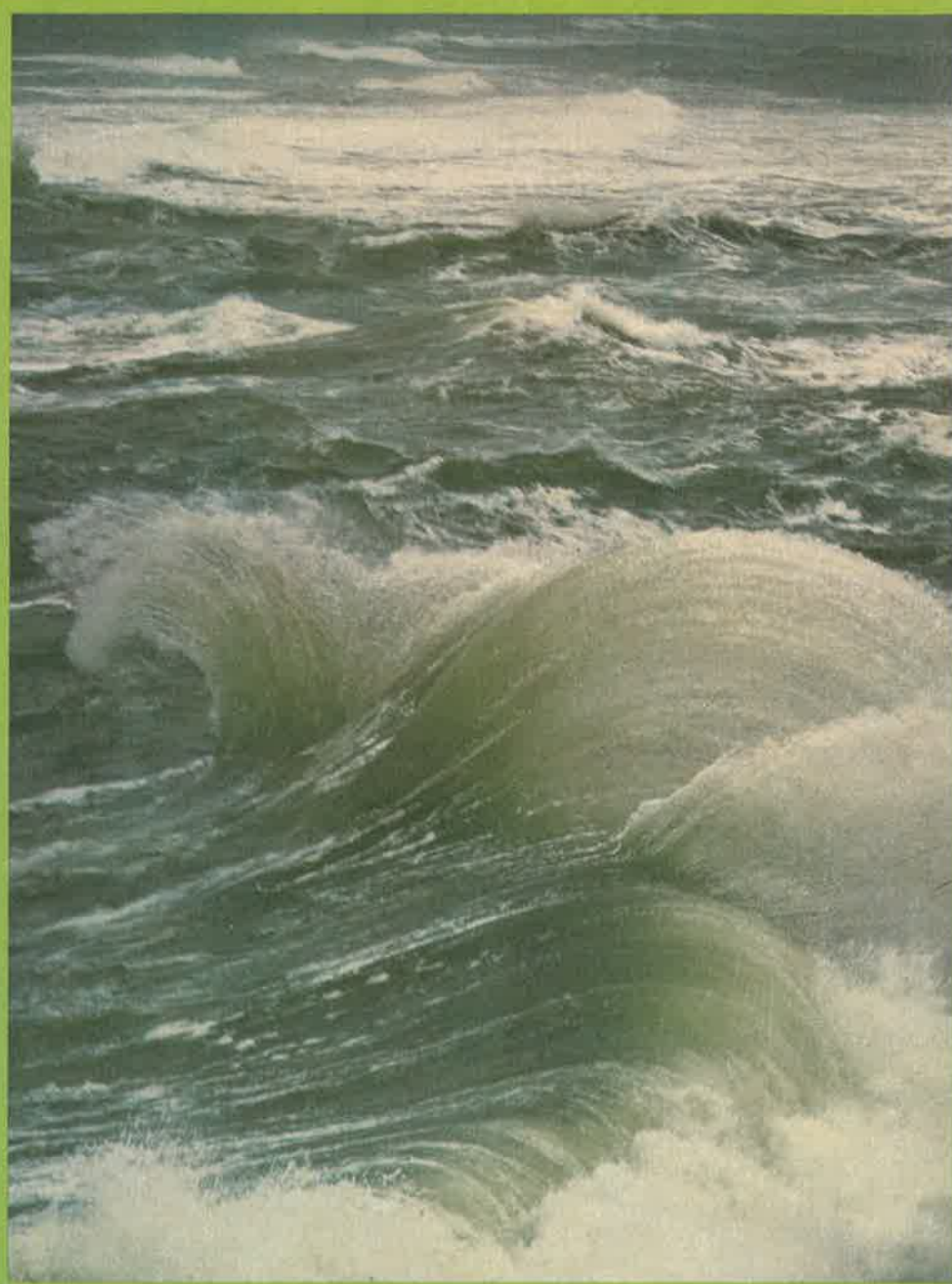


OCEANS OF DISCOVERY



OFFSHORE TECHNOLOGY CONFERENCE

May 2-5, 1983 • HOUSTON

PROGRAM • REGISTRATION • HOUSING

Your invitation

Einladung

Su invitación

Votre invitation



Oceans of Discoveries Discoveries big and small — oceans of discoveries — await you at the 1983 Offshore Technology Conference, May 2-5, in Houston's Astrodome. From the analysis of wind and wave forces to prototype drilling rigs, if it has to do with the offshore, you'll find it at OTC '83.

Now into its fifteenth year, close to one million registrants from every sector of the offshore industry have established OTC as the world's leading forum on ocean resources development. Last year alone, more than 100,000 professionals from 90+ nations provided testament to the unique value and unparalleled opportunities that are OTC.

Your opportunities at this year's OTC begin with an expansive technical program garnered from the world's leading sources. More than 250 papers compiled into 48 technical sessions will afford you access to the very latest and pertinent technological developments. And of course the opportunity to discuss informally problems and solutions with renowned world experts could make OTC '83 one of the most important discoveries of your career.

An array of products and services unmatched in size and scope and encompassing more than 630,000 square feet will add to your knowledge of industry advancements. From 2,500 exhibiting companies, you'll learn of the latest improvements and innovations in hardware and services available to the total offshore industry. Complete and comprehensive, the technical exhibition at OTC is literally hundreds of discoveries in one concise locale.

Plan now to attend the 1983 Offshore Technology Conference by returning the Advance Registration form today. OTC '83 offers an ocean of discoveries for YOU!

Table of Contents

Introduction	Pages 2-6
Technical Program	Pages 7-15
Exhibition	Pages 17-24
Awards	Page 26
Houston	Page 26
Continuing Education	Page 27
Proceedings Order Form	Page 16
Sponsor Societies	Pages 28-29
Registration, Housing	Pages 30-35

Conference Schedule

MONDAY, MAY 2

Registration:

7:30 a.m.—6:00 p.m.

Exhibition:

8:30 a.m.—6:00 p.m.

Technical Program:

9:00 a.m.—11:30 a.m.

2:00 p.m.—4:30 p.m.

Awards Luncheon:

12:15 p.m.—2:00 p.m.

TUESDAY, MAY 3

Registration:

8:00 a.m.—6:00 p.m.

Exhibition:

8:30 a.m.—6:00 p.m.

Technical Program:

9:00 a.m.—11:30 a.m.

2:00 p.m.—4:30 p.m.

WEDNESDAY, MAY 4

Registration

8:00 a.m.—6:00 p.m.

Exhibition:

8:30 a.m.—6:00 p.m.

Technical Program:

9:00 a.m.—11:30 a.m.

2:00 p.m.—4:30 p.m.

THURSDAY, MAY 5

Registration:

8:00 a.m.—3:00 p.m.

Exhibition:

8:30 a.m.—3:00 p.m.

Technical Program:

9:00 a.m.—11:30 a.m.

Ein Meer von Entdeckungen Große und kleine Entdeckungen — ein Meer von Entdeckungen — erwartet Sie anlässlich der Offshore Technology Conference 1983 vom 2. bis 5. Mai im Houstoner Astrodomain-Komplex. Sie werden alles, was mit der Offshore-Technik zu tun hat — von der Analyse der Wind- und Wellenkräfte bis zum Prototyp für Bohrrigs — auf der OTC '83 finden.

Bis zum nunmehr 15. Jahr ihres Bestehens haben annähernd 1 million Besucher aus praktisch jedem Bereich der Offshore-Industrie dazu beigetragen, dass die OTC zu dem führenden Forum für die Entwicklung der Meeresressourcen geworden ist. Allein im letzten Jahr haben mehr als 100.000 Fachleute aus über 90 Nationen durch ihre Teilnahme die außergewöhnliche Bedeutung und die unvergleichbaren Möglichkeiten der OTC bestätigt.

Für Sie beginnen die Möglichkeiten der diesjährigen OTC mit dem umfassenden Konferenzprogramm, das aus international führenden Quellen stammt. Über 250 Einzelvorträge, die in 48 Vortragsveranstaltungen zusammengefasst sind, bieten Ihnen die Möglichkeit, die neuesten und einschlägigen technologischen Entwicklungen kennenzulernen. Es ist vorstellbar, dass die OTC '83 durch die Möglichkeit der informellen Diskussion von Problemen und Lösungsvorschlägen mit international anerkannten Fachleuten für Sie zu einer der wichtigsten Entdeckungen Ihrer Karriere wird.

Das in seiner Größe und Vielfalt unerreichte, ca. 58.527 m² abdeckende Ausstellungsaufgebot wird Ihren Kenntnisstand über die industriellen Fortschritte erweitern. Mehr als 2.500 Aussteller werden sie über die neuesten Verbesserungen und Innovationen bei Hardware und Serviceleistungen im gesamten Offshore-Bereich informieren. Die OTC-Ausstellung bietet durch ihr umfassendes, vollständiges Angebot im wahrsten Sinn des Wortes hunderte von Entdeckungsmöglichkeiten unter einem Dach.

Planen Sie jetzt ihre Teilnahme an der 1983er Offshore Technology Conference, indem Sie das ausgefüllte Anmeldeformblatt heute noch absenden. Die OTC '83 bietet ein Meer von Entdeckungen für Sie.

Inhaltsverzeichnis

	Seite(n)
Einleitung	2-6
Konferenz	7-15
Ausstellung	17-24
OTC-Auszeichnungen	26
Houston	26
Anschlusskurse	27
Bestellformular Für Konferenz Unterlagen	16
Sponsorgesellschaften	28-29
Einschreibung/Unterbringung ..	30-35

Zeitplan

Montag, 2. Mai

Einschreibung:
7.30–18.00 UHR
Ausstellung:
8.30–18.00 UHR
Konferenz:
9.00–11.30 UHR und
14.00–16.30 UHR
OTC-Auszeichnungen:
12.15–14.00 UHR

Dienstag, 3. Mai

Einschreibung:
8.00–18.00 UHR
Ausstellung:
8.30–18.00 UHR
Konferenz:
9.00–11.30 UHR und
14.00–16.30 UHR

Mittwoch, 4. Mai

Einschreibung:
8.00–18.00 UHR
Ausstellung:
8.30–18.00 UHR
Konferenz:
9.00–11.30 UHR und
14.00–16.30 UHR

Donnerstag, 5. Mai

Einschreibung:
8.00–15.00 UHR
Ausstellung:
8.30–15.00 UHR
Konferenz:
9.00–11.30 UHR

Des océans de découvertes De petites et de grandes découvertes, des océans de découvertes, vous attendent à l'Offshore Technology Conference du 2 au 5 mai à l'Astrodomain de Houston. Depuis l'analyse des forces du vent et des vagues jusqu'aux prototypes de plates-formes de forage, vous trouverez tout ce qui concerne l'offshore à OTC 83.

Près d'un million de participants de tous les secteurs de l'industrie offshore ont fait d'OTC, entrant maintenant dans sa quinzième année, le plus important forum du monde sur le développement des ressources océaniques. Pour la seule année dernière, plus de 100 000 professionnels de plus de 90 pays ont porté témoignage de la valeur unique d'OTC et des opportunités incomparables qui y sont offertes.

Cette année, ces opportunités commencent par un vaste programme technique constitué depuis les meilleures sources mondiales. Plus de 250 conférences regroupées en 48 sessions techniques vous donneront accès aux développements technologiques les plus récents et les mieux adaptés. Et bien sûr, l'occasion de parler sans contrainte de problèmes et de leurs solutions avec des experts mondiaux renommés pourrait faire d'OTC une des plus importantes découvertes de votre carrière.

Un déploiement de produits et services sans égal en étendue et en variété couvrant plus de 58 000 m² vous permettra d'accroître vos connaissances des progrès de l'industrie. Les 2 500 sociétés exposantes vous informeront sur les dernières améliorations du matériel et des services à la disposition de l'ensemble des industries offshore. Vaste et complète, l'exposition technique d'OTC représente véritablement des centaines de découvertes concentrées en un seul lieu.

Préparez dès maintenant votre visite à OTC 83 en retournant aujourd'hui votre formulaire de préinscription. OTC 83 vous offre son océan de découvertes!

Sommaire:

Introduction	Pages 2-6
Conférences	Pages 7-15
Exposition	Pages 17-24
Distinctions	Page 26
Houston	Page 26
Formation Permanente	Page 27
Formulaire de Commande des Recueils de Conférences	Page 16
Associations Patronnant OTC	Pages 28-29
Inscriptions, Hébergement	Pages 30-35

Horaires

Lundi, 2 mai

Inscriptions:

7 H 30 - 18 H 00

Exposition:

8 H 30 - 18 H 00

Conférences:

9 H 00 - 11 H 30,

14 H 00 - 16 H 30

Déjeuner de remise

des distinctions:

12 H 15 - 14 H 00

Mardi, 3 mai

Inscriptions:

8 H 00 - 18 H 00

Exposition:

8 H 30 - 18 H 00

Conférences:

9 H 00 - 11 H 30,

14 H 00 - 16 H 30

Mercredi, 4 mai

Inscriptions:

8 H 00 - 18 H 00

Exposition:

8 H 30 - 18 H 00

Conférences:

9 H 00 - 11 H 30,

14 H 00 - 16 H 30

Jeudi, 5 mai

Inscriptions:

8 H 00 - 15 H 00

Exposition:

8 H 30 - 15 H 00

Conférences:

9 H 00 - 11 H 30

Océanos de descubrimientos Descubrimientos grandes y pequeños — un océano de descubrimientos — le aguardan en el Congreso de Tecnología Costa Afuera 1983 (Offshore Technology Conference), a celebrarse de mayo 2 a mayo 5 en el Astrodome de Houston. Desde el análisis de las fuerzas del viento y de las olas hasta los equipos prototipo para perforación, si tiene que ver con costa afuera, usted lo encontrará en el OTC '83.

El liderazgo de OTC como foro para los asuntos del desarrollo de los recursos oceánicos es evidente: al cumplir 15 años de existencia cuenta con casi un millón de inscriptos provenientes de todos los sectores de la industria. En el último año más de 100 000 profesionales provenientes de más de 90 países atestiguaron el valor excepcional y las oportunidades inigualadas que ofrece OTC.

Este año, las oportunidades en OTC empiezan con un extenso programa técnico proveído por las más importantes fuentes mundiales. Más de 250 artículos organizados en 48 secciones técnicas le permitirán el acceso a los más modernos y pertinentes desarrollos tecnológicos. Y naturalmente, la oportunidad de discutir problemas y soluciones con los más conocidos expertos mundiales podría hacer de OTC '83 uno de los descubrimientos más importantes de su carrera.

Una serie de productos y servicios de extraordinario alcance en un espacio de más de 630 000 pies cuadrados ampliará su conocimiento de los adelantos de la industria. De 2.500 compañías exhibidoras aprenderá usted los últimos perfeccionamientos e innovaciones en hardware y servicios disponibles para la industria entera de costa afuera. La completísima exhibición técnica de OTC ofrece literalmente cientos de descubrimientos agrupados concisamente. Prepárese ya a asistir al Congreso de Tecnología Costa Afuera 1983 enviando hoy mismo el formulario de inscripción por adelantado. OTC '83 ofrece un océano de descubrimientos para USTED!

Índice

	Páginas
Introducción	2-6
Programa técnico:	7-15
Exhibición:	17-24
Premios	26
Houston	26
Instrucción continuada	27
Formulario solicitud de Actas	16
Sociedades Patrocinadoras ...	28-29
Inscripción, Alojamiento	30-35

Horario de la Congreso

Lunes, 2 De Mayo

Inscripción:

0730-1800 horas

Exhibición:

0830-1800 horas

Programa técnico:

0900-1130 horas

1400-1630 horas

Almuerzo y entrega de Premios:

1215-1400 horas

Martes, 3 De Mayo

Inscripción:

0800-1800 horas

Exhibición:

0830-1800 horas

Programa técnico:

0900-1130 horas

1400-1630 horas

Miércoles, 4 De Mayo

Inscripción:

0800-1800 horas

Exhibición:

0830-1800 horas

Programa técnico:

0900-1130 horas

Jués, 5 De Mayo

Inscripción:

0800-1500 horas

Exhibición:

0830-1500 horas

Programa técnico:

0900-1130 horas



The program

Programm

El programa

Le programme

Technical Session Timetable

● Monday Morning — 9:00 to 11:30 a.m.

- Safety & Containment
- Material Selection & Specifications
- Offshore Pipelines
- Ice Mechanics

● Monday Afternoon — 2:00 to 4:30 p.m.

- Foundation & Soil Investigation
- Design for Impact & Buckling
- Geophysical Data Gathering & Data Processing
- Drilling Production & Completion Technology
- TLP & Mooring Analysis
- Ocean Mining

● Tuesday Morning — 9:00 to 11:30 a.m.

- Mooring Dynamics
- Piles & Foundations
- Geophysical Interpretation
- Production Risers & Controls
- Tarsiut Caisson Island
- Fatigue Analysis & Design

● Tuesday Afternoon — 2:00 to 4:30 p.m.

- Mooring & Anchoring Experience
- Monitoring of Fixed Platforms
- Vertical Seismic Profiling
- Field Developments — Floating Production Systems
- Arctic Island Construction
- Diving, Salvage & Repair Operations

● Wednesday Morning — 9:00 to 11:30 a.m.

- Marine Riser Analysis
- Corrosion Control & Monitoring
- Platform Construction & Installation
- Subsea Production Facilities
- Design of Arctic Islands
- Oceanography & Meteorology

● Wednesday Afternoon — 2:00 to 4:30 p.m.

- Marine Riser Hydrodynamics
- Welding Technology
- Mobile Drilling & Support Vessels
- Underwater Manifold Center
- Wave Loads On Structures
- Ocean Transportation & Marine Terminals

● Thursday Morning — 9:00 to 11:30 a.m.

- Marine Geology & Geochemistry
- Instrumentation/Data Collection, Communication & Telemetry
- Wire & Synthetic Rope
- Response of Compliant Structures
- Platform Design Issues

Preliminary Technical Program*

**Changes made after December 3, 1982 are not reflected in this listing.*

MONDAY MORNING • 9:00 to 11:30 a.m.

SAFETY AND CONTAINMENT, ROOM 107

OTC

- 4442 **Risk Analysis Applied to Offshore Platforms During the Unpiled Installation Phase**
G.A. Kriger and E.J. Piermattei, Earl & Wright; J.D. White and B. King, Woodside Offshore Petroleum Pty. Ltd.
- 4443 **A 100-Well Analysis of Offshore Blowout Causes**
E. Dahl and T.I. Bern, Ship Research Institute of Norway
- 4444 **Reliability of Subsea BOP Systems**
M. Rausand, SINTEF
- 4445 **Limitation of Liability Under U.S. Laws Pertaining to Offshore Technology Operations**
L. Rose, Admiralty Lawyer
- 4446 **Containment of Naturally Occurring Subsea Hydrocarbon Emissions - Project Review**
L.D. Guthrie and P.R. Rowley, ARCO Oil & Gas Co.

MATERIAL SELECTION AND SPECIFICATIONS, ROOM 111

OTC

- 4447 **Development of a Specification for Offshore Christmas Tree and Wellhead Components**
M.W. Joosten, Conoco Inc.
- 4448 **Problems Associated With the Specifications of Castings for Offshore Application**
G.G. Saunders, Foster Wheeler Petroleum Development
- 4449 **Selection and Evaluation of High Strength Steel for Hutton TLP Tension Leg Elements**
M.M. Salama and J. Tetlow, Conoco Inc.
- 4450 **Evaluation of Structural Steel Castings for the Hutton Tension Leg Platform**
D.V. Beggs, Conoco Inc.
- 4451 **High Alloy Materials for Offshore Applications**
T.F. Lemke and J.A. Harris, Huntington Alloys Inc.

OFFSHORE PIPELINES, ROOM 114

OTC

- 4452 **Construction of the Hondo Sour Gas Pipeline**
A.H. Mousselli, Applied Offshore Technology Inc.; M.B. Yates, Pacific Offshore Pipeline Co.; R.A. Zimmerman, Applied Offshore Technology Inc.; and J.D. McNorgan, Southern California Gas Co.
- 4453 **The Behavior of Concrete Over Thin Film Epoxy Coatings on Offshore Pipelines**
G.L. Archer, British Gas Corp.
- 4454 **Hydrodynamic Forces From Wave and Current Loads on Marine Pipelines**
M.B. Bryndum, M. Hvidbjerg-Knudsen, V. Jacobsen and G. S. Rodenhuis, Danish Hydraulic Institute
- 4455 **The Influence of Boundary Layer Velocity Gradients and Bed Proximity on Vortex Shedding From Free Spanning Pipelines.**
A.J. Grass, U. College London; P.W.J. Raven and R.J. Stuart, J.P. Kenny & Partners Ltd.; and J.A. Bray, Marine Technology Support Unit
- 4456 **Stresses of Pipelines During Earthquakes**
O. Kiyomiya, Port & Harbour Research Institute

ICE MECHANICS, ROOM 118

OTC

- 4457 **A Probabilistic Basis for Selecting Design Ice Pressures and Ice Loads for Arctic Offshore Structures**
V. Vivatrat and S. Slomski, Brian Watt Associates Inc.
- 4458 **Added-Mass and Damping for Ice Floes by Long Water Wave Theory**
C.H. Luk, Exxon Production Research Co.
- 4459 **Physical and Mechanical Properties of Icebergs**
P. Gammon, R. Gagnon, W. Bobby and W.E. Russell, Petroleum Directorate
- 4460 **Forecast of Iceberg Ensemble Drift**
M. El-Tahan and H. El-Tahan, Fenco Newfoundland Ltd.; and S. Venkatesh, Atmospheric Environment Service
- 4461 **Experimental Study of Ice Action on Two Structures**
K. Kato and D.S. Sodhi, U.S. Army
- 4462 **Evaluation of Pile-Up Formation and Structure Interaction Forces**
M.J. Hommel and F.G. Bercha, F.G. Bercha & Associates

MONDAY AFTERNOON • 2:00 to 4:30 p.m.

FOUNDATION AND SOIL INVESTIGATION, ROOM 100

OTC

- 4463 **Geotechnically Instrumented Seafloor Probe (GISP) -1981 Field Test, South Pass, Block 28**
R.W. Prindle and A.A. Lopez, Sandia National Laboratories
- 4464 **Interpretation of Cone Penetrometer Test Data for Offshore Sands**
T. Lunne, Y.K. Vyas, L.W. Klejbuk, Jr. and H.D. Christoffersen, Exxon Production Research Co.
- 4465 **Effects of Offshore Sampling and Testing on Undrained Soil Shear Strength**
A.G. Young, G.W. Quiros and C.J. Ehlers, McClelland Engineers Inc.
- 4466 **Site Investigation for Magnus**
R.M. Semple, McClelland Engineers S.A.; and W.J. Rigden, BP International Ltd.
- 4467 **1981 Geotechnical Site Investigation: Santa Ynez Unit Offshore California**
Y.K. Vyas, J. Angemeer, J.D. Murff, C.A. Neuberger, T. McNeilan and L.W. Klejbuk, Exxon Production Research Co.
- 4468 **Water-Borne Resistivity/Induced Polarization Survey in Prudhoe Bay**
W.J. Scott, J.S. Laing and W.J. Botha, Hardy Associates (1978) Ltd.

DESIGN FOR IMPACT AND BUCKLING, ROOM 107

OTC

- 4469 **The Impact Loads of Ships Colliding With Fixed Structures**
J.J. Blok and J.N. Dekker, Netherlands Ship Model Basin
- 4471 **Design for Impact of Dropped Objects**
A. Wenger, Norwegian Petroleum Consultants; G. Edvardsen, Det norske Veritas; S. Olafsson, Norwegian Petroleum Consultants; T. Alvestad, STATOIL; and T.P. Taylor, Mobil Research & Development Corp.
- 4472 **Buckling Design of Ring-Stiffened Cylinders**
C.P. Ellinas and W.J. Supple, J.P. Kenny & Partners Ltd.

- 4473 **The Buckling Design of Stringer Stiffened Shells Subject to Combined Pressure and Axial Compression**
P. Dowling, Imperial College; S. Valsgaard, Det norske Veritas; and A.C. Walker, U. of Surrey
- 4474 **Current Research Related to Buckling of Shells for Offshore Structures**
C.D. Miller, Chicago Bridge & Iron Co.

GEOPHYSICAL DATA GATHERING AND DATA PROCESSING, ROOM 111

OTC

- 4475 **A Powerful Marine Seismic Source Seismic Tuned Array of Steam Jets**
M. Manin, Compagnie Generale De Geophysique
- 4476 **Pressurized Sparker Transducer**
G.B. Tirey, R.E. Davis and D.R. Nichols, U.S. Geological Survey
- 4477 **Effectiveness of Wide Marine Seismic Source Arrays**
W. Lynn and K. Larner, Western Geophysical Co. of America
- 4478 **First Results From a Combination Side-Scan and Sea Floor Mapping System**
J.G. Blackinton and D.M. Hussong, Hawaii Institute of Geophysics; and J.G. Kosalos, International Submarine Technology Ltd.
- 4479 **High Sensitivity Magnetic Profiling**
R.R. Unterberger, Texas A&M U.
- 4480 **Marine Permafrost Detection Using Galvanic Electrical Resistivity Methods**
R.F. Corwin, Harding Lawson Associates

DRILLING PRODUCTION AND COMPLETION TECHNOLOGY, ROOM 114

OTC

- 4481 **Kulluk - An Arctic Exploratory Drilling Unit**
K.P. Gaida and J.R. Barnes, Gulf Canada Resources Inc.
- 4482 **Bop and Wellhead Protection/Subsea Arctic Caisson**
G.A. Logsdon and A.J. Field, SF/Braun
- 4483 **Seal Integrity and Connector Clamping Force at the Subsea Wellhead**
J.H. Owens, National Supply Co.
- 4484 **Newest TFL Retrievable Safety Valves for Subsea Completions**
J.H. Yonker and E.P. Fisher, Jr., Otis Engineering Corp.
- 4485 **Evaluation of API 14E Erosional Velocity Limitations for Offshore Gas Wells**
M.M. Salama and E.S. Venkatesh, Conoco Inc.

TLP AND MOORING ANALYSIS, ROOM 118

OTC

- 4486 **Viscous Damping in TLP Analysis**
C.J. Garrison and J.M. Lo, C.J. Garrison & Associates
- 4487 **Motion and Tether Force Prediction for a Deep Water Tension Leg Platform**
T.S. Gie and W.C. de Boom, Netherlands Ship Model Basin
- 4488 **New Concepts for Mooring Offshore Structures**
G. Elliot and A.G. Johnston, National Engineering Laboratory

Monday • 9:00 to 11:30 a.m.

Monday • 2:00 to 4:30 p.m.

Application of Digital Complex Demodulation Techniques to Low-Frequency Nonlinear Drift Forces in Irregular Seas

E.J. Powers and R.W. Moksad, U. of Texas; F.J. Fischer, Shell Development Co.; and D.W. Choi, U. of Texas

- 4490 **Drag Coefficients of Long Flexible Cylinders**
J.K. Vandiver, Massachusetts Institute of Technology

OCEAN MINING, ROOM 125

OTC

- 4491 **Deep Ocean Mining Economics**
J.E. Flipse, Texas A&M U.
- 4492 **Mineral Resource Potential of Pacific Sea Mount Crusts**
F. Manheim, U.S. Geological Survey; and P. Halbach, Technical U. Clausthal-Zellerfeld
- 4493 **Evaluating the Economic Significance of Polymetallic Sulfides Deposits**
J.M. Broadus and R.E. Bowen, Woods Hole Oceanographic Institution
- 4494 **Distribution and Analysis of Selected Economic Heavy Mineral Species Within the Inner New York Bight**
B.S. Drucker, U.S. Department of Interior
- 4495 **Offshore Sand and Gravel Mining**
J.W. Padan, NOAA-Office of Ocean Minerals & Energy

TUESDAY MORNING • 9:00 to 11:30 a.m.

MOORING DYNAMICS, ROOM 100

OTC

- 4496 **Hydrodynamic Coefficients of Mooring Tower**
S.K. Chakrabarti and D.C. Cotter, Chicago Bridge & Iron Co.
- 4497 **Dynamic Response in Mooring Line Subjected to Irregular End-Point Excitation: Numerical Simulations and Full-Scale Measurements.**
H. Ormberg and M. Mørch, The Ship Research Institute of Norway
- 4498 **The Dynamics of Inclined Taut and Slack Marine Cables**
M. Triantafyllou and A. Bliet, Massachusetts Institute of Technology
- 4499 **Comprehensive Dynamic Analysis of Offshore Loading Concepts**
B.J. Natvig and M. Berta, Aker Engineering A/S
- 4500 **Dynamic Cable Analysis Models**
P.A. Palo, D.J. Meggitt and W.J. Nordell, Naval Civil Engineering Laboratory

PILES AND FOUNDATIONS, ROOM 107

OTC

- 4501 **Using the Pressuremeter Curve to Design Laterally Loaded Piles**
J.L. Briaud and T. Smith, Texas A&M U.; and B. Meyer, McClelland Engineers Inc.
- 4502 **Lateral Pile Response and p-y Curves From Centrifuge Tests**
W.D. Liam Finn, U. of British Columbia
- 4503 **An Improved Pile Driveability Theory for Gulf of Mexico Soils**
C. van Zandwijk and E. P. Heerema, Heerema Engineering Service B.V.

- 4504 **Lateral Response of a Group of Large Diameter Piles - A Case Study of a North Sea Platform**
R.P. Aurora, Marathon Oil U.K. Ltd.

- 4505 **Jack-Up Rig Failures in Soft Clay Deposits**
B.H. Patel and J.P. Gemeinhardt, McClelland Engineers S.A.

GEOPHYSICAL INTERPRETATION, ROOM 111

OTC

- 4506 **Scattering of Sound in Gassy Water and Sediments**
Y. Ma, V.K. Varadan and V.V. Varadan, Ohio State U.
- 4507 **Diffractions Reveal Drilling Hazards**
T.K. Fulton and R.T. Hsiao, Gulf Exploration & Production Co.
- 4508 **Synthetic Seismograms With Offset for a Layered Elastic Medium**
F. Hilterman, R. Neale and J.W.C. Sherwood, Geophysical Development Corp.
- 4509 **Migration Before Stack With a Full Wave Equation**
K. Ikeda, Chevron Oil Field Research Co.
- 4510 **2D and 3D Vector Forward Modeling**
O.G. Johnson and T.Y. Cheng, U. of Houston
- 4511 **North Sea Model Construction, Data Acquisition and Interpretation**
H.R. Nelson, Jr., U. of Houston

PRODUCTION RISERS AND CONTROLS, ROOM 114

OTC

- 4512 **Deepwater Production Riser**
N.N. Panicker and I.R. Yancey, Mobil Research & Development Corp.
- 4513 **Tie Back Requirements for Early Production System**
A.C. Da Mota, Shell U.K. Exploration & Production
- 4514 **Differential Thread Riser Coupling for T.L.P. and Platform Tie-Back Applications**
M.R. Williams and T. Chen, FMC Corp.
- 4515 **Subsea and Process Controls for the Cadlao Floating Production System**
J.E. Hall, Amoco Production Co. (Intl.); and W.S. Manuel, Neptune Production Systems Inc.
- 4516 **Subsea Production Controls - The Trend Toward Simplification**
D. Graney and B.D. Boles, Hydril

TARSIUT CAISSON ISLAND, ROOM 118

OTC

- 4517 **Design and Construction of Tarsiut Island in the Canadian Beaufort Sea**
D.G. Stenning and P.J. Fitzpatrick, Canadian Marine Drilling Ltd.
- 4518 **Tarsiut Winter Ice and Island Monitoring**
M. Metge, I.S.E. Engineering Consultants; J.S. Weaver, Engineering Consultants; and B.D. Wright, Gulf Canada Resources Inc.
- 4519 **Geotechnical Instrumentation and Performance Monitoring of a Caisson Retained Island - Beaufort Sea**
W.E. Berzins, Canadian Marine Drilling Ltd.; and J.S. Weaver, I.S.E. Engineering Consultants Ltd.

- 4520 **The Influence of Waves on the Design of a Caisson Island**
B. Dunwoody and R.M. Myers, Canadian Marine Drilling Ltd.; W.R. Livingstone and H.R. Stewart, Gulf Canada Resources Inc.
- 4521 **Experience With Alert and Evacuation Tarsiut Island, Summer 1982**
D.L. Townsend, Gulf Canada Resources Inc.; and R.M. Myers, Canadian Marine Drilling

FATIGUE ANALYSIS AND DESIGN, ROOM 124

OTC

- 4522 **The Cognac Fatigue Experiment**
P.W. Marshall, R.D. Larrabee, J.D. Burk and G. Egan, Shell Oil Co.
- 4523 **Corrosion Fatigue Strength of Offshore Monopod Tubular Joints in Cold Ocean Environment**
S.S. Gowda, M. Arockiasamy, D.V. Reddy and D.B. Muggeridge, Memorial U. of Newfoundland
- 4524 **Experiences With Fatigue Analysis and Inspection Results in the North Sea**
M.B. Green, Occidental Petroleum (Caledonia) Ltd.
- 4525 **Spectrum Fatigue of Welded Structural Steel in Sea Water**
A.M. Clark, W.H. Hartt and M.F. Czarnecki, Florida Atlantic U.
- 4526 **Application of Liebovitz-Eftis Non-Linear Method to Fracture Control of Welded Structures**
H. Shimizu, Ontario Research Foundation; M. Uredniecek, Foothills Pipe Lines (Yukon) Ltd.; and A.W. Niedoroda, Dames & Moore Consultants
- 4527 **Fatigue Tests on Welded Tubular T-Joints With Equal Brace and Chord Diameters**
J.G. Wylde, The Welding Institute

TUESDAY AFTERNOON • 2:00 to 4:30 p.m.

MOORING AND ANCHORING EXPERIENCE, ROOM 100

OTC

- 4528 **Model Anchor Tests in Cohesionless Soil**
G.R. Walker and R.J. Taylor, U.S. Naval Civil Engineering Laboratory
- 4529 **Anchor Holding Tests in the Norwegian Trench**
R.C. Vold, Noteby Norsk Teknisk Byggekontroll A/S; and J. Eie, Sivilingenior Lindboe A/S
- 4530 **Steady Wind-and Current Induced Loads on Moored Vessels**
P.A. Palo, Naval Civil Engineering Laboratory
- 4531 **Wind Forces on a Semisubmersible Equipped With Alternative Drilling Derricks**
H. Rofsmann and E.T.D. Bjerregaard, Danish Ship Research Laboratory
- 4532 **Full-Scale Measurements of Free-Oscillation Motions of Two Semi-Submersibles**
M. Mørch and H. Rudi, The Ship Research Institute of Norway
- 4533 **Three-Year Experience in the Numerical Prediction of the Slow-Drift Motion of Moored Tankers**
B. Molin, Institut Francais du Petrole

**Mail Your
Advance Registration Form Early!**

MONITORING OF FIXED PLATFORMS, ROOM 107

OTC

- 4534 **Field Measurement of Platform Behavior, Comparison With Design, and Long Term Monitoring of Responses Stability After Three Years of Service**
P.F. Ansquer and S. Antalovsky, SYMINEX; E. Hjelde, Elf Aquitaine Norge; and G. Agniello, Societe Nationale Elf Aquitaine (Production)
- 4535 **Flexibility Monitoring of Offshore Jacket Platforms**
S. Rubin and R.N. Coppolino, The Aerospace Corp.
- 4536 **Instrumentation of BP Forties Field Platform FB**
S.B.B. Learoyd, WS Atkins Inc.; and N. Starsmore, Atkins Research & Development
- 4537 **A Comparison of Analytical Methods With Experimental Data for Assessing the Ductility of a Tubular Frame Subjected to Intense Ground Motion**
B.L. Adelson and R.L. Steinmetz, Exxon Production Research Co.
- 4538 **Structural Integrity Monitoring in Real Seas**
R. Nataraja, Lloyd's Register of Shipping

VERTICAL SEISMIC PROFILING, ROOM 111

OTC

- 4539 **Acquisition and Processing of Gulf Coast VSPs**
K. Landgren, Schlumberger Well Services; and K. Grubb, Schlumberger Offshore Services
- 4540 **Interpretation Aspects of Offshore VSPs**
C.K. Poster, Schlumberger Well Services
- 4541 **Panel Discussion on Marine Vertical Seismic Profiling**
J. DiSiena, ARCO Oil & Gas; and R.W. Baird, Baird Petrophysical Group Inc.

FIELD DEVELOPMENTS - FLOATING PRODUCTION SYSTEMS, ROOM 114

OTC

- 4542 **Hondo Field Development and Operations**
R.E. Olson, F.G. Vasser, III, J.W. Godfrey, P.H. McGinley, J.D. Rullman and D.R. Olsen, Exxon Co. USA
- 4543 **Topside Facilities for Floating Production Systems Require New Engineering Thinking**
A.J. Burn, Shell Internationale Petroleum Maatschappij B.V.; and G. Graaf, Shell International Petroleum Maatschappij B.V.
- 4544 **Self Installable: Floating Production Facility Requires Only Light Support Craft**
M.G. Wagenaar-Hummelink, Shell Internationale Petroleum Maatschappij B.V.; and C. Davison, Single Buoy Moorings, Inc.
- 4545 **Tanker-Based Floating Production: Startup and Operational Experiences With FPSO II Over the First Eighteen Months**
L. Scoles, Amoco Philippines Petroleum Co.; N. Quigley and S. Sozonoff, Single Buoy Moorings Inc.
- 4546 **Petrobras Experience on Early Production Systems**
S. Armando, Petroleo Brasileiro S/A-Petrobras
- 4547 **Behavior of a Floating Vessel/Articulated Mooring Column System**
C. Dumazy, Societe Nationale Elf Aquitaine (Production); and M. Leturcq, E.M.H.

Tuesday • 9:00 to 11:30 a.m.

Tuesday • 2:00 to 4:30 p.m.

ARCTIC ISLAND CONSTRUCTION, ROOM 118

OTC

- 4548 Construction of an Arctic Gravel Island in 39 Feet of Water During Winter and Summer**
D.J. Agerton, Shell Oil Co.
- 4549 Strength of Offshore Gravel Islands to Ice Loads**
T.V. Kotras, Arctec Inc.
- 4550 The Design Ice Island for Impact Against an Artificial Island**
A.B. Dunwoody, Canadian Marine Drilling Ltd.
- 4551 A Satellite Terminal System for the Arctic**
J.C. Bruce and K. Charpentier, Swan Wooster Engineering Co. Ltd.
- 4552 Berm Construction for the Gulf Canada Mobile Arctic Caisson**
M.G. Jefferies and H.R. Stewart, Gulf Canada Resources Inc.
- 4553 Application of Multiple Spuds (Dowels) to Development of Sliding Resistance for Gravity - Base Platforms**
B.C. Gerwick, Jr., U. of California; R. Potter, Sohio Petroleum; H. Matlock, Arctec Inc.; R. Mast, ABAM Engineers Inc.; and R. Bea, PMB Systems Engineering Inc.

DIVING, SALVAGE AND REPAIR OPERATIONS, ROOM 125

OTC

- 4554 Underwater Modifications to the Brent Field Gas Export Facilities**
S.D. Marsland, Shell U.K. Exploration & Production; and B.R. DeBano, Comex Services
- 4555 Hyperbaric Post Weld Heat Treatment**
S. Saunderson, Shell U.K. Exploration & Production; and D.N. Waller, Comex Services
- 4556 At-Sea Evaluation of Ship Motion Compensation Hoisting Devices**
F.C. Liu and R. Asher, Naval Civil Engineering Laboratory
- 4557 Salvage and Recovery of the OTEC -1 Cold Water Pipe**
D.E. Tracy, National Oceanic & Atmospheric Administration; and J.R. Vadus, National Oceanic & Atmospheric Admn.
- 4558 Removal and Abandonment of Offshore Oil and Gas Production Platforms**
N.G. Boyd, Taywood-Santa Fe Ltd.

WEDNESDAY MORNING • 9:00 to 11:30 a.m.

MARINE RISER ANALYSIS, ROOM 100

OTC

- 4559 Improvements to Frequency Domain Riser Programs**
T.S. Lunn and D.B. McIver, Atkins Research & Development
- 4560 Random Analysis of a Riser for a Floating Production System (FPS) in a Northern North Sea Environment**
L.H. Westin, Shell Internationale Petroleum Maatschappij B.V.
- 4561 Tension Variation of Heave Compensation Systems: Results of Field Measurements**
W. Azpiazu and M. Thatcher, Vetco Offshore Inc.
- 4562 Analysis of Riser Measurements in the North Sea**
P.H.J. Verbeek, Koninklijke/Shell Exploratie & Produktie Lab.

- 4563 Analysis of the 13,200 Ft. Riser System With a Three Dimensional Riser Program**
E. Wang, Lockheed Missiles & Space Co. Inc.
- 4564 Deepwater Drilling Riser Disconnect Dynamics**
J.E. Miller, Harry J. Sweet & Associates Inc.; and R. Steddum, Sonat Offshore Co.

CORROSION CONTROL AND MONITORING, ROOM 107

OTC

- 4565 The Murchinson Cathodic Protection System**
E. Levings, W.M. McKie and R. Strommen, Conoco (UK) Ltd.
- 4566 Hot Risers in the North Sea: A Parametric Study of CP and Corrosion Characteristics of Hot Steel in Cold Seawater**
K.P. Fisher, The Ship Research Institute of Norway; P. Mehdizadeh, Conoco Norway Inc.; P.S. Solheim and A.H. Hansen, The Ship Research Institute of Norway
- 4567 A New Versatile Method for Designing Cathodic Protection Systems for Marine Structures**
J.W. Fu, S.K. Chow and S.K. Chan, Westinghouse R&D Center
- 4568 Development of an Ultrasonic Inspection Pig for In-Service Wall Thickness Measurements of Gas Pipelines**
R. Haugen, P. Dalberg and K. Hogmoen, Det norske Veritas
- 4569 Marine Growth on the Hondo Platform in the Santa Barbara Channel**
J.N. Sharma, Exxon Production Research Co.

PLATFORM CONSTRUCTION AND INSTALLATION, ROOM 111

OTC

- 4570 Assembly of the Magnus Tower**
A.J. Carmichael, Highlands Fabricators Ltd.; and P. Garga, John Brown-Earl & Wright Ltd.
- 4571 Precise Seabed Emplacement of an Articulated Loading Platform in the North Sea**
A. Noblanc, Single Buoy Moorings Inc.; and H.E. Schnader, Mobil Exploration Norway
- 4572 Bumper Pile Design for Mating Platform and Subsea Drilling Template**
W.E. Nelson, Amoco Production Co. (Int'l); B.S. Murphy and B. Stahl, Amoco Production Co.
- 4573 An Analytical Study and Systematic Monitoring Procedure for a Huge Scale Jacket Load Out Operation - North Rankin a Jacket Load Out**
N. Ferguson, Wood Side Offshore Petroleum P.T.Y. Ltd.; H. Zarate, Earl & Wright Consulting Engineers; T. Kitani, S. Masuda and O. Inokoshi, Nippon Kokan K.K.
- 4574 Full Scale Measurements of Motions and Stresses on a 1600T Jacket During Transportation**
D. Nunes, C.P. Pesce, M.R.G. Rubio and T. Tachibana, IPT; and A.M. Silva, Petroleo Brasileiro S.A.-Petrobras

SUBSEA PRODUCTION FACILITIES, ROOM 114

OTC

- 4575 EDPP Subsea Trees for the Espoir Field, Ivory Coast**
R.H. Bryngelson, Phillips Petroleum Co.
- 4576 Satellite Tree Subsea Completions Permit Marginal Reserves Production Offshore East Kalimantan, Indonesia**
J. Hawkins, Union Oil Co. of Indonesia; and R.L. Bunnell, Seaflo Systems Inc.

- 4577 **Specific Features of a New Concept for Deep Water Flow-Line Laying and Connecting and Its Sea Trials in 250 Meters**
B. Renard, Societe Nationale Elf Aquitaine (Production); D. Muller, Compagnie Francaise Des Petroles-Total; and J. Gosselin, Institut Francais Du Petrole
- 4578 **Pressure Fall-Off Response Time Considerations in Subsea Wells Equipped for Through Flowline Maintenance**
J.W. Kleinhans and J.P. McAdams, Seaflo Systems Inc.
- 4579 **Diverless Installation and Maintenance of Subsea Production Systems 300 M Test Project**
H. Ringnes, Det norske Veritas; and A. Favi, Norsk Agip A/S

DESIGN OF ARCTIC ISLANDS, ROOM 118

OTC

- 4580 **Design Criteria for Wave Run-up on Artificial Island**
J.L. Wang, Brian Watt Associates Inc.; J.L. Machemehl, ARCO Oil & Gas Co.; and R.L. Ay, Brian Watt Associates Inc.
- 4581 **Geotechnical Design of Caisson Retained Islands for Canadian Beaufort Sea**
C. Mancini, Esso Resources Canada Ltd.; B.E.W. Dowse and J.M. Chevallier, Hardy Associates (1978) Ltd.
- 4582 **Wave-Induced Erosion Around a Caisson-Retained Island**
A.B. Dunwoody and R.M. Myers, Canadian Marine Drilling Ltd.
- 4583 **Site Investigation and In-Situ Testing Techniques in Arctic Sea Bed Sediments**
N.C. Burgess, Hardy Associates (1978) Ltd.; J.M.O. Hughes, Situ Technology Inc.; R. Innes, Mobile Augers and Research Ltd.; and J. Gleadowe, Sea Core Ltd.
- 4584 **Sea Bottom Scouring in the Canadian Beaufort Sea**
B.D. Wright and J. Hnatiuk, Gulf Canada Resources Inc.
- 4585 **Iceberg Scouring on the Norwegian Continental Shelf**
R. Lien, Continental Shelf Institute

OCEANOGRAPHY AND METEOROLOGY, ROOM 125

OTC

- 4586 **Gulf of Mexico Shallow Water Wave Heights**
N.W. Lai, Woodward-Clyde Consultants; R.G. Bea, PMB Systems Engineering Inc.; A.W. Niedoroda, Dames & Moore Consultants; and G.H. Moore, McMoran Offshore Exploration Co.
- 4587 **Improved Wave Kinematics From Wave Staff Array Records**
S.F. Pawsey, PMB Sysytem Engineering Inc.; and F.D. Stritto, Mobil Research & Development Corp.
- 4588 **Numerical Modelling of Extreme Wind-Driven Currents on the Norwegian Shelf**
D.J.H. Peters, Conoco Inc.
- 4589 **Prediction of Weather Operating Windows for Offshore Drilling**
J.G. Hayes, Global Scientific Inc.; M.S. Hirt and D. McGillivray, MEP Co.; B. Nicholls and R. Waymouth, Canterra Energy Ltd.; and B. Weisman, MEP Co.
- 4590 **A Program to Develop Costal Ocean Dynamics Applications Radar for Offshore Wave, Current, and Wind Monitoring**
M.W. Spillane and O.H. Oakley, Jr., Gulf Oil Exploration & Production Co.; M.W. Evans, CODAR Technology Inc.; and D.E. Barrick, Ocean Surface Research

WEDNESDAY AFTERNOON • 2:00 to 4:30 p.m.

MARINE RISER HYDRODYNAMICS, ROOM 100

OTC

- 4591 **Fluid Forces on Oscillating Cylinders in a Uniform Flow**
M. Kato, T. Abe, M. Tamiya and T. Kumakiri, Kobe Steel Ltd.
- 4592 **Sensitivity of Marine Riser Response to the Choice of Hydrodynamic Coefficients**
J.R. Labbe, Standard Oil Co. of California; and K.G. Nikkel, Lockheed Offshore Systems & Services
- 4593 **Large Scale Tests for Vortex Shedding Effects on Marine Risers**
M.H. Patel, R.G. Airey, S. Sarohia, G.J. Lyons and G.C. Hartnup, U. College London
- 4594 **An Assessment of Vortex Suppression Devices for Production Risers and Towed Deep Ocean Pipe Strings**
A.C. Rogers, Southwest Research Institute
- 4595 **Effects of Shear Flow on the Vortex-Shedding-Induced Vibration of Marine Risers**
A.K. Whitney, Lockheed Palo Alto Research Laboratory; and K.G. Nikkel, Lockheed Offshore Systems & Service
- 4596 **Analysis of a 6000 Foot Riser During Installation and Storm Hangoff**
R.D. Young, Harry J. Sweet & Associates Inc.; and R. Steddum, Sonat Offshore Co.



WELDING TECHNOLOGY, ROOM 107

OTC

- 4597 **Recent Advances in the Welding Technology on the Fabrication of Jackup Drilling Rig**
K. Akahide, S. Kikukawa, O. Hashimoto and T. Shimizu, Kawasaki Steel Corp.
- 4598 **MIG-Welding of Offshore Steels at Pressures From 1 to 30 Bar**
G. Terlinde, L. Muller, K.H. Schwalbe and P.A. Beaven, GKSS Research Center

- 4599 **Recent Developments in High Toughness Welding Consumables for the Construction of Offshore Production Platforms**
J.G. Garland and D.S. Taylor, Oerlikon Welding Ltd.
- 4600 **Weld Root Embrittlement in Offshore Structural Steels**
V.G. Marshall, S. Nelson and D. Shipley, Oilfab Technical Services Ltd.
- 4601 **Development of Fully Automated and Integrated (Instamatic) Welding Systems for Marine Applications**
K. Masubuchi, D.W. Schloerb and H.L. Gustin, Massachusetts Institute of Technology

MOBILE DRILLING AND SUPPORT VESSELS, ROOM 111

OTC

- 4602 **Development of a Novel Ice-Resistant Semi-Submersible Drilling Unit**
E.N. Corona, ARCO Oil & Gas Co.; and N. Yashima, Mitsui Engineering Services
- 4603 **On the Motion Characteristics of Derrick Vessels in Waves During Lifting Operation**
N. Nojiri and T. Sasaki, Ishikawajima-Harima Heavy Industries Co. Ltd.
- 4604 **Full-Scale Measurement Test on the New Semi-Submersible Polycast**
I. Tamaki, H. Okatake, T. Inui, K. Nakamura and S. Takanashi, Mitsui Engineering & Shipbuilding Co. Ltd.
- 4605 **Heave, Pitch and Roll Damping of Platforms and Ships Due to Positioning Thrusters**
E. Huse and R. Borresen, Norwegian Hydrodynamic Laboratories
- 4606 **Dynamic Positioning in Single-Point Moorings**
H.R. Sorheim, Chr. Michelsen Institute; and N.A. Jenssen, A/S Kongsberg Vapenfabrikk

UNDERWATER MANIFOLD CENTER, ROOM 114

OTC

- 4607 **Overview of the Central Cormorant Underwater Manifold Centre Project (1974-1983)**
T. Bastiaanse, Shell U.K. Exploration & Production; and J.R. Liles, Esso Exploration & Production UK
- 4608 **UMC/Design Review**
T.W. Childers, Esso Exploration & Production UK; T.A. Verhaak, Shell U.K. Exploration & Production; and W.D. Loth, Esso Exploration & Production UK
- 4609 **Landtesting the Underwater Manifold Centre for the Central Cormorant Field**
M.M. Brady, Esso Exploration & Production UK
- 4610 **The UMC Control System**
K.E. Dallard and R. Adams, Shell U.K. Exploration & Production
- 4611 **Insulated Pipelines Between the Underwater Manifold Centre and Cormorant A' Platform in the Northern North Sea**
G. Costello, F. Brink and D. Henery, Shell U.K. Exploration & Production

WAVE LOADS ON STRUCTURES, ROOM 118

OTC

- 4612 **Hydrodynamic Loading of Steel Structures**
R.D. Ohmart, Conoco Inc.

- 4613 **Measured Dynamic Behavior of North Sea Gravity Platforms Under Extreme Environmental Conditions**
N. Spidsoe and B. Hilmarsen, SINTEF
- 4614 **Design Wave and Design Force Estimation for Shallow Water Offshore Structures**
J.C. Dixon and R.H. Swift, The Open U.
- 4615 **Effects of Wave-Current Interaction of the Design of Marine Structures**
N.M. Ismail, Bechtel Petroleum Inc.
- 4616 **A Comprehensive Sensitivity Analysis of the OTS Data**
T. Sarpkaya and I. Cakal, Naval Postgraduate School

OCEAN TRANSPORTATION AND MARINE TERMINALS, ROOM 125

OTC

- 4617 **A Critical Review of Transportation Analysis Procedures**
J.W. Chianis and A. Mangiavacchi, Brown & Root Inc.
- 4618 **Expedient Navy SPM Fuel Terminal**
R.S. Highberg, Naval Civil Engineering Laboratory
- 4619 **Parasitic Motions and Capsize Safety of a Swath-Type Ship**
S.N. Smith, Seaforth Maritime Ltd.
- 4620 **Marine Operations in the Arctic - A New Development**
A. Freitas, Thyssen Nordseewerke GmbH
- 4621 **Finite Element Analysis of Marine Propellers Subjected to Propeller/Ice Interaction Forces**
M.E. Norwood and C. G. DesRochers, Martec Ltd.; D.R. Smith, Defence Research Establishment Atlantic; and I.H. Bayly, Transportation Development Centre

THURSDAY MORNING • 9:00 to 11:30 a.m.

MARINE GEOLOGY AND GEOCHEMISTRY, ROOM 100

OTC

- 4622 **Hydraulic Piston Coring-A New Era in Ocean Research**
M.A. Storms, W. Nugent and D.H. Cameron, U. of California
- 4623 **A Rich Middle Triassic Source Rock in the Barents Sea Area**
M. Bjoroy and P.B. Hall, Continental Shelf Institute
- 4624 **Applications of Total Scanning Fluorescence to Exploration Geochemistry**
J.M. Brooks, M.C. Kennicutt, II, L.A. Barnard, G. Denoux and B.D. Carey, Texas A&M U.
- 4625 **The IPOD Geological/Geophysical Data Bank**
P.D. Rabinowitz and C. Brenner, Texas A&M U.
- 4626 **Sources of Error in Determination of Reservoir Parameters From Seismic Data**
J.A. Ward, R.L. Smith and E. Garcia, Tecnica Inc.
- 4627 **Pampo Linguado and Badejo Fields: Their Discoveries Appraisals and Early Production Systems**
H. Schaller, C.A. Tigre, S. Possato and C.J. Luchese, Petroleo Brasileiro S/A-Petrobras

INSTRUMENTATION/DATA COLLECTION, COMMUNICATION AND TELEMETRY, ROOM 107

OTC

- 4628 **HF Message Data Terminal**
N. Serinken and S.M. Chow, Government of Canada

**Mail Your
Housing Form Early!**

- 4629 A Deepwater Vessel and Riser Monitoring Program**
M.A. Kotch, System Development Corp.; T.M. Mitchell and F. Schuh, ARCO Oil & Gas Co.
- 4630 An Acoustic Telemetry System for a Shallow-Water Under-Ice Arctic Environment**
V. DePinto, J.G. Kosalos and S. Lanter, International Submarine Technology, Ltd.
- 4631 A New Concept for Remote Cycle Recovery in MF Radio Positioning**
A.R. Cook and J.R. Johler, Colorado Research & Prediction Laboratory Inc.; and S. Sampson, Cubic Western Data Corp.
- 4632 Implementation and Testing of a Deep Water Correlation Velocity Sonar**
F.R. Dickey, Jr. and W.C. Bookheimer, General Electric Co.; and K.W. Rhoades, Magnovox Marine Systems Division
- 4633 Toroidal Coupled Measurements While Drilling System**
H.C. Smith, Tele-Drill Inc.

WIRE AND SYNTHETIC ROPE, ROOM 111

- OTC**
- 4634 Comparison of the Internal Friction Damping, Ultrasonic, and Acoustic Emission Nondestructive Evaluation Techniques for Application to Synthetic**
A.A. Hochrein, Jr., Daedalean Associates Inc.; and J.R. Sherrard, USCG R&D Center
- 4635 Cyclic Testing of Continuously Wetted Synthetic Fiber Ropes**
H. Crawford and L.M. McTernan, National Engineering Laboratory
- 4636 A Snap-Back Retained High Strength Kevlar Mooring Line**
R.C. Swenson, U.S. Naval Oceanographic Office
- 4637 Predicting Mooring System Fatigue Life by Probabilistic Methods**
D.R. Sanders, R.F. Dominquez, N. Lai and K.C. Ho, Woodward-Clyde Consultants
- 4638 The Tensile Fatigue of Wire Rope - A New Approach**
T.W. Thorpe and A. Rance, United Kingdom Atomic Energy Authority

RESPONSE OF COMPLIANT STRUCTURES, ROOM 114

- OTC**
- 4639 Measured Motions of a North Sea Articulated Loading Platform**
N. Spidsoe and H.P. Brathaug, SINTEF
- 4640 Overall Dynamic Characteristics of Tension Leg Platforms**
C. Oran, Brown & Root Inc.; and J.M. Chevallier, Hardy Associates (1978) Ltd.
- 4641 Unsteady Aerodynamic Loading of a Tension Leg Platform in Extreme Conditions**
B. Armstrong, Heriot-Watt U.; F.H. Barnes, U. of Edinburgh; M. Drabble and I. Grant, Heriot-Watt U.
- 4642 The Response of a TLP in Short Crested Waves**
P.S. Teigen, Norwegian Hydrodynamic Laboratory
- 4643 Theory and Model Test Data for Tether Forces on Tensioned Buoyant Platforms**
G.J. Lyons, M.H. Patel, S. Sarohia and G.C. Hartnup, U. College London
- 4644 Model Tests With a Single-Point Mooring System in Short-Crested Waves**
C.T. Stansberg, M. Hoklie and P. Werenskiold, Norwegian Hydrodynamic Laboratory

PLATFORM DESIGN ISSUES, ROOM 118

- OTC**
- 4272 Offshore Facilities Weight, Area, and Cost Estimation Performed by Systems Computer Simulation**
R.S. Smith, OPC Engineering Inc.; D. L. Talley and R.D. King, Gulf Research & Development Co.
- 4645 Lateral Stability of Piles in UngROUTed Jacket Legs**
L.D. Flick and D.J. Green, Amoco Production Co.
- 4646 Comparison of Stress Distributions in a Simple Tubular Joint Using 3D Finite Element, Photoelastic and Strain Gauge Techniques**
H. Fessler and C.D. Edwards, U. of Nottingham
- 4647 Stress Response and Fatigue Stress Cycle Distribution for a North Sea Steel Jacket**
J.W. Heavner, K. Syvertsen and T. Thuestad, SINTEF
- 4648 Development of a Reliability Based Design Code for the Structure of Tension Leg Platforms**
D. Faulkner, S.G. Stiansen and N.D. Birrell, U. of Glasgow



1983 OTC Program Committee

Back row, left to right

ASME Norman A. Nelson, *N. L. Shaffer*
SNAME Richard L. Vukin, *Reading & Bates Drilling Co.*
SME John W. Padan, *Ocean Minerals & Energy — NOAA*
TMS Richard T. Hill, *NGG Naturgasgruppen, Consulting Engineers*
ASCE Brian J. Watt, *Brian Watt Associates Inc.*
AIChE Gale L. Hubred, *Chevron Research Co.*
AAPG Marlan W. Downey, *Pecten International Co.*
IEEE Glen N. Williams, *Texas A&M University*

Front row, left to right

SPE Leroy Williams, *Amoco Production Co. (International)*
SEG Margaret Welch, *Exxon Production Research Co.*
CHAIRMAN Don R. Wells, *Naval Facilities Engineering Command*
MTS Arthur Capstaff, *Technology Planning Associates*
 Not pictured: **SNAME** Roderick J. Allan, *Reading & Bates Drilling Co.*



1983 Publications Order Form

OTC Publications

If you are unable to attend the 1983 Conference and would like to order copies of either the 1983 Proceedings (three-volume set) and/or the Proceedings Index, complete the order form, attach a check or money order payable to the Offshore Technology Conference, and mail to OTC, 6200 North Central Expressway, Drawer 64705, Dallas, Texas 75206.

Sets of Proceedings from previous Conferences and past editions of indexes — listing subjects and authors for papers presented at the 1969-82 Conferences — can be obtained at the same address. All orders must be accompanied by payment.

OTC Telex: 730989 • Telephone (214) 361-6604

Name _____
(abbreviate as necessary)

COMPANY _____

COMPANY ADDRESS _____

P.O. BOX OR STREET _____

CITY _____

STATE _____ POSTAL CODE _____

COUNTRY _____

Note: Do not combine payment for *advance registration fees* and *publications* ordered on this form. Two separate checks or money orders are required. All publications ordered via this form will be mailed following OTC '83, May 2-5.

ALL ORDERS MUST BE PREPAID.

MAIL FORM & PAYMENT TO: OTC
6200 North Central Expressway
Drawer 64705
Dallas, Texas 75206 U.S.A.

PROCEEDINGS (M — Sponsor Society Member,
NM — Nonmember)

	Price Each	Number Desired	Total Amount
1969	\$40.00 M		
	50.00 NM		
1970	40.00 M		
	50.00 NM		
1971	40.00 M		
	50.00 NM		
1972 & 1973	OUT OF PRINT		
	40.00 M		
1974	50.00 NM		
	40.00 M		
1975	50.00 NM		
	40.00 M		
1976	50.00 NM		
	40.00 M		
1977	50.00 NM		
	40.00 M		
1978	50.00 NM		
	40.00 M		
1979	50.00 NM		
	40.00 M		
1980	50.00 NM		
	40.00 M		
1981	50.00 NM		
	40.00 M		
1982	50.00 NM		
	45.00 M		
1983	55.00 NM		

PROCEEDINGS INDEXES (Lists OTC papers
by subject and author)*

1969-73 Index	6.00
1974 Index	4.00
1975 Index	4.00
1976 Index	4.00
1977 Index	4.00
1978 Index	5.00
1979 Index	5.00
1980 Index	5.00
1981 Index	5.00
1982 Index	5.00
1983 Index (will be mailed after the Conference)	5.00

POSTAGE

Proceedings (\$7.00 per set)
continental USA:
(\$20.00 all other locations)

*Index price includes postage and handling.

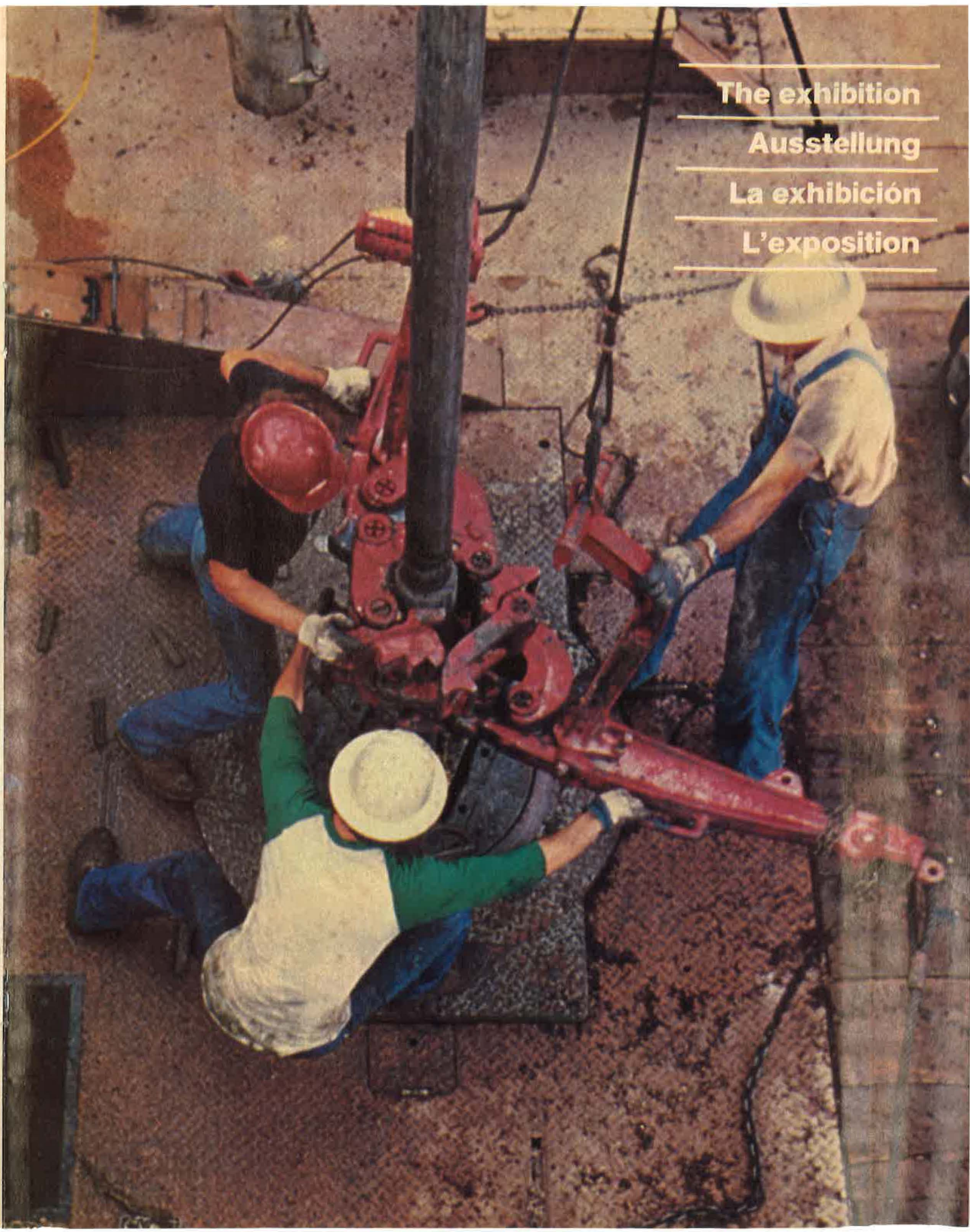
TOTAL DUE \$

The exhibition

Ausstellung

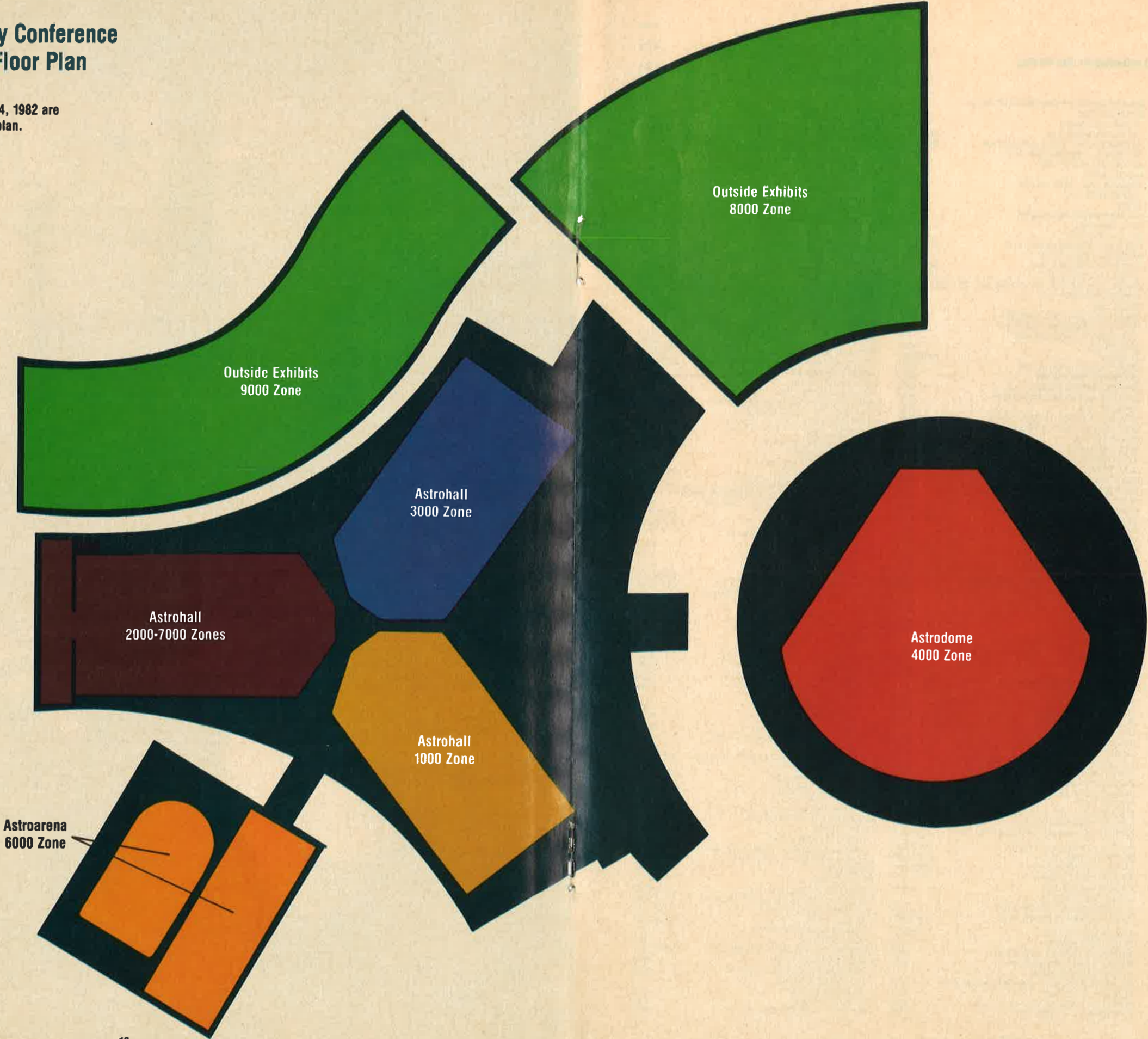
La exhibición

L'exposition



**1983 Offshore Technology Conference
Astrodomain Exhibit Floor Plan**

Changes made after November 24, 1982 are
not reflected on this floor plan.



1983 Exhibiting Companies*

*Changes made after November 24, 1982 are not reflected in this listing.

Firm	Booth No.		
ABOI	3347,3351	GOVERNMENT OF WESTERN AUSTRALIA	6564
A W ALLOYS LTD.	3347,3351	AUTOCON, INC.	3839
A-Z INTERNATIONAL TOOL CO.	3711	A SUB. OF CAMCO	
A STEVENS	3271	J W AUTOMARINE LTD.	3347,3351
A C Z MARINE ENGINEERING AND CONSTRUCTION	1457,1473	AUTOMATIC OIL TOOLS (AOT)/HYDRIL	3901,9502
AALBORG VAERFT OFFSHORE	1381	AUTOMATIC PIPE RACKER, INC.	8850
AB CONTROLS AND TECHNOLOGY LTD.	3347,3351	AUTOMATIC POWER INC.	2713
ABAM ENGINEERS, INC./CONCRETE TECHNOLOGY CORP.	2840	AVCO CORP.	3275
LES ABEILLES INTERNATIONAL	2133,2233	AXELSON, INC., SUB. OF U.S. INDUSTRIES, INC.	4947
ABERDEEN SERVICE CO. LTD.	3347,3351	AZTEC	4729
ABEX CORP. DENISON DIV.	9322	B C MANUFACTURING CORP.	9805
ABMM/MCDANIEL CONTROLS, INC.	6812	B E.L. GRAPNEL	3271
ACME CHAIN	9145	B.V. OIL TOOL CO.	9421
ADVANCE BRUSHES INTERNATIONAL	6137	BABCOCK INTERNATIONAL PLC.	3347,3351
ADVANCE ENERGY/GE	1263	BABCOCK POWER LTD.	6251
ADVANCED OCEAN SYSTEMS (AOS)/HYDRIL	3901,9502	BAKELITT/FABRIKEN A/S	2433,2449
AEG-TELEFUNKEN	1755,1773	BAKER OIL TOOLS CO.	3209,3307
AEROQUIP CORP.	6910	BAKER TANK CO. DIV. OF JUSTISS OIL CO., INC.	8843
INDUSTRIAL DIV.		BALDOR ELECTRIC CO.	6345
AEROSPATIALE HELICOPTER CORP.	4425	BALDT INC.	2698
AFC, INC.	3752	BASSIN D'ESSAIS DES CARENES	6305
AGA NAVIGATION AIDS	1375	BATTELLE MEMORIAL INSTITUTE	6809
AGIP (ENI GROUP)	7125	COLUMBUS LABORATORIES	
AIR DRILLING SERVICES, LTD.	3319	BAYLOR CO.	4378
AIR DYNE	8923	GH-BEAR	2335,9625
AJIT SHAH INC.	9038	BEEBE INTERNATIONAL, INC.	2734
AKER ENGINEERING A/S	2433,2449	BEECH AIRCRAFT CORP.	8678
ALBANY INTERNATIONAL	4064	BEHRING INTERNATIONAL, INC.	6830
GOVERNMENT OF ALBERTA	6527	BEKAERT INTERNATIONAL TRADE	3547
ALCO POWER INC.	4727	BEKAERT, N.V.	3547
ALEXANDER INDUSTRIES, INC.	4045	BELGIAN FOREIGN TRADE OFFICE	3547
ALEXANDRA TOWING CO. LTD.	3347,3351	BELL HELICOPTER TEXTRON INC.	4715
ALFA-LAVAL, INC.	3617	BENTHOS, INC.	1156
ALICE SPECIALTY CO., INC.	3637	ISAAC BENTLEY LTD.	3347,3351
ALLEN-BRADLEY CO.	2387	A.S. BERGENS MEKANISKE VERKSTEDER	2433,2449
ALPHA OCEAN SYSTEMS	3271	D. M. BEST CO. INC.	2475
ALSTHOM ATLANTIQUE	2133,2233	BEST INDUSTRIES, INC.	3692
AMARILLO GEAR CO.	6512	BESTOLIFE CORP.	7229
AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS	4129	BETHLEHEM STEEL CORP.	2001
AMERICAN BOSCH	4112	GH-BETTIS	2335,9625
AMERICAN BUREAU OF SHIPPING	2000	BETTIS RUBBER CO./HYDRIL	3901,9502
AMERICAN COLDSSET CORP.	3605	BG PRODUCTS, INC.	9441
AMHOIST, AMERICAN HOIST & DERRICK CO.	4933	BI-M INSTRUMENT CO., INC.	6217
AMERICAN INSTITUTE OF CHEMICAL ENGINEERS	3663	BICC LTD.	3347,3351
AMERICAN INSTITUTE OF MINING, METALLURGICAL & PETROLEUM ENG.	2866,2882	BIW CABLE SYSTEMS, INC.	2740
AMERICAN SOCIETY OF CIVIL ENGINEERS	4067	CONNECTOR SYSTEMS DIV.	
AMERICAN SOCIETY OF MECHANICAL ENGINEERS - PETROLEUM DIV.	2677,2679	BLACK, SIVALLS & BRYSON, INC. 'BS&B'	6734
AMERMAN EQUIPMENT CO.	8714	BLACKBURN MARINE SUPPLY CO., INC.	3684
AMERON	1255	BLUE WATER INTERNATIONAL	2749
AMERON PROTECTIVE COATINGS DIV.		BLUE WATER MARINE SUPPLY, INC.	2749
AMETEK, STRAZA DIV.	4418	THE BOEING CO.	4515
AMF SCIENTIFIC	4362	BOELE'S SHIPYARDS & ENGINEERING CO. LTD.	1457,1473
DRILLING INTERNATIONAL		BOLT AND NUT DIV./DANIEL INDUSTRIES, INC.	4625
AMF TUBSCOPE, INC.	1431	BORSIG GMBH	1755,1773
ANCHORINC INTERNATIONAL, INC.	2642	BOSKALIS WESTMINSTER LTD.	3347,3351
ANDERSON STRATHCLYDE PLC	6251	BOUYGES OFFSHORE	2133,2233
ANDERSON STRATHCLYDE LTD.	6554	BOWEN TOOLS, INC., A BIG THREE INDUSTRY	4307
ANGLO MARINE AND PETROLEUM EQUIPMENT	8620	BRAD FOOTE GEAR WORKS, INC.	9338
ANIXTER BROS., INC.	2589	BRADEN WINCH CO., DIV. OF PACCAR INC.	4051
ANKERLOKKEN INDUSTRIES A/S	2433,2449	BRAMHEX, S.A. DE C.V.	4039
ANVIL INDUSTRIES INC.	6516	BRAND-REX CO.	2691
APLEX, INC.	8851	THE BRANDT CO.	4144
APPARATUS SERVICE BUSINESS DIV./GE	1263	BRANHAM INDUSTRIES, INC.	4039
APPLETON MARINE	2689,8825	BRIDGESTONE/LORD CORP.	3762
DIV. APPLETON MACHINE CO.		BRINKERHOFF-SIGNAL, INC.	3319
APPLIED DRILLING TECHNOLOGY INC.	3531	BRISAM, INC.	4236
AQUA-CHEM	2005	BRISSENEAU ET LOTZ MARINE	2133,2233
AQUA-DYNE INC.	4058	BRISTOL AEROSPACE LTD.	1211,1561
ARCTEC CANADA LTD.	1211,1561	BRITISH CALEDONIAN HELICOPTERS LTD.	3347,3351
ARCTEC INC.	2868	BRITISH HOVERCRAFT CORP.	3347,3351
OFFSHORE TECHNOLOGY CORP.		BRITISH ROPES LTD.	3347,3351
SERVICE AROQS	2133,2233	BRITISH SHIPBUILDERS	3347,3351
ARROW OIL TOOLS (TECHNOLOGY EXPORT CO.)	6925	BRITISH STEEL CORP.	3347,3351
ARROWHEAD CONTINENTAL	7134	BROWN & ROOT, INC.	3401
ASEA	2275	A HALLIBURTON CO.	
ASTEO	2133,2233	R. J. BROWN AND ASSOCIATES	7235
ATELIERS ET CHANTIERS DE BRETAGNE	2133,2233	JOHN BROWN OFFSHORE LTD.	3347,3351
WS ATKINS INC.	6548	BRUCE ANCHOR LTD.	3347,3351
A/S ATLAS	1381	BRUEL AND KJAER	1381
ATLAS COPCO	9539	BRUSSELLE MARINE INDUSTRIES	3271
DRESSER ATLAS	2503,9201	BRYON JACKSON PUMPS, DIV. BORG-WARNER CORP.	8839
DIV. OF DRESSER INDUSTRIES, INC.		BULTEN-KANTHAL AB, RAMNAES BRUK DIV.	3271
ATLAS MACHINE PRODUCTS, INC./ATLAS FLUID CONTROLS CORP.	6401	BURDON FURNACES	6251
		BURGESS & ASSOCIATES MFG., INC.	9308
		BUTTERFIELD MARINE INC.	7106
		C-E NATCO,	4747
		COMBUSTION ENGINEERING, INC.	
		C-E VETCO SERVICES, INC., A SUB. OF COMBUSTION ENGINEERING, INC.	4429
		LES CABLES DE LYON	2133,2233
		CABOT CORP.	6200
		CALMA/GE	1263
		CAM-LOK DIV.	3796
		EMPIRE PRODUCTS, INC.	
		CAMCO, INC.	3639
		CAMERON IRON WORKS, INC.	2401,9402
		CAMMANN MFG CO., INC.	2739
		CANADA, DEPARTMENT OF INDUSTRY, TRADE AND COMMERCE	1211,1561
		CANADAIR LTD.	1211,1561
		CANFLEX MFG. INC.	1211,1561
		CARBOLINE CO.	3245
		CARBORUNDUM RESISTANT MATERIALS	6227
		ADVANCED MATERIALS DIV.	
		CARDWELL - INTERNATIONAL PETROLEUM SERVICES, INC.	8832
		CARTER CONTROLS, INC.	8690
		CAT PUMPS CORP.	6934
		CATERPILLAR ENGINE DIV.	2505
		CBI INDUSTRIES INC.	2711
		CEAG	1755,1773
		CENTRE D'ETUDES ET DE RECHERCHES TECHNIQUES SOUS MARINES	6305
		CENTRE NATIONAL POUR L'EXPLOITATION DES OCEANS, CNEXO	2133,2233
		CENTRICO, INC.	6341
		CERTIFIED LABORATORIES	6833
		THE CESSNA AIRCRAFT CO.	8747
		C F E M (COMPAGNIE FRANCAISE D'ENTREPRISES METALLIQUES)	2133,2233
		CHALLENGER RIG & MANUFACTURING, INC.	9735
		CHANTIERS DE FRANCE DUNKERQUE	2133,2233
		CHANTIERS DE L'ATLANTIQUE	2133,2233
		CHANTIERS NAVALS DE LA COITAT	2133,2233
		CHARTRES CORP.	4254
		CHAUVIN ENGINEERING CO.	6101
		CHEMGRATE CORP.	1173
		CHICAGO BRIDGE & IRON CO.	2711
		CHRISTENSEN/NORTON	1531,1538
		CHROMALLOY DRILLING FLUIDS	4138
		CHROMALLOY PETROLEUM SERVICES GROUP	4138
		CINCINNATI MILACRON MARKETING CO.	6235
		CIT ALCATEL	2133,2233
		DRESSER CLARK	2503,9201
		DIV. OF DRESSER INDUSTRIES, INC.	
		CLEVELAND CITY FORGE CO.	6516
		CLYDE DIV., KOEHRING CO.	4268
		CLYDESDALE BANK PLC.	6251
		CMI CORP.	6246,9140
		CNIM CONSTRUCTIONS NAVALES ET INDUSTRIELLES DE LA MEDITERRANEE	2133,2233
		COFLEXIP	2133,2233
		COMBINATION PUMP VALVE CO.	4305
		COMEX GROUP COMPANIES	2363
		COMPOSITE CATALOG	3753
		COMPRESSION COAT, INC.	1144
		COMPRESSOR ENGINEERING CORP.	3584
		COMPUTERVISION CORP.	6245
		COMSAT - MARITIME SERVICES DIV.	4241
		CONCRETE TECHNOLOGY CORP.	2840
		ABAM ENGINEERS, INC.	
		CONDUX S.A. DE CV	2901
		CONMACO, INC.	2659
		CONSAFE	9529
		CONSTRUCCIONES Y EQUIPOS LATINO AMERICANOS S.A.	2901
		CONSTRUCTIONS METALLIQUES D'ARLES	2133,2233
		CONTAINERHOUSE	8630
		CONTINENTAL AIRLINES	6115
		CONTINENTAL EMSCO, AN LTV CO.	4310
		CONTROL FLOW, INC.	9335
		CONTROL SYSTEMS DIV. (CSD)/HYDRIL	3901,9502
		WM COOK ENGINEERING LTD.	3347,3351
		COOK PUMPS,	9901
		A SUB. OF KIDDE CORP.	
		COOPER INDUSTRIES - PORTABLE RIG DIV.	9103
		COOPER MANUFACTURING CORP.	9735
		CORRINTEC	1231
		COSASCO DIV.	4457
		CRAWFORD FITTING CO.	2742
		CREUSOT LOIRE DEPT. COMPRESSEURS ET TURBINES A VAPEUR	2133,2233
		CREUSOT LOIRE	2133,2233
		SERVICE DEVELOPEMENT	
		THE CRISPIN CO.	7135
		CROMARTY FIRTH ENGINEERING LTD.	3347,3351
		CROSS-LINE MFG., INC.	4410
		CROSSFIELD PRODUCTS CORP./E H O'NEILL CO., INC.	6933
		CROUSE-HINDS CO.	2649
		CRUTCHER CORP.	2280
		CRUTCHER RESOURCES CORP.	2349

CUBIC WESTERN DATA	3567	EISENMAN CHEMICAL CO.	4729	GENERAL ELECTRIC CO.	1263
CULLIGAN INTERNATIONAL	6709	ELDER	9542	GENERAL EQUIPMENT	6400
CUMMINS SALES & SERVICE, INC.	4475	ELDER INTERNATIONAL	9542	& MFG. CO., INC.	
CUSTOM CABLE CO.	2851	ELDER LEASING COMPANY, INC.	9542	GEO INTERNATIONAL CORP.	9436
D & W INTERNATIONAL, INC.	9638	ELECTRICAL POWER SYSTEMS, INC.	9839	GEO PHYSICAL/	4625
D G O'BRIEN INC.	4062	ELECTRO-FLOW CONTROLS INC.	1597	DANIEL INDUSTRIES, INC.	
DAHER ET CIE	2133,2233	ELECTRO-MOTIVE DIV. OF	6724	GEO PHYSICAL RESEARCH	3731
DAILEY OIL TOOLS, INC.	2862	GENERAL MOTORS CORP.		CORP./AMERADA GAUGES	
DALMINE S.P.A.	4150	ELECTRONIC RIG STATS	3709	GEOSOURCE INC.	4964,9711
DAMCO - OFFSHORE	1457,1473	ELECTRONICS DIV./	4625	GEIP	2133,2233
DAMPA A/S	1381	DANIEL INDUSTRIES, INC.		GERBER'S INTERNATIONAL SUPPLY CO.	7105
DANIEL INDUSTRIES, INC.	4625	A/S ELEKTRISK BUREAU	2433,2449	GERMANISCHER LLOYD	1755,1773
DANISH HYDRAULIC INSTITUTE	1381	THE ELLIS WILLIAMS CO	8748	FEDERAL REPUBLIC OF GERMANY	1755,1773
DANISH SHIP RESEARCH LABORATORY	1381	ELTRON LTD.	3347,3351	GEVEKE MOTOREN EN	1457,1473
DANMAR INDUSTRIES INC.	8717	EMCO WHEATON	3139	GRONDVERZET B.V.	
DANMARK, EXPORT PROMOTION	1381	INTERNATIONAL LTD.		GIRARD POLLY PIG, INC.	2850
DARENCO,	9901	EMERGENCY PRODUCTS INC.	7309	GLIDDEN	6119
A SUB. OF KIDDE CORP.		EMERSON & CUMING/	4135	GLOBAL MARINE DEVELOPMENT INC.	3531
DASPIIT BROS. MARINE DIVERS, INC.	2849	W. R. GRACE & CO.		GLOBAL MARINE DRILLING CO.	3531
DATA LOG, INC.	6615	ENDECO, INC.	1155	GLOBAL MARINE INC.	3531
DAVID TAYLOR NAVAL SHIP R & D CENTER	2395	TRW ENERGY PRODUCTS GROUP	1811	GLOBAL MARINE PRODUCTION SYSTEMS	3531
DAVIS-LYNCH, INC.	2692	ENERGY PUBLICATIONS - DIV. OF	4341	GOODALL RUBBER CO.	4246
DE GROOT INTERNATIONAL	1457,1473	HARCOURT BRACE JOVANOVIH, INC.		THE GORMAN-RUPP CO.	3568
CONTRACTORS B.V.		ENERPAC	6801	GOTAVERKEN ARENDAL	1375
THE DE HAVILLAND	1211,1561	ENGELHARD CORP.	2585	GOTCO INTERNATIONAL, INC.	3759
AIRCRAFT OF CANADA LTD.		ENGELHARD INDUSTRIES DIV.		GOULD INC.	6601
DEARMAN INTERNATIONAL, INC.	2793	ENGINE EQUIPMENT, INC.	8847	GP ELLIOTT ELECTRONIC SYSTEMS LTD.	3347,3351
DEEP SEA INTERNATIONAL	2369	ENGINEERING SPECIALTIES, INC.	7129	GRACO INC.	7144
DELCO CLEANING SYSTEMS	9034	ENI (ENTE NAZIONALE IDROCARBURI)	7125	GRANT GEOPHYSICAL CORP.	3319
DELMAG-PILECO, INC.	4657	AND COMPANIES OF ENI GROUP		GRANT OIL TOOL CO.	4457
DEMCO, A DIV. OF COOPER	3619,9708	ENSERVE, INC.	2754	GRASSO SERVICES DIV.	2888
INDUSTRIES, INC.		ENVIRONMENTAL CONTAINER SYSTEMS, INC.	7457	SUMMIT OILFIELD CORP.	
DEN-CON TOOL CO.	8915	ENVIRONMENTAL ELEMENTS CORP.	1632	GRAY TOOL CO. A SUB	4944
DERRICK EQUIPMENT CO. DIV. OF	8636	EPC LABS, INC.	1745,8805	OF COMBUSTION ENGINEERING, INC.	
DERRICK MANUFACTURING CORP.		ESGARD, INC.	3773	GREEN COUNTRY CASTINGS CORP.	6510
DERRICK SERVICE INTERNATIONAL	4378	ESSE INTERNATIONAL, INC.	9431	TRW GREENFIELD/GEOMETRIC	1811
DESIGN RESEARCH	8744	E.T.P.M.	2133,2233	TRW GREENFIELD TAP & DIE	1811
DET NORSKE VERITAS	2433,2449	EUREKA CHEMICAL CO.	2858	GREENGATE INDUSTRIAL POLYMERS	3347,3351
DETECTOR ELECTRONICS CORP.	1247	EVERGREEN HELICOPTERS, INC.	3688	(HEWITT HOSE DIV.)	
CIE DEUTSCH	2133,2233	EVERPURE, INC.	2780	GREENING DONALD LTD.	1211,1561
DEVELCO, INC.	2899	EXCEL INTERNATIONAL CORP./	7101	GREER HYDRAULICS	2646,9628
DHL CORP.	7112	ANALYTICAL LOGGING, INC.		GRIFFIN-WOODHOUSE	3271
DI-CHEM, MAGCOBAR OPERATION	2503,9201	EXPERIMENTAL &	3347,3351	GRIZZLY DRILL PIPE SUPPLY	2684
DIV. OF DRESSER INDUSTRIES, INC.		ELECTRONIC LABORATORIES		GROOTCON LTD.	3347,3351
THE DIA-LOG CO.	2640	FARR OIL TOOL, INC.	3255	GROVE MANUFACTURING,	9901
DIAMANT BOART S.A.	7201	FATHOM OCEANOLOGY LTD.	1211,1561	A SUB. OF KIDDE CORP.	
DIDRIKSONS	3271	FEDERAL SIGNAL CORP., SIGNAL DIV.	6808	GS-HYDRO KY.	6361,9130
DIESEL & GAS TURBINE PUBLICATIONS	2665	FELTEN & GUILLEAUME	1755,1773	GUERPIILLON ET CIE	2133,2233
DIGITRAN, INC.	3589	FERRANTI OFFSHORE SYSTEMS LTD.	3347,3351	GUIBERSON	2503,9201
DIRECTION TECHNIQUE DES	6305	FIBERGRATE CORP.	3575	DIV. OF DRESSER INDUSTRIES, INC.	
CONSTRUCTIONS NAVALES		FINE TUBES LTD.	3347,3351	GUILDLINE INSTRUMENTS LTD.	1211,1561
DIVERSIFIED MANUFACTURERS INTL., INC.	1140	CONSULATE OF FINLAND	6361,9130	GULF ELECTROQUIP, INC.	9605
DOCK-EXPRESS SHIPPING S.V.	1457,1473	THE FIRST BUREAU OF MECHANICAL &	8738	GULF NUCLEAR, INC.	6716
DORBVL MARINE (PTY.) LTD.	2797	ELECTRICAL INDUSTRIES		GULF PUBLISHING CO.	3753
DORMAN LONG SWAN HUNTER (PTY.) LTD.	2797	FISHER CONTROLS CO.	4953	GULF PUBLISHING CO. BOOK DIV.	3753
DOTCO FISHING TOOLS	4025	FISHING TOOLS, INC.	3319	GULF RADIOTELEPHONE &	3655
DOVER CORP./ NORRIS DIV.	4661	OY FISKARS AB	6361,9130	ELECTRONICS, INC.	
DOWELL DIV. OF DOW CHEMICAL USA	2107	FLAKT MARINE	3347,3351	GULFCO INDUSTRIES, INC.	6609
DOWELL SCHLUMBERGER CORP.	9503	FLAKT MARINE	1375	GULFSTREAM AMERICAN	8873
DOWNHOLE TOOL OPERATION/HYDRIL	3901,9502	FLEXON, INC.	7319	CORP., COMMANDER DIV.	
DOWTY SEALS LTD.	3347,3351	FLIMON INDUSTRIE S.A.	1740	GUSTO ENGINEERING B.V.	1457,1473
DRACO SPRING MFG. CO., INC.	4050	FLO TREND SYSTEMS, INC.	9736	HACKER-PYRAMID CO.	4258
DRAEGERWERK AG	1755,1773	FLOCON PRODUCTS, INC.	9335	HAGGLUNDS	2275
DRECO ENERGY SERVICES LTD.	6907	FLOPETROL SCHLUMBERGER	9519	HALLIBURTON CO.	3401
DRECO LTD.	1211,1561	FLOTTWEG-WERK	1755,1773	HALLIBURTON SERVICES	3401
DRESSER INDUSTRIES, INC.	2503,9201	FLOW PRODUCTS DIV./	4625	A HALLIBURTON CO.	
DREYFUS SUPPLY &	2698	DANIEL INDUSTRIES, INC.		HALLITE SEALS LTD.	3347,3351
MACHINERY CORP.		FLUOR DRILLING SERVICES, INC.	3607	HALTER MARINE INC.	2784
DRIL-QUIP, INC.	8724	FMC	1403	HAMANAKA INTERNATIONAL, INC.	7029
DRILCO	2405	FMC CORP.-CONSTRUCTION	9632	HAPAG LLOYD TRANSPORT	1755,1773
DRILCO,	9511	EQUIPMENT GROUP		UND SERVICE GMBH	
DIV. OF SMITH INTERNATIONAL		GH-FOLEY	2335,9625	HARCO CORP.	2688
DRILLING TOOLS, INC.	3319	FOLEY PRESSURE CONTROL, INC.	7465	HARDIGG INDUSTRIES, INC.	2884
DRIVE SYSTEMS/GE	1263	GH-FOSTER	2335,9625	HARDING A/S	2433,2449
G. DUESTERLOH GMBH	1755,1773	FOSTER MARINE DIV.	6718	HARDY ASSOCIATES	1211,1561
DUFF-NORTON CO.	6731	FOSTER OILFIELD EQUIPMENT CO.	6219	HARRIS CORP.	3689
DUKANE CORP.	2794	FRANK MOHN A/S	2433,2449	HARRISBURG, INC.	4475
DUNLOP LTD.	3347,3351	FRANKLIN ELECTRIC	3735	THE HARSHAW CHEMICAL CO.	4008
DYNA-DRILL	2405	FRENCH EXHIBITIONS INC.	2133,2233	HARVEY-LYNCH, INC.	1745,8805
E & S MANUFACTURING DIV.	2888	FUTURECRAFT CORP.	2699	HAUGESUND - DE GROOT	2433,2449
SUMMIT OILFIELD CORP.		GAI-TRONICS CORP.	3782	OFFSHORE A/S & CO.	
E. H. O'NEILL CO., INC.	6933	GALIGHER ASH CO.	2847	HAWKINS & TIPSON ROPEMAKERS LTD.	3347,3351
E. H. WACHS CO.	2787	GALL THOMSON MARITIME LTD.	3347,3351	HBL INDUSTRIES	1137
EAGLE-TENTECH A.S.	2433,2449	GALVESTON-HOUSTON CO.	2335,9625	HEEREMA	1457,1473
EARL & WRIGHT	1401	GARDNER-DENVER COOPER INDUSTRIES	1209	HELLE ENGINEERING, INC.	3647
EASTERN E & I, INC.	6739	THE GARRETT CORP.	3756	HELLY-HANSEN A/S	2433,2449
EASTMAN WHIPSTOCK, INC.	3319	GASO PUMPS, INC.	6300	HEMPEL'S MARINE PAINTS, INC.	4447
EATON CORP. ENGINEERED	2764	THE GATES RUBBER CO.	1149	HENDRIK VEDER B.V.	1457,1473
POLYMER PRODUCTS DIV.		GATOR HAWK, INC. - WORLD WIDE	4404	GH-HENSLEY	2335,9625
EATON-PROCESS CONTROL	8802	OIL TOOLS, INC.		JOHN T. HEPBURN CO. LTD.	1211,1561
COMPONENTS DIV.		L. F. GAUBERT & CO., INC.	3137	HERBERT S. HILLER CORP.	4254
EB COMMUNICATIONS/	2433,2449	GEARHART INDUSTRIES	3247	ZF-HERION SYSTEMTECHNIK GMBH	1755,1773
A/S NORSK KABELFABRIK		GEARMATIC CO. LTD.	1211,1561	HERMANN HOSPITAL HEALTH PROGRAMS	4078
ECA	6305	GEM HERSENT	2133,2233	HERRON WIRE PRODUCTS, INC.	3785
ECKEL MANUFACTURING CO., INC.	3763	GEMOCO	4138	HEWLETT-PACKARD	4145
EDO CORP. WESTERN DIV.	1549	GENERAL DYNAMICS	6100	HILL HAYES CO.	4761
EG & G ENVIRONMENTAL EQUIPMENT DIV.	1745,8805	ELECTRIC BOAT DIV.		HILLER INTERNATIONAL CORP.	4254
EG & G SEA LINK SYSTEMS	1745,8805	GENERAL ELECTRIC CO. PLC.	3347,3351	HILLER OFFSHORE SERVICES INC.	4254

HILMAN, INC.	2591	JOSEPH PARIS S.A.	2133,2233	MARITIME HYDRAULICS A/S	2433,2449
HITACHI ZOSEN CORP.	1673	A/S JOTUNGRUPPEN	2433,2449	MARITIME SURVEY AGENCY INC.	6524
HITACHI ZOSEN INTERNATIONAL, S.A.	1673	JOY PETROLEUM EQUIPMENT GROUP	4609	MARKLOAD SYSTEMS, INC.	2854
HITACHI ZOSEN U.S.A. LTD.	1673	KALDAIR LTD.	3347,3351	MARLAND ENVIRONMENTAL SYSTEMS, INC.	6732
HOMCO INTERNATIONAL, INC.	3747	KAMEWA	1375	MAROCO INC.	6125
HONEYWELL	2333	KAWASAKI HEAVY INDUSTRIES, LTD.	1573	MARSH INSTRUMENT CO.	3659
HOTSU INC.	3698	KAWASAKI STEEL CORP.	1573	A UNIT OF GENERAL SIGNAL	
HOUSTON HELICOPTERS, INC.	4125	KELCO ROTARY DRILLING FLUIDS GROUP	2285	MARSH-MCBIRNEY, INC.	3939
HOUSTON SYSTEMS	2669	KEMLON PRODUCTS	6902	MARTEC LTD.	1211,1561
MANUFACTURING CO.		KEN COOK CO.	2597	MARTIN BLACK OFFSHORE	4034
HOUSTON WELL SCREEN CO.	3792	KENDAVIS INDUSTRIES	4475	MARTIN-DECKER	1605
HOWARD SMITH SCREEN CO./	1133	INTERNATIONAL, INC.		MASSEY GRINDING SERVICE, INC.	3588
A HALLIBURTON CO.		KEPNER PLASTICS FABRICATORS, INC.	4319	MATCOTE PROTECTIVE COATINGS	4027
HOWE-BAKER ENGINEERS, INC.	4070	THE KERITE CO.	6817	INTERNATIONAL PAINT	
HUBNER-GRAY GES. M.B.H.	4939	KIBBIE CORP.	3695	MATHEY MANUFACTURING CO.	2121
A SUB. OF COMBUSTION ENGINEERING		KING OIL TOOLS INC.	8828	MATRA	6563
HUBNER-GRAY GESMBH - RECTOR WELL	4939	J.C. KINLEY CO.	3532	GH-MATTCO	2335,9625
EQUIPMENT CO. A SUB OF C.E.		KINTEC, INC.	6901	MATTHEW HALL ENGINEERING	3347,3351
HUMPHREY, INC.	1542	SCOTT WILSON KIRKPATRICK & PARTNERS	6251	MAURER ENGINEERING INC.	8859
HUMPHREYS AND GLASGOW LTD.	3347,3351	KLAMPON CORP.	7323	MBB HELICOPTER CORP.	6931
HUTCHISON-HAYES INTERNATIONAL, INC.	4547	KLEBER INDUSTRIE	2133,2233	MCALPINE OFFSHORE	3347,3351
HYDROCARBON PROCESSING	3753	KLEIN ASSOC., INC.	4410	MCAUTO - MCDONNELL	3746
HYDRA TIGHT LTD.	3347,3351	KOBE STEEL, LTD.	1573	DOUGLAS AUTOMATION CO.	
HYDRACON CO.	2699	J. KOBELT MANUFACTURING CO. LTD.	3592	MCELHANEY SURVEYING	1211,1561
HYDRANAUTICS HYDRAULIC SYSTEMS	1741	KOEHRING CO.	4268,8949	& ENGINEERING LTD.	
HYDRIL CO.	3901,9502	A UNIT OF AMCA INTERNATIONAL		MCEVOY	2405
HYDRO PRODUCTS, INC.	3561	THE KONGSBERG GROUP	2298	MECHANICAL EQUIPMENT CO. (MECO)	3585
A TERRA TECH CO.		KONGSBERG VAPENFABRIKK OIL DIV.	2433,2449	MECHANICAL PRODUCTS DIV./HYDRIL	3901,9502
HYDRO-SERVICES, INC.	3573	KOOMEY INC.	6517	MELCO BLOWOUT PREVENTER SPECIALTIES	4030
HYDROCARBON PROCESSING CATALOG	3753	KOPP GMBH	1755,1773	MENCK	1755,1773
HYDRODYNAMICS CORP.	7345	KRAFACOR CORP.	9435	MENCK DIV., KOEHRING CO.	4268
HYDRONAUTICS, INC.	2635	SPECIAL PRODUCTS DIV.		MESOTECH SYSTEMS, LTD.	1211,1561
HYTORC DIV. UNEX CORP.	3680	KRUPP ATLAS ELEKTRONIK	4250	MESSINA INC./	4023
HYUNDAI HEAVY INDUSTRIES CO.,	6317	KTM INDUSTRIES, INC.	6713	MESSINA INTERNATIONAL S.A.	
LTD/HYUNDAI CORP.		KUSTER CO.	2750	METAL BELLOWS CORP.	6914
IAL	3347,3351	KVAERNER BRUG A/S	2433,2449	METAL PRODUCTS	4112
ICE ENGINEERING LTD.	1211,1561	KVAERNER ENGINEERING A/S	2433,2449	METALPHOTO CORP.	7335
ICI LINEAR COMPOSITES LTD.	3347,3351	KVAERNER GROUP	2433,2449	METCO	6126
IDECO	2503,9201	L-K INDUSTRIES, INC.	6918	METER SERVICE AND SUPPLY	4138
DIV. OF DRESSER INDUSTRIES, INC.		LAMARCHE MANUFACTURING CO.	2657	METOO LTD.	6556
IMCO SERVICES, A HALLIBURTON CO.	3811	LANGDON PROTECTIVE COVERS, INC.	2577	MID WEEK RIG BULLETIN	3709
IMODOCO, A UNIT OF AMCA INTERNATIONAL	4266	LANZAGORTA INTERNATIONAL, INC.	4360	MID-CONTINENT SUPPLY CO.	4475
IMPALLOY LTD.	3347,3351	GH-LAPORTE	2335,9625	MIDCON PIPELINE EQUIPMENT CO.	4475
INA WAEZLAGER SCHAEFFLER KG	1755,1773	LARGE MOTOR AND GENERATOR/GE	1263	MIDLAND MARINE CORP.	2797
INDUSTRIAL SALES DIV./GE	1263	LAVALIN SERVICES INC.	1211,1561	MIDLAND-ROSS CORP.	6905
TRW INFORMATION SERVICES DIV.	1811	TRW LAWRENCE	1811	RUSSELLSTOLL DIV.	
INGERSOLL-RAND CO.	9614	LEACOCK MACHINE TOOL CO.	8812	MILCHEM INC.	3113
INNERSPACE TECHNOLOGY, INC.	2641	LEBUS INTERNATIONAL, INC.	3742	MINNESOTA VALLEY ENGINEERING	9036
INSTITUT FRANCAIS DU PETROLE	2133,2233	LEE C. MOORE CORP.	2643	MISSION COATINGS/	1540
THE INSTITUTE OF ELECTRICAL AND	1634	F. LEUTERT GMBH	1755,1773	DIV. OF CEILCOTE	
ELECTRONICS ENGINEERS, INC.		LEVINGSTON INDUSTRIES, INC.	1709	MITSUBISHI AIRCRAFT INT'L, INC.	8650
INSTITUTO MEXICANO DEL PETROLEO	6205	LIEBHERR WERK NENZING GMBH	6351	MITSUBISHI ELECTRIC CORP.	1673
INSTRUMENTATION SERVICES	4625	LINCOLN ST. LOUIS	6741	MITSUBISHI HEAVY INDUSTRIES, LTD.	1673
DIV./DANIEL INDUSTRIES, INC.		LINDEN ALIMAK	1375	mitsui engineering &	1573
INTEGRATED POWER SYSTEMS CORP.	2485	LINNENBANK INTERNATIONAL, INC.	3271	SHIPBUILDING CO., LTD.	
SUB. OF EQUUS POWER SYSTEMS CORP.		LISKA INDUSTRIES	7328	MITSUI OCEAN DEVELOPMENT &	1573
INTERCONTINENTAL ROPES INC.	4033	LISTER BOLT & CHAIN LTD.	1211,1561	ENGINEERING CO., LTD.	
INTERNATIONAL DREDGING	1457,1473	LISTER DIESELS INC.	6702	MONARK BOAT CO. WORKBOAT DIV.	4725
GEAR SUPPLIERS VOF		LJUSNE KATTING AB	3261	MONENCO PIPELINE CONSULTANTS, LTD.	1211,1561
INTERNATIONAL DRILLING FLUIDS	3347,3351	LLOYD'S REGISTER OF SHIPPING	3347,3351	MORAY FIRTH SERVICE CO.	3347,3351
INTERNATIONAL GRATING, INC.	9624	LOCKHEED CORP.	1711	MORGAN BERKELEY & CO. LTD.	1231
INTERNATIONAL HI-PRES AIR	1381	A/S LOEGSTRUP-STEEL	1381	MORGAN PUMP DIV., KOEHRING CO.	8949
CONDITIONING A/S		LOFFLAND BROTHERS CO.	4475	MORRIS INTERNATIONAL TRADING LTD.	8905
INTERNATIONAL PAINT/	4027	LOHER GMBH	1755,1773	MORRISON-KNUDSEN CO., INC.	4324
MATCOTE PROTECTIVE COATINGS		LONE STAR INTERNATIONAL MACHINERY CO.,	8648	MOTOROLA, INC.	1901
INTERNATIONAL SUBMARINE	1211,1561	LONE STAR SCREW CO. &	7353	MTU OF NORTH AMERICA, INC.	6940
ENGINEERING LTD.		PROTECTIVE COATINGS INC.		MUD BUG INC.	6132
INTERNATIONAL TEST EQUIPMENT, INC.	7305	LONE STAR TOOL CO.	1140	MULTI- FLUX, INC.	3289
INTERNATIONAL TOOL & SUPPLY CO., INC.	9515	LOR, INC.	4729	MULTIFABS LTD.	3347,3351
INTERNATIONAL TOOL CO., INC.	2675	LORD CORP.	6920	MURDOCK MACHINE &	1711
INTERNATIONAL TRAINING CO.	3753	LORD CORP./BRIDGESTONE	3762	ENGINEERING CO. OF TEXAS	
INTERNATIONAL UNDERWATER	2369	LUFKIN INDUSTRIES, INC. MACHINERY DIV.	4832	FRANK W. MURPHY MFR., INC.	7127
CONTRACTORS, INC. (IUC)		LULL ENGINEERING CO., INC.	8768	MURRAY & PATTERSON	6251
INTEROCEAN SYSTEMS, INC.	1555	LYNES, INC.	1107	MUSTANG INC.	1211,1561
INTERSTATE ELECTRONICS	2869	M & I INDUSTRIES	3138	MUSTANG POWER PRODUCTS, INC.	9842
CORP., OCEAN SYSTEMS		M & J VALVE DIV./	4625	MYRENS VERKSTED A/S	2433,2449
IRONITE PRODUCTS CO.	3564	DANIEL INDUSTRIES, INC.		NANCE INDUSTRIES, INC.	3560
ISHIKAWAJIMA-HARIMA HEAVY	1673	MACCLATCHIE DIV.	4457	NAPKO DIV./ O'BRIEN CORP.	4351
INDUSTRIES CO., LTD.		MAGCOBAR	2503,9201	NATIONAL ASSOCIATION OF	2790
ITALIAN INTERPETROL	7143	DIV. OF DRESSER INDUSTRIES, INC.		CORROSION ENGINEERS	
ITALIAN STEEL FINSIDER GROUP	4150	MAGEE INDUSTRIES, INC.	8624	NATIONAL ENGINEERING LABORATORY	3347,3351
ITT	3673,3674	MAGNA TOOLS INC.	9135	NATIONAL SUPPLY CO.	1503,8844
IUC INTERNATIONAL INC.	2369	MAGNAVOX ADVANCED	1738	NATIONAL TESTERS, INC.	9744
IYV ELECTRONICS, INC.	9838	PRODUCTS & SYSTEMS CO.		NATIONAL TESTING INSTITUTE OF SWEDEN	1375
J.B. DEVELOPMENT CORP.	3699	MALTA DRYDOCKS	2797	NAUTILUS CRANE & EQUIPMENT CO.	8730
TRW J.H. WILLIAMS	1811	MAMMOET TRANSPORT B.V.	1457,1473	NAVAL OCEANOGRAPHIC OFFICE	2395
JACKSON MARINE CORP.	3401	MAMPAEY MARINE ENGINEERING	2749	NEDDRILL (NEDERLAND) B.V.	1457,1473
A HALLIBURTON CO.		MANCHESTER TANK & EQUIP. CO.	1132	NEDLLOYD GROUP	1457,1473
JAMES JACK LTD.	3347,3351	MANITOWOC ENGINEERING CO.	3423	NEIL BROWN INSTRUMENT SYSTEMS, INC.	3468
JAMESBURY CORP.	1813	MANNESMANN HANDEL AG	1755,1773	NELES INC.	6361,9130
JAPAN OCEAN INDUSTRIES ASSOCIATION	1573,1673	MARATHON LETOURNEAU OFFSHORE CO.	2403,9615	NEPTUNE PRODUCTION SYSTEMS INC.	3211
THE JAPAN STEEL WORKS, LTD.	1573	MARCON B.V. MARINE CONSULTANTS	1457,1473	NEREIDES	2133,2233
JET RESEARCH CENTER, INC.	3401	MARINAV CORP.	1211,1561	NESELCO A/S	1381
A HALLIBURTON CO.		MARINE & INDUSTRIAL/GE	1263	NETHERLANDS COUNCIL FOR	1457,1473
JEUMONT SCHNEIDER	2133,2233	MARINE CONCRETE STRUCTURES, INC.	2762	TRADE PROMOTION	
JMR INSTRUMENTS, INC.	4410	MARINE ENGINEERING/LOG	2867	NETHERLANDS INDUSTRIAL COUNCIL	1457,1473
JOHNSON GROUP	1375	MARINE ENGINEERING/LOG	2867	FOR OCEANOLOGY (I.R.O.)	
RICHARD L. JOHNSON CO., INC.	3569	MARINE MOISTURE	2676	NETHERLANDS SHIP MODEL BASIN	1457,1473
JOHNSON SCREENS UOP, INC.	2878	CONTROL CO., INC.		NEW MAR OIL SERVICES LTD.	3347,3351
JOSEPH T. RYERSON AND SON	9020	MARINE TECHNOLOGY SOCIETY	1147	NEWFOUNDLAND AND LABRADOR GOVERNMENT	6405
		MARIS OIL STUDIES LTD.	3347,3351		

NEWARK RESOURCES, INC.	4729	PETROLANE, INC.	3319	RESINEX S.P.A.	2833
NEVFOR	2133,2233	PETROLEO INTERNACIONAL	3709	RESOURCE PUBLICATIONS INC.	6111
NICO INTERNATIONAL	1375	PETROLEUM HELICOPTERS, INC.	3667	REYNOLDS METALS CO.	9815
NICOLET OSCILLOSCOPE DIV.	6837	PETROLEUM INFORMATION CORP.	2799	RHINE-SCHDEL-VEROLME	1457,1473
NIPPON KOKAN K.K.	1673	PETROLEUM PRODUCTION & PROCESSING	3753	ENGINEERS AND SHIPBUILDERS	
NIPPON STEEL CORP.	1573	PETROLEUM TIMES	3347,3351	C. A. RICHARDS & ASSOC., INC.	4410
NL INDUSTRIES, INC.	2305,9520	(IPC INDUSTRIAL PRESS LTD.)		RIG-A-LITE CO., INC.	4475
NOHAB DIESEL	1375	PETTIBONE CORP.	9321	RIGGING INTERNATIONAL EUROPE LTD	3347,3351
NORDCO LTD.	1211,1561	PHILADELPHIA GEAR CORP.	6705	RILEY-BEAIRD	2811
NOROIL PUBLISHING HOUSE LTD. A/S	2433,2449	PHILADELPHIA RESINS CORP.	4838	ROCKMONT A/S	1381
NORSEA A/S	2433,2449	PIPE LINE CATALOG	3753	ROCKWELL INTERNATIONAL	2351,9317
NORSK A/S PHILLIPS	2433,2449	THE PIPE LINE DEVELOPMENT CO. (PLIDCO)	1900	FLOW CONTROL DIV.	
NORSK HYDRO CONTROL SYSTEMS	2433,2449	PIPE LINE INDUSTRY	3753	ROLLS ROYCE CANADA LTD	1211,1561
NORSK MARCONI A/S	2433,2449	TRW PLEUGER	1811	ROLLS ROYCE LTD.	3347,3351
NORTH AMERICAN DIESEL	6934	PLT INTERNATIONAL	6511	WM. ROME LTD.	6251
NORTH AMERICAN HYPERBARIC CENTER	2369	PNEU HYDRAULICS LTD.	3347,3351	ROWAN COMPANIES, INC.	3552
NORTH AMERICAN TURBINE CORP.	2298	POLLY PIG BY KNAPP, INC.	1638	RPC CORP.	2581
NORWALK-TURBO INC.	6834	POLYSAR LTD.	8808	RUUKKA INC.	6361,9130
THE EXPORT COUNCIL OF NORWAY	2433,2449	PONT A MOUSSON S.A.	2133,2233	RUSTON GAS TURBINES LTD	3347,3351
NORWEGIAN CONTRACTORS	2433,2449	POOL CO., A SUB. OF ENSERCH CORP.	9304	S & H DIVING CORP.	4004
PROVINCE OF NOVA SCOTIA	6500	PORTA-KAMP MANUFACTURING CO., INC.	4561	S & N PUMP CO.	1148
NOVA SCOTIA RESEARCH	1211,1561	PORTALS WATER TREATMENT	3347,3351	SAB NIFE	1375
FOUNDATION CORP.		POSI-SEAL INTERNATIONAL, INC.	3572	STE ALSACIENNE DE CONSTRUCTIONS	2133,2233
NRPHOSE PRODUCTS	2575	POWER TORK HYDRAULICS, INC.	9427	METALLIQUES DE MULHOUSE SACMM	
NU-WAY VALVE TESTERS, INC.	6233	POWER TRANSMISSION	2503,9201	SAFETY SERVICE & SUPPLY CO. INC.	4254
NU-WELD, A DIV. OF DIMETRICS INC.	8674	DIV. OF DRESSER INDUSTRIES, INC.		SAIPEM (ENI GROUP)	7125
NUOVA ITALSIDER S.P.A.	4150	PRECISION URETHANE & MACHINE, INC.	7124	SALEN ET WICANDER, OFFSHORE DIV.	1375
NUOVO PIGNONE (ENI GROUP)	7125	PREFORMED MARINE, INC.	2399	SALZGITTER AG	1755,1773
NUTRO OILFIELD CHEMICALS	7043	PREMIUM THREADING SERVICES, A	1637	SALZGITTER MACHINERY, INC.	9804
O.I.L. ENERGY,	9901	DIV. OF OTIS ENGINEERING			
A SUB. OF KIDDE CORP.					
OCEAN DRILLING & EXPLORATION CO.	1355				
OCEAN INDUSTRY	3753				
OCEAN OIL WEEKLY REPORT	3709				
OCEAN RESEARCH	1631				
EQUIPMENT, INC. (O.R.E., INC.)					
OCEANEERING INTERNATIONAL, INC.	2381				
OCEANO INSTRUMENTS	2133,2233				
OCEANOGRAPHIC SERVICES INC.	3531				
OCEANROUTES, INC.	6813				
(A SWIRE GROUP CO.)					
ODOM OFFSHORE SURVEYS, INC.	4410				
ODSCO (OILFIELD DESALINATION & SUPPLY CO., INC.)	9123				
OEM COMPONENTS, INC.	7461				
OFFICE OF NAVAL RESEARCH	2395				
OFFSHORE MAGAZINE	3709				
OFFSHORE NAVIGATION, INC.	2006				
OFFSHORE SAFETY/SURVIVAL DIV.	2749				
OFFSHORE SUPPLY ASSOCIATION, LTD	3553				
OIL & GAS JOURNAL	3709				
OIL & GAS PETROCHEM EQUIPMENT	3709				
OIL CENTER RESEARCH, INC.	1641				
OIL INDUSTRY SERVICES A/S	2433,2449				
OIL STATES INDUSTRIES, INC.	1707				
OILFIELD INDUSTRIAL LINES,	9901				
A SUB. OF KIDDE CORP.					
OILFIELD PIPE & SUPPLY,	9901				
A SUB. OF KIDDE CORP.					
OILMAN	3347,3351				
OILTOOLS EQUIPMENT SERVICES/DIV. OF ASSOCIATED OILTOOLS, INC.	8815				
OILWELL DIV., UNITED STATES STEEL	4126				
OKANAGAN HELICOPTERS LTD.	1211,1561				
OKGT HUNGARIAN OIL AND GAS TRUST	6727				
OMNIPURE	3271				
ONCOR CORP.	9411				
ONSTREAM LTD.	3211				
OPI INC.	8816				
ORBIT VALVE INTERNATIONAL, INC.	1903				
ORFE	2133,2233				
ORTHANE DIV. OF OHIO RUBBER CO.	3776				
OTECO EQUIPMENT CO.	4672				
OTECO INTERNATIONAL, INC.					
OTIS ENGINEERING,	3401				
A HALLIBURTON CO.					
THE OTTER GROUP	2433,2449				
PA INC/PLASTIC APPLICATORS	4545				
PACCAR INTERNATIONAL, INC / KENWORTH	9542				
PACESSETER SEPARATOR CO.	9030				
PACIFIC PUMP,	2503,9201				
DIV. OF DRESSER INDUSTRIES INC.					
PAGUAG	1755,1773				
PALL WELL TECHNOLOGY CORP.	7249				
PAR INDUSTRIES, INC.	4378				
PARKER INDUSTRY	4018				
PARKER SEALS GROUP	4007				
PAULUHN ELECTRIC MFG CO., INC.	2633				
PEABODY BARNES, INC.	2769				
PECK-O-MATIC, INC.	3740				
PEERLESS MFG CO.	4015				
PENGO INDUSTRIES, INC.	2295,9331				
PENNWELL BOOK DIV.	3709				
PENNWELL PUBLISHING	3709				
PENROD DRILLING CO.	2709				
PERFORACIONES MARITIMAS MEXICANAS S.A.	2901				
PERRY EQUIPMENT CORP.	6824				
PERRY OCEANOGRAPHICS, INC.	4819				
PETERSON MANUFACTURING	6912				
PETROFAB INTERNATIONAL INC.	7313				
PRIESTMAN INTERNATIONAL LTD	3347,3351				
PRIME COMPUTER	6742				
PRINCE VALVE, INC.	3774				
PRODUCTION SPECIALTIES DIV / DANIEL INDUSTRIES, INC.	4625				
PROGRESS EQUIPMENT CO., INC.	4073				
GH-PROGRESSIVE METALS	2335,9625				
PRONAL	2133,2233				
PROSER	2133,2233				
PROTEXA DRILLING CO.	2901				
PROTEXA S.A.	2901				
PROTEXA/WEATHERBY ENGINEERING CO.	2901				
PUMP & EQUIPMENT DIV. / DANIEL INDUSTRIES, INC.	4625				
PYLE-NATIONAL CO., DIV. OF BRAND-REX CO.	2691				
PYRAMID MANUFACTURING CO.	4258				
Q.V.M. QUALITY VALVE AND MACHINE WORKS INC.	1908				
QMC ANCHOR TECHNOLOGY LTD.	3347,3351				
QUANEX PIPE SPECIALTIES	6335				
QUINCY COMPRESSOR DIV. OF COLT INDUSTRIES	6906				
RADAR DEVICES, INC.	3635				
RAMTEK CORP.	6832				
RATCLIFF HOIST CO.	6802				
RAUMA-REPOLA OY OFFSHORE DIV.	6361,9130				
RAYMOND INTERNATIONAL INC.	3539				
RAYTHEON CO.	2743				
READING & BATES CORP.	1331				
RED FOX INDUSTRIES, INC.	3933				
RED WING SHOE CO., INC.	6706				
TRW REDA	1811				
REDI DRILL DIV.	4457				
REDIFFUSION SIMULATION LTD.	3347,3351				
REDPATH DORMAN LONG GROUP	3347,3351				
REED AMERICAN	4366				
REED ROCK BIT CO.	3739				
REED TUBULAR PRODUCTS CO.	4370				
REGAL INTERNATIONAL, INC.	4663				
RELANCE ELECTRIC	8718				
REMCO HYDRAULICS DIV. ABEX CORP.	8670				
TRW REPLACEMENT	1811				
SAMSON	3271				
SAMSON OCEAN SYSTEMS, INC.	3660				
SANCO FABRICATING, INC.	9129				
SANCOR PUMP CO.	8714				
SANDVIK	1177				
SANTA FE INTERNATIONAL CORP.	3713				
SAPAG	2133,2233				
SASAKURA ENGINEERING CO., LTD.	1673				
SATELLITE SERVICES, INC.	9842				
SAUT DU TARN BALL VALVE CO.	6550				
SBM U.K. LTD.	3211				
SCAN MARIN	3271				
SCHILL STEEL	6532				
SCHLUMBERGER OFFSHORE SERVICES	1405				
SCHOTTEL OF AMERICA, INC.	4031				
SCHUMACHER CO., INC.	1737				
SEA & LAND PIPELINES LTD.	3347,3351				
SEA-CON SERVICES INC.	2711				
SEA DATA CORP.	6528				
SEA GRANT COLLEGE PROGRAM	3536				
SEA MAC MARINE PRODUCTS	1745,8805				
THE SEABOARD COMPANIES	4236				
SEABOARD PIPE AND EQUIPMENT CO.	4236				
SEACAST ELECTRIC	4068				
SEAFORTH MARITIME LTD.	3347,3351				
SEAHORSE, INC.	3319				
SEAL-TITE MANUFACTURING CO.	6710				
SEAWARD INTERNATIONAL, INC.	4332				
SECURITY	2503,9201				
DIV. OF DRESSER INDUSTRIES, INC.					
SEDCO, INC.	1401				
SEDIS	2133,2233				
SELBY, BATTERSBY & CO./SUB. OF QUAKER CHEMICAL CORP.	2667				
SELLERS SALES COMPANY, INC.	7033				
SEMBAWANG ENGINEERING (PTE.) LTD	2797				
SEMBAWANG SHIPYARD LTD.	2797				
SEMT PIELSTICK	2133,2233				
SEPARATION SYSTEMS	6251				
SEPCO INDUSTRIES, INC.	1731				
SERVCO	2405				
SHIPCO, INC.	7116				



SHIPPING RESEARCH SERVICES A/S	2433,2449	SUTEC	1375	UNIROYAL, INC.	2857
SHORELINE SYSTEMS, INC.	8741	SWACO	2503,9201	UNIT CRANE & SHOVEL CORP.	3631
STE HOTELIERE ET DE	2133,2233	DIV. OF DRESSER INDUSTRIES, INC.		UNITED INFORMATION SERVICES, INC.	6818
REVITAILLEMENT MARITIMES SHRM		SWAN HUNTER (TRINIDAD) LTD.	2797	UNITED KINGDOM - BRITISH	3347,3351
SHUSTER CORP.	3681	SWECO, INC.	1653	CONSULATE GENERAL	
SIDEM	2133,2233	THE SWEDISH MARITIME	1375	UNITED STATES GYPSUM CO./	6714
SIDEREXPORT S.P.A.	4150	RESEARCH CENTRE		METAL PRODUCTS DIV.	
SIEMENS AG	1755,1773	SWEDISH TRADE OFFICE	1177,1375	THE UNITED STATES NAVY	2395
SIGMA CHEMIE LTD.	3347,3351	SWEDYARDS	1375	UNITED STATES STEEL CORP.	3474
SIGMA ENTERPRISES, INC.	4021	SYMINEX	2133,2233	UNITED TECHNOLOGIES CORP.	4112
SIGNAL OILFIELD SERVICE INC.	3319	SYMINEX NORGE A/S	2433,2449	UNITOR SHIPS SERVICE AS	2433,2449
SIKORSKY	4112	SYNERCOM TECHNOLOGY, INC.	6259	UNIVERSAL JOINT SERVICE, INC.	2276
SIMRAD SUBSEA A/S	2433,2449	SYSTEM DEVELOPMENT CORP.	1532	UNIVERSAL METALS &	9110
SIMTRAN CORP.	2763	SYSTEMS ENGINEERING DIV./	4625	MACHINERY, INC.	
SINGLE BUOY MOORINGS INC.	3211	DANIELS INDUSTRIES, INC.		UNIVERSITY COMPUTING CO.	7202
SIoux STEAM CLEANER CORP.	6913	TAM INTERNATIONAL, INC.	3781	VALLOUREC	2133,2233
SKF STEEL	1375	TAURUS HUNGARIAN RUBBER WORKS	6727	VALVCON (VALVE CONTROL CO.)/ HYDRIL	3901,9502
SKINNER BROS. CO. INC.	3733	TAURUS OILFIELD PRODUCTS CO.	4236	VALVE CONCEPTS INTERNATIONAL (VCI) - HYDRIL	3901,9502
THE SKYTOP BREWSTER CO.	2357,9221	TAYLOR DIVING & SALVAGE CO.	3401	VAN LEEUWEN PIPE & TUBE	1457,1473
SMF INTERNATIONAL	2133,2233	A HALLIBURTON CO.		VAN LEUSDEN B.V.	1457,1473
SMIT INTERNATIONAL	1457,1473	TAYLOR TOOLS	3534	VARCO INTERNATIONAL, INC.	3231
SMIT INTERNATIONAL (AMERICAS) INC.	1457,1473	TAYLOR WOODROW ENERGY LTD	3347,3351	VAREL MANUFACTURING CO.	2375
SMIT INTERNATIONAL MARINE SERVICES	1457,1473	TAYWOOD SANTA-FE LTD.		VEREINIGTE DEUTSCHE METALLWERKE AG	1755,1773
SMIT INTERNATIONAL OCEAN TOWAGE	1457,1473	TBW INDUSTRIES, INC.	1435	VEROLME BOTLEK	2797
AND SALVAGE COMPANY		TDI ENGINE STARTERS, INC.	3598	VEROLME ENGINEERING WORKS &	4234
SMIT INTERNATIONAL TRANSPORT	1457,1473	TECH CARBIDES INC.	9336	FIELD CONSTRUCTION IJSSELMONDE	
SMIT-LLOYD	1457,1473	TECH OIL PRODUCTS, INC.	8831	VETCO OFFSHORE INC.	4525
SMIT TAK ANTI POLLUTION SERVICES	1457,1473	TECHNICAL RESEARCH	6361,9130	A SUB. OF COMBUSTION ENGINEERING	
SMIT TAK INTERNATIONAL SALVAGE CO.	1457,1473	CENTER OF FINLAND		VICINAY S.A.	2634
SMITH INTERNATIONAL, INC.	2405	TECHNOLOGY EXPORT CO.	6925	VICKERS PLC	3347,3351
SMITH TOOL	2405	(ARROW OIL TOOLS)		VICTOR FLUID POWER	6129,8809
SNAMPROGETTI (ENI GROUP)	7125	TECNOMARE (ENI GROUP)	7125	VICTOR PRODUCTS LTD.	6552
SNAP-ON TOOLS CORP.	2798	TEHALIT	1755,1773	VICTORIA MACHINE WORKS, INC.	2863
SOCIDOC/PETROLE INFORMATION	2133,2233	TEJAS, INC.	3639	VIKING - A/S NORDISK	1381
SOCIETY OF EXPLORATION GEOPHYSICISTS	4032	A SUB. OF CAMCO, INC.		GUMMIBAADSFABRIK	
SOCIETY OF MINING ENGINEERS OF AIME	2866	TELECO OILFIELD SERVICES INC.	6505	VIKUBO ELASTOMERPRODUKTEN B.V.	1457,1473
THE SOCIETY OF NAVAL ARCHITECTS	1115	TELEDYNE INC.	1307	VILLAGE MARINE	2783
AND MARINE ENGINEERS		TELEKTRON LTD.	3347,3351	VOITH	1755,1773
SOCIETY OF PETROLEUM	4228,4230	TERMINAL INSTALLATIONS INC.	3211	VOITH TRANSMISSIONS, INC.	6701
ENGINEERS OF AIME		TERRA TECHNOLOGY CORP.	2791	VOLKER STEVIN DREDGING B.V.	1457,1473
SOPEC INC.	3267	TEXAS A&M UNIVERSITY	3536	VON TELL	1375
SOFRESID	2133,2233	TEXAS GULFPORT	1709	VREDESTEIN	3271
SOLAR TURBINES INC.	1501	SHIPBUILDING CO.		VRIJHOF	3271
SOLOCO	4729	TEXAS IRON WORKS, INC.	1134	VRIJHOF ANKERS B.V.	1457,1473
SOLUS OCEAN SYSTEMS, INC.	2101	TEXAS MARINE	3562	VULCAN IRON WORKS INC.	2839
SONAT OFFSHORE DRILLING INC.	3593	TEXAS OIL TOOLS, INC.	4077	W-K-M DIV.	4316
SONATECH, INC.	3470	GH-TEXAS REAMER	2335,9625	ACF INDUSTRIES, INC.	3261
SOUND POWERED TELEPHONE CO. LTD.	3347,3351	THE METALLURGICAL SOCIETY OF AIME	2882	W.B. ARNOLD CO., INC.	2379
SOUTHERN BOLT & FASTENER CORP.	4024	THOMAS INSTRUMENT & MACHINE CO., INC.	3285,8909	WABCO	3596
SOUTHERN FIRE & SAFETY	4254	THOMAS TELFORD LTD.	3347,3351	WADECO, INC.	9139
SOUTHERN SPRING MFG. INC.	4080	THOMSON CSF	2133,2233	WAGNER INTERNATIONAL, INC.	4066
SOUTHWEST RESEARCH INSTITUTE	2299	GH-THORNHILL CRAVER	2335,9625	WANNER ENGINEERING, INC.	7311,8867
SOUTHWESTERN ALLOYS, INC.	7154	THRUST HYDRAULICS	1165	WARREN ALLOY VALVE	
SPAN INSTRUMENTS INC.	4013	THUNE-EUREKA A/S	2433,2449	AND FITTING CO. INC.	2697
SPARROWS OFFSHORE SERVICES	3347,3351	THYSEN AG	1755,1773	WARREN AUTOMATIC TOOL CO.	6361,9130
SPECIALTIES CO./	4005	THYSEN AKTIENGESSELLSCHAFT	1755,1773	OY WARTSILA AB, ARCTIC DIV.	1375
COPPER STATES RUBBER, INC.		VORM. AUGUST-THYSEN-HUETTE		WARTSILA POWER	6361,9130
SPECIALTY MATERIALS/GE	1263	TIDELAND SIGNAL CORP.	4647	WARTSILA POWER, INC.	2698
SPECIFIC SYSTEMS, LTD.	3789	TIDEWATER MARINE SERVICE, INC.	4011	WASHINGTON CHAIN & SUPPLY, INC.	9740
SPEEDSTAR DIV., KOEHRING CO.	8949	TIMBERLAND EQUIPMENT LTD	1211,1561	WATER PURIFICATION INC.	4846
SPIE OFFSHORE	2133,2233	DRESSER TITAN	2503,9201	WATERCRAFT AMERICA, INC.	2503,9201
SPS TECHNOLOGIES	6522	DIV. OF DRESSER INDUSTRIES INC.		WAUKESHA ENGINE	
SSPA	1375	TNO ORGANISATION FOR APPLIED	1457,1473	DIV. OF DRESSER INDUSTRIES, INC.	1433,9621
ST. JOHN SHIPBUILDING &	1211,1561	SCIENTIFIC RESEARCH		WEATHERFORD	6251
DRY DOCK CO. LTD.		TOM WHEATLEY VALVE DIV.	2888	THE WEIR GROUP	3347,3351
ST. LOUIS SHIP	1175	SUMMIT OILFIELD CORP.	4026	WEIR PUMPS LTD.	3401
GH-STABIL DRILL	2335,9625	TOOKE ENGINEERING CO., INC.	3770	WELEX	
STAL REFRIGERATION	2275	TORQUE SYSTEMS		A HALLIBURTON CO.	2733
STAL-LAVAL, INC.	2275	INTERNATIONAL, INC.		WELL CONTROL, INC.	4138
STANDARD LABORATORIES, INC.	7329	THE TORRINGTON CO.	1159	THE WELLS COMPANIES	1811
STANDCO INDUSTRIES INC.	2495	TOTAL	2133,2233	TRW WENDT-SONIS	3632
STANLEY PLASTICS (DEVELOPMENTS) LTD.	3347,3351	TOTCO, (TECHNICAL OIL TOOL CORP.)	3317	THE WESTERN CO. OF NORTH AMERICA	8731
STATE BOAT CORP.	3548	TRADEQUIP	3753	WESTERN GEAR CORP.	1539
STATENS PROVINGSANSTALT	1375	TRANSAMERICA DELAVAL INC.	4054	WESTLAND HELICOPTERS LTD.	3347,3351
STEEL PLATE & SECTIONS LTD.	3347,3351	TRANSPORTATION EQUIPMENT/GE	1263	WHITEHILL MFG. CORP.	6807
STEWART & STEVENSON SERVICES, INC.	3511	TREFILARBED S.A.	1755,1773	WHITTAKER CORP. SURVIVAL SYSTEMS DIV.	2119
STEWERT GAUGES (C & A STEWART) LTD.	3347,3351	TREG, S.P.A.	1187	WICHITA PUMP CO.	1142
STITT SPARK PLUG CO.	2776	TRI-FLO INDUSTRIES	9834	WIJSMULLER	1457,1473
STRAINSTALL LTD.	2749	INTERNATIONAL INC.	8723	WIKI INSTRUMENT CORP.	7128
STRATA BIT CORP.	6806	TRI-J SUPPLY CORP.	7213	WILD WELL CONTROL, INC.	2758
STRATHCLYDE DEVELOPMENT	6251	INTERNATIONAL PETROLEUM		WILLEM MULLER B.V.	1457,1473
STRATOFLEX, INC.	4475	ENGINEERING CORP., TRI-MAX*		WILLIS	2405
STREAMLIGHT, INC.	7309	TRI-OCEAN ENGINEERING LTD.	1211,1561	WILSON & HAYES, INC.	1636
STURM MACHINE	4138	TRI-STATE OIL TOOL	1113	WILSON MACHINE CO. LTD.	1211,1561
SUB-SEA SYSTEMS, INC.	1734	INDUSTRIES, INC.		WIMPEY OFFSHORE LTD.	3347,3351
TRW SUBSEA	1811	TRICO INDUSTRIES, INC.	4627	WIRE ROPE INDUSTRIES OF CANADA LTD.	1211,1561
SULLAIR CORP.	7225	TROSVIK ENGINEERING A/S	2433,2449	WOMACK MACHINE SUPPLY CO.	2775
SULLAIR CORP.	9314	TRW INC.	1811	JOHN WOOD GROUP PLC	3347,3351
SULZER BROTHERS LTD.	4665	GH-TTE	2335,9625	WOOLLEY TOOL AND MANUFACTURING	4138
SUMITOMO CORP.	1673	TUBULAR PRODUCTS DIV./HYDRIL	3901,9502	WORLD OIL	3753
SUMITOMO HEAVY INDUSTRIES, LTD.	1673	TURMERIC, LTD.	4039	XORBOX	9328
SUMITOMO METAL INDUSTRIES, LTD.	1673	TWIN DISC, INC.	3147	THE YOKOHAMA RUBBER CO., LTD.	1673
SUMITOMO OCEAN DEVELOPMENT &	1673	U.I.E. SHIPBUILDING LTD.	6251	YORK DIV. BORG-WARNER	4860
ENGINEERING CO., LTD.		UDDCOMB	1375	HADEN YOUNG LTD.	6251
SUMMEET LTD. T/A HAMBLIN &	3347,3351	UGLAND GROUP	2433,2449	ZAPATA CORP.	4467
CRONIN OILFIELD PRODUCTS		ULTRAGLIDE LTD.	3347,3351	ZIDELL EXPLORATIONS, INC.	6721
SUMMIT OILFIELD CORP.	2888	UNION CARBIDE COATINGS SERVICE	4074	JOHN ZINK CO.	7301
SUPERFOS HYDRAULIC A/S	1381	UNION INDUSTRIELLE	2133,2233		
SUPERIOR ENERGIES, INC.	1183	ET D'ENTREPRISE UIE			

General information

Allgemeine Informationen

Información general

Informations générales



OTC Awards Luncheon Honors Exxon Scientist and Cameron Iron Works

The 1983 OTC Distinguished Achievement Awards for Individuals and Organizations will be presented at the Awards Luncheon on Monday, May 2 at 12:15 p.m. in the Astrohall Ballroom. Honored this year are Peter R. Vail and Cameron Iron Works.

Vail, senior research scientist for Exxon Production Research Co., is recognized for outstanding contributions to offshore geology and geophysics by his research on sea-level changes through geologic time and their worldwide effects on stratigraphy and petroleum accumulation. His concepts have led to improved methods of geologic age determination and stratigraphic prediction from seismic data, particularly valuable in offshore areas where well information is expensive and scarce.

Cameron Iron Works is honored for the development, design, manufacture, and installation of the first caisson subsea completion system, the first such system installed with critical components below the mudline. The innovative system yields maximum protection in offshore areas where anchors, nets, trawlboards and icebergs pose a hazard to subsea completions.

Tickets for the Awards Luncheon are \$15.00 each and may be ordered on the Advance Registration Form or purchased at the registration counters at the Conference.

Houston — The Petroleum Capital of The World

Houston, the fifth largest city in the nation with more than 2.5 million people, is the headquarters for America's petroleum industry as well as many of the largest engineering firms that deal with offshore operations. The city is also renowned for its achievements in space and science technology as demonstrated at NASA and the Texas Medical Center.

More than 409 miles of freeway link the visitor to Houston and its major attractions, cultural arts, superb shopping, fine dining and entertainment establishments and sports events.

Houston is one of the only three cities in the nation that has all major performing arts — Opera, Ballet, Symphony and Theater — and boasts other entertainment including year-round rodeos, chili cook-offs and international festivities.

Houston offers moderate weather in May, with average temperatures of 76°F (24.4°C).

Transportation

Taxi Service — Intercontinental Airport — Flat rates are available from Intercontinental Airport. Prices vary depending on zone traveled to. Share-a-cab is permitted with a maximum of four persons per cab. A brochure describing this service and all taxi rates within the city limits is available at the information desk in the airport terminal.

Taxi Service — Astrohall — A taxicab stand is located in the breezeway between the Astrodome and Astrohall. Special share-a-cab flat rates are in effect for Intercontinental Airport passengers.

Airport Limousine Service — Bus service to hotels from Houston's Intercontinental Airport and Hobby Airport is available. Tickets can be purchased at the Limousine Service area at each airport. Fares are \$6.00 per person one way from Intercontinental. Hobby Airport service fares vary depending on terminal point.

Buses will transport passengers to the terminals listed below:

Terminal Location	Address	Telephone Number
Post Oak	5000 Richmond	871-0393
Greenway Plaza	3769 Southwest Freeway	871-0096

Hyatt Regency Downtown	1200 Louisiana	757-0888
South Main	7011 South Main	790-9160

Hotel courtesy phones, public phones and taxi service are at the terminals. Many hotels provide courtesy pick-up service from terminal to hotel. Return service to airports is also available from these terminals.

Shuttle Bus Service — OTC will provide complimentary shuttle bus service between the Astrodome Complex and all hotels and motels listed with the OTC Housing Bureau and the official Travel Agents during the Conference, May 2-5, 1983.

Buses will begin operation Monday, May 2, at 7:00 a.m. and the last departure from the Astrodome Complex to hotels will be 30 minutes after the close of the Exhibit daily.

Shuttle bus operation will be interrupted during the hours 12:00 noon - 3:00 p.m. daily, except to downtown Houston. On Thursday, May 5, there will be no interruption of service.

Astrodome Parking — Special Parking Permits that allow "In-and-Out" privileges during Conference days, Monday, May 2 through Thursday, May 5 will be available for a \$12.00 fee at all "Early-Bird Registration" sites, Wednesday, April 27 through Friday, April 29, 8:30 a.m. to 5:00 p.m.

Additionally, Special Parking Permits can be purchased in the Exhibitor Services Areas in the Astrodome, Astrohall and Astroarena. The \$3.00 one-time parking fee will be applied to the \$12.00 fee with redemption of your parking receipt. Vehicles are prohibited from parking overnight.

Message Center: A message center, operated by Southwestern Bell Telephone Co. will be located in Room 300 of the Astrohall. The message center telephone number is (713) 791-1600. It will be open during Conference hours. No paging system is available in the Astrodome Complex. All messages for persons attending the conference should be telephoned to the above number. Registrants should periodically check Room 300 for incoming messages.

An OTC Airport Housing and Information Desk will be set up at both Intercontinental and Hobby Airports for the attendees of the 1983 Offshore Technology Conference. This service will be available on Saturday, April 30 and Sunday, May 1 from 9:00 a.m. through 10:00 p.m. at Houston Intercontinental and on Sunday only at Hobby Airport from 9:00 a.m. through 10:00 p.m.

Staff will be available to answer any questions pertaining to Houston, transportation, the OTC, and housing accommodations in Houston.

NASA TOURS Visit the training and control site of the nation's only center for manned space flight and see a Mercury, Gemini, and Apollo spaceship, moon rocks, space food, and other mementos of the space program. Visit Skylab to view firsthand how the astronauts lived and performed experiments in space for extended periods of time, visit Mission Control, and see the Space Shuttle. Tours will be offered on Tuesday, May 3 and Wednesday, May 4 from 10:00 a.m. to 2:30 p.m. each day. Tour guide will be bilingual in order to assist our many international guests. **Service Includes:** • All transportation • Knowledgeable hostess/guide aboard each bus. **Cost Per Person:** \$12.50 (4½ Hours).

**Mail Your
Advance Registration Form Early!**

Post-Conference Continuing Education Programs

Six OTC Sponsoring Societies will offer continuing education programs on Friday and Saturday, May 6-7, 1983. Information on all courses may be obtained from the contact person listed for each course.

American Society of Civil Engineers

Course Title: Design of Coastal Structures
Date: May 6-7 **Place:** SHAMROCK HILTON HOTEL
Instructors: Robert M. Sorensen, Lehigh University; J. Richard Weggel, U.S. Army Coastal Engineering Research Center

Course Description: This two-day course will initially review basic background material on wave mechanics, wave/structure interaction and beach processes required to understand the functional and structural behavior of coastal structures. Important design aspects of the various classes of structures found in the coastal zone will be addressed. These include rubble mound structures, revetments, bulkheads, piles and floating breakwaters. The course is intended for the practicing engineer who desires a thorough introduction to the design of coastal structures.

Course Title: Offshore Pile Foundations
Date: May 6-7 **Place:** SHAMROCK HILTON HOTEL
Instructors: Hudson Matlock, Jean Audibert, Dewaine Bogard; Ertec, Inc.

Course Description: This two-day course will cover the general concepts of the behavior of soil-pile-structure systems and an overview of methods used in current design practice. Discussions will include methods of insitu testing, and interpretation of soil properties for use in pile design. Example problems will be given both to demonstrate conventional practice and to underline significant areas requiring special consideration. Individual and group pile response under complex loadings will be discussed.

Contact: Patricia Irmen, Manager, Continuing Education Services, ASCE, 345 East 47th Street, New York, N.Y. 10017, (212) 705-7668

American Association of Petroleum Geologists

Course Title: Seismic Stratigraphy: Its Role as an Exploration Tool
Date: May 6 **Place:** SHAMROCK HILTON HOTEL
Instructors: Dr. Bradford Macurda

Course Description: Seismic stratigraphy produces a geological understanding of the development of sedimentary basins and the generation and stratigraphic entrapment of hydrocarbons.

Seismic stratigraphy focuses on the major genetic units of the stratigraphic record sequences. These are bounded by unconformities and demonstrate the episodic deposition of the stratigraphic record. Lateral variations in the seismic characteristics of a sequence permit facies analysis.

A seismic stratigraphic study, when combined with a geo-history analysis, yields significant data on the principal objectives of an explorationist: reservoir, source trap, and hydrocarbons. A workshop, involving the interpretation of seismic data from Alaska, illustrates the application of seismic stratigraphic principles in evaluating these parameters.

Contact: Susan Bitner, Manager, Education Department, AAPG, P.O. Box 979, 1444 So. Boulder, Tulsa, Okla. 74101, USA.
(918) 584-2555, Telex: 49-9432

American Institute of Chemical Engineers

Course Title: Fundamentals of Petroleum Reservoir Fluid Flow
Date: May 6-7 **Place:** STOUFFER'S GREENWAY PLAZA HOTEL
Instructors: Prof. H. C. (Slip) Slider, Ohio State University

Course Description: This course will explain complex problems in petroleum reservoir fluid flow in relatively simple math and relate the theory to practical applications in terms familiar to the working

engineer. This course starts with basic fundamental concepts and is thus well suited for engineers that have no prior knowledge as well as for experienced engineers who do not understand the methods that have been applying. The course covers an area where misapplication of methods appears to prevail in the industry.

Contact: Harold I. Abramson, American Institute of Chemical Engineers, 345 East 47th Street, New York, N.Y. 10017.
(212) 705-7526

Society of Exploration Geophysicists

Course Title: Understanding and Interpreting 3-D Seismic Data Volumes
Date: May 6 **Place:** SHAMROCK HILTON HOTEL
Instructors: Mr. Marion R. Bone

Course Description: Complex subsurface problems are sometimes better understood through utilization of the 3-D seismic technique. Unfortunately, the work has just begun when the data have been collected and processed. The interpretation of the results of the 3-D survey defines a level of success of the technique. This course will explore the "pitfalls" that can occur in the interpretation exercise and will discuss methods to approximately understand the 3-D data volume.

Contact: Susan M. Hammond, Continuing Education Supervisor, SEG, P.O. Box 3098, Tulsa, OK. 74101, (918) 745-0613

American Society of Mechanical Engineers

Course Title: Compliance requirements for ANSI/ASME SPPE Surface and Subsurface Safety Valves used in Offshore Oil and Gas Operations including Code procedures, Repair and Remanufacturing
Date: May 6-7 **Place:** MARRIOTT ASTRODOME HOTEL
Instructors: Donald Dukes, Bakwe Packers Completion Systems, Broken Arrow, Okla.

Course Description: This course will benefit users, manufacturers, remanufacturers, assemblers, repair and service organizations that must comply with OCS orders; API documents 14A, 14B, 14D, 14H and ANSI/ASME SPPE 1 and SPPE 2. This course will set forth compliance requirements and responsibilities of various organizations, and also the interrelationship and interface between the various documents and regulations, as related to surface and subsurface safety valves. Emphasis will be placed on new code procedures, repairs, remanufacturer accreditation requirements, appeal and inquiry procedures and quality assurance program requirements. The program will include 1982 requirement changes occurring in the various documents; API and Minerals Managements training requirements. ANSI/ASME SPPE and API committees and subcommittees, their structures and the interactions between other suppliers, users and government agencies.

Contact: Joy Collier, Manager, ASME, Professional Development Program, 345 East 47th Street, New York, N.Y. 10017.
(212) 705-7743

Institute of Electrical and Electronics Engineers

Course Title: Basic Project Management
Date: May 6-7 **Place:** SHAMROCK HILTON HOTEL
Instructor: Mr. M. W. Buckley, Jr., Administrator Planning and Measurement, RCA

Course Description: This course of study will afford you an opportunity to study fundamentals of successful project management — everything from organized project study to managing the work and progress to forecasting when to bring in manpower and materials. Vital aspects of project management such as estimating activity span time, organizational conflicts, inherent in project management, to knowing how and when to use a computer will be considered in detail.

Contact: Carolyn A. Yankoski, Course Coordinator, IEEE, 445 Hoes Lane, Piscataway, New Jersey 08854, (201) 981-0060

OTC Executive Committee

The **Offshore Technology Conference** represents one of the largest and most comprehensive interdisciplinary, cooperative ventures in the engineering and scientific community. The 11 societies that sponsor OTC account for more than 500,000 members worldwide, and span every technology associated with the exploration and production of ocean resources and environmental protection. OTC is governed by an Executive Committee comprised of a representative of each sponsor society plus an Exhibitor's Representative and the Executive Manager. The OTC Program Committee is similarly organized, with representatives from each of the 11 societies jointly responsible for the solicitation, selection, and scheduling of papers on the OTC Technical Program.

OTC Sponsor Societies



The **American Association of Petroleum Geologists (AAPG)** has a membership in excess of 36,000. AAPG's aim is to advance the science of geology, as it relates to petroleum and natural gas. This includes the promotion of technology for exploration, discovery, and production; fostering the spirit of scientific research; disseminating information of geology and related technology, inspiring and maintaining high standards of professional conduct; providing for the recognition of adequately trained and responsible petroleum geologists. AAPG publications and continuing education courses often focus on topics in offshore exploration.

◀ **M. E. Milling**, *ARCO Oil and Gas Co.*



The **American Institute of Chemical Engineers (AIChE)** is dedicated to the advancement of chemical engineering and the maintenance of high professional standards. AIChE comprises more than 60,000 graduate chemical engineers and 4,000 undergraduates. Its primary technical concerns lie in the areas of chemistry, energy, food production, environmental protection, and medicine. These areas are addressed by the Institute's 11 Divisions, such as the Fuels and Petrochemicals Division, which is concerned with the accelerated development of all energy sources. AIChE also sponsors a number of meetings throughout the year to deal with specific problems facing the industry.

◀ **W. B. Katz**, *Illinois Chemical Corp.*



The **American Institute of Mining, Metallurgical, and Petroleum Engineers (AIME)** serves more than 90,000 engineers and scientists in some 35 fields of specialized technology in the areas of minerals, mineral fuels, and materials. Founded in 1871 as the American Institute of Mining Engineers, AIME is known as one of the five Engineering Founder Societies. The technical coverage of the Institute has constantly broadened throughout its existence, following the growth patterns of its four Constituent Societies: the Society of Mining Engineers, The Metallurgical Society, the Iron and Steel Society, and the Society of Petroleum Engineers. AIME headquarters functions include interdisciplinary activities, relations with other engineering societies and federations, communications with government agencies, and long range planning.



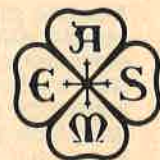
The **American Society of Civil Engineers (ASCE)** is dedicated to "the advancement of the science and profession of engineering to enhance the welfare of mankind." ASCE, with a membership of 86,000 individual engineers and other qualified persons, counts continuing education and professional growth as its primary activities. The membership is also concerned with the protection and promotion of professional standards, the legal registration of engineers, development of professional consciousness within the civil engineering profession and its students, undergraduate and graduate engineering education, stimulation of technical research, and publication of new technical information. To conduct and support this work, ASCE sponsors 82 sections, 130 branches, 225 student chapters and clubs, and hundreds of national technical and professional committees.

◀ **W. J. Emrich**, *McClelland Engineers*



The **American Society of Mechanical Engineers (ASME)** was founded in 1880 as an educational and technical society of individual members — now totalling some 107,000. There are 11 ASME geographic regions with a network of sections, subsections, groups, and student chapters. Members may participate in one or several of the 32 Technical Divisions that specialize in multifaceted areas of mechanical engineering. A major activity of the Divisions is the sponsorship of international and national meetings and symposia. Its Petroleum Division specifically serves the petroleum, natural gas, petrochemical, and other energy industries. ASME conducts one of the largest technical society publishing operations in the world, committing a broad spectrum of engineering experience and research to the printed word.

◀ **M. M. Livingston**



The **Institute of Electrical and Electronics Engineers (IEEE)** is a scientific, educational, and professional organization with more than 220,000 members in 140 countries. The scope of technology encompassed by IEEE covers the entire electrical and electronics spectrum, with its technical activities being conducted through 30 Societies and two Technical Councils representing major areas of specialization. IEEE published 15 percent of the world's technical literature in electrical/electronics engineering. IEEE's activities in the various fields of technology related to the sea, lakes, and coastal regions are conducted through the IEEE Council on Oceanic Engineering, of which 17 IEEE Societies are members. The Council's principal activities include the publication of a journal and newsletter, the sponsorship of conferences and the development of standards.

◀ **J. C. Redmond**, *GTE Products Corp.*





The Marine Technology Society (MTS), founded in 1963, is an interdisciplinary professional organization, concerned with the application of science and technology to the exploration and utilization of the oceans. A leading organization in this area, its 3,300 members and officers include outstanding scientists, educators, engineers, economists, attorneys and the interested public. The Society's national headquarters in Washington, D.C. serves as a focal point for disseminating scientific and technical information, maintaining close liaison with federal, state and local government officials on policy questions, and publishing reports on current research and technical development. MTS sponsors 15 local sections in the United States and Canada and 30 professional committees.

◀ **J. A. Rickard**, *Exxon Production Research Co.*



The Society of Exploration Geophysicists (SEG) works toward the promotion of science of geophysics, especially as it relates to exploration for petroleum and other minerals, and the maintenance of high professional standards among its members. SEG was founded in 1930 in Houston and now numbers some 18,000 members internationally. Membership is open to geophysicists and geologists engaged in mineral exploration, research and development. The Society's monthly journal contains contributed technical articles on the latest advancements in theory and application of geophysics. SEG also publishes *Geophysics: The Leading Edge of Exploration*, a popular fast-reading format magazine that includes a mix of geophysics and other earth sciences and industry news.

◀ **A. M. Olander**, *Exxon Co., U.S.A.*



The Society of Mining Engineers (SME-AIME) is dedicated to the advancement of the science and technology of the minerals industries. It serves some 27,000 members worldwide through its four Divisions: Coal, Industrial Minerals, Mining and Exploration, and Mineral Processing. As a part of its total program for advancing the exploration, mining and metallurgical sciences, SME focuses on the technology for ocean resource development through technical publishing and meeting programming. SME members conduct many local and regional meetings each year in addition to their Fall Meeting and the AIME Annual Meeting. The Society has gained international stature as one of the leading publishers of books for the industry, and it is also recognized for its monthly journal and other publications.

◀ **C. G. Welling**, *Ocean Minerals Co., OTC Executive Committee Chairman*



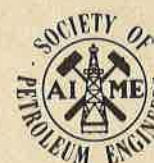
The Society of Naval Architects and Marine Engineers (SNAME) is a non-profit technical and professional organization of more than 13,000 individual members. Founded in 1893, SNAME's objectives include the exchange of information and ideas among its members, promotion of professional integrity, furtherance of education in naval architecture and marine engineering, and the encouragement and sponsorship of research. There are 16 geographic sections in the United States and Canada. SNAME holds an Annual Meeting, a spring meeting and periodic topical symposia in addition to local section meetings. The Technical and Research Program involves 900 volunteers in the investigation of design, production, maintenance and operation of ships, submarines, small craft, offshore and ocean bottom structures, hydrofoils and surface effect ships.

◀ **W. DuB. Thomas**, *J. J. Henry Co. Inc.*



The Society of Petroleum Engineers (SPE-AIME) is a 50,000 member technical and professional organization for engineers, scientists, and managers engaged in exploration, drilling, and production of oil and natural gas. SPE has 82 local sections in 22 countries and individual members in all of the world's major oil production areas. Each year the Society sponsors some 20 conferences and special interest symposia, including its Annual Meeting. Through these conferences and its technical publications, SPE has become the leading disseminator of technology on oil and natural gas, as well as other energy sources and minerals that can be produced through the wellbore.

◀ **D. G. Russell**, *Shell Oil Co.*



The Metallurgical Society (TMS-AIME), with a membership of more than 11,000, has as its primary goal the advancement of knowledge in metals and materials and associated technical areas. It provides a medium of communication and cooperation encompassing the major fields of manufacturing practices for extracting, refining, producing, and fabricating; understanding of behavior and properties; and the development and application of new or improved metals, alloys and materials. TMS represents the profession on educational matters and promotes high professional standards and unity. TMS technical meetings and publications are well known throughout the industry, as is TMS member involvement in materials behavior and performance in the ocean environment and the factors that affect corrosion, fatigue, welding, and economics in offshore projects.

◀ **J. D. Defilippi**, *U.S. Steel-Research*



R. C. Rieder
Exhibitor's Representative
Continental Emsco Co.



D. K. Adamson
OTC Executive Manager



Registration

Anmeldung

Inscripción

Inscriptions



OTC Housing Bureau
3300 Main Street
Houston, Texas 77002



Official Housing Request Form

Read Carefully: Please print or type all information, abbreviating as necessary. Confirmation will be sent by the hotel to the individual named in Part 1. Complete all portions of this form to ensure timely processing. A separate form must be submitted for each room request; form may be photocopied.

Part I — Requestor

Requestor's Last Name															First Name														
Name of Company or Firm																													
Street Address or P.O. Box Number																													
City															State														
Country															Zip — U.S.A.														
Area Code															Phone Number														
TELEX																													

Part II — Hotel Preference

Instructions: 1. Select three hotels from the list provided on page 33 and enter the appropriate code letters for each in the boxes below.

First Choice			Second Choice			Third Choice		
☐	☐	☐	☐	☐	☐	☐	☐	☐
Hotel Code			Hotel Code			Hotel Code		

2. In the event none of your choices is available, every effort will be made to assign comparable housing based on your first choice.

Part III — Occupancy & Room Rate

Instructions

1. Print or type names of all persons occupying the room.
2. Maximum of four persons can be listed.
3. Check type of room desired (single, twin, etc.).
4. Photocopy this form for each additional room.
5. Indicate arrival and departure dates and arrival time. No rooms are available for arrival on Monday, May 2. Housing requests received indicating arrival on Monday will be changed to reflect arrival on Tuesday.

Occupants Name(s) Print last name first

1.	
2.	
3.	
4.	

P + 1 = Parlor & one bedroom
P + 2 = Parlor & two bedrooms

Check one ☐ Single ☐ Double ☐ Twin

☐ P + 1 ☐ P + 2

Arr. Date: *

Dep. Date: *

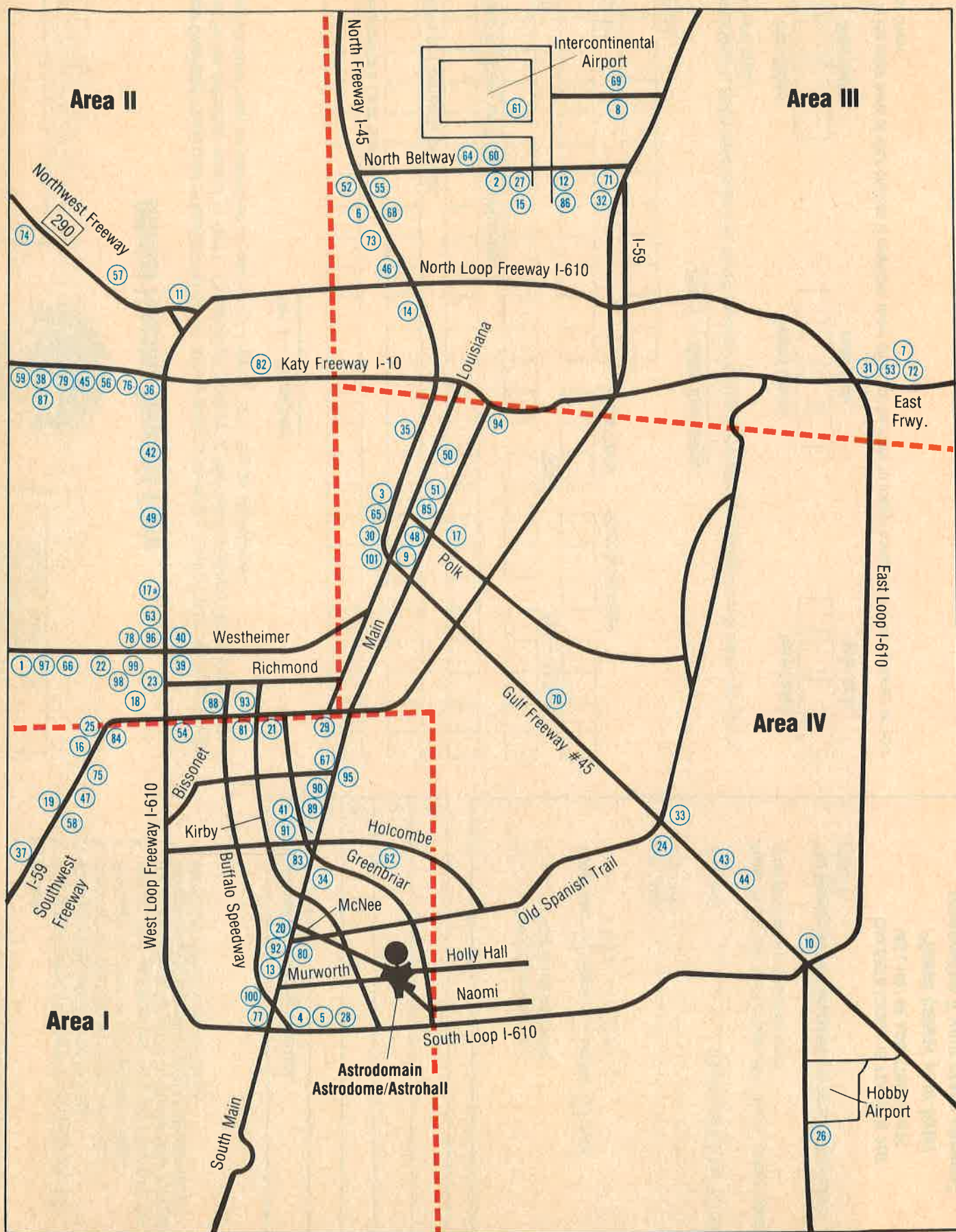
Arr. Time: _____ (Check one) ☐ AM ☐ PM

Note: Room will not be held after 6 p.m. unless special arrangements are made with hotel.

*No Monday Arrivals Accepted. See housing information, page 33.

CHILDREN UNDER 15 YEARS OF AGE
WILL NOT BE ADMITTED TO OTC.

**Please cancel your hotel
reservation if your plans change!**



High Demand

During OTC, Houston hotels will be booked to capacity to accommodate all attendees. It is strongly suggested that you share a room with an associate so accommodations can be provided for all OTC registrants.

Room requests are filled by the OTC Housing Bureau in order of receipt in the mail.

All housing requests are date-stamped. Immediately following the initial mailing of this invitational brochure, the Housing Bureau may receive several thousand requests daily.

Accommodations & Transportation

Excellent housing accommodations are available for OTC registrants in Houston. All rooms have telephones, televisions, and private baths with tub and/or shower. Most have two double beds.

Shuttle-bus service will be provided between all participating Houston hotels and the Astrodome complex during the Conference.

No rooms are available for arrival on Monday, May 2, 1983. Registrants who desire accommodations for Monday should plan to arrive on Sunday, May 1. Any housing requests indicating an arrival on Monday will automatically be changed to reflect an arrival on Tuesday, May 3.

Reserving Your Room

Complete and mail the Housing Form on page 31 according to the instructions provided. Submit a separate form for each room you wish to reserve, listing the names of all persons occupying the room. The OTC Housing Bureau will place all reservations and notify you of your hotel assignment. The hotel will then confirm to you directly.

Unless arrangements are made directly with the hotel from which you receive confirmation, reservations will not be held past 6:00 p.m. Deposits may be required by some hotels to guarantee reservations. If you are unable to attend the Conference, cancel reservations immediately with the OTC Housing Bureau, 3300 Main St., Houston, TX 77002.

Students

Rooms are available at the Quality Inn University for students. Each student housing request should be mailed to the Housing Bureau, along with a cover letter identifying it as a request for student housing.

1983 OTC Room Rates of Participating Hotels

AREA CODE	MAP CODE	HOTEL CODE	HOTEL	SINGLE	DOUBLE	TWIN	SUITE
II	1	AM	Adam's Mark Hotel	\$92.00	\$107.00	\$107.00	\$350.00 up
III	2	AH	Airport Hilton	75.00	75.00	None	None
IV	3	ALPI	Allen Park Inn	56.00	56.00	None	None
I	4	ASVL	*Astro Village Lodge	45.00	55.00	55.00	None
I	5	ASVT	*Astro Village Tower	52.00-68.00	62.00-78.00	62.00-78.00	200.00 up
III	6	GPI	Best Western-Greenspoint	50.00	60.00	60.00	None
III	7	BWH	Best Western-Houston East	41.00	49.00	49.00	None
III	8	IMI	Best Western-Intercontinental	48.00	55.00	None	None
IV	9	SAVH	Best Western-Savoy	68.00	74.00	80.00	125.00 up
IV	10	BMI	Bestway Inn-Gulf	35.00-40.00	35.00	40.00	None
II	11	MHB	Brookhollow Marriott	84.00	96.00	None	199.00 up
III	12	CI	Crossroads Inn	44.00	54.00	None	None
I	13	CM	Chief Motel	45.00	55.00	None	None
III	14	DIC	Days Inn-Cavalcade	32.88	None	None	None
III	15	DBT	Doubletree Hotel	83.00	97.00	97.00	200.00
I	16	DHH	*Dunfee Houston	60.00	68.00	None	175.00 up
IV	17	FSDT	*Four Seasons-Houston Center	110.00-140.00	130.00-150.00	None	None
II	17a	GG	Galleria Gardens	85.00	None	None	100.00 up
II	18	GOC	Galleria Oaks Corp. Inn	None	None	None	85.00 up
I	19	GR	Granada Royale	None	None	None	95.00 up
I	20	GM	Grant Motel	33.00	37.00	41.00	None
I	21	GW	Greenway Inn	34.00	38.00	None	None
II	22	GQH	Guest Quarters-Galleria West	None	None	None	125.00 up
II	23	GQ	Guest Quarters-Post Oak	None	None	None	125.00 up
IV	24	HM	Helena Motel	36.00	40.00	44.00	85.00
IV	25	HSW	*Hilton Southwest	97.00	112.00	112.00	200.00 up
IV	26	HH	Hobby Hilton	92.00	104.00	104.00	150.00 up
III	27	HIA	Holiday Inn-Airport	58.00	64.00	68.00	None
II	28	HIAV	Holiday Inn-Astrovillage	45.00	55.00	55.00	145.00 up
I	29	HIC	Holiday Inn-Central	48.00	54.00	56.00	None
IV	30	HID	*Holiday Inn-Downtown	82.00	95.00	95.00	195.00 up
III	31	HIE	Holiday Inn-East	54.00	60.00	63.00	None
III	32	HIEH	Holiday Inn-Eastex	44.00	50.00	53.00	None
IV	33	HIGF	Holiday Inn-Gulf Freeway	49.00	50.00	56.00	None
I	34	HIMC	Holiday Inn-Medical Center	56.00	None	65.00	None
IV	35	HIMP	Holiday Inn-Memorial Plaza	52.00	60.00	60.00	120.00 up
II	36	HII	Holiday Inn-Silber	57.00	63.00	65.00	None
II	37	HSW	Holiday Inn-Southwest	63.00-68.00	70.00-72.00	None	None
II	38	HIW	Holiday Inn-West (Katy)	54.00	60.00	65.00	None
II	39	HIWL	*Holiday Inn-Galleria West Loop	62.00	68.00	70.00	None
II	40	HGH	*Houston Grand	80.00	90.00	90.00	146.00
I	41	HP	*Houston Place Medical Center	60.00-85.00	75.00-100.00	None	125.00 up
II	42	HOUS	Houstonian	113.00	133.00	133.00	206.00 up
IV	43	HI	Houtex Inn	35.00	40.00	45.00	None
IV	44	HJG	*Howard Johnson's Gulf	41.00	47.00	50.00	None
II	45	HJK	Howard Johnson's — Katy	75.00	85.00	85.00	None
II	46	HJN	Howard Johnson's — North	60.00	None	65.00	None
I	47	HJSW	Howard Johnson's — Southwest	54.00	None	68.00	None
IV	48	HR	*Hyatt Regency Houston	100.00	100.00	100.00	185.00 up
II	49	IOP	Inn on the Park	90.00-155.00	110.00-175.00	110.00-175.00	325.00 up
IV	50	LAN	Lancaster Hotel	145.00-165.00	None	None	325.00
IV	51	LH	Lamar Hotel	60.00-72.00	70.00-82.00	72.00-76.00	92.00 up
III	52	LQN	La Quinta — 1960	38.00	42.00	44.00	None
III	53	LOC	La Quinta — Centerwood/East	36.00	40.00	43.00	None
I	54	LQGP	La Quinta — Greenway	44.00	48.00	50.00	None
III	55	LQI	La Quinta — Intercontinental	39.00	43.00	45.00	None
II	56	LQK	La Quinta — Katy	36.00	41.00	44.00	None
II	57	LQNW	La Quinta — Northwest	38.00	42.00	44.00	None
II	58	LQST	La Quinta — Sharpstown	37.00	41.00	44.00	None
II	59	LQW	La Quinta — Wilcrest	37.00	41.00	44.00	None
III	60	LHS	L'Hotel Sofitel	99.00	112.00	112.00	190.00 up
III	61	MHA	Marriott — Airport (Host)	85.00	95.00	None	None
II	62	MMH	*Marriott by the Astrodome	90.00	103.00	103.00	370.00 up
II	63	MHG	Marriott by the Galleria	91.00	None	106.00	185.00 up
II	64	MGP	Marriott — Greenspoint	82.00	94.00	94.00	170.00 up
IV	65	MMH	*Hotel Meridian Houston	95.00-135.00	135.00-155.00	135.00	375.00 up
II	66	PWMI	Park West Motor Inn	45.00	47.00	51.00	None
III	67	PLAZ	Plaza Hotel	75.00	85.00	85.00	150.00 up
III	68	PH	Point Hotel	36.00	42.00	None	None
II	69	QI	Quality Inn — Intercontinental	None	None	70.00	265.00
IV	70	QU	**Quality Inn — University	25.00	None	45.00	125.00
III	71	RIA	Ramada Inn — Airport/Eastex	55.00	None	65.00	None
III	72	RIE	Ramada Inn — East	55.00	55.00	None	None
II	73	RINL	Ramada Inn — North	70.00	80.00	None	None
II	74	RINW	Ramada Inn — NWX	80.00	90.00	90.00	None
I	75	RIS	Ramada Inn — Southwest	57.00-64.00	50.00-57.00	58.00-65.00	115.00
I	76	RIW	Ramada Inn — West	75.00	85.00	None	350.00
II	77	RCIA	Red Carpet Inn — Astrodome	45.00	51.00	55.00	125.00
II	78	RPO	Remington on Post Oak Park	130.00-175.00	150.00-195.00	150.00-195.00	None
II	79	RRMK	Roadrunner — Katy	34.00	None	36.00	None
II	80	RWA	Rodeway — Astrodome	40.00	None	45.00	None
II	81	RWGP	Rodeway — Greenway	35.00	39.00	41.00	None
II	82	RWK	Rodeway — Katy	34.00	38.00	38.00	None
I	83	SH	*Shamrock Hilton	63.00-113.00	79.00-129.00	79.00-129.00	250.00 up
I	84	SI	Sharpstown Inn	46.00	52.00	None	None
IV	85	SHEH	*Sheraton Houston	80.00	95.00	None	175.00 up
II	86	SCH	Sheraton Crown Hotel	68.00 up	None	82.00 up	350.00 up
II	87	SHTC	Sheraton Town & Country	66.00-72.00	74.00	72.00-78.00	120.00 up
II	88	SGP	*Stouffer's Greenway	99.00	116.00	None	170.00 up
I	89	TLM	Tidelands Motor Inn	49.00-54.00	58.00-61.00	59.00-63.00	95.00 up
I	90	TLII	Tides II Motor Inn	59.00	63.00	64.00	125.00 up
I	91	TOW	*Towers Hotel	40.00-45.00	45.00-50.00	None	80.00
I	92	TLD	Travelodge — Astrodome	50.00	60.00	None	None
II	93	TRLS	Travelodge Tower/Southwest	85.00	95.00	95.00	150.00
IV	94	UHD	University of Houston — Downtown	44.00	50.00	None	None
I	95	WARH	*Warwick Hotel	95.00-110.00	115.00-130.00	125.00-140.00	275.00
II	96	WPO	Warwick — Post Oak	125.00	145.00	None	235.00 up
II	97	WCH	*Westchase — Hilton	68.00-99.00	82.00-113.00	None	140.00
II	98	WGH	*Westin Galleria	105.00-135.00	125.00-155.00	None	245.00 up
II	99	WO	*Westin Oaks	105.00-155.00	125.00-175.00	None	325.00
I	100	WHMH	Whitehouse Motor Lodge	55.00	65.00	65.00	None
IV	101	WHIT	*Whitehall Hotel	95.00-115.00	105.00-125.00	105.00	275.00

* Limited number of rooms available in this hotel.

** Student housing is available at the Quality Inn University.



Registration Information

Registration fees for the 1983 Offshore Technology Conference are based on two registration alternatives:

1. **4-Day Registration** allowing access to both Conference and Exhibition for the duration of OTC '83. The fee is \$25.00 for members of an OTC Sponsor Society and \$35.00 for nonmembers.
2. **Daily Registration** allowing access to the Conference and Exhibition for a single, specified day. The fee per day is \$12.00 for members of an OTC Sponsor Society and \$20.00 for nonmembers.

Registration for college or university students with valid identification cards from their respective schools is complimentary. Spouses and students (other than college students) may register at 4-Day or Daily member rates.

Publications

The soft bound three-volume Proceedings will contain copies of all papers to be presented at the 1983 Conference. Registration fees **do not** include a copy of the 1983 Proceedings. Registrants may redeem Proceedings tickets for the three-volume set during Conference hours at the Proceedings Distribution Center in the Astrodome.

The 1983 Proceedings Index, listing 1983 papers by subject and author, will be mailed after the Conference. Additional copies of the OTC Proceedings Volumes and Index may be ordered on the special order form on page 27 of this brochure.

How to Register

There are three basic options for the individual registering for the 1983 Offshore Technology Conference.

Advance Registration by Mail: Complete the form on page 35, attach check or money order payable to Offshore Technology Conference, and mail before April 8, 1983 to OTC, 6200 North Central Expressway, P.O. Drawer 64705, Dallas, Texas 75206.

All Advance Registration materials ordered by mail, including meeting badges, luncheon tickets and Proceedings Volumes will be available at the Advance Registration Counters/Proceedings Distribution Center during Conference hours, May 2-5. No materials will be mailed before the Conference.

Advance registration materials (badges and tickets only) will be available for pickup April 27 through April 30, at the Astro Village Hotel, Room — Forum 7, 8:30 a.m. through 5:00 p.m. and Sunday, May 1, 8:30 a.m. through 3:00 p.m.

If you require registration confirmation, please complete the registration confirmation section on the Advance Registration Form and add the \$2.00 handling fee.

Early-Bird Registration: If you fail to register by mail and arrive in Houston the week before OTC, you are encouraged to take advantage of the Early-Bird Registration. Registration will be at the following: Hyatt Regency/Ebony Room; Astro Village/Forum 7; Stouffer's Greenway Plaza East/Poinsettia Room; Marriott Hotel by the Galleria/Sundance Room; Sheraton Inn-Town & Country/Ballroom II; and the Marriott Hotel-Greenspoint/San Antonio Room. The registration counters are open from 8:30 a.m. through 5:00 p.m., Wednesday, April 27 through Friday, April 29.

Registration During OTC: Registration counters will be open at three locations in the Astrodome complex during Conference hours, May 2-5. However, because registration lines during the Conference may be long, individuals are urged to take advantage of one of the two methods of advance registering.

No one under 15 years of age will be admitted to OTC '83.