

H2K

Technologies, Inc.

RECEIVED

JUN 27 2007

OLSSON ASSOCIATES

9851 13th Ave. North
Plymouth, MN 55441
Phone: 763-746-9900
Fax: 763-746-9903
www.H2Ktech.com

RE-SUBMITTAL

H2K Project #2116

For

Olsson Associates

Project Name

Soil Vapor Extraction & Air Sparge System

Former Foreman Bulk Plant

Grand Island, NE

NO EXCEPTIONS NOTED
 EXCEPTIONS NOTED
 RETURNED FOR CORRECTION
 RECORD COPY
REVIEW DOES NOT RELIEVE CONTRACTOR
FROM RESPONSIBILITY FOR ERRORS OR DEVI-
ATIONS FROM CONTRACT REQUIREMENTS.
OLSSON ASSOCIATES

Project Manager: Mark Hansen

mhansen@h2ktech.com

H2K Technologies, Inc.

9851 13th Avenue North

Plymouth, MN 55441

763-746-9900 ext. 115 (phone)

763-746-9903 (fax)

June 20, 2007

H2KTechnologies, Inc.



RECEIVED

JUN 29 2007

Nebraska Department of Environmental Quality

By: 13

Site Power Confirmation Sheet

Job Name: Olsson Associates - Former Foreman Bulk Plant Job Number: 2116

Please fill out the below table by checking the box that represents the site voltage, phase and wire count (Delta or Y).

Note, one of the more common and expensive problems we have encountered, is a difference in what power is available on-site verses what was specified or documented. This can result in large costs to have equipment changed out and long delays in system start-ups. Please contact the local electrical power company and if possible personally check the site power available.

Table with 4 columns: Check Box, Voltage, Phase, Description. Row 4 is marked with an 'X' for 240 VAC, 3 Phase.

Delta

I [Signature] confirm that the above power is available at this job site / location and that this document supersedes all other site power documentation / specifications.

Confirming Signature: [Signature] Date: 6/27/07

We look forward to working with you on this project. Please do not hesitate to call me if you have any questions on the above.

Sincerely,

Mark Hansen Project Manager

Checklist box with options: NO EXCEPTIONS NOTED, EXCEPTIONS NOTED, RETURNED FOR CORRECTION, RECORD COPY. Includes disclaimer text and OLSSON ASSOCIATES logo.

Equipment Description / Scope of Supply

SVE

- (1) SVE inlet manifold
 - 4" header with (6) 2" takeoffs, schedule 80 PVC piping & fittings
 - (6) Flow monitoring ports with threaded plug for later flow meter installation by others
 - (6) 2" Brass gate valves
 - (6) Vacuum gages, 0-120" wc vacuum, liquid filled, vertically mounted

 - (1) Pitot tube with Magnehelic gage

 - (1) Moisture separator, **H2K** model VLS 120
 - Tangential inlet and demister for 99% + moisture removal
 - Carbon steel construction, epoxy/urethane finish inside and out
 - 17" Hg vacuum design rating
 - 120 gallon total capacity, 70 gallon holding capacity
 - PVC site glass with ss High/high-high & low level switches with union for easy removal
 - Polypropylene mist eliminator media
 - 1" Drain valve
 - Vacuum gage, on separator inlet
 - 6" Cleanout port at bottom of separator
 - 2" Bleed valve with filter/silencer on separator inlet

 - (1) Inline air filter, Solberg model CT-235P-400C
 - DP gage across filter

 - (1) H2K RLV-5006 soil vapor extraction system
 - Blower, Roots URAI model 56
 - Flexible couplings for vibration isolation on blower inlet and outlet
 - 300 scfm at 25" wc vacuum at manifold, at 1864' elevation (366 icfm)
 - 7.5 HP, 230/460 VAC, 3Ø, EXP motor
 - Motor mounted on adjustable sliding base
 - V belt drive with OSHA belt guard
 - Discharge silencer/stand
 - Vibration isolator mounts between floor and blower**
 - Vacuum relief valve
 - Temperature gage on blower discharge
 - Sample port on blower discharge
 - Pressure gage on blower discharge
 - 4" Air flow meter, Pitot tube with magnehelic gage on blower discharge
- Note: this unit is capable of providing 480 scfm at 25" wc by changing the drives.
- (1) Condensate pump, Meyers model CT-05 end suction centrifugal pump
 - 10 gpm @ 72' TDH
 - Cast iron bronze fitted
 - 3/4 HP, 230/460VAC, 3Ø, EXP motor
 - Check valve on pump discharge
 - Piped outside with frost free hose bib

Sparge

- (1) Inline air filter, Solberg model CSL-851-200HC
DP gage across filter
- (1) H2K RLP-3002 air sparge system
 - Blower, Roots URAI model 32
 - Flexible couplings for vibration isolation on blower inlet and outlet
 - 80 scfm at 11 psi discharge pressure at manifold, at 1864' elevation (89 icfm)
 - 10 HP, 230/460 VAC, 3Ø, EXP motor
 - Motor mounted on adjustable sliding base
 - V belt drive with OSHA belt guard
 - Discharge silencer/stand
 - Vibration isolator mounts between floor and blower**
 - Pressure relief valve
 - Inlet silencer
 - Temperature gage on blower discharge
 - Pressure gage on blower discharge
 - Check valve on blower discharge
 - 1" Bleed valve with silencer on blower discharge
 - High temperature switch on blower discharge, Barksdale model M1H
 - High pressure switch on blower discharge, Barksdale model D1T

Note: this unit is capable of providing 100 scfm at 11 psi by changing the drives

- (2) 1 1/4" Dia x 3' copper tube aluminum, finned passive heat exchanger elements in parallel mounted outside of trailer
- (1) Sparge discharge manifold
 - 2" header with (6) 2" takeoffs, schedule 40 galvanized steel piping & fittings
 - (6) Flow meters, Dwyer VF rotometers
 - (6) 2" Steel gate valves
 - (6) Pressure gages, liquid filed, vertically

Controls

- (1) Control System-SVE/Sparge Treatment System

For operation on 240 volt, 3Ø, 3 wire incoming electrical service. To control one 7.5 Hp SVE Blower, one 10 hp sparge blower and (1) 3/4 Hp Moisture Separator Transfer Pump. Furnished mounted in the building exterior. To include:

QTY DESCRIPTION

- 1 Enclosure, NEMA 4 Painted Steel, 36"h, 36"w, 12"d with sub panel; control pilot devices on dead front inner door.
- 1 Motor starter: NEMA Size 1, C-H Freedom Series, 3Ø; Pumps
- 2 Motor starter: NEMA Size 3, C-H Freedom Series, 3Ø; SVE & sparge Blowers
- 1 Contactor 25A FLA; XP Building Heater, XP Exhaust Fan
- 3 Switch; three position; Hand-Off-Auto with integral Run (green/LED) indication
- 3 Pilot Lights (red/LED) alarm indication
- 1 Pushbutton (red/NO); alarm Reset
- 2 Intrinsically Safe Barriers, 2 channel – switch inputs
- 2 **24 Hour adjustable pin timer for SVE & Sparge cycling**
- 1 Sensaphone 2000 Autodialer; Alarm dialer
 - Relay and timer logic as required
 - Engraved laminated legends for all door mounted devices
 - Terminal blocks for external connections and fusing as required
 - Color-coded wiring with wire markers at all terminations
 - Fully documented, assembled, wired and pre-shipment test
- 1 UL 698A serialized label
- 1 GFI 15 Amp receptacle mounted on building exterior next to panel with weather cover

Controls Cont.

- 1 NEMA 3R Panelboard, 120/240VAC, 3Ø, 4 wire with 100Amp main breaker. Mounted next to the control panel, To include the following circuit breakers
 - 1-Circuit breaker 240V, 3P30A; SVE Blower
 - 1-Circuit breaker 240V, 3P40A; sparge Blower
 - 1-Circuit breaker 240V, 3P15A; Transfer Pumps
 - 4-Circuit breaker 120V, 1P15A; GFCI, Building Lights, exhaust fan, control power
 - 1-Circuit breaker 240V, 2P20A; Building Heater

Trailer

- (1) Trailer enclosure system, 8' wide x 14' long x 6.5' high
 - Includes equipment installation and wiring
 - 6" steel I beam frame
 - (2) Layers, ¾" Plywood floor decking, aluminum & fiberglass exterior
 - 2" of convoluted foam on walls and ceiling**
 - R-5 fiberglass wall and ceiling insulation with plywood interior
 - Tandem 3,500 lb axles, 7,000lb GVWR, radial tires
 - Double rear doors with cam lock
 - (1) 32" side door with cam lock
 - 2" coupler with jack stand
 - Electric brakes, ICC lighting
 - (2) Rear mounted stabilizer jacks
 - (1) Wall mounted explosion proof electric convection heater with thermostat, 1800 Watt
 - (2) Ceiling mounted explosion proof light with vapor globe and wall switch
 - (1) Explosion proof vent fan with inlet & outlet louvers and thermostat
 - Exhaust stack with uni-strut and guys for support

SVE & sparge will be installed, piped and wired inside trailer. Piping will be schedule 80 PVC for SVE inlet and water and schedule 40 galvanized steel for sparge & SVE discharge. Wiring will be per NEC for Class I, Div II Group D hazardous environment inside of building. Control panel will be mounted and wired on outside of building, per NEC for a non-classified area.

UL Listing (or NRTL) for Entire System

Freight to site, flatbed direct shipment, all equipment above

- (1) Day onsite time for system startup and training, includes travel and expenses

(Lot) Spare parts for (1) year of operation

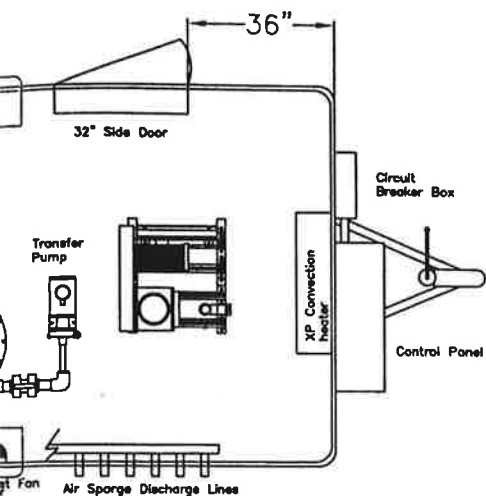
- (1) **Set of spare drive belts for the SVE and Sparge Blowers**
- (1) **Set of replacement filter elements for SVE air bleed and SVE / Sparge inlet air filters**
- (1) **Tube of grease and 4 quart of oil for the SVE & Sparge blowers**

Submittal Section Review

Approved Approved as Noted Revise and Resubmit

Signature Required: _____

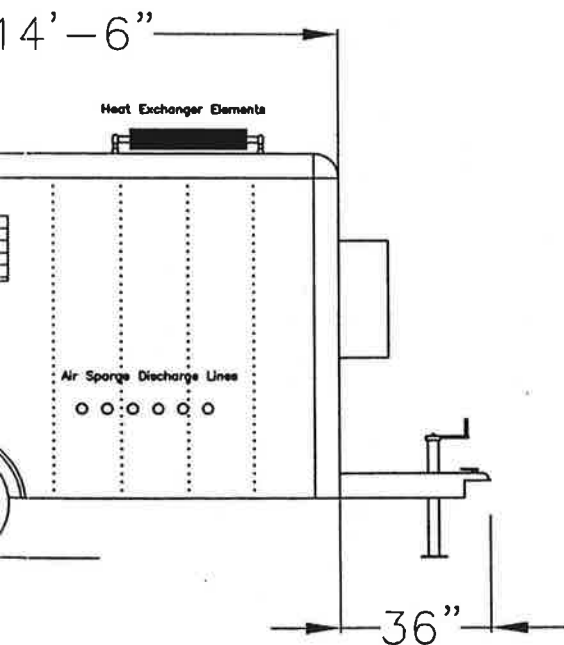
Date: _____



TOP VIEW

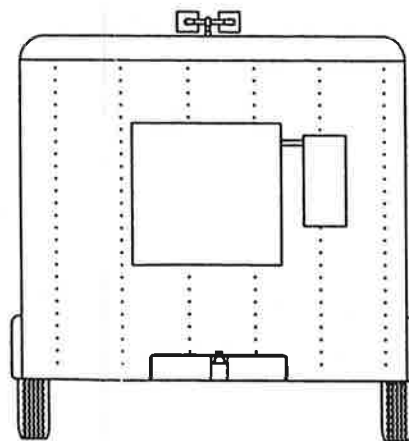
Note:

1. 8'x14'x6.5' enclosed trailer with tandem 3500 lb axle, R-5 insulation walls and ceiling.
2. Interior wired per NEC for Class I, Division II, Group D area, exterior considered non-classified beyond 3' from any opening per NEC article 500 table 515.



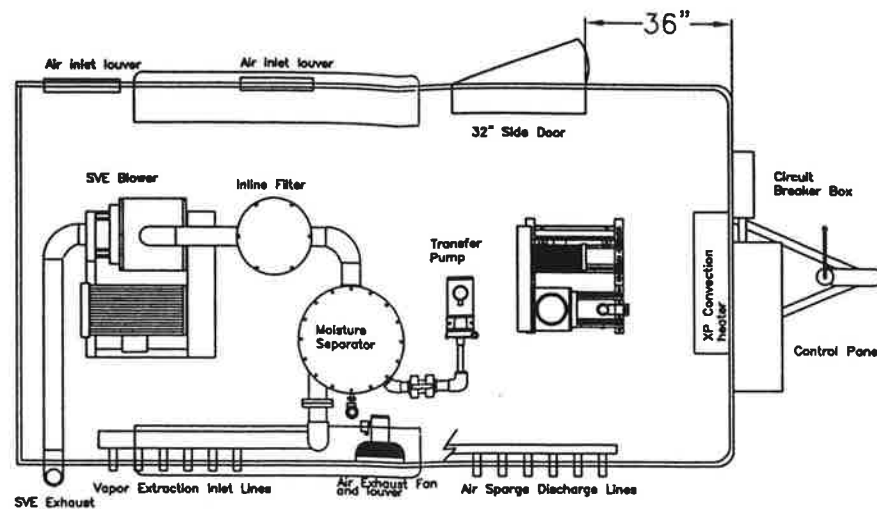
(2) 3500 LB AXLES WITH 15" RIM

LEFT SIDE VIEW



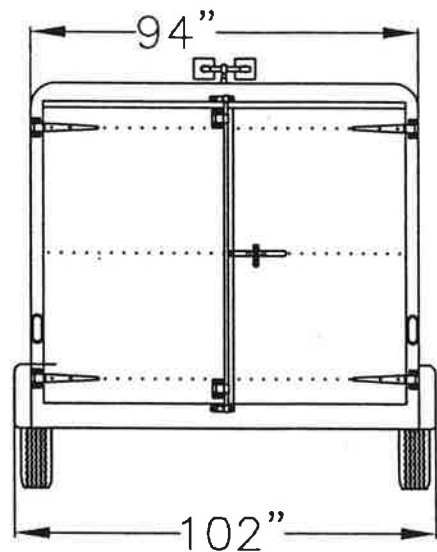
FRONT VIEW

NO EXCEPTIONS NOTED
 EXCEPTIONS NOTED
 RETURNED FOR CORRECTION
 RECORD COPY
 REVIEW DOES NOT RELIEVE CONTRACTOR FROM RESPONSIBILITY FOR ERRORS OR DEVIATIONS FROM CONTRACT REQUIREMENTS.
OLSSON ASSOCIATES

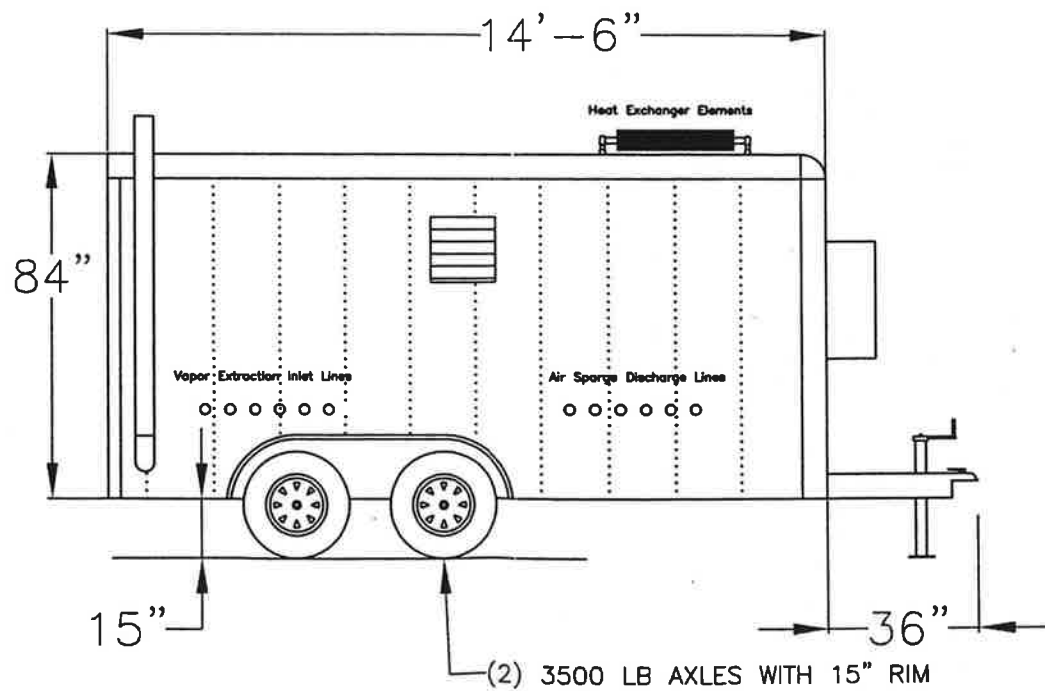


SECTION TOP VIEW

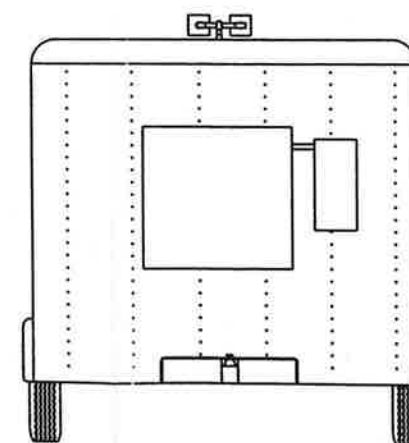
Note:
 1. 8'x14'x6.5' enclosed trailer with tandem 3500 lb axle, R-5 insulation walls and ceiling.
 2. Interior wired per NEC for Class I, Division II, Group D area, exterior considered non-classified beyond 3' from any opening per NEC article 500 table 515.



REAR VIEW



SIDE VIEW



FRONT VIEW

REVISIONS

| REV | DESCRIPTION | DATE | DWN | UNLESS SPECIFIED OTHERWISE * DIMENSIONS ARE IN INCHES * DO NOT SCALE DRAWING |
|-----|------------------------------|------|-----|--|
| A | CHANGES PER SUBMITTAL REVIEW | 6/07 | MK | DRAWN BY: MK DESIGNED BY: MK PROJECT MGR.: MH DATE: 2/6/07 PROJECT NO.: 2116 |

THESE MATERIALS ARE PROPRIETARY AND SHALL REMAIN THE PROPERTY OF H2K TECHNOLOGIES, INC. BUYER SHALL HAVE THE USE OF MATERIALS AND INFORMATION FOR THE LIMITED PURPOSE OF INSTALLING AND MAINTAINING THE EQUIPMENT SOLD BY H2K TECHNOLOGIES, INC. NOT TO BE REPRODUCED WITHOUT WRITTEN PERMISSION.



9851 13th Ave N., Plymouth MN 55441 Tel: 763-746-9900 ©2007

PROJECT TITLE:

OLSSON ASSOCIATES
 FORMER FOREMAN
 BULK PLANT
 GRAND ISLAND, NE

DRAWING TITLE:

TRAILER LAYOUT

SHEET 1 OF 2

DRAWING NO.:

2116-01