S E C O N D D R A F T

WORK PLAN FOR INTERIM SUB-SLAB DEPRESURIZATION SYSTEM

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Prairie Ronde Realty Company

Dowagiac, Michigan

Prepared For:

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~

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April 24, 2012

TABLE OF CONTENTS

FIGURES

1.0 INTRODUCTION

This document presents a work plan for installation and start-up of an interim sub-slab depressurization system (SSDPS) for the Prairie Ronde Realty (PRR) property at 415 Prairie Ronde Street in Dowagiac, Michigan. This property was acquired by PRR from the Sundstrand Corporation (UTC/Sundstrand) in 1995. The shallow soil and groundwater beneath this former copper tube mill are impacted by volatile organic compounds (VOCs), primarily trichloroethene (TCE) and 1,1,1-trichloroethane (TCA), resulting from historical operations by UTC/Sundstrand. The contamination was discovered in 1983 and the impacted soil and groundwater has been actively remediated since 1984.

The groundwater remediation program consists of a system of purge wells. The purged groundwater is treated through an air stripper. Beginning in 1994, the plant also installed air sparging and soil vapor extraction (SVE) systems as voluntary interim measures to expedite the site remediation. The air streams from the groundwater air stripper and the SVE systems have been discharged under terms of an air emissions permit.

In September 2009, PRR submitted a *Final Corrective Measures Proposal* (CMP) that outlines the proposed final site remediation program. USEPA and PRR are working on finalizing the CMP. As part of the evaluation of the CMP, PRR sampled the air inside the industrial building on the property. The sampling included both indoor air and sub-slab samples, and both sets of samples contained TCE at levels above USEPA screening levels. Those data are being submitted to USEPA in a separate document.

In response to the TCE concentrations above screening levels, PRR increased ventilation in the building and notified tenants. In addition, PRR is proceeding to install and operate a SSDPS for the entire building. The SSDPS will initially include re-starting the former SVE system, which can readily be placed back into operation, as an interim measure. The former SVE wells will be operated at a reduced flow rate compared to the original remediation system with the objective of creating a vacuum beneath the floor slab. When this interim system is in operation, PRR may evaluate alternative options for a final remedy.

2.0 SYSTEM INSTALLATION AND STARTUP

As discussed above, sampling at the PRR building in March 2012 showed TCE concentrations in indoor air and sub-slab soil gas at levels exceeding USEPA screening levels. Figure 1 shows the locations of the sub-slab samples. In response, PRR improved ventilation of the building by opening large overhead doors on the west and east sides of the building. PRR also placed fans in areas that were not directly ventilated by the doors, and is initiating a survey to locate and repair cracks or penetrations in the floor slab that may be facilitating migration of VOCs from the soil into the indoor air space.

In addition to these immediate short-term response measures, PRR proposes to install and operate a SSDPS on an interim basis while more permanent long-term remedies are evaluated. The SSDPS will use the existing vapor extraction wells, transmission piping, and discharge stack that were formerly used for the remedial SVE system. Figure 2 shows the layout of the former SVE system in the plant, including the SVE extraction wells and the vacuum monitoring points (VMPs) that were used as part of the SVE performance monitoring program.

The SVE system formerly operated at a total air flow rate on the order of 1,000 cubic feet per minute (cfm) and generated a vacuum under the building slab ranging from 0.1 to 0.4 pounds per square inch (psi). Since the objective of the SSDPS will be to maintain a null pressure gradient or vacuum under the slab, the actual air flow rate can be much lower than the flow rate required for soil remediation in the SVE system. Therefore PRR will install a blower with a lower capacity than the former SVE blower, so that the new system can maintain a depressurized sub-slab environment with minimal air emissions. Information on the blower to be used, including vacuum/flow-rate charts, is appended.

At the expected operating conditions the blower should generate a total airflow on the order of 200 cfm with a vacuum at the blower on the order of 2.5 to 3 psi. The blower will be installed with a water knockout tank and particulate filter at the blower, to prevent water or particles from entering and damaging the blower.

The recovered soil vapor will be discharged through the existing permitted air emission stack, which is a 24-inch diameter 80-foot tall vertical stack. The plant has maintained this stack as the discharge point for air emissions since 1984 and emissions from the groundwater treatment air stripper are ongoing. The stack was also used for discharge of emissions from the SVE system during the period of 1994 through 2008; however the permit was modified in 2009 to remove the SVE discharge. PRR is applying for a modification to the permit to include the discharge from the SSDPS. Based on discussion with MDEQ staff, it is expected that the modification will be processed expeditiously.

PRR is proceeding with installation of the blower. The system will be started after the air permit modification is approved by MDEQ.

The system will initially be started up and evaluated to verify that it is operating as expected. During the initial operating period weekly checks will be made to measure the air-flow rate and vacuum at the blower and the differential pressure/vacuum across the slab at each VMP. The discharge airstream will be sampled for VOC analysis in accordance with the air permit requirements.

When the start-up period analytical data is received and evaluated, PRR will make adjustments as necessary. If major adjustments are necessary – such as a different blower, for example – an additional one-week startup period may be required to evaluate the modified system before it is placed into full operation.

3.0 MONITORING AND SAMPLING

The SSPDS will be monitored to verify that is effective at maintaining a null or negative pressure gradient across the building's floor slab, and to verify that air emissions from the system comply with the air permit requirements.

The effectiveness will be evaluated by measuring the differential vacuum across the floor slab at eleven VMPs located inside the building, using a magnehelic gauge. These include VMP 1, 2, 3 and 10 from the former SVE monitoring system, as well as the seven VMPs that were installed in March 2012 and designated as VMP-11 through 17. These VMP locations and the locations of the SVE wells that will be used for the SSDPS are shown on Figure 3. The VMP measurements will be obtained quarterly and will be submitted to USEPA as part of the regular quarterly groundwater monitoring reports.

The emissions from the SSDPS will be monitored in accordance with the requirements of the air permit for the discharge. PRR anticipates that the permit will likely require measuring airflow rates and obtaining airstream samples between the blower and the stack on a quarterly basis after the initial start-up period. The data will be reported to MDEQ as required under the air permit.

The SSDPS blower will be serviced in accordance with the manufacturer's recommendations by the same contractor that presently services the purge wells. The contractor will also clean the particulate filter and drain the water knockout tank as necessary.

During operation of the SSDPS, the blower will be observed on a daily basis during regular business days, excluding weekends and holidays, to ensure that the blower is operating properly. The observation will include checking the vacuum at the blower; high or low vacuums could indicate problems such as blockage or broken lines. In the event the blower operation is not normal, the blower will be shut down and the maintenance contractor will be contacted.

The daily observations, regular maintenance and non-routine outages or repair will be documented in a log sheet and copies of the logs will be included in the quarterly monitoring reports.

4.0 EVALUATION OF EMISSIONS AND AMBIENT AIR IMPACT

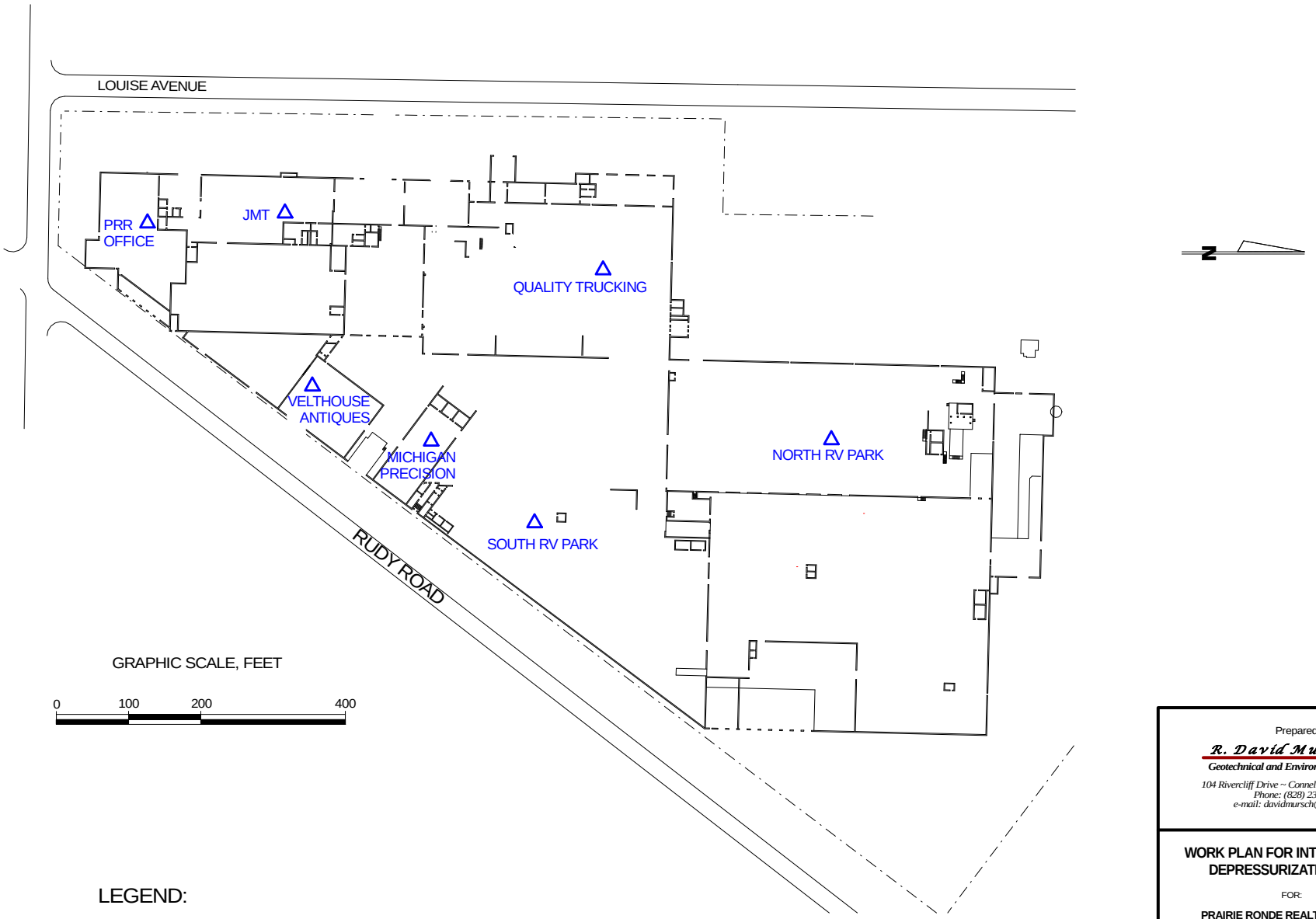
PRR has evaluated potential emissions from the SSDPS based on historical operating data, expected air flow rates, and the recent sub-slab analytical data. As shown in Figure 2, the average sub-slab TCE concentration obtained in the March 2012 samples was 13,053 micrograms per cubic meter (µg/m[3)]. By comparison, the average sub-slab concentration of TCE in the soil vapor below the plant building in June 2008, with the SVE system in operation, was 15,711 µg/m^3. At the planned initial SSDPS airflow rate of 200 cfm, the initial emission rate for the SSDPS will be on the order of 0.0098 pounds per hour (pph). The emission rate should decline as the system removes accumulated vapors in the soil space and approaches a mass-balance condition with TCE vaporizing out of the groundwater. This initial expected emission rate is similar to the average emission rate of the SVE system during the final six months of operation in 2008, which was 0.0093 pph.

The current air permit for the plant allows total air emissions of 2.28 pph. The emissions generated by the groundwater treatment air stripper are in the range of 0.13 pph. The additional emissions generated by the SSDPS (approximately 0.0098 pph initially and declining as the system achieves equilibrium) will be negligible compared both to the permitted emissions rate and the current level of emissions by the groundwater treatment system.

The impact of the ongoing permitted emissions from the groundwater treatment system and the past SVE operations to ambient air have been evaluated several times. Ambient air samples have been obtained from locations around the plant property while the systems were in full operation on nine occasions, with a total of fifteen ambient air samples analyzed. The locations, dates and TCE concentrations obtained in these samples are summarized below.

DATE	LOCATION	TRICHLOROETHENE, µg/m^3	STACK EMISSION RATE, pph
2/10/2006	API Separator	0.26	0.29
7/6/2006	Northwest of Air Stripper	0.60	0.23
3/31/2009	Upwind	Less than 2.1	0.13
3/31/2009	Downwind	Less than 2.1	0.13
4/1/2009	Upwind	Less than 2.1	0.08
4/1/2009	Downwind	Less than 2.1	0.08
4/7/2009	Upwind	Less than 2.1	0.08
4/7/2009	Downwind	Less than 2.1	0.08
7/22/2009	Upwind	Less than 2.1	0.18
7/22/2009	Downwind	Less than 2.1	0.18
8/4/2009	Upwind	Less than 2.1	0.18
8/4/2009	Downwind	Less than 2.1	0.18
8/6/2009	Upwind	Less than 2.1	0.18
8/6/2009	Downwind	Less than 2.1	0.18
3/21/2012	East side	0.14	0.13

None of the ambient samples have exceeded USEPA screening levels for ambient air, and all were obtained during periods of time when TCE emissions from the permitted stack were higher than the expected total emissions that will be generated when the SSDPS is initially placed into startup operation (14 pph). Therefore the emissions resulting from the SSDPS will not have an adverse impact on the ambient air quality.



LEGEND:

— · PRAIRIE RONDE REALTY PROPERTY LINE

△ SUB-SLAB SAMPLING PORT INSTALLED MARCH 2012

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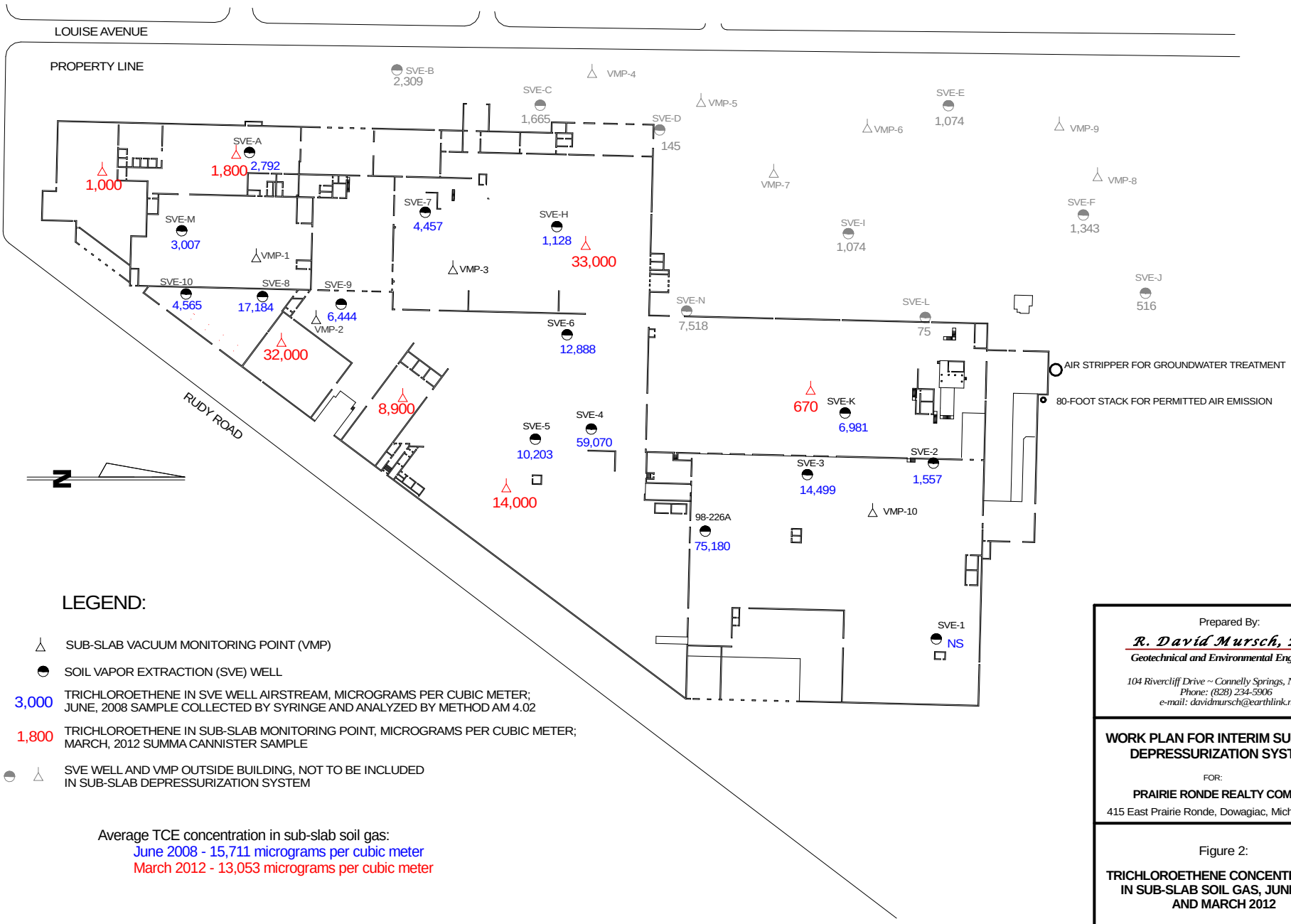
WORK PLAN FOR INTERIM SUB-SLAB DEPRESSURIZATION SYSTEM

FOR:

PRAIRIE RONDE REALTY COMPANY
415 East Prairie Ronde, Dowagiac, Michigan 49047

Figure 1:

SUB-SLAB SAMPLE LOCATIONS, MARCH 2012



LEGEND:

- SUB-SLAB VACUUM MONITORING POINT (VMP)
- SOIL VAPOR EXTRACTION (SVE) WELL
- 3,000 — TRICHLOROETHENE IN SVE WELL AIRSTREAM, MICROGRAMS PER CUBIC METER; JUNE, 2008 SAMPLE COLLECTED BY SYRINGE AND ANALYZED BY METHOD AM 4.02
- 1,800 — TRICHLOROETHENE IN SUB-SLAB MONITORING POINT, MICROGRAMS PER CUBIC METER; MARCH, 2012 SUMMA CANNISTER SAMPLE
- SVE WELL AND VMP OUTSIDE BUILDING, NOT TO BE INCLUDED IN SUB-SLAB DEPRESSURIZATION SYSTEM

Average TCE concentration in sub-slab soil gas:
June 2008 - 15,711 micrograms per cubic meter
March 2012 - 13,053 micrograms per cubic meter

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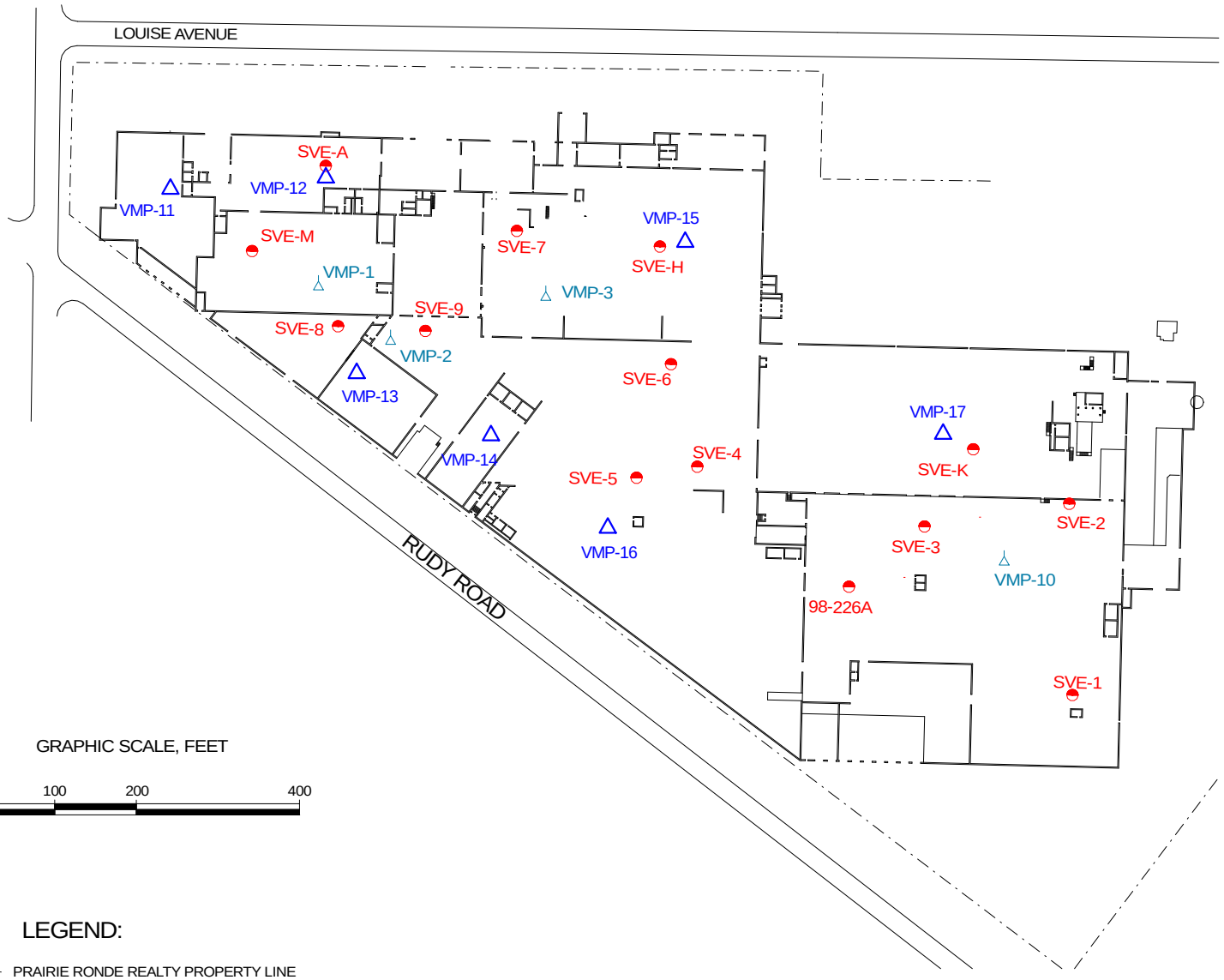
FOR:

PRAIRIE RONDE REALTY COMPANY

415 East Prairie Ronde, Dowagiac, Michigan 49047

Figure 2:

TRICHLOROETHENE CONCENTRATIONS IN SUB-SLAB SOIL GAS, JUNE 2008 AND MARCH 2012



LEGEND:

- PRAIRIE RONDE REALTY PROPERTY LINE
- SSDPS EXTRACTION POINTS (FORMER SOIL VAPOR EXTRACTION WELLS)
- VACUUM MONITORING POINT (FOR THE FORMER SVE SYSTEM)
- NEW SSDPS SAMPLING PORT AND VACUUM MONITORING POINT (VMP)

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WORK PLAN FOR INTERIM SUB-SLAB DEPRESSURIZATION SYSTEM

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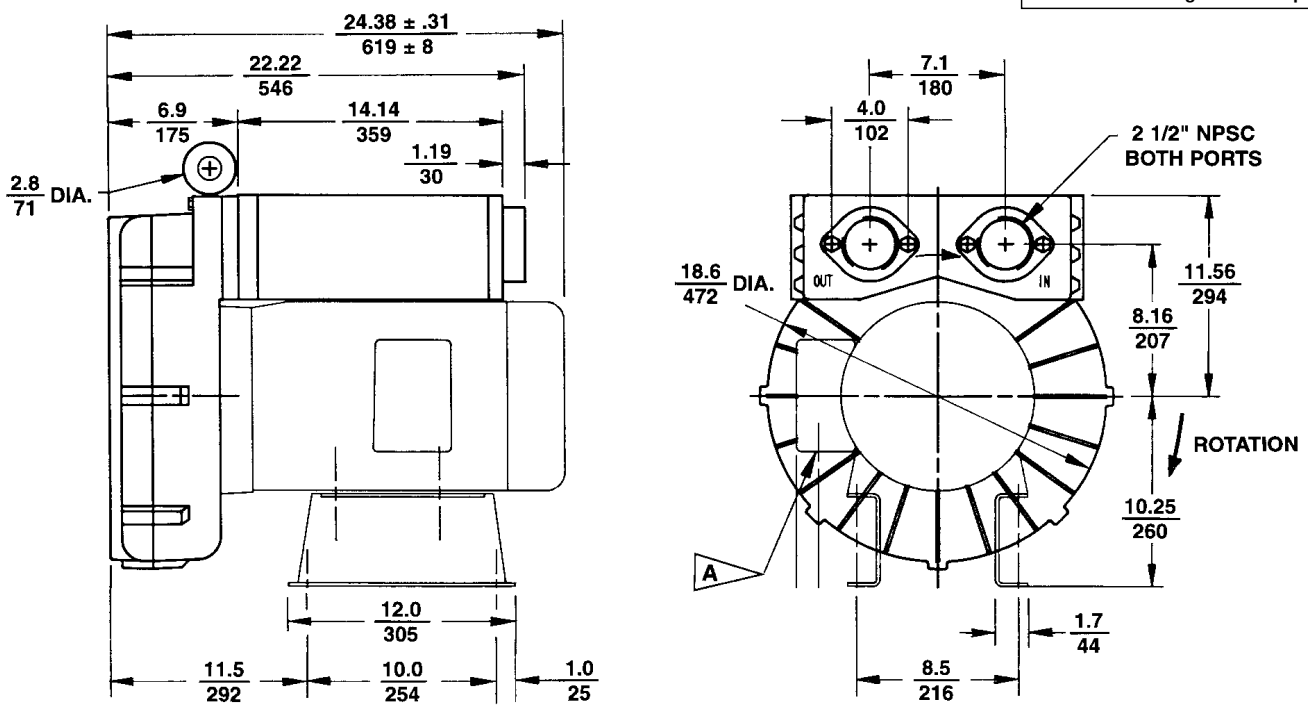
Figure 3:

SUB-SLAB DEPRESSURIZATION VAPOR EXTRACTION AND VACUUM MONITORING POINTS

EN 858 & CP 858
Sealed Regenerative Blower w/Explosion-Proof Motor

Scale CAD drawing available upon request.



DIMENSIONS: IN / MM
TOLERANCES: .XX ± .1 / 2.5
(UNLESS OTHERWISE NOTED)

A 0.75" NPT CONDUIT CONNECTION AT 12 O'CLOCK POSITION

SPECIFICATIONS

MODEL	EN858BD72WL		EN858BD86WL	EN858BA72WL		CP858FZ72WLR
Part No.	038744		038745	080070		038980
Motor Enclosure – Shaft Material	Explosion-proof – **CS**		Explosion-proof – **CS**	Explosion-proof – **CS**		Chem XP – **SS**
Horsepower	10.0		10.0	7.5		Same as EN858BD72WL – 038744 except add Chemical Processing (CP) features from catalog inside front cover
Phase – Frequency [1]	Three - 60 Hz		Three - 60 Hz	Three - 60 Hz		
Voltage [1]	230	460	575	230	460	
Motor Nameplate Amps	24	12	9.6	17	8.5	
Max. Blower Amps [3]	24	12	11.6	26	13	
Inrush Amps	162	81	93	126	63	
Starter Size	2	1	1	1	1	
Service Factor	1.0		1.0	1.0		
Thermal Protection [2]	Class B - Pilot Duty		Class B - Pilot Duty	Class B - Pilot Duty		
XP Motor Class – Group	I-D, II-F&G		I-D, II-F&G	I-D, II-F&G		
Shipping Weight	332 lb (151 kg)		332 lb (151 kg)	320 lb (145 kg)		

[1] Rotron motors are designed to handle a broad range of world voltages and power supply variations. Our dual voltage 3 phase motors are factory tested and certified to operate on both: **208-230/415-460 VAC-3 ph-60 Hz** and **190-208/380-415 VAC-3 ph-50 Hz**. Our dual voltage 1 phase motors are factory tested and certified to operate on both: **104-115/208-230 VAC-1 ph-60 Hz** and **100-110/200-220 VAC-1 ph-50 Hz**. All voltages above can handle a ±10% voltage fluctuation. Special wound motors can be ordered for voltages outside our certified range.

[2] Maximum operating temperature: Motor winding temperature (winding rise plus ambient) should not exceed 140°C for Class F rated motors or 120°C for Class B rated motors. Blower outlet air temperature should not exceed 140°C (air temperature rise plus inlet temperature). Performance curve maximum pressure and suction points are based on a 40°C inlet and ambient temperature. Consult factory for inlet or ambient temperatures above 40°C.

[3] Maximum blower amps corresponds to the performance point at which the motor or blower temperature rise with a 40°C inlet and/or ambient temperature reaches the maximum operating temperature.

Specifications subject to change without notice. Please consult your Local Field Sales Engineer for specification updates.

Rev. 2/04

EN 858 & CP 858
Sealed Regenerative Blower w/Explosion-Proof Motor

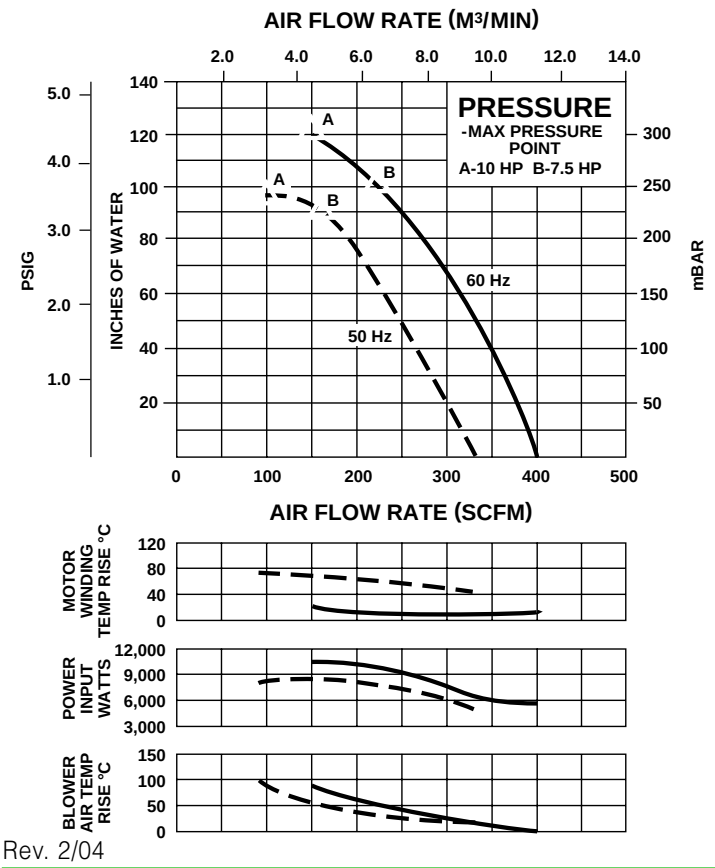
FEATURES
- Manufactured in the USA – ISO 9001 compliant
- Maximum flow: 400 SCFM
- Maximum pressure: 120 IWG
- Maximum vacuum: 98 IWG
- Standard motor: 10 HP, explosion-proof
- Cast aluminum blower housing, cover, impeller & manifold; cast iron flanges (threaded); teflon lip seal
- UL & CSA approved motor with permanently sealed ball bearings for explosive gas atmospheres Class I Group D minimum
- Sealed blower assembly
- Quiet operation within OSHA standards

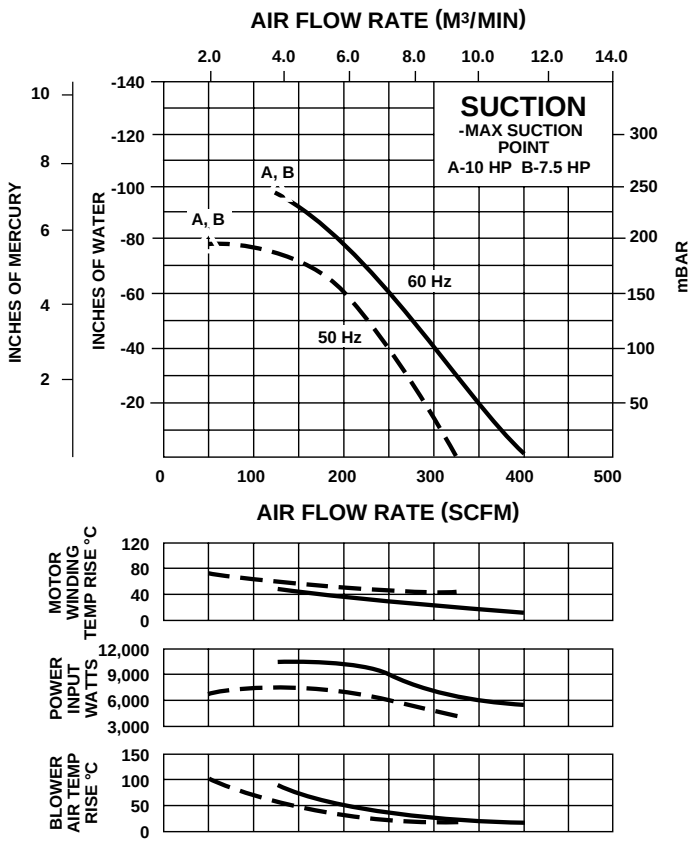
MOTOR OPTIONS
- International voltage & frequency (Hz)
- Chemical duty, high efficiency, inverter duty or industry-specific designs
- Various horsepowers for application-specific needs

BLOWER OPTIONS
- Corrosion resistant surface treatments & sealing options
- Remote drive (motorless) models
- Slip-on or face flanges for application-specific needs

ACCESSORIES (See Catalog Accessory Section)
- Flowmeters reading in SCFM
- Filters & moisture separators
- Pressure gauges, vacuum gauges & relief valves
- Switches – air flow, pressure, vacuum or temperature
- External mufflers for additional silencing
- Air knives (used on blow-off applications)
- Variable frequency drive package

BLOWER PERFORMANCE AT STANDARD CONDITIONS





Rev. 2/04

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