CLAIMS

1. A system for extracting and conditioning for analysis a non-cryogenic widegrade containing natural gas liquid sample, the system characterized by

(a) an insulated cabinet;

(b) a liquid sample input line;

(c) a vaporizer for flash vaporizing the liquid connected to the input line;

(d) a vaporized sample output line;

(e) a heated pressure regulator for receiving a vaporized sample from the vaporized sample outline;

(f) an output sample gas conduit line to a gas sample analyzer located outside the insulated cabinet, said output conduit line connected at one end to the heated pressure regulator; and

(g) a controller unit electrically connected to the vaporizer and the heated pressure regulator, said controller being connected to an electrical power source, the controller for monitoring the temperature and pressure of the vaporized sample outputted from the heated pressure regulator to fall within an acceptable operation range of the gas sample analyzer.

2. The system of claim 1 further characterized by a speed loop associated with the vaporizer.

3. The system according to any one of claims 1-2 further characterized by a relief valve for pressure relief in the event of the gas sample outputted from the heated regulator being above the acceptable operational range of the gas sample analyzer.

4. The system according to any one of claims 1-2 further characterized by a communications facility associated with the controller unit.

5. The system according to any one of claims 1-2 further characterized by a liquid filter disposed in the sample input line and the vaporizer.

6. The system according to claim 5 further characterized by a solenoid actuated valve disposed between the liquid filter and the input of the vaporizer for interrupting flow of the liquid sample to the vaporizer.

7. The system according to claim 4 further characterized by a solenoid actuated valve disposed between the liquid filter and the input of the vaporizer for interrupting flow of the liquid sample to the vaporizer.

8. A system for extracting and conditioning a non-cryogenic liquid sample for analysis by a downstream analyzer, the system characterized by:

a) an insulated cabinet;

b) a sample input line;

c) a vaporizer for flash vaporizing the sample connected to the input line;

d) a vaporized sample output line;

e) a heated pressure regulator for receiving a vaporized sample from the vaporized sample output line;

f) an output sample gas conduit line to a gas sample analyzer located outside the insulated cabinet , said output conduit line connected at one end to the heated pressure regulator; and

g) a controller unit for monitoring processing conditions in the insulated cabinet including activating a valve to interrupt liquid flow into the vaporizer upon detection of processing conditions deviating from pre-set ranges, the controller being in operation signal communication with the vaporizer, the heated pressure regulator, and valve, for monitoring sample temperature and pressure as the sample passes through the system to the vaporized sample output line to be within acceptable operation ranges, the controller being connected to an electrical power source, the controller and a communications module for remotely communicating monitored conditions.

9. The system according to claim 8 further characterized by a filler and associated speed loop disposed in the sample input line.

10. The system according to claim 9 where the valve is a solenoid valve and further characterized by the solenoid valve being electrically connected to the controller unit and having a normally closed position which upon activation releases pressurized air to actuate a ball valve disposed liquid sample input line to shut off sample flow.

11. The system according to claim 10 further characterized by a plurality of solenoid valves being electrically connected to the controller unit, each of the solenoid valves having a normally closed position which upon de-energizing each releases pressurized air to actuate an associated ball valve disposed in the liquid sample input line to shut off liquid flow

to the vaporizer and in the vaporized sample output line to shut off vapor sample flow to the analyzer.

12. The system according to claim 11 further characterized by a thermocouple input associated with the analyzer in communication with the controller unit to actuate the solenoid valves to shut off sample flow when the detected temperature of the analyzer falls below a pre-determined minimum.

13. The system according to claim 12 further characterized by a pressure sensor associated with a carrier gas input for the analyzer in communication with the controller unit to idle the analyzer in the event the carrier gas level preset minimum.

14. The system according to any one of claims 10-13 further characterized by a relief valve for pressure relief in the event of the gas sample outputted from the heated regulator being above the acceptable operational range of the gas sample analyzer.