Public Executive Summary

Tellus Hydrocarbon Development Corp. has created a radically improved method and apparatus to assist in the delivery of stimulation treatment chemicals to *stripper class* oil and gas well fields. This hardware configuration, otherwise known as the Tellus Production Stimulator (TPS) provides a quantum leap in safe handling of hazardous chemical solvents, acids and inhibitors. The tool design and use eliminates a path of contact for human exposure and provides an environmentally sound method for better control of residual amounts of hazardous chemical agents that are routinely left inside swab tanks, truck tanks, pumps, hoses and hard lines. In addition, based on early field testing, the TPS is expected to substantially enhance stripper well production and will extend the interval between treatments through a more efficient use of chemical resources that are quickly becoming more expensive and less available as commodity demand pressure builds within the world market place.

A key advantage of the TPS is the interchangeability of mixing and blending technologies within the system, including static, dynamic, nozzle injection, and other blending methods compatible with the process. Mixing components can be changed out depending upon treatment requirements.

Use of the system solves a number of problems commonly associated with stimulation treatments with stripper operations. Typically, stimulation chemicals are routinely pumped into tank trucks or into the well bore, with little or no regard for proper blending of carrier fluids and treatment chemicals. This method results in worker and environmental exposure to hazardous substances, inadequately mixed and less effective stimulation treatments. Depending upon the differing properties and temperatures of the carrier fluids and treatment chemicals, problems can occur such as phase separation in addition to other conditions can result in the stimulation chemicals being pumped at incorrect times or non-optimum concentrations.

The TPS has been used in the field with existing customers and it appears to enhance treatment effectiveness. A "Clean Handling" procedure has been established that delivers a much safer and more efficient method of utilizing hazardous materials in a field setting. This proposed project was developed to test the feasibility of the TPS and more adequately qualify and quantify results which can be expected from a wider deployment of the system.

This proposed project is intended to accomplish the following three objectives:

- **Objective One**: Demonstrate and accurately measure the TPS performance capabilities as a chemicals and fluids mixing device by conducting bench testing
- **Objective Two**: Verify the capabilities of the TPS to completely mix treatment chemicals under field conditions and field amounts of chemicals and carrier fluids
- **Objective Three**: Verify the TPS stimulates, or increases, the production of oil and gas from stripper wells by down hole field applications of the technology

These objectives will be realized by the execution of a set of tasks designed to determine baseline information about chemical mixing properties under standard or typical field treatment conditions as contrasted with chemical mixing performance enhanced with the use of the Tellus Production Stimulator. The final objective will be performed at actual operating stripper wells in the Montana, North Dakota, and Wyoming fields. Following completion of successful feasibility tests, the company is concurrently preparing to enter the market which will lead to a quickly deployed commercial product that has the potential to significantly increase stripper well production at thousands of wells, while at the same time reducing costs.