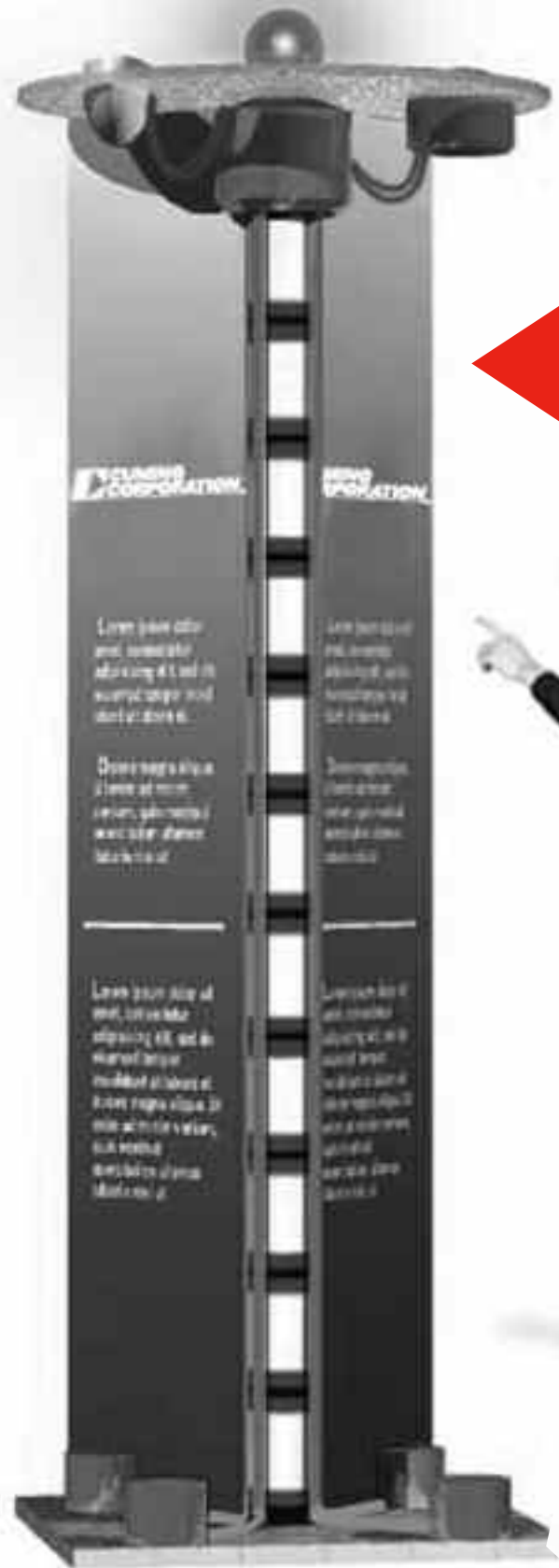


Cuming Corporation News

225 Bodwell Street Avon, MA 02322.1148 **1.800.432.6464** Fax 508.580.0960 www.cumingcorp.com



LANDMARK:
Cuming at OTC 06, May 1-4
This model of a buoyant insulated production riser tower marks Cuming Corporation's spot in the booth of The Bayou Companies, LLC - #4805.



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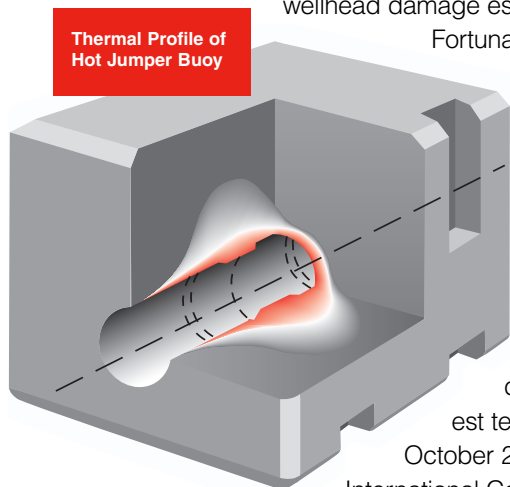
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HOT AND DEEP? USE SYNTACTIC FOAM

As production moves into deeper water and hotter, higher-pressure wells, the potential for catastrophic riser and wellhead damage escalates daily.



Fortunately, protective syntactic foam materials are available to reduce these hazards. Cuming Corporation materials engineers discussed the latest technology in October 2005 at the International Conference on

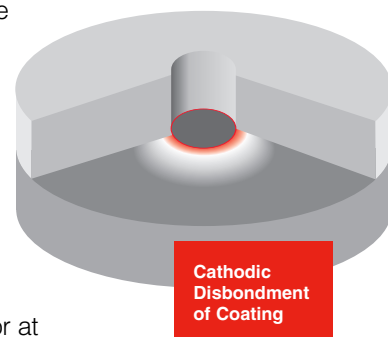
Composite Materials for Offshore Operations in Houston.

Wen-Tsuen (Vincent) Wang, Majdi F. Haddad and Lou Watkins presented a technical paper entitled, "Use of Composite Materials in Protecting and Maintaining Subsea Equipment." In the paper, they describe how careful selection of the right material and design can help to ensure the safety of subsea operations.

The presentation summarizes years of experience in designing and testing composite materials for use on offshore oil and gas pipelines and production equipment. The authors argue that properly designed coatings and coverings can materially extend the life and safety of subsea equipment, whereas improper design often contributes to premature failure, endangering people and equipment.

The principal applications of the authors' research fall into four areas: (1) Buoyancy – providing buoyant lift to offset excessive weight of equipment in water; (2) Controlled Strength – providing precision compressibility to mitigate possible downhole annular pressure damage (3) Insulation – providing thermal protection against heat loss; and (4) Corrosion Protection – ensuring that all coatings work with (rather than against) cathodic protection systems.

For a copy of the paper, provide your name, title, company, and business email address to the Editor at editor@cumingcorp.com, or call 1-800-432-6464.



BFT: TEAMWORK HELPING THE WORLD FIND ENERGY

Bayou Flow Technologies (BFT), the high technology partnership among The Bayou Companies, Perma-Pipe Inc., and Cuming Corporation, is experiencing rapidly growing demand for its full range of pipeline services as the world increasingly turns offshore for its energy needs. The following is a brief rundown of some recent BFT projects.

KIZOMBA "WINDFALL" FOR ANGOLA

The massive *Kizomba* oil field offshore Angola is contributing to a "windfall" of oil revenues for that West African nation, and BFT has been involved in the program from the beginning. Starting in 2001, Cuming developed and



This New Iberia, Louisiana team has delivered many miles of cast-on-pipe buoyant insulation materials custom-designed by Cuming especially for the *Kizomba* top tension riser (TTR) system.

qualified new cast-on-pipe buoyant insulation materials especially for the *Kizomba* top tension riser (TTR) system. After winning the riser insulation contract for the first phase in 2002, Cuming and its BFT partners went on

to complete every subsequent phase to date, delivering the last insulated joints for *Kizomba* 'B' Phase 3 in March, 2006. The field has been successfully producing oil since

2004. As Cuming project manager Randy Porter says, "Such a long record of sustained success on a large and technically demanding project is testimony to BFT teamwork, the dedication of our people, and the proven superiority of our products."

ATLANTIS CONTINUES THE TREND

Holstein, Mad Dog, Thunder Horse, and now *Atlantis*, all continue the string of huge Gulf of Mexico projects using the



These insulated PLETs are part of a total solution for the *Atlantis* site by BFT and partners, including materials, welding, and fabrication.

combined resources of BFT and its allied companies. "No other supplier can match the range of services we offer, from welding and fabrication through a variety of corrosion coatings to insulation materials for any temperature and depth," explains Cuming product line manager and BFT vice president Elmer Hershey. *Atlantis*, for example, will be producing oil from a depth of 6,000 feet below the ocean surface. Jumpers began installation early in 2006 and the flowlines are expected to be in place by the middle of 2006. Pipeline fabrication, a core BFT competency, was a major factor in meeting the field's technical and scheduling objectives. *Atlantis* is estimated to yield 150 million barrels of oil equivalent (boe), making it one of the most important finds in the Gulf of Mexico.

GENGHIS KHAN CONQUERS THE DEEP

BFT's superior track record was undoubtedly the key to their being selected to supply all the flow assurance products on the big *Genghis Khan* development project. Cuming and its BFT partners are furnishing the thermal insulation and related services for the flowlines and risers, manifolds, trees, PLETS, hull piping, and field joints going into 4,320 feet of water in the Gulf of Mexico's Green Canyon Block 652. Manufacture started late in 2005, with comple-

tion slated for mid-2006. *Offshore Magazine* has predicted that North America will account for 25 percent of world-wide capital investment in offshore oil development over the next five years. The reason for this high level of activity is the region's existing infrastructure and ready access to markets. "*Genghis Khan* is the kind of big, profitable project we like to be associated with," observes Cuming's New Iberia, Louisiana, plant manager Steve Sinitiere. "It's good to be part of a winning team."



Genghis Khan hull piping is insulated with C-THERM FPG at the Bayou Welding Works facility in New Iberia, Louisiana.

FLOTATION INNOVATION



C-FLOAT riser buoyancy modules assembled on marine riser await loading onto a semi-submersible drill rig.

NEW PRODUCTS SOLVE THORNY PROBLEMS

As a leading supplier of high performance materials and products for the offshore industry, Cuming Corporation is frequently called upon to create new solutions for particularly difficult problems. Recent achievements by our R&D laboratory include the following product developments.

Precision Strength Syntactic Foam: *C-TECH* crushable foam has proved effective in protecting ultradeep well casings from overpressure and gained recognition for technical excellence (see Newsletter No. 8, Spring 2003, "OTC Award for Engineering Innovation"). Now a number of new fields with even more demanding conditions have pushed the technology further, requiring higher temperatures and greater pressures. The result is a new class of syntactic materials with unique properties, useful above as well as below the mudline, capable of providing precisely engineered strength under a wider range of conditions.

Subsea Acoustic Absorbers: Subsea operations are noisy, and getting noisier, threatening not only the equipment itself but also disturbing marine life and its ecological balance. *C-TECH* acoustic materials are syntactic foam with properties designed to scatter and absorb high levels of waterborne energy, even at great depth. Combined with inherent buoyancy and proper engineering, these new materials can selectively shield fragile environments, permitting offshore work in highly sensitive areas.

High Performance Buoyancy: The quest for lighter yet stronger flotation materials goes on, with new *C-FLOAT* syntactic foams developed and tested for several cutting-edge requirements, including manned submersibles, ROVs, and

instruments destined for the deepest parts of the ocean. New classes of glass and ceramic microspheres and macrospheres are being created to advance this trend. An important benefit of this effort is that *C-FLOAT* drilling riser buoyancy modules are steadily improving in efficiency, ruggedness, and cost-effectiveness.

Improved Thermal Insulation Products: The *C-THERM* line of sub-sea insulation is already the most advanced product family of its kind, and continuing developments make it even better. New higher temperature ratings raise the bar on high temperature/high pressure (HTHP) applications to 300° F or more, and flexible epoxy formulations make this kind of superior performance available for all kinds of pipelay options, including reeling. What's more, these HTHP materials are backed by the industry's best R&D facilities, with properties verified by laboratory testing and extensive field experience. The future of offshore oil and gas exploration lies in deeper and hotter wells, and *C-THERM* is ready for the challenge.

**NO CRACK,
NO FAILURE,
NO PROBLEM**



A bend test of *C-THERM* high-elongation syntactic foam performed to a diameter of 28 feet demonstrated that Cuming insulation can be reeled for offshore pipelaying without cracking or failing.

CONTACT INFORMATION:

- LOU WATKINS
- RAY WONG (flotation)
225 BODWELL ST.
AVON, MA 02322
1-800-432-6464
++1-508-580-2660
++1-508-580-0960 FAX
lwatkins@cumingcorp.com
rwong@cumingcorp.com
++1-617-648-7096
WONG'S MOBILE
- ELMER HERSHEY (insulation)

BFT
Bayou Flow Technologies, LLC
BAYOU FLOW TECHNOLOGIES, LLC
515 N. SAM HOUSTON
PARKWAY EAST
SUITE 630
HOUSTON, TX 77060
++1-281-591-1001
++1-281-591-0284 FAX
++1-713-376-5767 MOBILE
ehershey@cumingcorp.com
4401 CURTIS LANE
NEW IBERIA, LA 70560
++1-337-367-8383
++1-337-367-8349 FAX
- LOUIS SLAUGHTER (flotation)
Teal Equipment Company
2100 NORTH LOOP WEST
P.O. BOX 924116
HOUSTON, TX 77292
++1-713-253-1629
++1-713-627-0314 FAX
lslaughter@cumingcorp.com
- EUROPE
- MIKE BOHLEKE
SCHULSTRASSE 8
D-61276
WEILROD, GERMANY
++49-6083-1251
++49-6083-28380 FAX
++49-172-7208025 MOBILE
mbohleke@cumingcorp.com
- BRAZIL
- LUPPI BATISTA
FRANK'S INTERNATIONAL
BRASIL LTDA.
ROD. AMARAL PEIXOTO,
KM 164,5, S/N - IMBOASSICA
MACAE - RJ - BRAZIL 27.901-000
++55-22-2763-4250
++55-22-2763-4251 FAX
++55-22-9911-4090 CELL
luppb@franksintl.com.br
- JAPAN
- S. OSAWA
E&C Engineering K.K.
3-16-1 SHIN-YOKOHAMA,
KOHOKU-KU
YOKOHAMA 222-0033 JAPAN
++81-45-471-4791
++81-45-471-4798 FAX
osawa@ece.co.jp
- INDIA
- JITENDRA KUMAR
G&T Resources Worldwide
F-04 & F-05 TRIVENI
COMMERCIAL COMPLEX
SHEIKH SARAI PHASE I
NEW DELHI 110 017 INDIA
++91-11-2601-4949
++91-11-2601-4545 FAX
++91-98110-88334 MOBILE
jitendra@gtrw.com
delhi.office@gtrw.com

 CUMING
CORPORATION