Sanborn, Head & Associates
Consulting Engineers & Scientists

GP
NHG910026

NOTICE OF INTENT
NPDES REMEDIATION GENERAL PERMIT

Timken Aerospace Site
Lebanon, New Hampshire

Site Owner: Timken Aerospace, Inc.
Co-Operator: Timken Aerospace, Inc.

Prepared for
Timken Aerospace

Prepared by
Sanborn, Head & Associates, Inc.

File 2303.01
October 2005

Charles L. Head ■ R. Scott Shillaber ■ Charles A. Crocetti ■ James A. Chabot
Mathew A. DiPilato ■ Daniel B. Carr ■ Duncan W. Wood ■ Joseph G. Engels ■ Vernon R. Kokosa

Sanborn, Head & Associates, Inc.
20 Foundry Street ■ Concord, NH 03301
concord@sanbornhead.com ■ www.sanbornhead.com
Phone (603) 229-1900 ■ Fax (603) 229-1919

B. Suggested Form for Notice of Intent (NOI) for the Remediation General Permit

1. General site information. Please provide the following information about the site: *(See attached Figure 1 Locus Map)*

<table>
<tr><td colspan="2">a) Name of facility/site:
Timken Aerospace, Inc.</td><td colspan="4">Facility/site address:
Timken Aerospace, Inc.</td></tr>
<tr><td colspan="2">Location of facility/site:
longitude: W072°17'09" latitude: N43°38'18"</td><td>Facility SIC code(s):
3562</td><td colspan="3">Street:
366 Mechanic Street</td></tr>
<tr><td colspan="3">b) Name of facility/site owner: Timken Aerospace, Inc.</td><td colspan="3">Town: Lebanon</td></tr>
<tr><td colspan="3" rowspan="2">Email address of owner:
jonathan.stark@timken.com</td><td>State:
NH</td><td>Zip:
03766</td><td>County:
Grafton</td></tr>
<tr><td colspan="3">Telephone no.of facility/site owner: (603) 443-5285</td></tr>
<tr><td colspan="3">Fax no. of facility/site owner: (603) 443-5205</td><td colspan="3" rowspan="2">Owner is (check one): 1. Federal____ 2. State/Tribal____
3. Private ✓ 4. other, if so, describe:</td></tr>
<tr><td colspan="3">Address of owner (if different from site):</td></tr>
<tr><td colspan="6">Street: --</td></tr>
<tr><td colspan="2">Town: --</td><td>State: --</td><td>Zip: --</td><td colspan="2">County: --</td></tr>
<tr><td colspan="2" rowspan="2">c) Legal name of Co-Operator:
Sanborn, Head & Associates, Inc.</td><td colspan="4">Co-Operator telephone no: (603) 229-1900</td></tr>
<tr><td colspan="2">Co-Operator fax no.: (603) 229-1919</td><td colspan="2">Co-Operator email:
concord@sanbornhead.com</td></tr>
<tr><td colspan="6">Co-Operator contact name and title: James A. Chabot, P.E.</td></tr>
</table>

Address of **Co-Operator** (if different from owner): *Sanborn, Head & Associates, Inc.*	Street: *20 Foundry Street*		
Town: *Concord*	State: *NH*	Zip: *03301*	County: *Merrimack*

d) Check "yes" or "no" for the following:
1. Has a prior NPDES permit exclusion been granted for the discharge? Yes ✓ No___, if "yes," number: *NH-04I-006*
2. Has a prior NPDES application (Form 1 & 2C) ever been filed for the discharge? Yes ✓ No___, if "yes," date and tracking #: *June 1995 NH0000248*
3. Is the discharge a "new discharge"as defined by 40 CFR 122.2? Yes___ No ✓
4. For sites in Massachusetts, is the discharge covered under the MA Contingency Plan (MCP) and exempt from state permitting? Yes__ No__ n/a

e) Is site/facility subject to any State permitting or other action which is causing the generation of discharge? Yes ✓ No___ If "yes," please list: *Groundwater Management Permit GWP-198705054-L-002* 1. site identification # assigned by the state of NH or MA: *NHDES#198705054* 2. permit or license # assigned: *Temp. Surface Water Discharge SWP870554-003* 3. state agency contact information: name, location, and telephone number: *Mr. Ralph Wickson, NHDES, 29 Hazen Dr., Concord NH 03302 (603)271-6572*	f) Is the site/facility covered by any other EPA permit, including: 1. multi-sector storm water general permit? Y___ N ✓, if Y, number: 2. phase I or II construction storm water general permit? Y___ N ✓, if Y, number: 3. individual NPDES permit? Y___ N ✓, if Y, number: 4. any other water quality related permit? Y___ N ✓, if Y, number:

2. Discharge information. Please provide information about the discharge, (attaching additional sheets as needed) including:

a) Describe the discharge activities for which the owner/applicant is seeking coverage:
Discharge from a groundwater treatment / remediation system. See attached Figure 2.

b) Provide the following information about each discharge:	1) Number of discharge points: *1*	2) What is the **maximum** and **average flow rate** of discharge (in cubic feet per second, ft^3/s)? Max. flow *0.22 cfs (100 gpm)* Average flow *0.009 cfs (4 gpm)* Is maximum flow a **design value**? Y___ N___ For average flow, include the units and appropriate notation if this value is a design value or estimate if not available. *Average flow = 4 gpm based on nine years of historical data.*

3) Latitude and longitude of each discharge within 100 feet: pt.1:long. *W72°17'02"* *lat. N43°38'23"*

4) If hydrostatic testing, total volume of the discharge (gals): n/a	5) Is the discharge intermittent *No* or seasonal *No* ? Is discharge ongoing Yes ✓ No _____ ?
c) Expected dates of discharge (mm/dd/yy): start *ongoing* end *unknown*	*Discharge is ongoing under permits listed in Sections 1d and 1e.*
d) Please attach a line drawing or flow schematic showing water flow through the facility including: 1. sources of intake water, 2. contributing flow from the operation, 3. treatment units, and 4. discharge points and receiving waters(s).	*See attached Figure 3.*

3. Contaminant information. In order to complete this section, the applicant will need to take a minimum of one sample of the untreated water and have it analyzed for **all** of the parameters listed in Appendix III. Historical data, (i.e., data taken no more than 2 years prior to the effective date of the permit) may be used if obtained pursuant to: i. Massachusetts' regulations 310 CMR 40.0000, the Massachusetts Contingency Plan ("Chapter 21E"); ii. New Hampshire's Title 50 RSA 485-A: Water Pollution and Waste Disposal or Title 50 RSA 485-C: Groundwater Protection Act; or iii. an EPA permit exclusion letter issued pursuant to 40 CFR 122.3, provided the data was analyzed with test methods that meet the requirements of this permit. Otherwise, a new sample shall be taken and analyzed.

a) Based on the analysis of the sample(s) of the untreated influent, the applicant must check the box of the sub-categories that the potential discharge falls within.

Gasoline Only	VOC Only	Primarily Metals	Urban Fill Sites	Contaminated Sumps	Mixed Contaminants	Aquifer Testing
Fuel Oils (and Other Oils) only	VOC with Other Contaminants	Petroleum with Other Contaminants	Listed Contaminated Sites	Contaminated Dredge Condensates	Hydrostatic Testing of Pipelines/Tanks	Well Development or Rehabilitation

b) Based on the analysis of the untreated influent, the applicant must indicate whether each listed chemical is **believed present** or **believed absent** in the potential discharge. Attach additional sheets as needed.

PARAMETER	**Believe Absent**	**Believe Present**	**# of Samples (1 min-imum)**	**Type of Sample (e.g., grab)**	**Analytical Method Used (method #)**	**Minimum Level (ML) of Test Method**	**Maximum daily value**		**Avg. daily value**	
							concentration (ug/l)	**mass (kg)**	**concentration (ug/l)**	**mass (kg)**
1. Total Suspended Solids										
2. Total Residual Chlorine										
3. Total Petroleum Hydrocarbons	***Contaminant information will be submitted when laboratory analytical results are received.***									
4. Cyanide										
5. Benzene										
6. Toluene										
7. Ethylbenzene										
8. (m,p,o) Xylenes										
9. Total BTEX[4]										

[4]BTEX = Sum of Benzene, Toluene, Ethylbenzene, total Xylenes.

PARAMETER	Believe Absent	Believe Present	# of Samples (1 min-imum)	Type of Sample (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Avg. daily value	
							concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
10. Ethylene Dibromide (1,2- Dibromo-methane)										
11. Methyl-tert-Butyl Ether (MtBE)										
12. tert-Butyl Alcohol (TBA)										
13. tert-Amyl Methyl Ether (TAME)										
14. Naphthalene										
15. Carbon Tetra-chloride										
16. 1,4 Dichlorobenzene										
17. 1,2 Dichlorobenzene										
18. 1,3 Dichlorobenzene										
19. 1,1 Dichloroethane										
20. 1,2 Dichloroethane										
21. 1,1 Dichloroethylene										
22. cis-1,2 Dichloro-ethylene										
23. Dichloromethane (Methylene Chloride)										
24. Tetrachloroethylene										

PARAMETER	Believe Absent	Believe Present	# of Samples (1 min-imum)	Type of Sample (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Avg. daily Value	
							concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
25. 1,1,1 Trichloroethane										
26. 1,1,2 Trichloroethane										
27. Trichloroethylene										
28. Vinyl Chloride										
29. Acetone										
30. 1,4 Dioxane										
31. Total Phenols										
32. Pentachlorophenol										
33. Total Phthalates [5] (Phthalate esthers)										
34. Bis (2-Ethylhexyl) Phthalate [Di-(ethylhexyl) Phthalate]										
35. Total Group I Polycyclic Aromatic Hydrocarbons (PAH)										
a. Benzo(a) Anthracene										
b. Benzo(a) Pyrene										
c. Benzo(b)Fluoranthene										
d. Benzo(k) Fluoranthene										
e. Chrysene										

[5] The sum of individual phthalate compounds.

PARAMETER	Believe Absent	Believe Present	# of Samples (1 min-imum)	Type of Sample (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Average daily value	
							concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
f. Dibenzo(a,h) anthracene										
g. Indeno(1,2,3-cd) Pyrene										
36. Total Group II Polycyclic Aromatic Hydrocarbons (PAH)										
h. Acenaphthene										
i. Acenaphthylene										
j. Anthracene										
k. Benzo(ghi) Perylene										
l. Fluoranthene										
m. Fluorene										
n. Naphthalene-										
o. Phenanthrene										
p. Pyrene										
37. Total Polychlorinated Biphenyls (PCBs)										
38. Antimony										
39. Arsenic										
40. Cadmium										
41. Chromium III										
42. Chromium VI										

PARAMETER	Believe Absent	Believe Present	# of Samples (1 min-imum)	Type of Sample (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Avg. daily value	
							concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
43. Copper										
44. Lead										
45. Mercury										
46. Nickel										
47. Selenium										
48. Silver										
49. Zinc										
50. Iron										
Other (describe):										

c) For discharges where **metals** are believed present, please fill out the following:

Step 1: Do any of the metals in the influent have a **reasonable potential** to exceed the effluent limits in Appendix III (i.e., the limits set at zero to five dilutions)? Y____ N____	If yes, which metals?
Step 2: For any metals which have **reasonable potential** to exceed the **Appendix III** limits, calculate the **dilution factor (DF)** using the formula in Part I.A.3.c) (step 2) of the NOI instructions or as determined by the State prior to the submission of this NOI. What is the dilution factor for applicable metals? Metals:_____ DF: _____	Look up the limit calculated at the corresponding dilution factor in **Appendix IV.** Do any of the metals in the **influent** have the potential to exceed the corresponding **effluent** limits in Appendix IV (i.e., is the influent concentration above the limit set at the calculated dilution factor)? Y____ N____ If "Yes," list which metals:

7. Supplemental information. :

Please provide any supplemental information. Attach any analytical data used to support the application. Attach any certification(s) required by the general permit.

8. Signature Requirements: The Notice of Intent must be signed by the operator in accordance with the signatory requirements of 40 CFR Section 122.22, including the following certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, I certify that the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I certify that I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

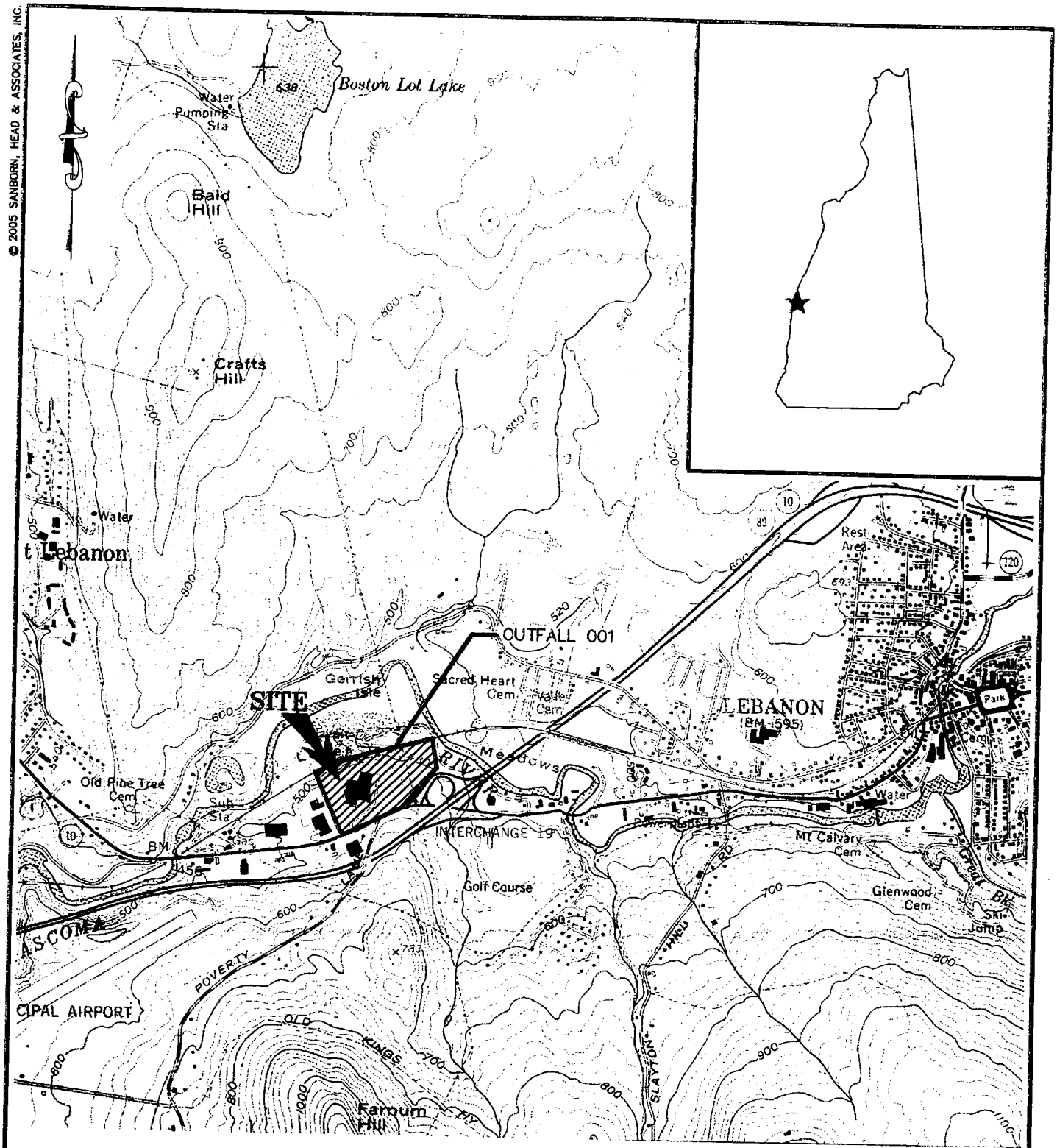
Facility/Site Name: *Timken Aerospace, Inc.*

Co-Operator signature: James G. Chalt

Title: *Principal, Sanborn, Head & Associates, Inc.*

Date: 10/21/05

FIGURES



NOTES:

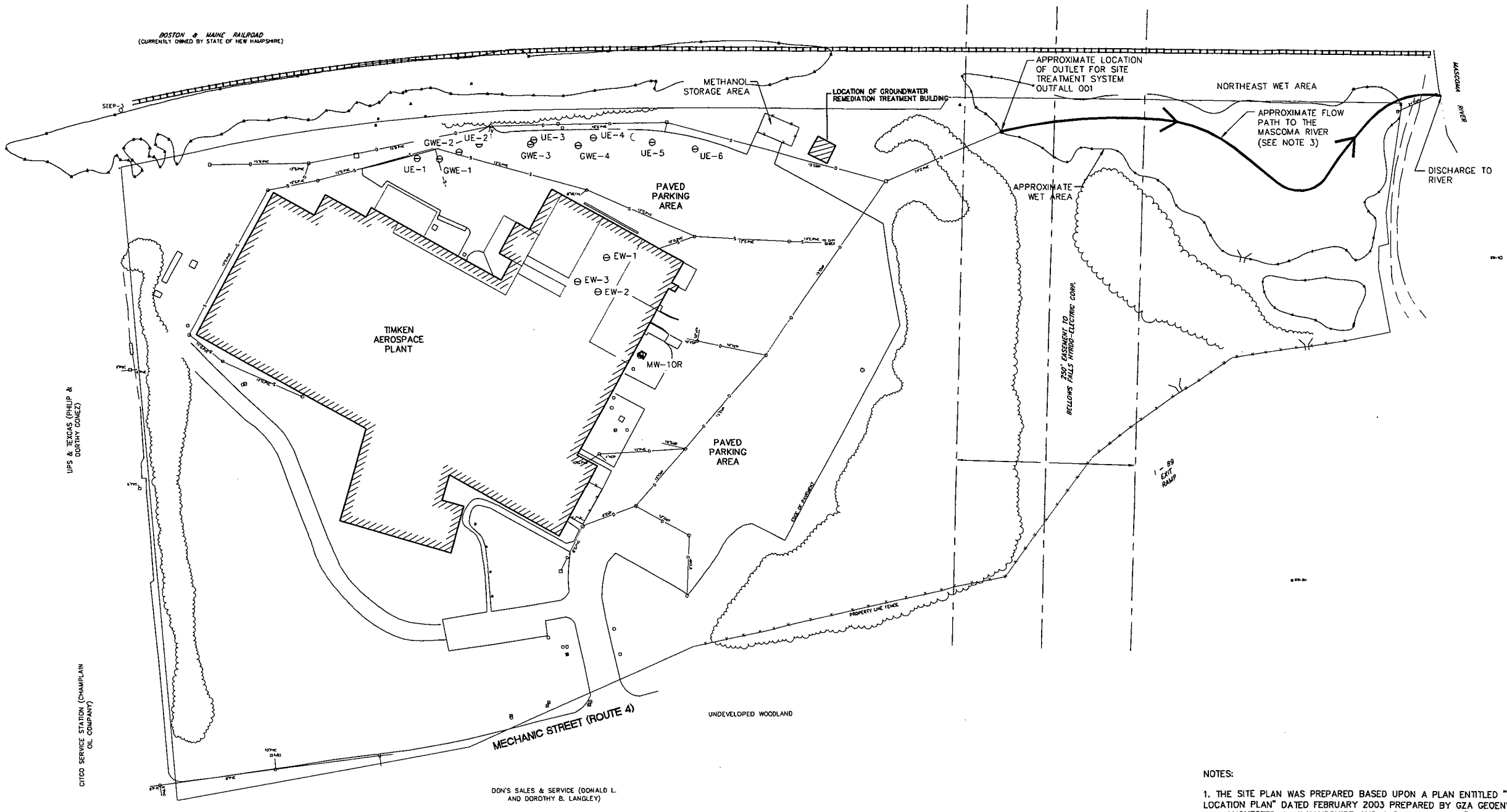
BASE MAP TAKEN FROM 7.5 MINUTE
USGS QUADRANGLE MAP:
43072-F3-TF-024 (1988)

TIMKEN AEROSPACE **LEBANON, NEW HAMPSHIRE**	**NPDES RGP NOI** **LOCUS PLAN**		
Sanborn, Head & Associates *Consulting Engineers & Scientists*	SCALE: 1"=2000'	DRAWN BY: EMW	FILE NO. 2303.01
	DATE: OCT 05	CHECKED BY: SRN	FIGURE NO. 1

IMAGES: Q:\CONCORD\2303\dwg\images\Hanover.jpg

XREFS:

FILE: Q:\CONCORD\2303\dwg\NPDES RGP\2303-Fig 1.dwg
LAYOUT: LOCUS 10-05
CTB FILE: SHA STANDARD.CTB
PLOT DATE: 10-20-05



NOTES:

1. THE SITE PLAN WAS PREPARED BASED UPON A PLAN ENTITLED "EXPLORATION LOCATION PLAN" DATED FEBRUARY 2003 PREPARED BY GZA GEOENVIRONMENTAL INC. OF MANCHESTER, NEW HAMPSHIRE AND A PLAN ENTITLED "MONITORING WELL AND TRENCH LOCATIONS" DATED MAY 4, 2004 PREPARED BY CHAS H. SELLS, INC. OF NASHUA, NEW HAMPSHIRE, ORIGINAL SCALE 1"=40'.

2. THE LOCATION OF SITE FEATURES SHOULD BE CONSIDERED APPROXIMATE ONLY.

3. THE DISCHARGE FLOW PATH IS BASED ON A PLAN TITLED, "DISCHARGE LOCATION PLAN" DATED JUNE 1992 PREPARED BY GEOENVIRONMENTAL INC. (GZA) OF MANCHESTER, NEW HAMPSHIRE.

LEGEND:

⊖ EW-1, MW-10R, GWE-1, UE-1 — EXTRACTION WELL LOCATION AND DESIGNATION

WETLAND DELINEATION

NO.	DATE	DESCRIPTION	BY

GRAPHICAL SCALE
80' 40' 0 80' 160'

Sanborn, Head & Associates
Consulting Engineers & Scientists

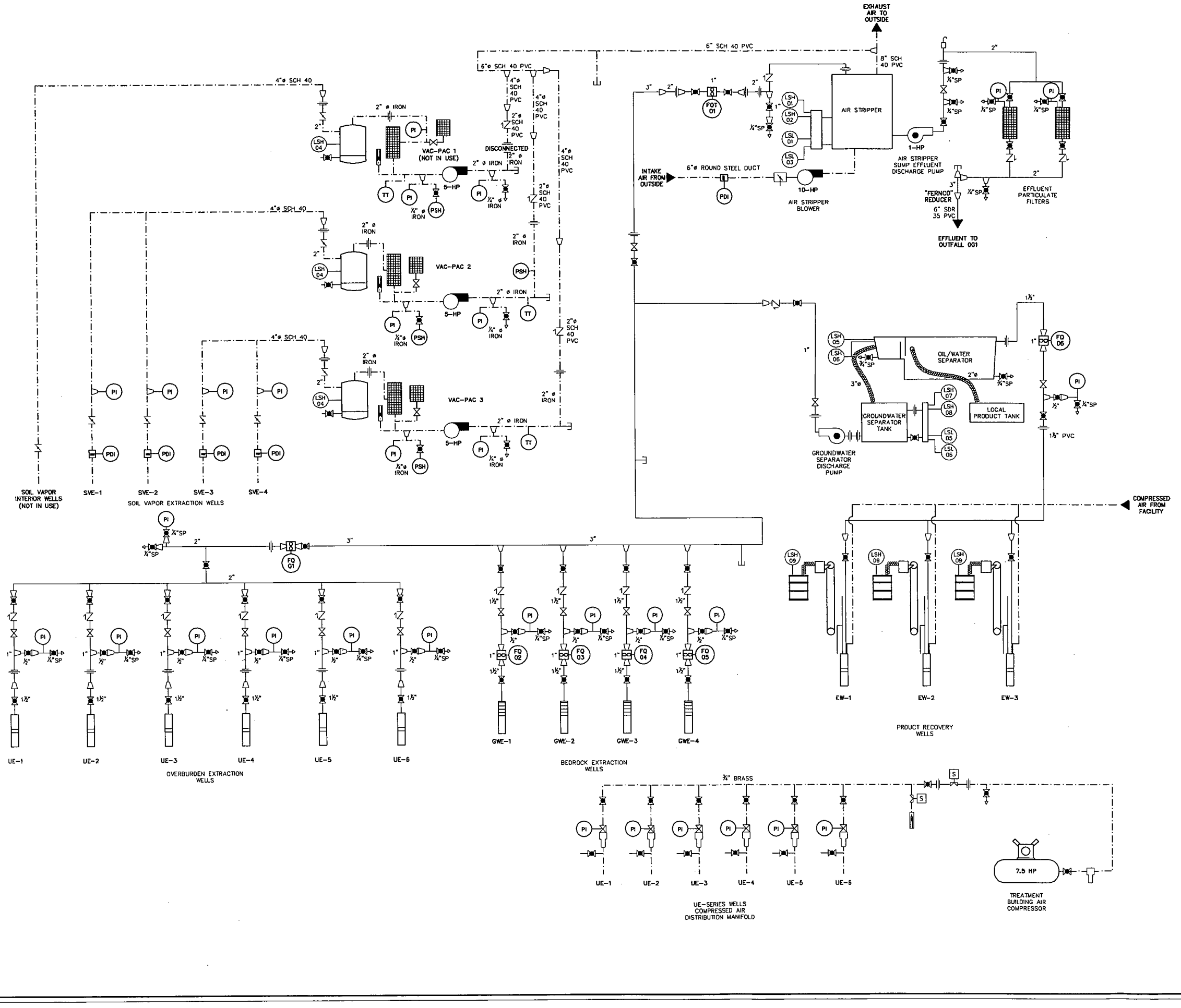
DRAWN BY: MKA
DESIGNED BY: SRN
CHECKED BY: SRN
REVIEWED BY: JAC
PROJECT MGR: SRN
PIC: JAC
DATE: OCT 05

TIMKEN AEROSPACE
LEBANON, NEW HAMPSHIRE

SITE PLAN

PROJECT NUMBER: 2303.01

FIGURE NUMBER: 2



LEGEND:

- COMPRESSED AIR / VACUUM PIPING
- WATER PIPING
- WIRE-REINFORCED HOSE
- BALL VALVE
- SAMPLE PORT, BALL VALVE W/ SPECIFIED ø HOSE BARB
- METERING VALVE
- CHECK VALVE
- BUTTERFLY VALVE
- PRESSURE REGULATOR VALVE
- SOLENOID CONTROLLED DIAPHRAGM VALVE
- DAMPER
- AIR RELEASE VALVE
- FQ 05 — FLOW TOTALIZER
- FIQT 01 — PADDLE WHEEL FLOW METER
- PDI — PITOT TUBE WITH DIFFERENTIAL PRESSURE GAUGE
- REDUCER
- UNION
- HOSE BARB
- END CAP
- ROTAMETER
- WYE OR STRAINER
- IN-LINE WATER TRAP
- SILENCER
- LSH 01 — HIGH WATER LEVEL SWITCH
- LSL 01 — LOW WATER LEVEL SWITCH
- PI — PRESSURE INDICATOR
- PSH — HIGH PRESSURE SWITCH
- TT — TEMPRATURE TRANSMITTER
- PUMP WATER
- PUMP AIR
- FILTER
- AIR/WATER SEPARATOR
- 7.5 HP — COMPRESSOR AND HORSEPOWER
- AIR-ACTUATED SUBMERSIBLE PUMP
- ELECTRIC SUBMERSIBLE PUMP
- BELT SKIMMER
- PRODUCT STORAGE DRUM

NOTES:

1. ALL PIPE IS SCHEDULE 80 PVC UNLESS OTHERWISE NOTED.

NO.	DATE	DESCRIPTION	BY

NOT TO SCALE

Sanborn, Head & Associates
Consulting Engineers & Scientists

DRAWN BY: MKA
DESIGNED BY: CRM
CHECKED BY: SRN
REVIEWED BY: JAC
PROJECT MGR: SRN
PIC: JAC
DATE: OCT 05

NDPES RGP NOI
TIMKEN AEROSPACE
LEBANON, NEW HAMPSHIRE

PROCESS AND INSTRUMENTATION DIAGRAM

PROJECT NUMBER: 2303.01

SHEET NUMBER: 3

ATTACHMENT A

DESCRIPTION OF EXISTING TREATMENT SYSTEM

DESCRIPTION OF EXISTING TREATMENT SYSTEM

Hydrogeologic and environmental investigations at the Timken Aerospace (Timken) facility in Lebanon, New Hampshire, (Site) were initiated by GZA GeoEnvironmental Inc. (GZA) of Manchester New Hampshire in 1988. The hydrogeologic investigations were conducted to characterize the hydrogeology and evaluate the nature and extent of contamination beneath the Site. This data was summarized in the following reports:

- "Phase I Interim Report and Proposal for Phase II Engineering and Hydrogeologic Services, MPB Corporation Facilities, Lebanon and Keene, New Hampshire," GZA GeoEnvironmental, Inc., December 1988;

- "Phase II Sampling and Analysis, Split Ballbearing Facility, Lebanon, New Hampshire," GZA GeoEnvironmental, Inc., September 1989;

- "Phase II Hydrogeologic Study, Split Ballbearing Facility, Lebanon, New Hampshire," GZA GeoEnvironmental, Inc., January 1991; and

- "Phase III Hydrogeologic Study, Split Ballbearing Facility, Lebanon, New Hampshire," GZA GeoEnvironmental, Inc., June 1992.

Data obtained during these investigations indicated that the groundwater at the Site contained elevated levels of volatile organic compounds (VOCs) and petroleum hydrocarbons. Concentrations for a number of these VOCs exceeded the New Hampshire Ambient Groundwater Quality Standard (AGQS) as defined in Env-Wm-1403[1]. As a result, GZA designed a groundwater remediation system to mitigate subsurface contamination. A preliminary design for the treatment system was included in the 1995 Remedial Action Plan (RAP)[2]. The treatment system began operation in approximately July 1996, and based on our understanding, has been operated in accordance with the design intent approved by the New Hampshire Department of Environmental Services (NHDES). At the request of Timken, Sanborn, Head & Associates, Inc. (SHA) assumed responsibility for groundwater sampling, reporting, and operation and maintenance of the groundwater treatment system in June of 2003.

The primary goals of the groundwater treatment system that discharges to the surface water drainage system are to:

- Recover contaminant mass and maintain hydraulic containment in groundwater beneath the Site by pumping groundwater from extraction wells along the northern edge of the parking area (UE- and GWE-series wells); and

---

1 Ambient Groundwater Quality Standards (AGQSs) are equivalent to GW-1 Groundwater Standards as listed in the NHDES Contaminated Sites Risk Characterization and Management Policy (RCMP) dated January 1998, with updates/addenda dated 2000/2001/2003/2004. AGQS/GW-1 standards are intended to be protective of groundwater as a source of drinking water.

2 Remedial Action Plan, Split Ballbearing Facility, Lebanon, New Hampshire, dated September 1995, Prepared by GZA GeoEnvironmental, Inc. of Manchester, New Hampshire, for MPB Corporation.

- Pump groundwater from wells inside the facility to enhance recovery of the free-phase product from the subsurface (EW-series wells).

The environmental remediation system includes three major components: 1) a free-phase oil collection component, 2) a soil vapor extraction (SVE) system, and 3) a groundwater collection and treatment system. One isolated free-phase oil recovery well is located in a dedicated shelter on the east side of the manufacturing facility. Three product recovery wells are located within the manufacturing facility. Groundwater is collected from the three product recovery wells (located inside the production facility), four bedrock groundwater extraction wells, and six overburden groundwater extraction wells. The bedrock and overburden extraction wells are located north of and hydraulically downgradient from the production facility. The combined groundwater flow is treated in a common building. The treatment operations include oil-water separation with discharge into a retention tank for the purpose of flow equalization (for the groundwater from the product recovery wells only), air stripping (for the removal of VOCs from groundwater) and particulates filtration. Oil is recovered from the four product recovery wells using belt skimmers and is collected in 55-gallon drums located near each well. The recovered oil is recycled by Timken.

The groundwater treatment system was designed to be in continuous operation at a flow rate of up to 100 gallons per minute (gpm). Operation records from June 1997 to December 2004 indicate the treatment system historical average flow rate was typically in the range of 1 to 10 gpm.

Historically GZA prepared a number of USEPA and NHDES permit applications for the discharge of treated effluent on behalf Timken including the following:

- In June and July of 1993, both an NHDES Temporary Surface Water Discharge Permit and a National Pollutant Discharge Elimination System (NPDES) Permit Exclusion were applied for as part of a pump test at the facility. The NPDES Permit Exclusion was issued by the U.S. Environmental Protection Agency (USEPA) on July 9, 1993 and the NHDES TSWDP was issued on July 14, 1993 as Permit No. SW-870554-001.

- In August of 1994, both permits were once again applied for by GZA for "interim groundwater treatment tests as part of a full scale remediation design." An NPDES Permit Exclusion was issued on August 26, 1994 and the NHDES TSWDP was issued on September 20, 1994 as Permit No. SW-870554-002.

- In accordance with requirement 16 of the NHDES TSWDP, GZA prepared and submitted an NPDES Permit Application to the USEPA on May 15, 1995. Submission of the application allowed the "second TSWDP" to extend beyond its original 8 month limit.

- In November of 1995, both a TSWDP and an NPDES Permit Exclusion were applied for by GZA for "treatment of the discharge of treated groundwater generated from the

operation of a proposed full-scale groundwater extraction and treatment system." The NPDES Permit Exclusion was issued on November 21, 1995 and the NHDES TSWDP was issued on November 29, 1995 as Permit No. SW-870554-003.

- In March of 1997, GZA prepared and submitted an NPDES Permit Application Revision to the USEPA. Similar to the original NPDES Permit Application, follow up notification was not provided by the USEPA.

- In March of 2003, Timken terminated their NPDES Permit (No. NH0000248) because they reconfigured a non-contact cooling water piping system to operate as a closed loop system, not realizing that the discharge of treated effluent from the groundwater treatment system was also regulated by the facility's NPDES Permit.

On March 9, 2004, SHA prepared and submitted to the USEPA an NPDES Permit Exclusion Application – Incident Notification Report. The USEPA issued an NPDES Permit Exclusion Letter (NH-04I-006) on May 7, 2004.

As part of ongoing system operations, SHA (and previously GZA) prepared routine (approximately quarterly) letters of NPDES Compliance Monitoring. Since issuance of the NPDES Permit Exclusion Letter on May 7, 2004, SHA has been submitting letters of NPDES Compliance Monitoring on a monthly basis as required by the Permit. The letters have been submitted to the USEPA and copied to the NHDES.

Treated effluent from the groundwater treatment system is discharged to the Site storm water drainage system, which discharges to an unnamed wetland located on the flood plain of the Mascoma River. According to the previous NPDES Permit application prepared by GZA, the combined discharge from the storm water drainage system consists of the Site storm water runoff (25,000 gallons per day [gpd], maximum) and effluent from the Site groundwater treatment system (designed for 100 gpm [144,000 gpd]. However, the groundwater treatment system discharge has historically averaged approximately 4 gpm [5,760 gpd]).

Please note, the groundwater treatment system has been in operation since mid-1996 and will likely be required to operate for the foreseeable future.

ATTACHMENT B

MATERIAL SAFETY DATA SHEETS

JOHNSON SCREENS™

A Weatherford Company

Material Safety Data Sheet

SECTION 1 - CHEMICAL PRODUCT AND COMPANY INFORMATION

Product Name: NW-310
Part Number: **Chemical Family:** Polymeric acid solution to enhance acid cleaning activity

Manufacturer's Name: Johnson Screens /A Weatherford Company
Address: P.O. Box 64118 – St. Paul, MN 55164
Product/Technical Information Phone Number: 651-636-3900
Medical/Handling Emergency Phone Number: CHEMTREC 1-800-424-9300
Transportation Emergency Phone Number: CHEMTREC 1-800-424-9300

Issue Date: 06-01-97
Revision Date/Revision Number: 02-06-02 /03

SECTION 2 – COMPOSITION INFORMATION

****

No constituents of the formulae are listed or considered hazardous under OSHA 29CFR 1910.1200

All components are listed under TSCA

SECTION 3 - HAZARDS IDENTIFICATION

****

Appearance & Odor: Clear yellow liquid
Emergency Overview: Product is a mild acid – handle with caution
Fire & Explosion Hazards: Contact with metals may produce flammable hydrogen gas
Primary Route(s) of Exposure: Skin, eyes, and inhalation
Inhalation – Acute Effects: Irritation or corrosion of mucous membranes with upper and lower respiratory irritation
Skin Contact – Acute Effects: Skin discomfort or rash
Eye Contact – Acute Effects: Irritation, tearing, or blurring of vision
Ingestion – Acute Effects: Diarrhea

SECTION 4 - FIRST AID MEASURES

****

Inhalation First Aid: Remove affected person from area to fresh air and provide oxygen if breathing is difficult. Give artificial respiration ONLY if breathing has stopped and give CPR ONLY if there is no breathing and no pulse. Obtain medical attention.

Skin Contact First Aid: Immediately remove clothing from affected area and wash skin for 15 minutes with flowing water and soap. Clothing should be discarded or washed before reuse. Obtain medical assistance if irritation develops.

Eye Contact First Aid: Immediately irrigate eyes with flowing water continuously for 15 minutes while holding eyes open. Contacts should be removed before or during flushing. Obtain medical attention immediately.

Ingestion First Aid: If victim is alert and not convulsing, rinse mouth with water and give plenty of water to drink. If spontaneous vomiting occurs, have affected person lean forward with head down to avoid breathing in of vomitus. Rinse mouth again and give more water to drink. Obtain medical attention.

Medical Conditions Aggravated: None known

Note to Physician: Product has some surfactant qualities that may result in a laxative effect in cases of ingestion.

SECTION 5 - FIRE FIGHTING MEASURES

****

Flash Point/Method: None
Auto Ignition Temperature: N/D
Upper/Lower Explosion Limits: N/A
Extinguishing Media: That which is appropriate for surrounding fire

Fire Fighting Procedures: Wear self-contained breathing apparatus. Carbon monoxide, carbon dioxide, phosphorus oxides (extremely small) may be released in a fire.

Fire & Explosion Hazards: High heat fires could result in excessive carbon monoxide release.

Hazardous Products of Decomposition and/or Combustion: Carbon monoxide, carbon dioxide, and phosphorus oxides.

NFPA Ratings:

HEALTH	FLAMMABILITY	REACTIVITY	OTHER
1	0	1	None

SECTION 12 – ECOLOGICAL INFORMATION

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Biodegradability:

BOD (5) 1.0% solution	7950 mg O_2/L
BOD (5) 0.1% solution	725 mg O_2/L
Total Organic Carbon	2.2%
Non-bioaccumulating	

Fish toxicity: Bluegill (24 – 48 hrs) LC_{50} = 186 mg/L
Biological safe concentration is 56 mg/L
At 310 mg/L there was 90% mortality in 24 – 48 hrs
At 36 mg/L pH 5.4 there was 100% survival over 48 hrs
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SECTION 13 – DISPOSAL CONSIDERATIONS

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Comply with Federal, State, and local regulations. If approved, may be neutralized and flushed to wastewater treatment plant. Product is biodegradable, no discharge limitations are required.

Material that cannot be used or chemically reprocessed and empty containers should be disposed of in accordance with all applicable regulations. Product containers should be thoroughly emptied before disposal. Generators of waste material are required to evaluate all waste for compliance with RCRA and any local disposal procedures and regulations. NOTE: State and local regulations may be more stringent than federal regulations.

SECTION 14 – TRANSPORTATION INFORMATION

DOT Shipping Description: Not regulated as a hazardous material by the US Dept. of Transportation (DOT) 49CFR 172.101 Hazardous Materials Table

SECTION 15 – REGULATORY INFORMATION

NSF Certified for use in well cleaning, pipe line cleaning, and filter cleaning

RCRA Status: Not a hazardous waste under RCRA 40 CFR 261. No reportable quantities.

SARA/TITLE III-CERCLA List: This product does not contain a "CERCLA" listed hazardous substance for emergency release notification under Sec. 304 (40CFR 302).

SARA/TITLE III-Toxic Chemicals List: This product does no contain a toxic chemical for routine annual "Toxic Chemical Release Reporting" under Sec. 313 (40CFR 372).

TSCA Inventory Status: Chemical components listed on TSCA Inventory.

California Proposition 65: This product does not contain any chemicals currently on the California list of known carcinogens and reproductive toxins.

SECTION 16 – OTHER INFORMATION

Disclaimer: The information contained herein is based on data considered accurate. However, no warranty is expressed or implied regarding the accuracy of this data or the results to be obtained from the user thereof. It is the buyer's responsibility to ensure that its activities comply with federal, state, provincial and local laws.

Created by: Ida Goldstein

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