock.

The EFR reporter

Stretch sections to be 120-trace

By BOB SOLTYSIK

Stretch sections in the streamer draw much attention on the Equipment Failure Reports (EFRs).

Recently, we began to suspect that stretch sections made today might not be as good as they used to be, so we ran some tests. New sections were made and pulled to measure the amount of stretch and recovery at various tensions.

The results showed that stretch sections have not changed much when compared to previous test data. The sections reacted today just as they did as far back as 1974.

When loaded at 6000 pounds, the section stretched almost 22 feet, but when unloaded, it recovered all but 6 feet of the stretch. Breakage occurred at 12,000 pounds, and it was the steel stress wires that failed, not the rope.

Speaking of stretch sections, I thought I'd pass this change on to you. With GSI gearing up to shoot 120 traces, all new stretches will be in the 120-trace configuration. To use them on 96-trace streamers, an adapter, 145382-21, must be used in the system.

This will simplify warehousing and manufacturing, as we will need only one kind of stretch section for both 96-trace and 120-trace streamers.

If you have any interesting tips to pass along, please send them in to Bob Soltysik, MS 3967, Dallas, IMS terminal MANU.



Dolphins swim off *M/V Ross Seal* port bow during sea test cruise.

From galley to backdeck to doghouse

'Trash Can' works way up GSI career ladder

Greg "Trash Can" Porter is convinced you can go anywhere you want to with GSI if you assert yourself and show that you really want to work.

He wanted to be an airgun mechanic and then learn the seismic end of the business, but the only job open when he applied in November 1980 was in the galley of the M/V *Baltic Seal*, then being rigged in Rockport, Texas.

"O.K. I'll take it," Greg told Dallas Personnel Administrator Betty Kappelman, "but I will be working on the backdeck."

"Well, that's up to you," Betty replied.

When Greg joined the vessel, he wasn't actually cooking. (He had done this several years earlier during a brief hitch on the field payroll of the M/V *Cecil H. Green I*). This time, he was washing dishes and cleaning up the boat.

He regularly carried trash cans past the gun shack to stack the garbage on the helideck, and in so doing he got to know the airgun mechanics. One day, Dave Johnson said, "There goes 'Trash Can,'" and that's how Greg got his nickname. They call him "T. C." for short.

After his own shift was over, Greg frequently went on the backdeck to help the mechanics bring in the guns and ask some questions. They would let him put the guns together and give him manuals to read.

Dave, Gene Chapman, Eric Fye, Tony Myers, and Paul Watson recommended Greg to Mick Stormonth, the boat manager, and on the very



Greg "Trash Can" Porter

next trip he was working as a gun mechanic.

Greg rode the *Baltic Seal* during programs in the Gulf of Mexico, California and Alaska. Then the boat went to China, and he was transferred to the M/V *Cecil H. Green II*, still under construction at Rysco Shipyard, Blountstown, Florida. Since joining the *Green II*, he has worked on programs in the Bahamas and off Alaska and California.

Greg's game plan, now that he has achieved his goal of being an airgun mechanic, is to prepare to move into the instrument room. On the *Green II* he has already logged about 200 hours of his own time in the doghouse and has passed all the on-the-job training tests for digital field system operators.

"I would like to put in a plug for the OJT, which is just excellent on the *Green II*," he says. "With the help of some good OJT manuals, I was able to learn what I needed to pass the tests although I never had any formal training in electronics and number-

ing systems and things like that." (He was a music major for two years at Mesa College in San Diego, with a minor in psychology.)

"I really want to thank Greg Harris, Joe Woodruff, Mike Braswell, and Les States for not only allowing me to go in the doghouse in my off time but for helping me with questions and everything," Greg said.

Greg recently returned to the *Green II* after recuperating from surgery following a knee injury. He plans to continue putting in his regular shift in the gun shack and then working in the instrument room during his time off until he can transfer into the doghouse.

"I'm patient," says Greg. "It's just that I want to learn all the phases of everything so I can be utilized anywhere. I just feel that the more you know, the more they can use you. I would like to be a party manager some day...maybe even a boat manager."

In addition to a satisfying career and the opportunity to travel while getting paid for it, GSI has also brought Greg romance. While working as a mechanic on the *Baltic Seal*, he became friends with a systems operator trainee named Diane Countryman.

Greg insists they had a very platonic relationship during their one trip together on the *Baltic Seal*, after which Greg transferred to the *Green II* and Diane went to China with the *Baltic*. Subsequently, they met several times during their off times, and now they are engaged to be married. — Dot Adler

How to get processing help via IMS

Function	MSG ID	Type of help available
Operations	DGMC	Management decisions
Field support	FIXM	TIPEX*/TIMAP* applications software
Proc/TISIS* support	GISG	ASC*/IBM input systems and procedures
Advanced technology	AG	New technology and beta test support
Area geophysicists	AG	Geophysical support
Navigation Processing	NAV	Navigation and gravity/magnetics processing
If not sure who can help, call Bern King at office, (214) 995-7710, or home (214) 733-0215.		

Kelly named Marine Engineering manager

Mickey Kelly has been promoted to manager of Marine Engineering, succeeding Lynn Heitman who resigned to pursue interests outside GSI-TI. Mickey, who formerly headed the instrumentation section, has been on the Marine Engineering staff since 1976.

Doug Knabe is now responsible for instrumentation development, including the test systems function. Jeff Cunkelman has succeeded Doug as head of technical support and continues in his role as field service supervisor.

McDermott people train on multiplex streamer

Prior to shipment of a multiplex streamer to the M/V *McDermott*, four users-to-be met in Dallas for instruction by engineers who have been working on the system.

Norm McGowan of the Australia support group and Nigel Blake, Kevin Webber and Mike Chen of the *McDermott* crew subsequently spent a second week in Dallas getting hands-on experience on the new system at the Northgate facility.

Instructors for the multiplex streamer school were Jim Sweetman, Frank Hemmings, Todd Nordby, Scott Breeding, Rene Fourzan, Frank Polaski, and Greg Glanville.

STAFF NEWS

Testpoints

What you need to know about similarity tests

By BERNIE HUBER

Question: *We have some questions about similarity tests. Does it make any difference to perform SIMS on or off line?*

Answer: If making SIMS in normal mode, it would make no difference but if using *alternate* mode, it does. The DFS*/TIMAP* interface module does not complement inverted sweeps in off-line mode but does complement INV sweeps in on-line mode via software command.

Question: *Is performing SIMS in the INV mode an illegal operation?*

Answer: Making SIMS in INV mode is not illegal. While most SIMS are conventionally conducted in normal mode, INV mode also produces legitimate similarity data.

Question: *Should a paper record of a SIMS test made in the INV mode show phase agreement with the reference sweep or should it phase lock 180 degrees out of phase with the reference signal?*

Answer: Paper records of INV mode SIMS should show phase agreement with the reference sweep.

Question: *How can a vibrator be checked to ensure that it will produce alternate normal/inverted sweeps when the RCU NORM/ALT/STEP switch is in the ALT position?*

Answer: Check the vibrator as follows: Place FT*I in off-line mode. Set RCU to zero taper and normal mode (INV, lamp out). Run and record a series of sweeps with alternating polarity. Both instrument engineer and vibrator operator should communicate and keep track of which sweeps are inverted by watching INV lamps. Then, place FT I in on-line mode and repeat the series.

Evaluate these tests as follows:

- Sweeps made with FT I off-line in normal mode should start with the correct slope for SIM type selected. All normal sweeps should remain in phase for entire sweep length.

- Sweeps made with FT I off-line in INV mode should start with inverted slope and be inverted from normal sweeps over entire sweep length.

- Both normal and inverted SIM records should show the pilot reference and the broadcast SIM signal in phase within usual specs.

- Sweeps made with FT I in on-line mode should start with correct slope and remain in phase for entire sweep length. All sweeps, whether taken in normal or invert mode, should be similar if complementing has correctly occurred in INV mode.

- For information on correct starting slope, refer to "Automatic Similarity Test — MOD 3 Electronics" section of RCU manual.

I hope this provides the data you need. If not please, advise, c/o terminal DGMC.

Manual is good source of facts on vibrators

A booklet has recently been authored by the Dallas Area Geophysicists in cooperation with the Land Engineering and Field Service departments, entitled VIBROSEIS*** Similarity Guidelines, 1 November 1982. This manual has been assigned Part Number 273725-0001 and can be ordered from Dallas through normal field support channels.

This manual is an excellent source of vibrator information and guidelines. While not intended as a specification or standard procedure manual, it provides a wealth of facts and knowledge compiled from many sources.

Ca\$h for photo\$

Did you notice? There were so many good photos sent in and used in the November/December and January/February *Shotpoints*, we didn't have room to acknowledge the faithful contributors. Please accept our belated but hearty thanks. Please keep those photos coming in!

Besides fame for having your photos used in *Shotpoints*, you receive fortune. We pay \$25 for photos used on the cover and \$15 for photos used in inside stories. Contributors receive payment for only one photo per issue.

Appreciation for the contributions in the November/December issue go to Dan Skidmore, Clyde Gassert, Joseph s. Sliman, Phil Hunni-

sett, Ben Burton, and Will Allen — Land; Connie Vavalides, Jan Stephens, Frank Aguilar, David Jarvis, Larry Hubenak, Rene Poston and Marcia Trimble — Processing; Russel Stanley, Eric Pickstone, Wayne Salter — Marine.

Our thanks for January/February *Shotpoints* go to Rob Mood, Roger Crocker, Graham Cobby, Will Allen and John Gilbert — Land; Frank Aguilar, Kim Travers and Karen Johnson — Processing; Rod Cotton (cover photo), and Steve Hanrahan — Marine.

Sincerest apologies go to Beverly Nichols whose photos appearing in the October *Shotpoints* were attributed to Maria Baeza.

Here are benefits of new TI-990 nav system

TI-990 navigation system, newest addition to the CMS** III instruments uses a TI 990/12 minicomputer to provide up to four independent dead-reckoned position estimates from a variety of external devices. These include satellites, doppler

sonar, gyroscope, and other electronic positioning systems.

The 990 system performs navigation duties previously handled by the 980B minicomputer of CMS II. In addition, the quality assurance functions have been expanded.

Work simplification comes to Lutong center

By STUART BELL

Linus Lim, South East Asian training coordinator, recently traveled to Lutong to present a seminar in Work Simplification. Linus ran two separate workshops to enable all available staff to participate.

For those GSlers who were not around when Lutong was last featured in a doodlebugger article (*Seismic Mariner News*, Sept. 1980), it's seven miles from Miri, in the East Malaysia state of Sarawak on the island of Borneo. Lutong is the base for an extensive offshore oil and gas production and exploration program for both Sarawak and its sister state, Sabah.

GSI has operated a TIMAP* processing center here since 1977. In January 1982, the system was upgraded to a TIMAP II in preparation for the 1982 marine data collection program. This saw us welcome back Ian Jones and his *Tasman Seal* crew for the third time in four years.

The last two years have also seen several personnel changes: Stu Bell, from Perth, replaced Alex Forbes as party chief; Andy Popplewell, Bedford, succeeded Harold Fairbanks as maintenance engineer; and Chiem Boon Hong has become the first Malaysian group leader.



Participants in Lutong Work Simplification Workshop (#1) were: Front row — Neoh Khoon Lye, Joyce Sushila Noel, Yee Weng Seng, Vincent Kong; back row — Elsie Wee, Stuart Bell, Linus Lim (instructor), Wong Kee Siew.



Participants in Lutong Work Simplification Workshop (#2) were: Front row — Eng Kia Meng, Huong Toung Ing, Andy Popplewell, Liew Shi Yung; back row — Chiem Boon Hong, Wee Siaw Soon, Audrey Ling, Harry Sadasivan, Linus Lim (instructor).



Transferring TIMAP II equipment from chopper to truck at Lutong airstrip.

Singapore hosts two TI-770 survey schools

By LINUS LIM

Surveyors from land crews operating in the jungles of Indonesia met recently in Singapore to attend two TI-770 survey schools.

Bish Karko from Dallas Survey Support instructed the schools which

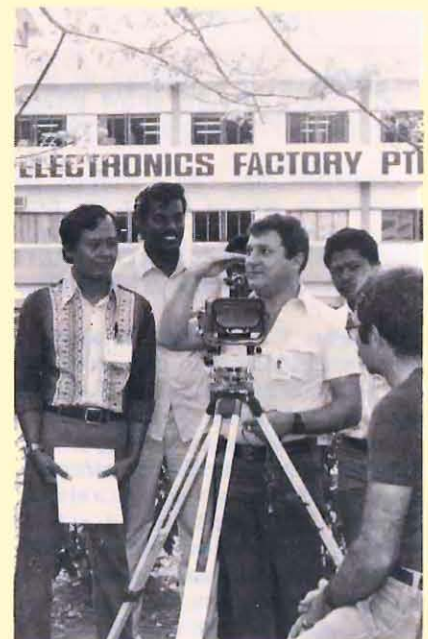
included classroom training and outdoor practical lessons on the use of 770 survey equipment. Under Bish's expert coaching, the participants became familiar with the keyboard within a short time and were soon on the road to computing land survey data.



Participants in Singapore 770 Survey School (#1) were: Front row — Daipan Amrullah, Suwarno, Maswan, Bish Karko (instructor); back row — Nurchalis, Richard Maier, Alan Frizzel, Rod Gilbert, John Hansen, Ken Macaulay, Eric Maier, Ben Lage.



Participants in Singapore 770 Survey School (#2) were: Front row — P. Harahap, Joe Sharma, Ian Watson, Bish Karko (instructor), Faisal Munaf; back row - Albert Anderson, Andogo Gusni, H. Czerny, Jeff Riddle, Soerono, J. Yahan, Edyson.



Singapore 770 survey school field work under direction of Bish Karko.