2R - 56

WORKPLANS

12/19/2011

December 19, 2011

To: Ed Hansen-NMOCD
From: Wayne Price- Price LLC

Reference: Devon Avalon Hills 7 Fed Com#3 OCD Case # 2R0056

Subject: MW-1 Remediation Plan

Dear Ed,

On behalf of WholeEarth Environmental Inc. and Devon Energy, Please find enclosed a remediation action plan for the last remaining monitoring well at the Devon Avalon Hills 7 Fed Com#3 site, OCD Case #2R0056.

Pursuant to our recent discussion in Santa Fe, we propose the following actions for your oversight and approval:

1. Collect water samples from MW-1 and analyze for; BTEX method 8021; PAH's method 8100, Chlorides and TDS using approved EPA protocols and methods.
2. Install Mico-Vapor extraction pump and solar power generator.
3. Collect initial vapor samples and field test for benzene using dragger tube method, and organic vapor measurement using a calibrated PID.
4. The above items 1-3 will be repeated quarterly for one year.
5. An annual report will be submitted showing the first year results (four quarters), to include photos, field reports, findings, conclusions and recommendations for OCD approval.

Micro-Vapor Extraction Approach:

The MW-1 well bore penetrates the down-hole gas well blowout area, located adjacent to the P&A gas well and is completed 60-80 feet below ground level. Previous investigations have confirmed that the area of interest is quite small and was not in communication with other previously installed monitor wells. The current evidence substantiates that the fluids in the well appears to be a mix of gas condensate and drilling fluids contained in a small cavernous void.

The recharge of the MW-1 well bore is very limited and pumping is not feasible at this time. An approximate yearlong program of installing hydrocarbon-absorbing socks has been completed with fair to good success. The sock program demonstrated the liquids recovered are a clear light condensate hydrocarbon (LNAPL's) material.

Since the site is located in a known cave and karst area, which was confirmed during the investigation-drilling program, and in an area where three different groundwater zones converge, trying to use an aggressively high-vacuum extraction system could be detrimental for the following reasons.

High vacuum extraction may actually lift fluids to other chambers that are otherwise clean at this time. Also, extreme high vacuum may evacuate other adjacent chambers, which may cause intrusion from other zones. For these and other reasons, i.e. cost, etc, a different method will be employed to actually enhance and simulate long term *"barometric pumping."*

A very small solar micro-pump will be utilized to create just enough negative pressure during the day to allow the LNAPLS to evaporate and get transported out of the contaminated zone.

At night, the zone will be allowed to recharge with fresh ambient air so the system will not go under anaerobic conditions. By ensuring a limited vacuum during the day to enhance volatilization, and supplying fresh air at night, any median-long chain hydrocarbons present will be bio-available for remediation.

This approach optimizes both, the vapor extraction method for removal of LNAPL, and bioremediation techniques to address longer chain hydrocarbons, i.e diesel range and up that may be present.

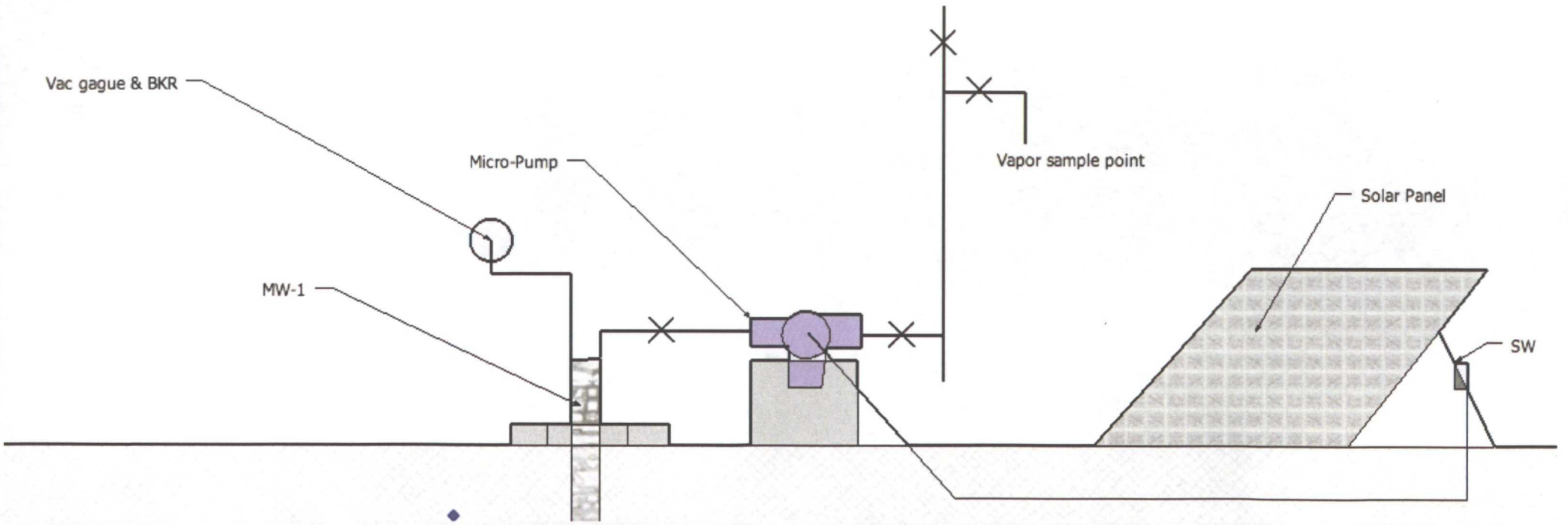
Once approved, as described above, or with conditions, the pumping system will be in place and operating within 90 days. Attached is a schematic of the system and some photos of the anticipated equipment.

If you have any questions or concerns please do not hesitate to call or write.

Sincerely,

Wayne Price-Price LLC

Devon Fed Com #3 MW-1 Remediation Project
Dec 2011-Micro Extraction Project



BTC - II Series

BTC-II Miniature Diaphragm Pumps are a series of brush DC motor-driven dual head pumps designed to handle both gases and liquids. The BTC-II Series offers multiple configurations allowing it to be very versatile. Below are several ways that the BTC-II series pump can be configured for your specific application:

- Vacuum operation (Per Head)
- Pressure operation (Per Head)
- Alternating Vacuum and Pressure operation
- One head air, one head liquid
- One head low flow, one head high flow
- Series operation for higher pressure or vacuum loads
- Parallel operation for higher flows

Dual Head
Miniature Diaphragm
Pump and Compressor

Pressure Range: 0-28 PSIG
Vacuum Range: 0-25 In Hg
Max. Unrestricted Flow Range: 11 LPM

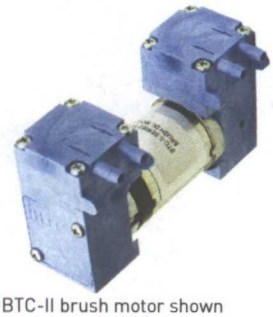
Data Sheets - PDF - CAD

TOP

BTC-II Series

Mini Pumps (air/gas)

6 or 11 LPM Free Flow



BTC-II brush motor shown

BTC-II Dual Head Miniature Diaphragm Pumps and Compressors are a series of brush DC motor-driven pumps tailored to meet the specific performance requirements of your applications. These pumps are designed to handle both gases and liquids.

Features

- **Longevity:**

The BTC-II is configured with a dual ball bearing brush motor, along with our long life pump head technology. The pump will last the life of the motor, or up to 3,000 hours of high intermittent usage. For exceptional life performance with our BLDC motor, use the BTC-IIS.

- **Light Weight, Compact Size:**

The BTC-II Series pump design has a unique compact configuration allowing designers to minimize system weight and allotted space requirement for pumps and compressors.

- **Flexible Mounting Options:**

The BTC-II maximizes mounting flexibility by offering several ways to mount the pump, as well as four possible port orientations.

- **Contamination-Free:**

Parker takes the necessary steps in manufacturing to assure that our 100% oil-free pump and compressor designs maintain the purity of your system. Parker pumps and compressors are commonly used in FDA-approved systems.

- **Dynamically Balanced:**

The BTC-II Series pump design is uniquely balanced to minimize vibration and maximize life.

Typical Applications

- Emissions Analyzer

Performance Data

Physical Properties

Operating Environment:
41 to 158°F* (5 to 70°C*)
Media:
Most Gases and Liquids
Humidity:
0 – 95% RH
Wetted Material:
EPDM, AEPDM, Fluorocarbon,
Teflon/EPDM Laminate
Valves:
EPDM, AEPDM, Perfluoro,
Fluorocarbon
Pump Head:
Vectra (Liquid Crystal Polymer)

Electrical

Motor Type (DC):
Brush
Nominal Motor Voltages:
6, 12, 24 VDC
Other voltages available upon request
Current Range:
Varies from voltage, flow and pressure requirements.

Pneumatic

Head Configuration:
Dual
Max Unrestricted Flow:
6 LPM (Series)
11 LPM (Parallel)
Pressure Range*:
0 - 28 psig (193 kPa) Parallel
Vacuum Range*:
0 - 25 in Hg (635 mmHg) (Series)
0 - 20 in Hg (580mmHg) (Parallel)
* Extended pressure and vacuum capabilities available upon request.

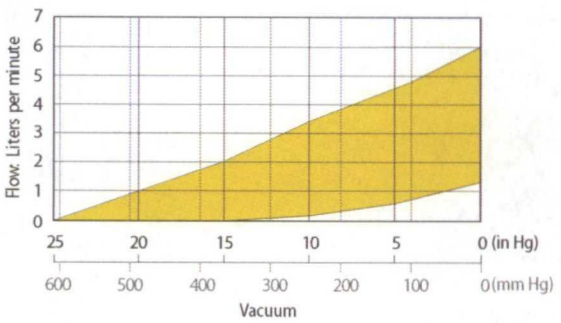
BTC-II Series

Mini Pumps (air/gas)

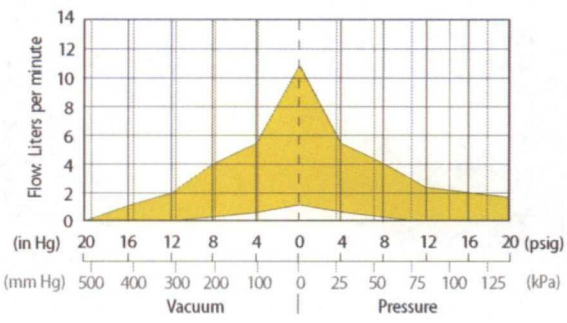
Dual Head Miniature Diaphragm Pump and Compressor

Flow

Series



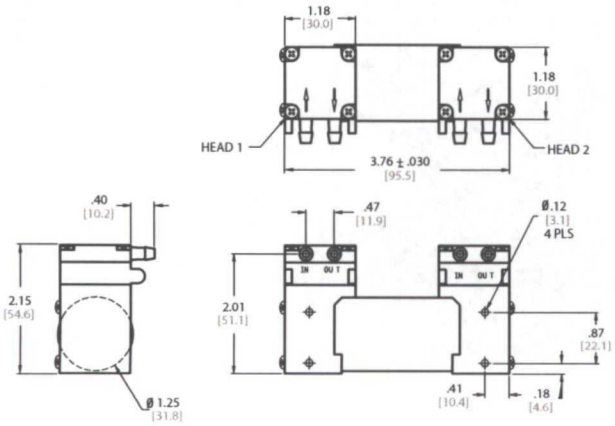
Parallel



The above performance graph illustrates the overall performance o f the BTC-II handling air at 800 feet (244 m) above sea level at 75° F (24°). Performance will vary depending on barometric pressure and media temperature. Consult factory with you specific requirements.

Dimensions

(Pump Mass - 9.1 oz_m [258 gms])



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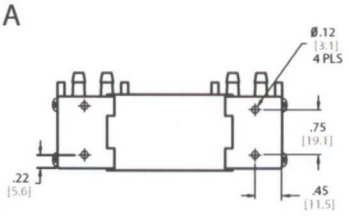

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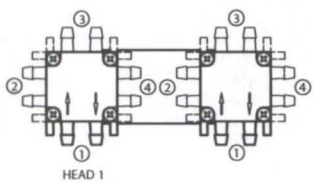

Head Configuration
(#1 Head Configuration Standard)

ORDER ON-LINE

For more information call 1.800.525.2857 or email ppfinfo@parker.com
Visit www.parker.com/precisionfluidics

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07. 15. 2011