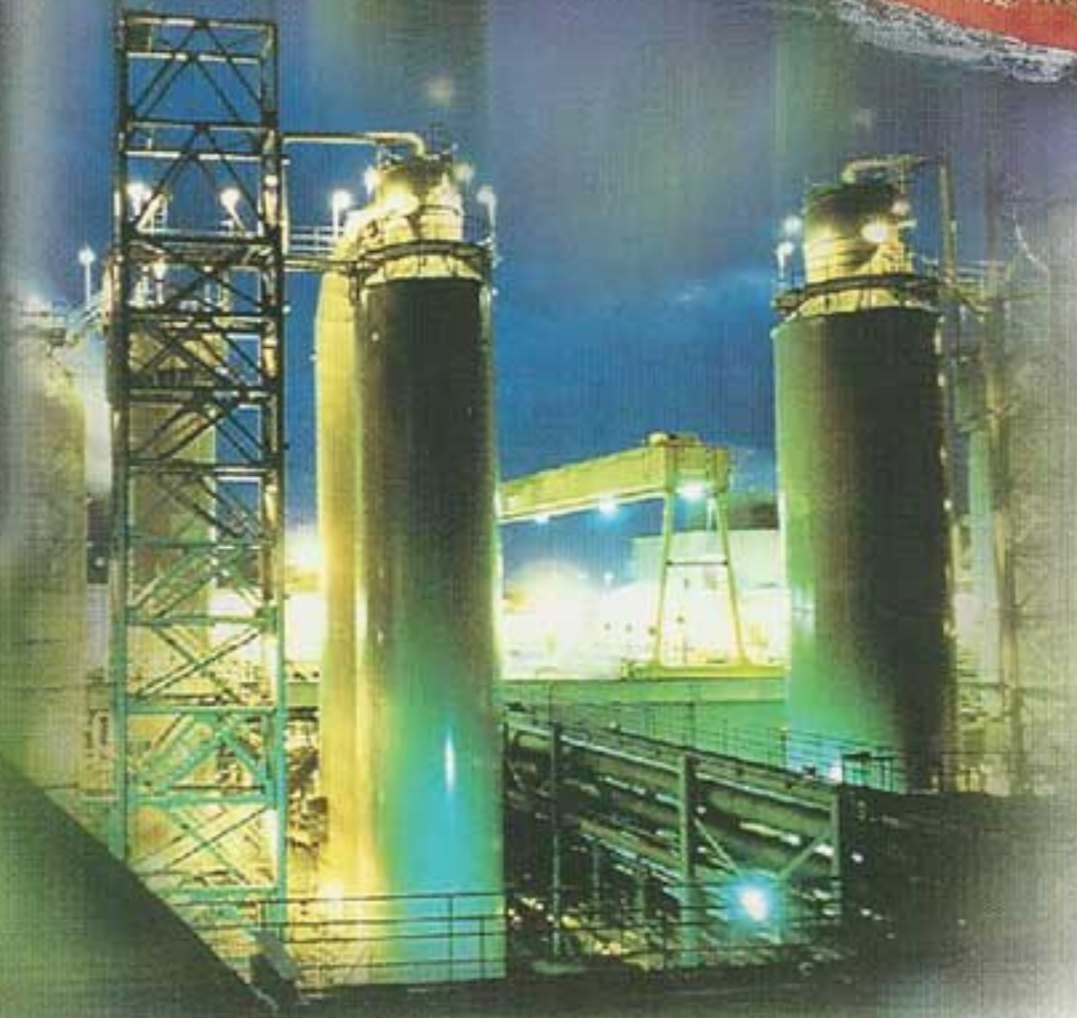
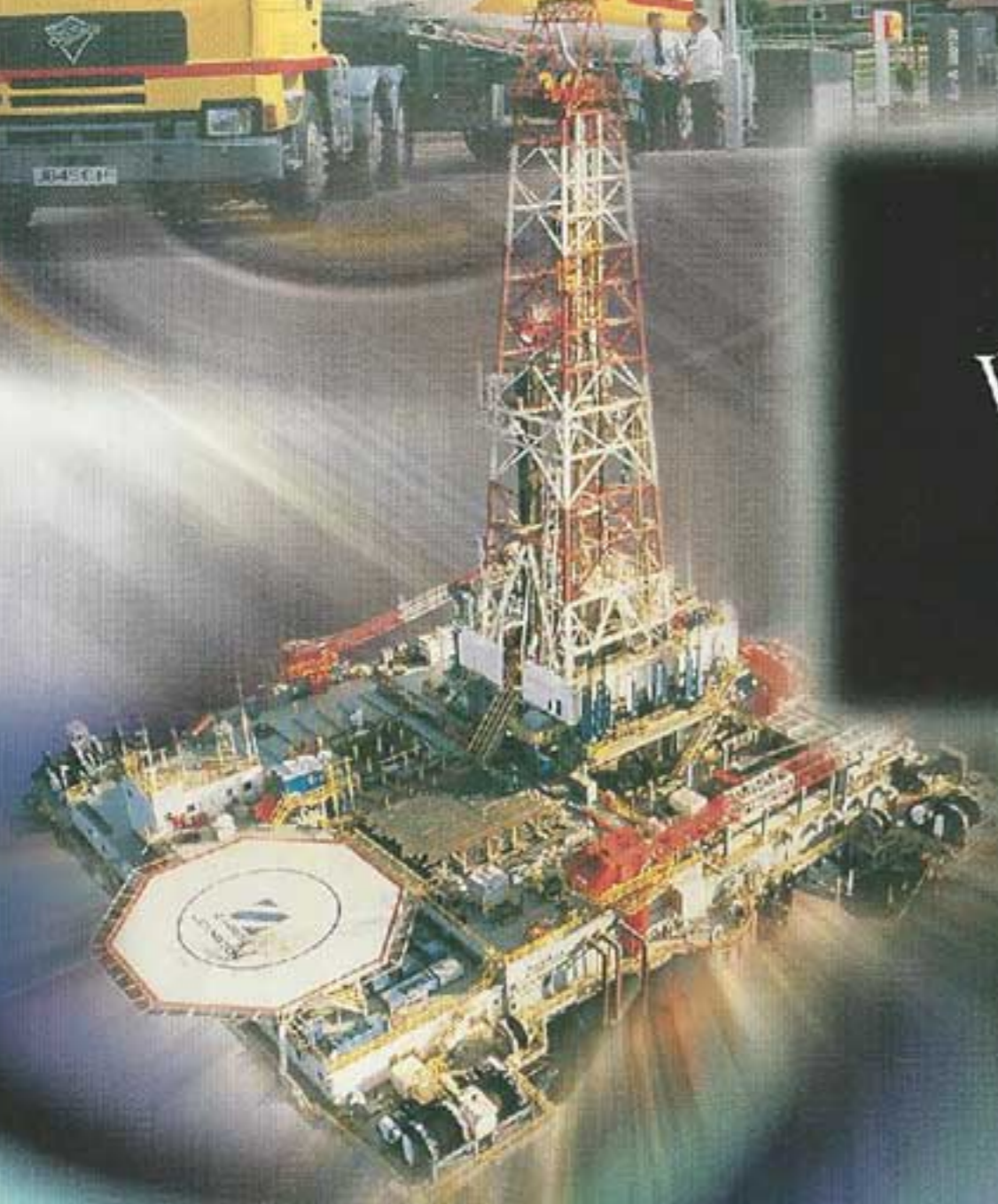


3M Solutions for the Oil, Gas and Petrochemicals Industries

We Can
Help

3M *Innovation*



3M Solutions for the Oil, Gas and Petrochemicals Industries

Exploration

The integrated solutions approach is focused on doing things better. It's about working with a global partner who understands you and your requirements - a partner who understands the realities of your business environment. It's about our commitment to provide you with technically supported solutions to help increase productivity, reduce wastage, enhance quality and add value to the products and services which you provide.

From exploration to production, from refining to retail, few companies can match our diversity of technologies,

Storage

products and services. To help meet the needs of a wide range of processes and issues, we are bringing together the resources of our business groups to offer you a simpler contact process.

A more direct line of communication with experts involved in your industry means easier access to a broad range of products for today's Oil, Gas and Petrochemicals industries. And easier access to over 100 technologies that can be drawn upon to meet the needs of tomorrow. We're committed to providing customers with solutions for specific applications. By working side-by-side - your specialists with our technologists - experience and technology platforms can be brought together to help you enhance and sustain your competitive edge.

Production





Refining & Chemicals

3M OFFERS SOLUTIONS FOR:

- **Worker Safety**
- **Environmental Safety**
- **Continuity of Operations**
- **Fire Prevention and Control**
- **Well Stimulation**
- **Plant Maintenance**
- **Corrosion Protection**

Retail



Transport

3M Solutions for the Oil, Gas and Petrochemicals Industries

3M SOLUTIONS



Right through the business of finding, refining and supplying oil and gas, we can help you to protect your workers, your plant and the environment.

Worker safety is of paramount importance. Our range of hearing protectors, respiratory aids and protective clothing will help you to safeguard the well-being of your personnel.

Continuity of operations is vital to the success of your business. We can help you to protect your plant and pipelines from the hazards associated with fire, spills and corrosion. With our assistance, you can expertly clean and protect your floors and surfaces. And the 3M range of electrical products can help to ensure long-term reliable performance from your electrical cables and connections.

In the Oil, Gas and Petrochemicals industries specification approval and testing is key. Our products have been rigorously tested to help ensure that they meet the most exacting industry standards. Our bespoke product range and training can help you to streamline your business and maximise your operating potential.

EXPLORATION

3M OFFERS

Worker safety issues:

- Hearing and respiratory protection
- Insulation and protection of workers
- Prevention of slip and fall accidents
- Vibration control
- Identification of hazardous areas and signing and visibility of safety hazards
- Visibility of workers



- Worker safety equipment:
 - One of the only complete full-line suppliers of hearing and respiratory protection in the marketplace
 - Products meet or exceed current legislation, designed for operator comfort
 - On-site evaluation, training and literature
 - Dedicated technical helpline
- Thin, flexible materials with excellent thermal insulation
- Slip-resistant materials and matting
- Vibration control products
- Reflective materials for signage:
 - 3 times brighter than standard sheeting
 - Signs perform effectively from wide viewing angles and low light conditions enabling a clear view
 - No need for hazardous gas bottles for temporary signs
- Reflective material for clothing keeps workers visible in dull conditions and at night



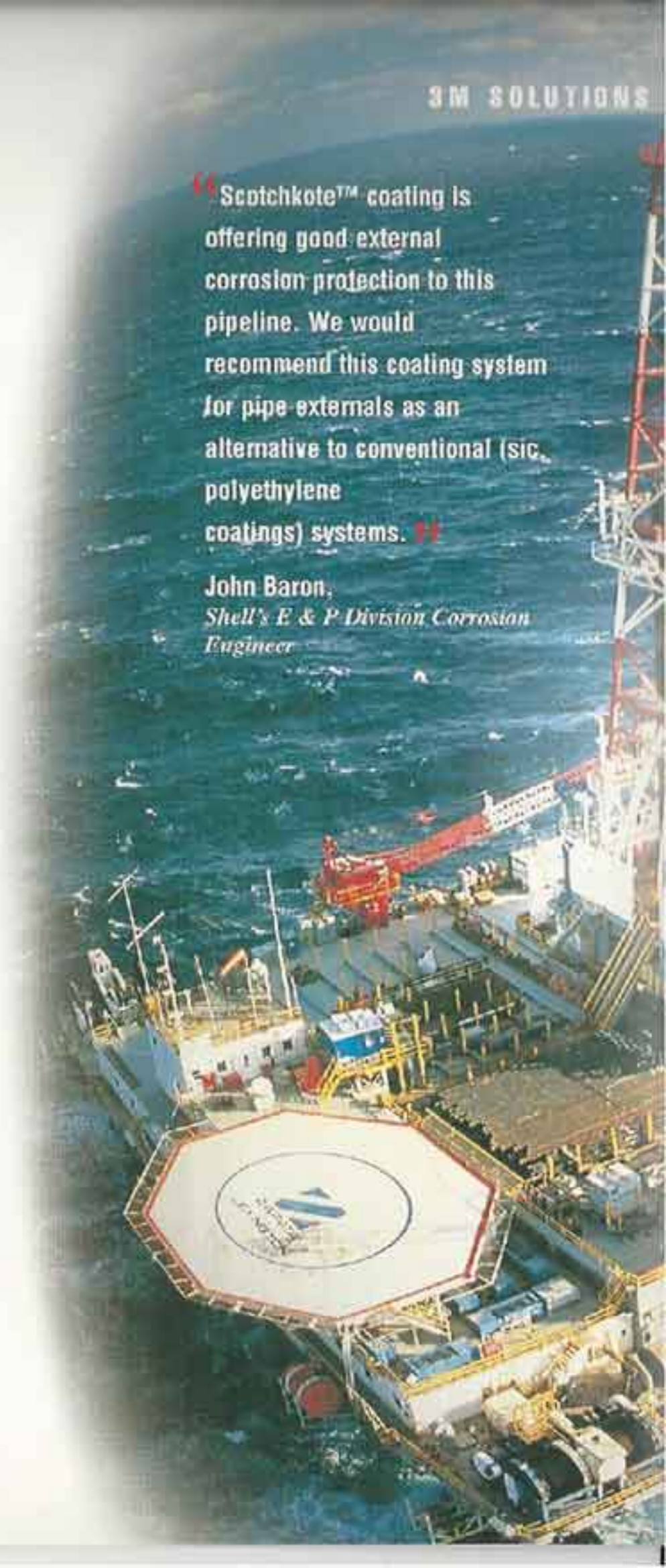
Circulating system issues:

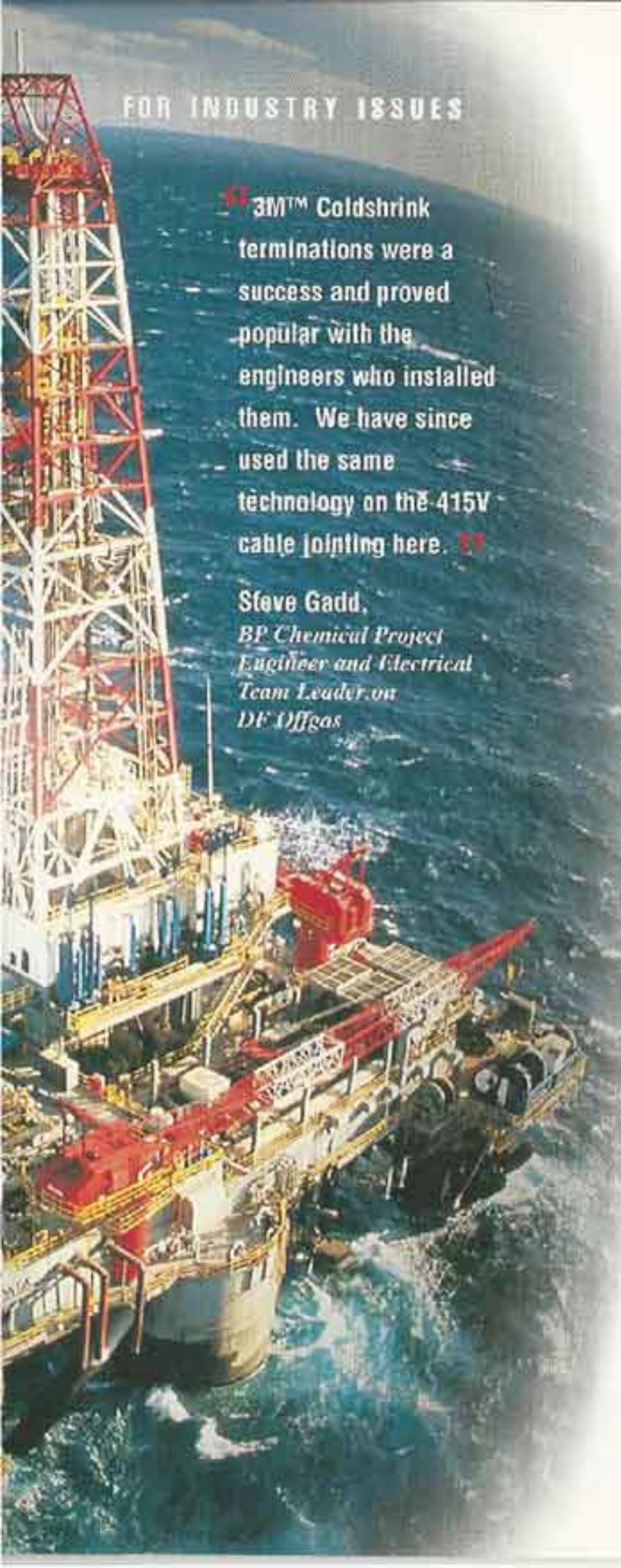
- Reconditioning of drilling fluids
- Reconditioning of well-completion fluids
- Underbalanced drilling
- Increasing cement strength

- Filters:
 - High dirt loading capacity of drilling fluids
 - Economy of time and cost due to less fluid used
- Microspheres produce unequalled lightness and pressure resistance

“Scotchkote™ coating is offering good external corrosion protection to this pipeline. We would recommend this coating system for pipe externals as an alternative to conventional (sic, polyethylene coatings) systems.”

John Baron,
Shell's E & P Division Corrosion
Engineer





3M™ Coldshrink terminations were a success and proved popular with the engineers who installed them. We have since used the same technology on the 415V cable jointing here.

Steve Gadd,
BP Chemical Project
Engineer and Electrical
Team Leader on
DK Offgas

Well stimulation issues:

- Maximisation of acid penetration, foaming of acid solution
- Elimination of particles
- Foaming of fracturing solution
- Electrical supply to submersible pumps
- Water injection - particle elimination
- Steam injection - fluid density
- Clean-up of paraffins and asphaltines precipitate

Fire prevention and control issues:

- Fire protection of plant equipment
- Prevention of fire, smoke and toxic fumes from passing through penetrations in fire walls and floors
- Lighting without heat
- Fire abatement

PRODUCTION

Environmental safety issues:

- Clean-up and containment of non-aggressive, petroleum and chemical spills

Electricity issues:

- Supply of electricity to facilities
- Splicing of buried and underwater cables
- Installations including connecting, identification and fastening, insulation and protection, splicing, terminating

- Surfactants:
 - Do not emulsify oil and water
 - Stable foam
 - Low surface tension foam - increased level of contact reduces surface more quickly in a controlled fashion
 - Will not degrade as other foams do
- Electrical products
- Filtration products
- Pipe insulation products

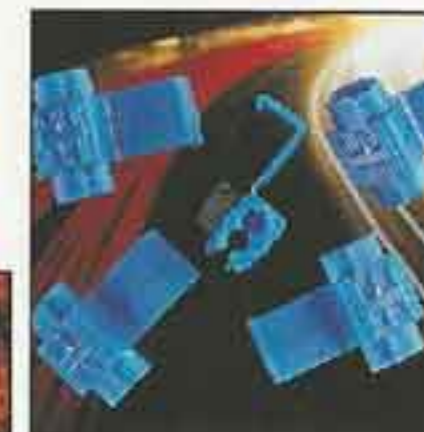


- 24 hour global emergency response rescue service
- Foam:
 - Environmentally safe due to fast extinguishment
 - Economical - less foam, less water, less equipment
 - Versatile - used with fresh, sea or brackish water for many flammable substances
- Cost effective/low maintenance lighting systems for explosive environments
- Fire containment booms

3M OFFERS

- A range of booms, rolls and pads for use on land or water
- 24 hour global emergency response rescue service

- Electrical products:
 - Suitable for high-risk areas
 - Tested to Lloyds standards



REFINING AND CHEMICALS

Surface finishing and painting issues:

- Metal working
- Preparation and cleaning of metal surfaces

Floor maintenance issues:

- Protection
- Maintenance
- Safety



3M OFFERS

- Abrasive products:
 - Complete range - effective finishing and reconditioning
 - Including anti-rust products - abrade stainless steel back to pristine condition
 - Can be used with water and solvents

TRANSPORT

Corrosion Protection issues:

- Preparation of surfaces for corrosion protection
- Corrosion protection of pipes and equipment
- Repair of corrosion damage

Pipelines issues:

- Marking and identification of pipelines
- Buffing pipe ends after laying
- Grinding welds in pipelines
- Buoyancy and insulation

Trucks issues:

- Marking and visibility of tanker trucks
- Road signage

RETAIL

- Corporate livery for petrol stations



3M OFFERS

- Range of abrasive products
- Anti-corrosion products:
 - Complete operating range: -40°C to 150°C
 - No toxic waste - hassle-free

- Marking and identification products
- Wide range of abrasives for most applications
- Glass microspheres:
 - Designed to control buoyancy, density and pressure balance
 - Pipe insulation in deep water

- Identification and vehicle conspicuity:
 - Improved driver and public safety record
- Traffic control products

3M OFFERS

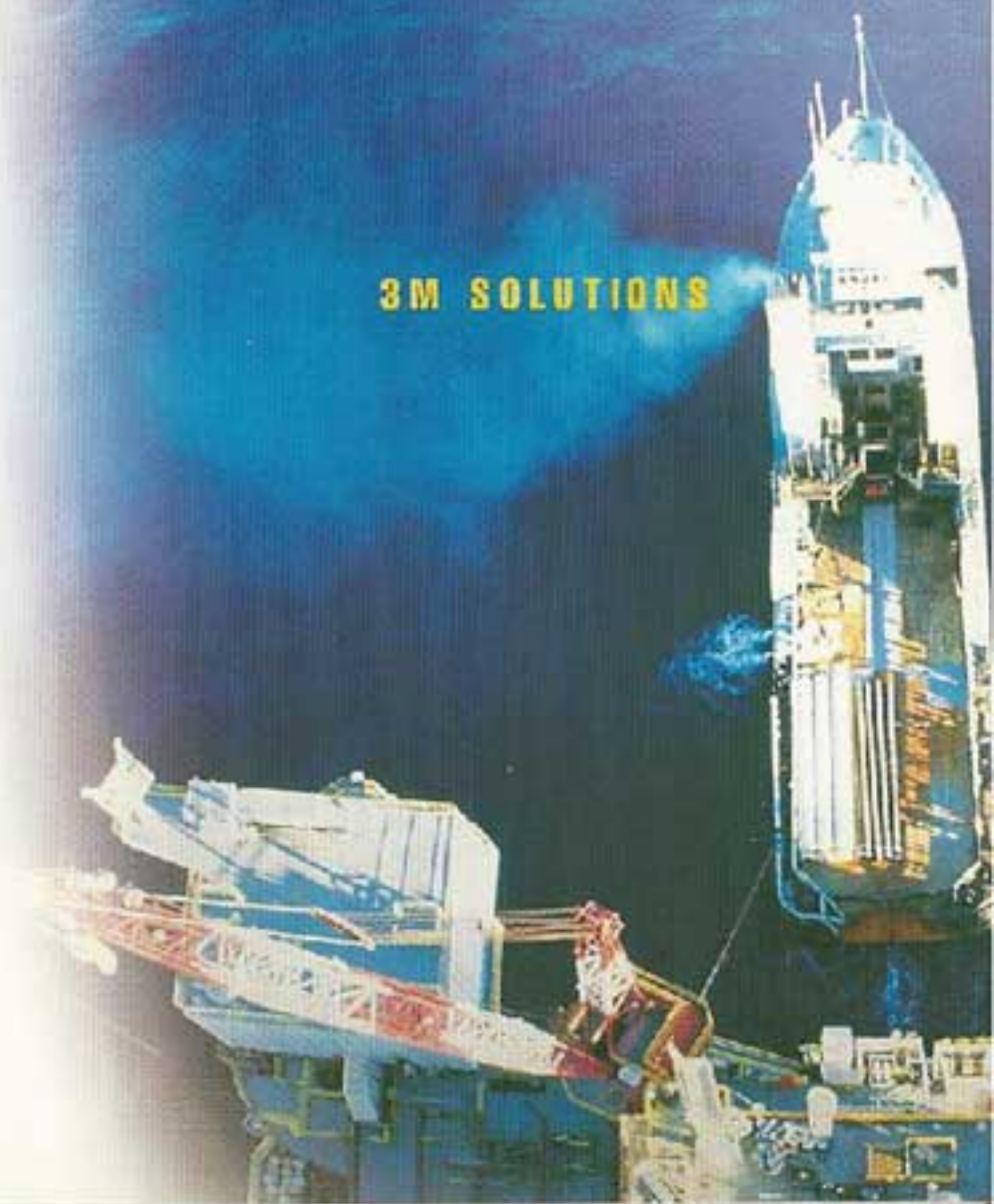
- Range of commercial graphics materials including floor and window signage

*Continuity of operations - see Exploration and Production
Worker safety - see Exploration
Fire prevention and control - see Exploration
Environmental safety - see Production*

“ Our relationship with 3M dates back several years and we have consistently found their anti-corrosion products to be highly effective. ”

Representative of Bechtel

3M SOLUTIONS



“The involvement of 3M Occupational Health and Environmental Safety began with their assessment of our respiratory protection needs. We found their support and ability to train our workforce invaluable and we have been successfully using their products for many years.”

Brian Hall,
Safety Officer, Kvaerner Oil and Gas

FOR INDUSTRY ISSUES

ALPHABETICAL INDEX OF PRODUCTS BY USE

ABRADING

Scotch-Brite™ handpads, sanding discs and pads

ABSORBING

Petroleum sorbents
Chemical sorbents
Maintenance sorbents

CLEANING

Cable cleaning system

CORROSION REPAIRING

Clean 'n' Strip Removal Discs

CUTTING

Cable strippers
Cable cutters

DRILLING

Microspheres
Filtration systems
Polycylofin fibres
Fluorad surfactants

INSTALLING

Electrical tapes and connectors

FASTENING

Cable ties and bonds

GAS PROCESSING

Filtration systems

GRINDING

Diamond grinding belts

IDENTIFYING

ScotchCode™ Tag and Tape Dispensers

INSULATING

Electrical tapes

LUBRICATING

Wire pulling lubricants

MARKING

Electrical marking systems

PROTECTING: ANTI-CORROSION

Scotch-Brite™ surface conditioning products
Scotchkote™ epoxy resins
Scotchrap™ tapes

FIRE PREVENTION AND CONTROL

Fire protection products
Fire containment boom
Light Ware™ Fire Fighting Foam

FLOOR

Floor protection, maintenance and safety products

PERSONAL

Ear muffs
Helmet
Ear plugs
Respirators
Air monitoring systems
Scotchlite™ reflective tapes and clothing
Safe-tigue™ matting
Safety-Walk™ slip-resistant materials and matting
Diamond Grade™ reflective materials
Vibration control products

RECOVERING

Splicing kits
Filtration systems
Microspheres
Fluorad surfactants

REFINING

Filtration systems

SPLICING

Electrical splicing systems

STICKING

Structural adhesives for metals
Low surface energy adhesives

STRIPPING

Clean 'n' Strip coating removal products

SURFACE FINISHING

Metal working discs
Preparation and clearing of metal surfaces products
Painting products

TERMINATING

Electrical terminations

TRANSPORTING

Electronic markers
Scotch-Brite™ surface conditioning products
Coated abrasives, belts and discs
Signage products
Reflective materials
Traffic control products

For more information about 3M products, please call

UK: 0990 360036

Ireland: 01-280 3555

or visit our 3M website via www.3M.com/integratedsolutions