

CONTAINMENT OF GULF OIL LEAK

May 30, 2010

This is only a design concept, an idea. It is not working, has never worked or been tried. It is presented on this website only as a suggestion to be considered. At present, this idea or any idea is far better than the failing devices and systems of this massive leak to date. The concept needs to be plugged into a computer model to establish specifications of the simple parts at the enormous depths involved.

The devices and the rules that governed operation of the original devices have failed. The remoteness and crushing pressure on equipment and materials at this depth seems to be a major factor in drafting a solution for this devastating problem. It would seem that now is the time to begin to generate solutions that incorporate elements which do not react to the enormous pressure. We observe that the leaking pipe material holds up nicely, before the rules of operation were broken. The camera works nicely. The robotic arms work very nicely. The big steel and concrete structure that was lowered over the leak at one time worked until issues of pressure and unequal pressure caused it to fail.

Below is a simple concept rendering that, like the pipe and other working elements now in camera view, remain neutral to the enormous pressure. Experiment: Take a garbage bag, cut out the bottom. It is completely open. No air can be capsulated. It is simply a plastic tube. Attach a lead weight to it, an old window counterweight for example. Go out to the well site and drop it off your boat. If your drop was on target and you could watch the camera from your laptop, your garbage bag and lead weight would appear in the camera view as they settle against the leaking oil pipe. N Like the pipe, neither the bag nor the lead weight would show any breakdown from the enormous pressure.

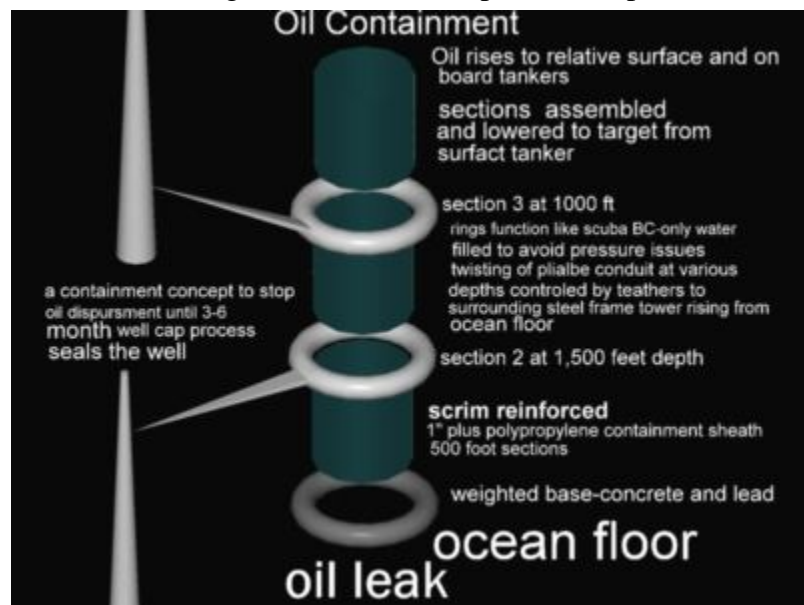
Pretend now that your open garbage bag was attached to a donut shaped structure made of reinforced concrete and lead. The donut would be quite large, say fifty yards in diameter. Your garbage bag would be attached around the circumference of the donut. When it was dropping- or being lowered- to the enormous depth, the plastic would let the water pass through it (remember you cut a hole in it). And you watch your big donut and garbage bag with a hole in it, settle over the leaking pipe. Oil continues to leak and your garbage bag settles to the ocean floor. Depressing.

We need the edge of the garbage bag to rise to its full length, like a flexible tube. A lighter than water coupling structure is needed to cause the bag edge to rise vertically. If such a simple frame could be devised, the first stage of our oil containment sleeve would be in place, awaiting the next donut and bag to dock onto it. We have a variety of materials now available that can transform our donut and garbage bag to a viable flexible containment conduit pipe that, section by section, could rise from around the pipe at the ocean floor, pressure in and outside the conduit continue remaining at all levels. Wet suit material, oil tank bladder material, are two examples. But as the contained oil rises in the structure the mass of oil will become a pressure problem. The material needs to be scrim reinforced.

Let's assume we are successful with our containment structure and are at a level of two or three thousand feet above the ocean floor. The leak continues to fill the tube, our reinforced material is holding up. The oil is no longer gushing into the ocean. The oil level continues to rise inside our flexible tube. Pressure at the pipe leak is building, slowing the volume. But now we have shifting, even opposing currents beginning to twist and move the conduit structure. The donut design at the decreasing depths needs to allow two control factors. We need to prevent the donut from twisting with the currents and we need each donut to behave consistently by lifting the tube skin vertically. A scuba diver neutralizes buoyancy by using a BC or buoyancy compensator. Once stabilized vertically, the donut polarity needs to be tethered at the various levels. Tethered to what?

Another material that has reacted neutrally is the steel and concrete structure tried initially by the oil company. That structure had a top, which seemed to reflect the desire to keep pumping oil. Temperature and pressure caused this to fail. The pressure issues need to be constantly neutralized. An open structure tower, similar to a power line tower, larger than our fifty yard diameter donut, might be lowered as a part of this process, in thousand foot segments.

To stabilize the rising containment tube, a corresponding tower segment should be used to tether the donuts to maintain the same polarity as the structure rises from the ocean floor. Oil will continue to fill and overflow the containment tube until it reach a level at which it can be pumped into awaiting tankers.



I draft this only as a suggestion to consider. I am not an engineer. But engineers could solve the design problems of the BC Donuts. The specification of the scrim reinforced flexible tubing also requires engineers to examine weight and mass of the rising oil column. The skyscraper tower sections as well as the tube and donut docking are also design hurdles. As the oil level rises, the mass exerts outward pressure on the sleeve as well as increasing downward pressure at the leak site which could cause our base donut to blow out. The objective of this containment structure is stop the oil from fouling the ocean and buy time until the three to six month process seals the well forever. ..All the time hoping that hurricane season doesn't whip the mess up into a new nightmare. To watch the destruction of the environment and economy and do nothing is not an option. To watch the few people wiping oil off of a few reeds with a paper towel is laughable. This mess is approaching the size of three states. Its time to think and act big. To do nothing is not an option. mtm

