State of North Carolina
Department of Environment,
Health and Natural Resources
Division of Water Quality

James B. Hunt, Jr., Governor
Jonathan B. Howes, Secretary
A. Preston Howard, Jr., P.E., Director

Asheville Regional Office

GROUNDWATER SECTION

July 21, 1997

Mr. Dan Waugh
The Torrington Company
Shiloh Plant
U.S. Highway 221 South
Rutherfordton, North Carolina 28139

Dear Mr. Waugh:

Subject: Lagoon Closure Project
The Torrington Company - Shiloh Facility
Rutherford County, North Carolina

This letter is to acknowledge receipt and review of the Disposal of Soil from Lagoon Closure Project report. The report was submitted by Advent on behalf of the Torrington Company and received in this office on June 13, 1997.

As discussed during our meeting on site on July 10, 1997, it is acceptable to dispose of the stockpiled soil at Sanford Brick. Upon availability, please submit to this office a copy of the disposal manifest and the analytical data from sampling of monitor well LG-6. Upon review of the data, a decision will be made as to further action.

If you have any comments or questions, please contact me at (704) 251-6208.

Sincerely,

Kay Dechant

Laura Kay Dechant
Hydrogeologist

\lkd

cc: Burrie Boshoff
Jeffrey C. Smoak

Interchange Building, 59 Woodfin Place
Asheville, North Carolina 28801
Voice 704-251-6208

FAX 704-251-6452

RuCo
5278
THE TORRINGTON CO.
LRO 1/15/97

ADVENT

January 14, 1997

Info on east lagoon
multiple excavations/soil sample for closure collection. Appears okay. No apparent letter from NCDENR acknowledging clean closure of East Lagoon only

North Carolina Department of Environment,
Health & Natural Resources
59 Woodfin Place
Ashville, North Carolina 28801
(704) 251-6208

Attention: Kay Dechant

Subject: **Lagoon Closure**
The Torrington Company - Shiloh Facility
Rutherfordton, North Carolina
ADVENT Project 26503

Dear Ms. Dechant:

On behalf of The Torrington Company (Torrington), ADVENT is pleased to present this letter which provides the analytical data collected to date for the lagoon closure project at the Torrington facility in Rutherfordton, North Carolina. The purpose of this letter is also to request permission to store the excavated soil on site for more than 45 days while disposal and treatment options are evaluated. Mr. Scott Ribes of ADVENT discussed both of these issues with you in a phone conversation on December 18, 1996.

225 yds

Industrial waste from the Torrington facility in Rutherfordton, North Carolina has historically been discharged to one of two 50,000 gallon sedimentation lagoons before being discharged to the sanitary sewer system. The concrete lagoons have been in operation since 1980. In 1990, both lagoons were cleaned and the east lagoon was taken out of service. In 1995 Torrington installed a new wastewater treatment system on site and waste is currently processed through this system then discharged to the west lagoon only. Torrington plans to take the west lagoon out of service by the end of February 1997.

Samples of the waste oil and water (sludge) in the west lagoon were collected on June 5, 1996 and analyzed for volatile organic compounds (Method 8010/8020), total petroleum hydrocarbons (Method 3550/5030), and RCRA metals. Samples of the rainwater that had accumulated in the east lagoon were collected and analyzed for total suspended solids, pH, BOD, total toxic organics, copper, zinc, cadmium, lead, nickel, chromium, silver, and cyanide. A summary of the constituents detected is presented in Table 1. Laboratory reports are included in Attachment A. The waste oil and the water (sludge) in the west lagoon were resampled for RCRA metals on September 4, 1996 due to a question about laboratory quality control with the first samples.

Closure of the east lagoon began on September 3, 1996. The water in the lagoon was pumped directly to the sanitary sewer. Once the lagoon was empty, the concrete was broken, removed, and stockpiled on site. The concrete was disposed of at the Central Landfill in Rutherfordton, North Carolina on November 11, 1996. Visibly contaminated soil was only present in the corners under the concrete. The visibly contaminated soil was removed and stockpiled on site. Two soil samples were then collected on September 5, 1996 from the excavation to be analyzed for volatile organic compounds (Method 8240), total petroleum hydrocarbons (Method 3550/5030), oil and grease (Method 9071), and total RCRA metals. The samples, however, were delayed reaching the lab because of Hurricane Fran. The samples did not arrive for four days and were never analyzed. Due to this unavoidable situation, ADVENT collected two additional samples from the same locations on September 10, 1996 and analyzed the samples for the same parameters as above. A summary of the constituents detected is presented in Table 2. Sample locations are shown on Figure 1. Laboratory reports are included in Attachment A.

Total petroleum hydrocarbons (3550-diesel range) and oil & grease were detected in both samples. The concentrations of each parameter detected in sample #1 were 680 mg/kg and 36,000 mg/kg, respectively. Low levels of metals were detected in both samples. Xylene was detected in sample #1 at a concentration of 0.046 mg/kg.

Additional samples were collected on September 19, 1996 by hand auger techniques to a depth of 3.5 feet below the bottom of the excavation. The samples were analyzed for total petroleum hydrocarbons (3550-diesel range) and oil & grease (9071) only. The analytical results are presented in Table 2. Total petroleum hydrocarbons were detected up to a concentration of 4700 mg/kg and oil & grease was detected up to a concentration of 2800 mg/kg.

Based on these results, ten additional soil samples were collected on October 22, 1996 using the Geoprobe direct push technology at various depths below the bottom of the excavation. The results are presented in Table 2. Sample locations are shown on Figure 1. Once again, total petroleum hydrocarbons and oil & grease were detected in all but three samples.

On November 11-13, 1996 additional soil was excavated and stockpiled on site. The excavation extended to a depth of approximately five feet below the original elevation of the lagoon bottom. Four confirmation samples were collected on November 13, 1996 from the bottom of the excavation and analyzed for total petroleum hydrocarbons and oil & grease. Results are presented in Table 2. Sample locations are shown on Figure 1. Contamination above the action levels was present at locations CONF3 and CONF4.

Additional soil excavation occurred at the north end of the lagoon as well as at locations CONF3 and CONF4 on November 19 and December 5, 1996. The soil was also stockpiled on site. Confirmation samples were collected after each excavation as shown in Table 2.

Sample locations are shown on Figure 1. Laboratory reports for all the samples from the east lagoon are included in Attachment A.

Torrington is now evaluating the possibility of using bioremediation treatment on the stockpiled soils and using the soil as backfill in the excavation. As a result, Torrington requests permission to keep the stockpiled soil on site until the evaluation is complete. The stockpiled soil was sampled on December 16, 1996 and is currently being analyzed for TCLP metals, TCLP organics, TCLP volatiles, oil & grease, total petroleum hydrocarbons, and the paint filter test. A bench scale test has also been performed on a sample of the soil to evaluate the potential for treatment of the soil using bioremediation technology. Results of the pilot testing is still pending.

A final report of the lagoon closure will be submitted upon completion of the closure of the west lagoon. Please call either of the undersigned at (803) 747-3036 if you have any questions regarding this letter or the project in general.

Sincerely,

ADVENT

R. Scott Ribes

volume stockpiled

R. Scott Ribes, P.E.
Senior Engineer

Jeffrey C. Smoak

Jeffrey C. Smoak, P.E.
Principal

RSR/JCS:lrp

cc: Dan Waugh, Torrington
John Healy, Torrington

enclosures.

Table 1: Sample Analytical Results - Lagoon Samples

Sample ID	Sample Date	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Copper	BOD mg/l	TTO	TPH (5030) mg/l	TPH (3550) mg/l
West Lagoon (oil)	6/5/96	250	25,400	ND	290	158	0.460	239	NA	NA	NA	NA	260,000
West Lagoon (sludge/water)	6/5/96	54.1	1790	9.66	759	645	0.571	ND	NA	NA	NA	0.10	33
East Lagoon (water)	6/5/96	NA	NA	ND	ND	ND	NA	NA	2.24	2.71	97.7	NA	NA
West Lagoon (oil)	9/4/96	201	11,300	ND	187	86.1	0.290	23.1	NA	NA	NA	NA	NA
West Lagoon (sludge/water)	9/4/96	23.0	902	9.24	477	272	0.331	ND	NA	NA	NA	NA	NA

Notes:
ND = Not detected above method detection limit.
NA = Not analyzed.
All results in µg/l unless otherwise indicated.

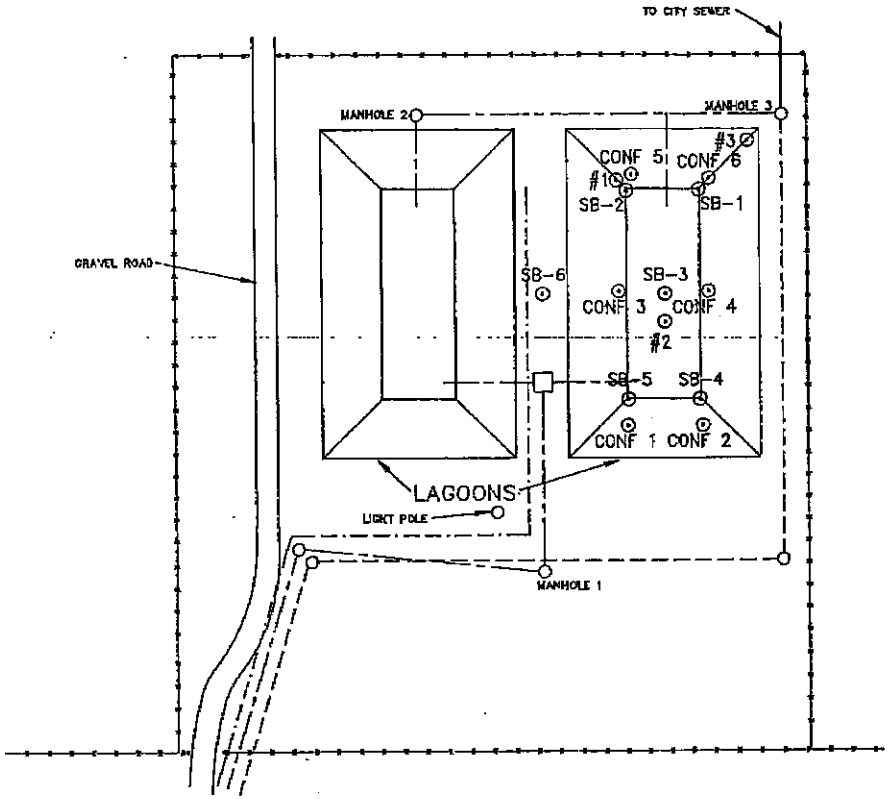
Table 2: Sample Analytical Results - East Lagoon Soil Samples

Location (Depth)	Sample Date	Arsenic	Barium	Cadmium	Chromium	Lead	TPH (3550)	O&G (9071)	Xylene (8240)
#1 (0-0.5)	9/10/96	3.9	74	4.5	24.9	11	680	36000	0.046
#2 (0-0.5)	9/10/96	3.66	44	4.3	21.2	12	240	8800	ND
#1-1 (0.5-1)	9/19/96	NA	NA	NA	NA	NA	4700	240	NA
#1-2 (1.5-2)	9/19/96	NA	NA	NA	NA	NA	39	2800	NA
#1-3 (3-3.5)	9/19/96	NA	NA	NA	NA	NA	67	140	NA
#3-1 (1.5-2)	9/19/96	NA	NA	NA	NA	NA	ND	ND	NA
SB-1-1(0-2)	10/22/96	NA	NA	NA	NA	NA	318	18800	NA
SB-1-2(2-3.5)	10/22/96	NA	NA	NA	NA	NA	1680	23500	NA
SB-2-1(0-2)	10/22/96	NA	NA	NA	NA	NA	3340	18100	NA
SB2-2(2-3.5)	10/22/96	NA	NA	NA	NA	NA	44.9	205	NA
SB-3-1(0-2)	10/22/96	NA	NA	NA	NA	NA	<11.2	<103	NA
SB-3-2(2-4)	10/22/96	NA	NA	NA	NA	NA	<11.7	<93.9	NA
SB-4-1(0-2)	10/22/96	NA	NA	NA	NA	NA	2030	18900	NA
SB-4-2(2-3)	10/22/96	NA	NA	NA	NA	NA	17.0	417	NA
SB-5-1(0-2)	10/22/96	NA	NA	NA	NA	NA	6560	31000	NA
SB-6-1(4-6)	10/22/96	NA	NA	NA	NA	NA	<12.1	<111	NA
CONF 1	11/13/96	NA	NA	NA	NA	NA	<12.7	139	NA
CONF 2	11/13/96	NA	NA	NA	NA	NA	<12.3	<122	NA
CONF 3	11/13/96	NA	NA	NA	NA	NA	NA	3510	NA
CONF 4	11/13/96	NA	NA	NA	NA	NA	63.7	167	NA
CONF 3	11/19/96	NA	NA	NA	NA	NA	<11.6	<20	NA
CONF 5	11/19/96	NA	NA	NA	NA	NA	12.3	<20	NA
CONF 6	11/19/96	NA	NA	NA	NA	NA	<12.1	<20	NA
CONF 4	12/5/96	NA	NA	NA	NA	NA	<12.9	<118	NA

Notes:

All results in mg/kg.
TPH = Total Petroleum Hydrocarbons
O&G = Oil & Grease
ND = Not detected above method detection limit.
NA = Not analyzed.

SOURCE:
A DAVIS AND FLOYD ENGINEERS, INC.
DRAWING OF LAGOONS TITLED
DETAIL-DIRTY OIL LAGOON



PLANT SITE

LEGEND
- INDUSTRIAL WASTE
- SANITARY SEWER
- WATER
- FENCE
- SOIL SAMPLING LOCATION

REVISION	DESCRIPTION	DATE	APPROVED	MADE

REVISIONS

	BY	DATE		BY	DATE
DESIGNED:			DRAWN:		
CHECKED:			CADD FILE: 33-0001		11/08/94
APPROVED:					

PREPARED BY: ADVENT

PREPARED FOR: TORRINGTON
Part of worldwide Ingersoll-Rand
RUTHERFORDTON, NORTH CAROLINA

SEAL:

SOIL SAMPLING LOCATIONS
EAST LAGOON CLOSURE

SCALE	JOB NUMBER	FIGURE NUMBER	REVISION
NTS	26503	1	-

Ruco
5278
THE TORRINGTON CO.
LKO 2/2/98

ADVENT

RECEIVED
FEB - 2 1998
Groundwater Section
Asheville Regional Office

January 30, 1998

Landon - report w/ soil samples in question. Does not appear to discuss soil sample depths - please take a look & we'll discuss next week

North Carolina Department of Environment,
Health & Natural Resources
59 Woodfin Place
Asheville, North Carolina 28801
(704) 251-6208

Attention: Kay Dechant

Subject: **Lagoon Closure**
The Torrington Company - Shiloh Facility
Rutherfordton, North Carolina
ADVENT Project 26503

Dear Ms. Dechant:

On behalf of The Torrington Company (Torrington), ADVENT is pleased to present this letter to report analytical data collected to date for the lagoon closure project at the Torrington facility in Rutherfordton, North Carolina.

② SO
- INSTALL MW & HOTSPOT RECENT SOIL SAMPLE.. ANALYZE FOR 8270 & MADEP EPH (OR ASK LAB FOR COMPARABLE METHOD)

①
- CONTAMINATED SOIL IN CONTACT W/ GW
- SAMPLES FROM LG-6 MAY NOT CAPTURE CONTAMINANTS LEACHING TO GW

7s
- ANY CLOSURE INFO. ON EAST IMPOUNDMENT?
- NEED TO REVIEW NCDENR LETTERS IF ANY

Background Information

Industrial waste from the Torrington facility in Rutherfordton, North Carolina has historically been discharged to one of two 50,000 gallon sedimentation lagoons before being discharged to the sanitary sewer system. The concrete lagoons were operational from 1980 to 1990. In 1990, both lagoons were cleaned and the east lagoon was taken out of service. The east lagoon was removed in September 1996, as indicated in our letter report of *Lagoon Closure* dated January 14, 1997. Torrington has installed a new on-site wastewater treatment system and waste is currently processed through this system then discharged to the sanitary sewer. Wastewater was previously discharged to the west lagoon, which was closed in April 1997.

Samples of waste oil and water (sludge) were collected from the west lagoon on June 5, 1996. The samples collected were analyzed for volatile organic compounds (VOCs) (Method 8010/8020), total petroleum hydrocarbons (TPH) (Method 3550/5030), and RCRA metals. Samples of waste oil and water (sludge) were also collected from the west lagoon on September 4, 1996, due to a question about laboratory quality control with the first samples. The second sets of samples collected were analyzed for RCRA metals only. A summary of the constituents detected is presented in Table 1. Laboratory reports are included in Attachment A.

West Lagoon Closure

Closure of the west lagoon began on April 9, 1997. The water in the lagoon was pumped directly to the sanitary sewer. The remaining oil and sludge was pumped to tanker trucks and disposed of at a North Carolina Department of Environment, Health and Natural Resources (NCDHENR) permitted facility. Once the lagoon was empty, the concrete was pressure washed, broken, removed, and stockpiled on site.

Five soil samples were collected on April 16, 1997 from the excavation of the west lagoon and were analyzed for TPH (Method 3550/5030) and oil and grease (Method 9071). The locations of the soil samples are shown on Figure 1. TPH were detected in all five of the soil samples collected for laboratory analysis. SS-4 had the highest concentration at 217 mg/kg followed by SS-3 (39.8 mg/kg), SS-5 (38.8 mg/kg), SS-1 (24.5 mg/kg), and SS-2 (12.5 mg/kg). Oil and grease were detected in three of the five soil samples collected for laboratory analysis. SS-5 had the highest concentration at 7060 mg/kg followed by SS-4 (1640 mg/kg), and SS-2 (164 mg/kg). Oil and grease were not detected in SS-1 or SS-3. A summary of the results of laboratory analyses performed on the soil samples is provided in Table 2. Laboratory reports are included in Attachment A.

The excavation operation was halted when ground water was encountered during the soil excavation phase of the closure of the west lagoon. As stated in ADVENTs letter report on *Disposal of Soil from Lagoon Closure Project*, dated June 11, 1997, ground water was not sampled from the excavation because a monitoring well (LG-6) is present very near the excavation on the south side of the lagoon near SS-4 and SS-5. In accordance with your letter to ADVENT dated July 21, 1997, a ground water sample was collected from monitoring well LG-6 on August 11, 1997, and was analyzed for TPH (Method 8015 and 3500) and oil and grease (Method 9070). Analytical results indicated that TPH and oil and grease were not detected above laboratory detection limits. A summary of ground-water analytical results is presented in Table 3. Sample locations are shown on Figure 1. Laboratory reports are included in Attachment A.

WE NEED THIS

The concrete debris was disposed of at the Palmetto Landfill and Recycling Center in Spartanburg, South Carolina on July 22, 23, and 28, 1997. Visibly contaminated soil was present under the concrete in three of the corners and at the base of the west and south walls. The visibly contaminated soil was removed and stockpiled on site. The soil was removed and disposed of by Soil Reclaiming, Inc. of Sanford, North Carolina on July 21, 22, 23, 28, and 29, 1997. Copies of the associated soil and concrete debris manifests are included in Attachment B.

Waste Disposal and Backfilling

On August 11-13, 1997, the excavated west lagoon was filled in with borrow material from a local borrow pit. Before proceeding with the lagoon closure, a sample from the borrow pit was sent to a contract laboratory for analyses for TPH (Method 8015), VOCs (Method 8260), oil and grease (Method 9071) and percent moisture. Analytical results indicated that TPH, VOCs, and oil and grease were not detected above laboratory detection limits. A summary of soil sample analytical results is presented in Table 2. The sample location is shown on Figure 1. Laboratory reports are included in Attachment A.

Approximately 1900 cubic yards of borrow material was used to close the west lagoon. The borrow material was installed in one foot lifts and tested for compaction every two feet. The lifts were found to have met the design criteria of 90% maximum density. Copies of the compaction testing results are provided in Attachment C. Once the lagoon closure was completed, the area was graded and sloped to direct surface water to the north and south sides of the closed lagoon. The ground-surface of the closed lagoon was then hydroseeded with annual rye grass and covered with straw for erosion control, until the grass developed adequate root structure.

Recommendations

Based on the results of laboratory analyses presented in this report, the TPH and Oil and Grease constituents detected in the soils below the west lagoon were not found in the ground water sample collected from monitoring well LG-6. Due to the close proximity of LG-6 to the west lagoon, we believe that the ground-water sample collected provides representative ground water quality information for the area. The data presented indicate that the ground water has not been impacted by contaminants from the wastewater lagoons.

Torrington currently performs annual ground water monitoring of monitoring well LG-3. This well is sampled annually and is analyzed for VOCs be Method 624 and for Semi-Volatile Organic Compounds by Method 625. The location of LG-3 is believed to be downgradient of the west lagoon, and can be used to monitor the ground water quality in the area. ADVENT recommends that Torrington continue the current ground water monitoring program of LG-3 for two additional years. If no change in ground water quality is detected over the next two sampling events, the ground water monitoring program will be terminated.

Please call either of the undersigned at (803) 747-3036 if you have any questions regarding this letter or the project in general.

Sincerely,

ADVENT

Kate Hendrickson Borg
Project Scientist

Jeffrey C. Smoak, P.E.
Principal

KHB/JCS:lkb

cc: Dan Waugh, Torrington
John Healy, Torrington

enclosures

Table 1: Sample Analytical Results - Lagoon Samples

Sample ID	Sample Date	Arsenic µg/l	Barium µg/l	Cadmium µg/l	Chromium µg/l	Lead µg/l	Mercury µg/l	Selenium µg/l	TPH (5030) mg/l	TPH (3550) mg/l
West Lagoon (oil)	6/5/96	250	25,400	ND	290	158	0.460	239	NA	260,000
West Lagoon (sludge/water)	6/5/96	54.1	1790	9.66	759	645	0.571	ND	0.10	33
West Lagoon (oil)	9/4/96	201	11,300	ND	187	86.1	0.290	23.1	NA	NA
West Lagoon (sludge/water)	9/4/96	23.0	902	9.24	477	272	0.331	ND	NA	NA

Notes:

ND = Not detected above method detection limit.

NA = Not analyzed

mg/l = Milligrams per liter

mg/l = Micrograms per liter

Laboratory analyses performed by IEA, Inc.

Prepared By: MDM 12/97

Checked By: KHB 1/98

Table 2: Soil Sample Analytical Results

Location	Sample Date	TPH mg/kg	O&G mg/kg	VOCs by 8260 µg/kg	Percent Moisture
SS-1	4/16/97	24.5	<97.6	NA	NA
SS-2	4/16/97	12.5	164	NA	NA
SS-3	4/16/97	39.8	<99.1	NA	NA
[redacted]	4/16/97	247	1640	NA	NA
[redacted]	4/16/97	88.8	7060	NA	NA
BP-1	8/11/97	<11.2	<11.2	ND	11.0

Notes:

TPH = Total Petroleum Hydrocarbons (Method 3550)
O&G = Oil & Grease (Method 9071)
NA = Not analyzed
ND = Not detected above method detection limit
mg/kg = Milligrams per kilogram
µg/kg = Micrograms per kilogram
Laboratory analyses performed by Davis & Floyd

Prepared By: MDM 12/97
Checked By: KHB 1/98

Table 3: Ground-Water Analytical Results

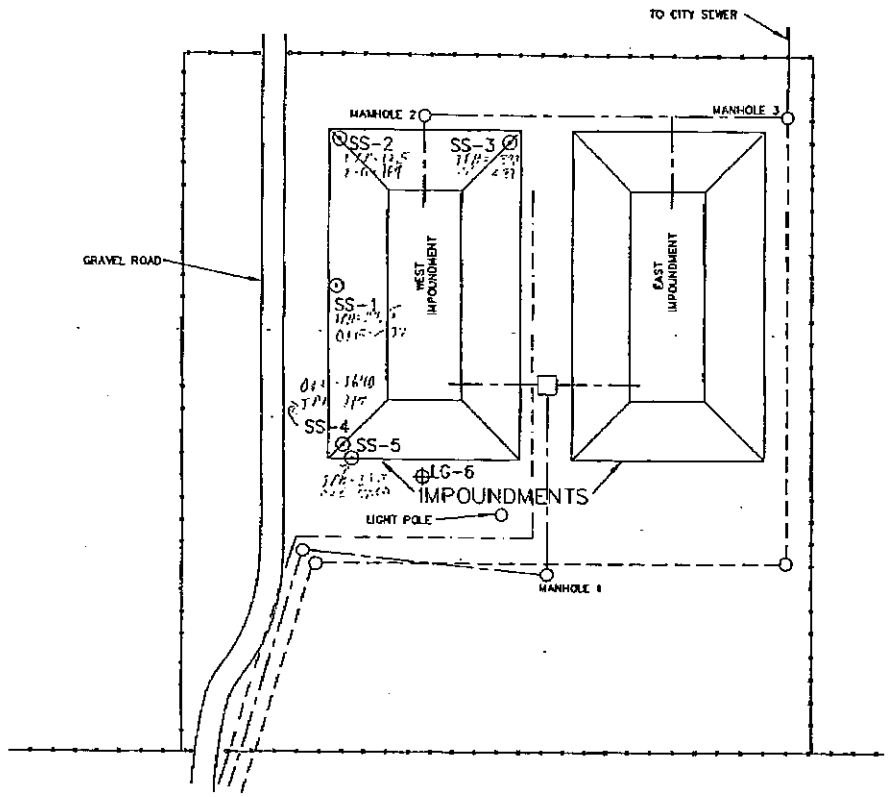
Location	Sample Date	TPH mg/kg	O&G mg/kg
LG-6	8/11/97	<0.50	<5.0

Notes:

TPH = Total Petroleum Hydrocarbons (Method 3550)
O&G = Oil & Grease (Method 9071)
mg/kg = Milligrams per kilogram
Laboratory analyses performed by Davis & Floyd

Prepared By: MDM 12/97
Checked By: KHB 1/98

SOURCE:
A. DAVIS AND FLOYD ENGINEERS, INC.
DRAWING OF LAGOONS TITLED
DETAIL-DIRTY OIL LAGOON



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LEGEND

- INDUSTRIAL WASTE
- SANITARY SEWER
- WATER
- FENCE
- SOIL SAMPLING LOCATION
- MONITORING WELL LOCATION

REVISION	DESCRIPTION	DATE	APPROVED	MADE
	REVISIONS			

	BY	DATE		BY	DATE
DESIGNED:			DRAWN:	MCS	6/11/97
CHECKED:			CADD FILE:	53-0002	6/11/97
APPROVED:					

PREPARED BY: ADVENT

PREPARED FOR: TORRINGTON INGERSOLL-RAND
RUTHERFORDTON, NORTH CAROLINA

SEAL:

SOIL SAMPLING LOCATIONS WEST LAGOON CLOSURE

SCALE	JOB NUMBER	FIGURE NUMBER	REVISION
NTS	26503	1	-

FILE COPY

North Carolina Department of Environment and Natural Resources

Beverly Eaves Perdue, Governor

Division of Waste Management
UST Section

Dee Freeman, Secretary
Dexter R. Matthews, Director

April 9, 2010

Mr. Alan Oberster, Vice President
Environmental Health and Safety
The Timken Company
Mail Code:GNE-24
1835 Dueber Street S.W.
P.O. Box 6928
Canton, Ohio 44706-0928

Re: Notice of No Further Action
15A NCAC 2L .0106 Corrective Action
Timken US Corporation
1510 Highway 221 South, Rutherfordton
Rutherford County
Incident Number: 87719

Dear Mr. Oberster:

The Site Closure Report received by the UST Section, Asheville Regional Office on April 8, 2010 has been reviewed. A review of the report indicates that contaminated groundwater has been cleaned up to the level of the standards or interim standards established in Title 15A NCAC 2L.0202

Based on information provided to date, the UST Section determines that no further action is warranted for this incident. This determination shall apply unless the UST Section later finds that the discharge or release poses an unacceptable risk or a potentially unacceptable risk to human health or the environment.

This No Further Action determination applies only to the subject incident; for any other incidents at the subject site, the responsible party must continue to address contamination as required.

If you have any questions regarding this notice, please contact me at the address or telephone number listed below.

Sincerely,

Jan Andersen
UST Regional Supervisor
Asheville Regional Office

cc: Rutherford County Health Department
Brad Green, Sanborn, Head and Associates, Inc.

SHA
IMPROVING EARTH

SANBORN, HEAD & ASSOCIATES, INC.
20 Foundry Street ▪ Concord, NH 03301
P (603) 229-1900 ▪ F (603) 229-1919
www.sanbornhead.com

September 28, 2010
File No. 3114.02

Ms. Jan Andersen
Division of Waste Management – UST Section
NC DENR – Asheville Regional Office
2090 U.S. Highway 70
Swannanoa, NC 28778

Re: Monitoring Well Abandonment
Incident Number: 8779
NOV Number: NOV-2006-OC-0014
Timken US LLC (formerly Timken US Corporation)
Rutherfordton, North Carolina

Dear Ms. Andersen:

On behalf of Timken US LLC, Sanborn, Head & Associates, Inc. (Sanborn Head) is writing to notify you of monitoring well abandonment activities at the Timken US LLC (Timken – formerly Timken US Corporation) facility in Rutherfordton, North Carolina. The sixteen monitoring wells at the site (SH-01 through SH-16) were abandoned by Subsurface Environmental Investigations (SEI) of Olin, North Carolina, a North-Carolina certified driller, on July 22 and 23, 2010, with observation by Sanborn Head.

As you are aware, monitoring wells were installed as part of a Phase II Environmental Site Assessment (ESA) completed by Sanborn Head in 2006. Two of the monitoring wells were subsequently used for additional assessment activities to address the above-referenced notice of violation (NOV). On April 9, 2010, North Carolina Department of Natural Resources (NC DENR) provided a Notice of No Further Action related to the NOV. As the wells were no longer needed for assessment or monitoring purposes, and as recommended in Sanborn Head's April 7, 2010 Response to NOV, the wells were abandoned, with your acknowledgement during our telephone conversation on August 12, 2010.

The monitoring wells were abandoned in a manner generally consistent with NC DENR and United States Environmental Protection Agency (USEPA) guidance[1]. As you requested, we have attached to this letter copies of the Well Abandonment Records for each of the wells. Consistent with NC DENR requirements, these records were also submitted to the NC DENR Division of Water Quality by our drilling subcontractor, SEI, on August 20, 2010.

[1] See North Carolina administrative code 15A NCAC 02C.0113, and the USEPA Region 4 Science and Ecosystem Support Division (SESD) Guidance for the Design and Installation of Monitoring Wells (SESDGUID-101-RO).

Should you have questions or comments following your review of the records, or require additional information, please contact us.

Very truly yours,
SANBORN, HEAD & ASSOCIATES, INC.

Bradley A. Green
Senior Project Manager

Charles A. Crocetti, Ph.D., P.G.
Principal and Vice President

NORTH CAROLINA LICENSED SEAL 1911 GEOLOGIST Charles A. Crocetti

LAA/BAG/CAC:laa

Encl. SEI's Well Abandonment Records for SH-01 through SH-16

cc: Alan Oberster, Timken
Libby Gibson, Timken

S:\CONDATA\3100s\3114.02\Correspondence\NCDENR Ltr\20100928 Well Abadonment Ltr.docx

WELL ABANDONMENT RECORD

North Carolina Department of Environment and Natural Resources- Division of Water Quality

WELL CONTRACTOR CERTIFICATION # 2856A

1. WELL CONTRACTOR:

Keith Speece
Well Contractor (Individual) Name

Subsurface Environmental Investigations, LLC
Well Contractor Company Name

STREET ADDRESS 132 Gurney Rd.

Olin | NC | 28660
City or Town | State | Zip Code

(704) - 876-0010
Area code - Phone number

2. WELL INFORMATION:

SITE WELL ID # (if applicable) SH-01

STATE WELL PERMIT # (if applicable)

COUNTY WELL PERMIT # (if applicable)

DWQ or OTHER PERMIT # (if applicable)

WELL USE (Check applicable use): ☑ **Monitoring** ☐ **Residential**

☐ **Municipal/Public** ☐ **Industrial/Commercial** ☐ **Agricultural**

☐ **Recovery** ☐ **Injection** ☐ **Irrigation**

☐ Other (list use)

3. WELL LOCATION:

COUNTY Rutherford QUADRANGLE NAME Rutherfordton South

NEAREST TOWN: Rutherfordton

Highway 221 South, 1510 Parcels 1305141 1305140 28139
(Street/Road Name, Number, Community, Subdivision, Lot No., Parcel, Zip Code)

TOPOGRAPHIC / LAND SETTING:

☐ Slope ☐ Valley ☑ Flat ☐ Ridge ☐ Other
(Check appropriate setting)

LATITUDE -81.9337
LONGITUDE 35.3154

May be in degrees, minutes, seconds, or in a decimal format

Latitude/longitude source: ☑ **GPS** ☐ **Topographic map**

(Location of well must be shown on a USGS topo map and attached to this form if not using GPS)

4a. FACILITY - The name of the business where the well is located. Complete 4a and 4b. (If a residential well, skip 4a, complete 4b, well owner information only.)

FACILITY ID # (if applicable)

NAME OF FACILITY Timken US LLC

STREET ADDRESS 1510 Highway 221 South

Rutherfordton | NC | 28139
City or Town | State | Zip Code

4b. CONTACT PERSON/WELL OWNER:

NAME: Libby Gibson

STREET ADDRESS 1510 Hwy 221 South, Rutherfordton

828-287-2200

5. WELL DETAILS:

a. Total Depth: 16.8 ft. Diameter: 2 in.

b. Water Level (Below Measuring Point): 10.22 ft.

Measuring point is 0.01 ft. above land surface.

6. CASING:

	Length		Diameter	
a. Casing Depth (if known):	6.5	ft.	2	in.
b. Casing Removed:	3	ft.	2	in.

7. DISINFECTION:

(Amount of 65%-75% calcium hypochlorite used)

8. SEALING MATERIAL:

Neat Cement

Cement 5 gal.
Water gal.

Sand Cement

Cement lb.
Water gal.

Bentonite

Bentonite lb.

Type: ☐ Slurry ☐ Pellets

Water gal.

Other

Type material

Amount

9. EXPLAIN METHOD OF EMPLACEMENT OF MATERIAL:

Tremie Grout

10. WELL DIAGRAM: Draw a detailed sketch of the well on the back of this form showing total depth, depth and diameter of screens (if any) remaining in the well, gravel interval, intervals of casing perforations, and depths and types of fill materials used

11. DATE WELL ABANDONED 7/22/10

I DO HEREBY CERTIFY THAT THIS WELL WAS ABANDONED IN ACCORDANCE WITH 15A NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER.

Keith Speece 8/18/10
SIGNATURE OF CERTIFIED WELL CONTRACTOR **DATE**

SIGNATURE OF PRIVATE WELL OWNER ABANDONING THE WELL **DATE**
(The private well owner must be an individual who personally abandons his/her residential well in accordance with 15A NCAC 2C .0113.)

Keith Speece
PRINTED NAME OF PERSON ABANDONING THE WELL

Submit a copy to the owner and the original to the Division of Water Quality within 30 days.
Attn: Information Management, 1617 Mail Service Center – Raleigh, NC 27699-1617, Phone No. (919) 733-7015 ext 568.

Form GW-30
Rev. 5/06

WELL ABANDONMENT RECORD

North Carolina Department of Environment and Natural Resources- Division of Water Quality

WELL CONTRACTOR CERTIFICATION # 2856A

1. WELL CONTRACTOR:

Keith Speece
Well Contractor (Individual) Name

Subsurface Environmental Investigations, LLC
Well Contractor Company Name

STREET ADDRESS 132 Gurney Rd.

Olin NC 28660
City or Town State Zip Code

(704) - 876-0010
Area code - Phone number

2. WELL INFORMATION:

SITE WELL ID # (if applicable) SH-02

STATE WELL PERMIT # (if applicable)

COUNTY WELL PERMIT # (if applicable)

DWQ or OTHER PERMIT # (if applicable)

WELL USE (Check applicable use) ☑ **Monitoring** ☐ **Residential**

☐ **Municipal/Public** ☐ **Industrial/Commercial** ☐ **Agricultural**

☐ **Recovery** ☐ **Injection** ☐ **Irrigation**

☐ Other (list use)

3. WELL LOCATION:

COUNTY Rutherford QUADRANGLE NAME Rutherfordton South

NEAREST TOWN: Rutherfordton

Highway 221 South, 1510 Parcels: 1306191 1305140 28139
(Street/Road Name, Number, Community, Subdivision, Lot No., Parcel, Zip Code)

TOPOGRAPHIC / LAND SETTING:

☐ Slope ☐ Valley ☑ Flat ☐ Ridge ☐ Other
(Check appropriate setting)

LATITUDE -81.9330
LONGITUDE 35.3157

May be in degrees, minutes, seconds, or in a decimal format

Latitude/longitude source: ☑ **GPS** ☐ **Topographic map**

(Location of well must be shown on a USGS topo map and attached to this form if not using GPS.)

4a. FACILITY - The name of the business where the well is located. Complete 4a and 4b (If a residential well, skip 4a, complete 4b, well owner information only.)

FACILITY ID # (if applicable):

NAME OF FACILITY Timken US LLC

STREET ADDRESS 1510 Highway 221 South

Rutherfordton NC 28139
City or Town State Zip Code

4b. CONTACT PERSON/WELL OWNER:

NAME Libby Gibson

STREET ADDRESS 1510 Hwy 221 South, Rutherfordton

828-287-2200

5. WELL DETAILS:

a. Total Depth: 24.9 ft. Diameter 2 in.

b. Water Level (Below Measuring Point): 16.93 ft.

Measuring point is 0.15 ft. above land surface.

6. CASING:

	Length		Diameter	
a. Casing Depth (if known):	9.6	ft.	2	in.
b. Casing Removed:	3	ft.	2	in.

7. DISINFECTION:

(Amount of 65%-75% calcium hypochlorite used)

8. SEALING MATERIAL:

Neat Cement

Bentonite/Cement 7 gal.
Water gal.

Sand Cement

Cement lb.
Water gal.

Bentonite

Bentonite lb.
Type: ☐ Slurry ☐ Pellets
Water gal

Other

Type material

Amount

9. EXPLAIN METHOD OF EMPLACEMENT OF MATERIAL:

Tremie Grout

10. WELL DIAGRAM. Draw a detailed sketch of the well on the back of this form showing total depth, depth and diameter of screens (if any) remaining in the well, gravel interval, intervals of casing perforations, and depths and types of fill materials used.

11. DATE WELL ABANDONED 7/23/10

I DO HEREBY CERTIFY THAT THIS WELL WAS ABANDONED IN ACCORDANCE WITH 15A NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER.

Keith Speece 8/18/10
SIGNATURE OF CERTIFIED WELL CONTRACTOR **DATE**

SIGNATURE OF PRIVATE WELL OWNER ABANDONING THE WELL **DATE**
(The private well owner must be an individual who personally abandons his/her residential well in accordance with 15A NCAC 2C .0113.)

Keith Speece
PRINTED NAME OF PERSON ABANDONING THE WELL

Submit a copy to the owner and the original to the Division of Water Quality within 30 days.
Attn: Information Management, 1617 Mail Service Center – Raleigh, NC 27699-1617, Phone No. (919) 733-7015 ext 568.

Form GW-30
Rev. 5/06

WELL ABANDONMENT RECORD

North Carolina Department of Environment and Natural Resources- Division of Water Quality

WELL CONTRACTOR CERTIFICATION # 2856A

1. WELL CONTRACTOR:

Keith Speece
Well Contractor (Individual) Name

Subsurface Environmental Investigations, LLC
Well Contractor Company Name

STREET ADDRESS 132 Gurney Rd.

Olin NC 28660
City or Town State Zip Code

(704) 876-0010
Area code - Phone number

2. WELL INFORMATION:

SITE WELL ID # (if applicable) SH-03

STATE WELL PERMIT # (if applicable)

COUNTY WELL PERMIT # (if applicable)

DWQ or OTHER PERMIT # (if applicable)

WELL USE (Check applicable use): ☑ **Monitoring** ☐ **Residential**

☐ **Municipal/Public** ☐ **Industrial/Commercial** ☐ **Agricultural**

☐ **Recovery** ☐ **Injection** ☐ **Irrigation**

☐ Other (list use)

3. WELL LOCATION:

COUNTY Rutherford QUADRANGLE NAME Rutherfordton South

NEAREST TOWN Rutherfordton

Highway 221 South, 1510 Parcels 1305140 1305140 28139
(Street/Road Name, Number, Community, Subdivision, Lot No., Parcel, Zip Code)

TOPOGRAPHIC / LAND SETTING:

☐ Slope ☐ Valley ☑ Flat ☐ Ridge ☐ Other
(Check appropriate setting)

LATITUDE -81.9328
LONGITUDE 35.3153

May be in degrees, minutes, seconds, or in a decimal format

Latitude/longitude source: ☑ **GPS** ☐ **Topographic map**

(Location of well must be shown on a USGS topo map and attached to this form if not using GPS.)

4a. FACILITY - The name of the business where the well is located. Complete 4a and 4b. (If a residential well, skip 4a; complete 4b, well owner information only.)

FACILITY ID # (if applicable)

NAME OF FACILITY Timken US LLC

STREET ADDRESS 1510 Highway 221 South

Rutherfordton NC 28139
City or Town State Zip Code

4b. CONTACT PERSON/WELL OWNER:

NAME Libby Gibson

STREET ADDRESS 1510 Hwy 221 South, Rutherfordton

828-287-2200

5. WELL DETAILS:

a. Total Depth: 25.1 ft. Diameter 2 in.

b. Water Level (Below Measuring Point): 18.28 ft.

Measuring point is 0.18 ft. above land surface.

6. CASING:

	Length		Diameter	
a. Casing Depth (if known)	9.8	ft.	2	in.
b. Casing Removed	3	ft.	2	in.

7. DISINFECTION:

(Amount of 65%-75% calcium hypochlorite used)

8. SEALING MATERIAL:

Neat Cement

Bentonite/Cement 8 gal.
Water gal

Sand Cement

Cement lb
Water gal

Bentonite

Bentonite lb.
Type: ☐ Slurry ☐ Pellets
Water gal

Other

Type material

Amount

9. EXPLAIN METHOD OF EMPLACEMENT OF MATERIAL:

Tremie Grout

10. WELL DIAGRAM: Draw a detailed sketch of the well on the back of this form showing total depth, depth and diameter of screens (if any) remaining in the well, gravel interval, intervals of casing perforations, and depths and types of fill materials used.

11. DATE WELL ABANDONED 7/23/10

I DO HEREBY CERTIFY THAT THIS WELL WAS ABANDONED IN ACCORDANCE WITH 15A NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER

Keith Speece 8/18/10
SIGNATURE OF CERTIFIED WELL CONTRACTOR **DATE**

SIGNATURE OF PRIVATE WELL OWNER ABANDONING THE WELL **DATE**
(The private well owner must be an individual who personally abandons his/her residential well in accordance with 15A NCAC 2C .0113.)

Keith Speece
PRINTED NAME OF PERSON ABANDONING THE WELL

Submit a copy to the owner and the original to the Division of Water Quality within 30 days.
Attn: Information Management, 1617 Mail Service Center – Raleigh, NC 27699-1617. Phone No. (919) 733-7015 ext 568.

Form GW-30
Rev. 5/06

WELL ABANDONMENT RECORD

North Carolina Department of Environment and Natural Resources- Division of Water Quality

WELL CONTRACTOR CERTIFICATION #2856A

1. WELL CONTRACTOR:

Keith Speece
Well Contractor (Individual) Name

Subsurface Environmental Investigations, LLC
Well Contractor Company Name

STREET ADDRESS 132 Gurney Rd.

Olin | NC | 28660
City or Town | State | Zip Code

(704) - 876-0010
Area code - Phone number

2. WELL INFORMATION:

SITE WELL ID # (if applicable) SH-04

STATE WELL PERMIT # (if applicable)

COUNTY WELL PERMIT # (if applicable)

DWQ or OTHER PERMIT # (if applicable)

WELL USE (Check applicable use): ☑ Monitoring ☐ Residential
☐ Municipal/Public ☐ Industrial/Commercial ☐ Agricultural
☐ Recovery ☐ Injection ☐ Irrigation
☐ Other (list use)

3. WELL LOCATION:

COUNTY Rutherford QUADRANGLE NAME Rutherfordton South

NEAREST TOWN Rutherfordton

Highway 221 South, 1510 (Parcels 1305141, 1305140) 28139
(Street/Road Name, Number, Community, Subdivision, Lot No., Parcel, Zip Code)

TOPOGRAPHIC / LAND SETTING:
☐ Slope ☐ Valley ☑ Flat ☐ Ridge ☐ Other
(Check appropriate setting)

LATITUDE -81.9328
LONGITUDE 35.3151

May be in degrees, minutes, seconds, or in a decimal format

Latitude/longitude source: ☑ GPS ☐ Topographic map

(Location of well must be shown on a USGS topo map and attached to this form if not using GPS.)

4a. FACILITY - The name of the business where the well is located. Complete 4a and 4b (If a residential well, skip 4a; complete 4b, well owner information only.)

FACILITY ID #(if applicable)

NAME OF FACILITY Timken US LLC

STREET ADDRESS 1510 Highway 221 South

Rutherfordton | NC | 28139
City or Town | State | Zip Code

4b. CONTACT PERSON/WELL OWNER:

NAME Libby Gibson

STREET ADDRESS 1510 Hwy 221 South, Rutherfordton

828-287-2200

5. WELL DETAILS:

a. Total Depth: 24.9 ft. Diameter: 2 in.
b. Water Level (Below Measuring Point): 19.62 ft.
Measuring point is +0.34 ft. above land surface

6. CASING:

	Length		Diameter	
a. Casing Depth (if known):	9.6	ft.	2	in.
b. Casing Removed:	3	ft.	2	in.

7. DISINFECTION:

(Amount of 65%-75% calcium hypochlorite used)

8. SEALING MATERIAL:

Neat Cement

Bentonite/Cement 8 gal.
Water gal

Sand Cement

Cement lb.
Water gal

Bentonite

Bentonite lb.
Type: ☐ Slurry ☐ Pellets
Water gal.

Other

Type material

Amount

9. EXPLAIN METHOD OF EMPLACEMENT OF MATERIAL:

Tremie Grout

10. WELL DIAGRAM: Draw a detailed sketch of the well on the back of this form showing total depth, depth and diameter of screens (if any) remaining in the well, gravel interval, intervals of casing perforations, and depths and types of fill materials used.

11. DATE WELL ABANDONED 7/23/10

I DO HEREBY CERTIFY THAT THIS WELL WAS ABANDONED IN ACCORDANCE WITH 15A NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER.

Keith Speece 8/18/10
SIGNATURE OF CERTIFIED WELL CONTRACTOR DATE

SIGNATURE OF PRIVATE WELL OWNER ABANDONING THE WELL DATE
(The private well owner must be an individual who personally abandons his/her residential well in accordance with 15A NCAC 2C .0113.)

Keith Speece
PRINTED NAME OF PERSON ABANDONING THE WELL

Submit a copy to the owner and the original to the Division of Water Quality within 30 days.
Attn: Information Management, 1617 Mail Service Center – Raleigh, NC 27699-1617, Phone No. (919) 733-7015 ext 568.

Form GW-30
Rev. 5-06

WELL ABANDONMENT RECORD

North Carolina Department of Environment and Natural Resources- Division of Water Quality

WELL CONTRACTOR CERTIFICATION # 2856A

1. WELL CONTRACTOR:

Keith Speece
Well Contractor (Individual) Name

Subsurface Environmental Investigations, LLC
Well Contractor Company Name

STREET ADDRESS 132 Gurney Rd.

Olin | NC | 28660
City or Town | State | Zip Code

(704) - 876-0010
Area code - Phone number

2. WELL INFORMATION:

SITE WELL ID # (if applicable) SH-05

STATE WELL PERMIT # (if applicable)

COUNTY WELL PERMIT # (if applicable)

DWQ or OTHER PERMIT # (if applicable)

WELL USE (Check applicable use): ☑ **Monitoring** ☐ **Residential**

☐ **Municipal/Public** ☐ **Industrial/Commercial** ☐ **Agricultural**

☐ **Recovery** ☐ **Injection** ☐ **Irrigation**

☐ Other (list use)

3. WELL LOCATION:

COUNTY Rutherford QUADRANGLE NAME Rutherfordton South

NEAREST TOWN: Rutherfordton

Highway 221 South, 1510 Parcels 130514 130540 28139
(Street/Road Name, Number, Community, Subdivision, Lot No., Parcel, Zip Code)

TOPOGRAPHIC / LAND SETTING:

☐ Slope ☐ Valley ☑ Flat ☐ Ridge ☐ Other
(Check appropriate setting)

LATITUDE -81.9318

LONGITUDE 35.3152

May be in degrees, minutes, seconds, or in a decimal format

Latitude/longitude source: ☑ **GPS** ☐ **Topographic map**

(Location of well must be shown on a USGS topo map and attached to this form if not using GPS.)

4a. FACILITY - The name of the business where the well is located. Complete 4a and 4b. (If a residential well, skip 4a; complete 4b, well owner information only.)

FACILITY ID # (if applicable)

NAME OF FACILITY Timken US LLC

STREET ADDRESS 1510 Highway 221 South

Rutherfordton | NC | 28139
City or Town | State | Zip Code

4b. CONTACT PERSON/WELL OWNER:

NAME Libby Gibson

STREET ADDRESS 1510 Hwy 221 South, Rutherfordton

828-287-2200

5. WELL DETAILS:

a. Total Depth: 28.9 ft. Diameter 2 in.

b. Water Level (Below Measuring Point): 24.82 ft.

Measuring point is 0.30 ft. above land surface.

6. CASING:

	Length		Diameter	
a. Casing Depth (if known):	13.6	ft.	2	in.
b. Casing Removed:	3	ft.	2	in.

7. DISINFECTION:

(Amount of 65%-75% calcium hypochlorite used)

8. SEALING MATERIAL:

Neat Cement

Cement 9 gal.
Water gal.

Sand Cement

Cement lb.
Water gal.

Bentonite

Bentonite lb.

Type: ☐ Slurry ☐ Pellets

Water gal.

Other

Type material

Amount

9. EXPLAIN METHOD OF EMPLACEMENT OF MATERIAL:

Tremie Grout

10. WELL DIAGRAM. Draw a detailed sketch of the well on the back of this form showing total depth, depth and diameter of screens (if any) remaining in the well, gravel interval, intervals of casing perforations, and depths and types of fill materials used.

11. DATE WELL ABANDONED 7/23/10

I DO HEREBY CERTIFY THAT THIS WELL WAS ABANDONED IN ACCORDANCE WITH 15A NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER

Keith Speece — 8/18/10

SIGNATURE OF CERTIFIED WELL CONTRACTOR **DATE**

SIGNATURE OF PRIVATE WELL OWNER ABANDONING THE WELL **DATE**
(The private well owner must be an individual who personally abandons his/her residential well in accordance with 15A NCAC 2C .0113.)

Keith Speece

PRINTED NAME OF PERSON ABANDONING THE WELL

Submit a copy to the owner and the original to the Division of Water Quality within 30 days.
Attn: Information Management, 1617 Mail Service Center – Raleigh, NC 27699-1617, Phone No. (919) 733-7015 ext 568.

Form GW-30
Rev. 5/06

WELL ABANDONMENT RECORD

North Carolina Department of Environment and Natural Resources- Division of Water Quality

WELL CONTRACTOR CERTIFICATION #2856A

1. WELL CONTRACTOR:

Keith Speece
Well Contractor (Individual) Name

Subsurface Environmental Investigations, LLC
Well Contractor Company Name

STREET ADDRESS 132 Gurney Rd.

Olin NC 28660
City or Town State Zip Code

(704) - 876-0010
Area code - Phone number

2. WELL INFORMATION:

SITE WELL ID # (if applicable) SH-06

STATE WELL PERMIT # (if applicable)

COUNTY WELL PERMIT # (if applic

DW Q or OTHER PERMIT # (if applic

WELL USE (Check applicable use) ☑ Monitoring ☐ Residential

☐ Municipal/Public ☐ Industrial/Commercial ☐ Agricultural

☐ Recovery ☐ Injection ☐ Irr

☐ Other (list use)

3. WELL LOCATION:

COUNTY Rutherford QUADRANGE Rutherfordton South

NEAREST TOWN Rutherfordt

Highway 221 South, 1510, 35 51 41 / 81 59 40 28139

(Street/Road Name, Number, Community, Lot No. — Parcel, Zip Code)

TOPOGRAPHIC / LAND SETTING

☐ Slope ☐ Valley ☑ Flat ☐ Other

(Check appropriate setting)

LATITUDE -81.93.16

LONGITUDE 35.31.59

May be in degrees, minutes, seconds, or in a decimal format

Latitude/longitude source: ☑ Topographic map

(Check of well must be shown on map carried with this form. If not using)

FACILITY (The name of the facility where the well is located. Complete 4a and 4b. If abatement well, complete 4a only.)

FACILITY ID # (if applicable)

NAME Timken

STREET ADDRESS 1510 H South

Rordton N 28139

Town State Zip Code

b. OWNER OF WELL

Nby Gibson

SDRESS 1510 Hth, Rutherfordton

88280

5. WELL DETAILS:

a. Total Depth: 29.9 ft. Diameter: 2 in.

b. Water Level (Below Measuring Point): 23.15 ft.

Measuring point is 0.17 ft. above land surface.

6. CASING:

	Length	Diameter
a. Casing Depth (if known):	14.6 ft.	2 in.
b. Casing Removed:	3 ft.	2 in.

7. DISINFECTION:

(Amount of 65%-75% calcium hypochlorite used)

8. SEALING MATERIAL:

Neat Cement

Bentonite/Cement 7 gal.
Water gal.

Sand Cement

Cement lb
Water gal.

Bentonite

Bentonite lb
Type: ☐ Slurry ☐ Pellets
Water gal.

Other

Type material

Amount

9. EXPLAIN METHOD OF EMPLACEMENT OF MATERIAL:

Tremie Grout

10. WELL DIAGRAM: Draw a detailed sketch of the well on the back of this form showing total depth, depth and diameter of screens (if any) remaining in the well, gravel interval, intervals of casing perforations, and depths and types of fill materials used.

11. DATE WELL ABANDONED 7/23/10

I DO HEREBY CERTIFY THAT THIS WELL WAS ABANDONED IN ACCORDANCE WITH 15A NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY O THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER

Keith Speece 8/18/10
SIGNATURE OF CERTIFIED WELL CONTRACTOR DATE

SIGNATURE OF PRIVATE WELL OWNER ABANDONING THE WELL DAT
(The private well owner must be an individual who personally abandons his/her residential in accordance with 15A NCAC 2C .0113.)

Keith Speece
PRINTED NAME OF PERSON ABANDONING THE WELL

Form GW-3
Rev. 5/06

Submit to the owner to the Division of Water Quality within 30 days.
Attention: Management Center - Raleigh, NC 27699-1617, Phone No. (919) 733-7015 ext 568.

WELL ABANDONMENT RECORD

North Carolina Department of Environment and Natural Resources- Division of Water Quality

WELL CONTRACTOR CERTIFICATION # 2856A

1. WELL CONTRACTOR:

Keith Speece
Well Contractor (Individual) Name

Subsurface Environmental Investigations, LLC
Well Contractor Company Name

STREET ADDRESS 132 Gurney Rd.

Olin | NC | 28660
City or Town | State | Zip Code

(704) - 876-0010
Area code - Phone number

2. WELL INFORMATION:

SITE WELL ID # (if applicable) SH-07

STATE WELL PERMIT # (if applicable)

COUNTY WELL PERMIT # (if applicable)

DWQ or OTHER PERMIT # (if applicable)

WELL USE (Check applicable use): ☑ **Monitoring** ☐ **Residential**

☐ **Municipal/Public** ☐ **Industrial/Commercial** ☐ **Agricultural**

☐ **Recovery** ☐ **Injection** ☐ **Irrigation**

☐ Other (list use)

3. WELL LOCATION:

COUNTY Rutherford QUADRANGLE NAME Rutherfordton South

NEAREST TOWN: Rutherfordton

Highway 221 South, 1510 Parcels 1305141 28139
1305140

(Street/Road Name, Number, Community, Subdivision, Lot No., Parcel, Zip Code)

TOPOGRAPHIC / LAND SETTING

☐ Slope ☐ Valley ☑ Flat ☐ Ridge ☐ Other

(Check appropriate setting)

LATITUDE -81.9323

LONGITUDE 35.3159

May be in degrees, minutes, seconds, or in a decimal format

Latitude/longitude source: ☑ **GPS** ☐ **Topographic map**

(Location of well must be shown on a USGS topo map and attached to this form if not using GPS.)

4a. FACILITY- The name of the business where the well is located. Complete 4a and 4b. (If a residential well, skip 4a, complete 4b, well owner information only.)

FACILITY ID # (if applicable)

NAME OF FACILITY Timken US LLC

STREET ADDRESS 1510 Highway 221 South

Rutherfordton | NC | 28139
City or Town | State | Zip Code

4b. CONTACT PERSON/WELL OWNER:

NAME Libby Gibson

STREET ADDRESS 1510 Hwy 221 South, Rutherfordton

828-287-2200

5. WELL DETAILS:

a. Total Depth: 24.9 ft. Diameter: 2 in.

b. Water Level (Below Measuring Point) 19.37 ft.

Measuring point is -0.29 ft. above land surface.

6. CASING:

	Length		Diameter	
a. Casing Depth (if known):	9.6	ft.	2	in.
b. Casing Removed:	3	ft.	2	in.

7. DISINFECTION:

(Amount of 65%-75% calcium hypochlorite used)

8. SEALING MATERIAL:

Neat Cement

Bentonite Cement 7 gal.
Water gal.

Sand Cement

Cement lb.
Water gal.

Bentonite

Bentonite lb.

Type: ☐ Slurry ☐ Pellets

Water gal.

Other

Type material

Amount

9. EXPLAIN METHOD OF EMPLACEMENT OF MATERIAL:

Tremie Grout

10. WELL DIAGRAM: Draw a detailed sketch of the well on the back of this form showing total depth, depth and diameter of screens (if any) remaining in the well, gravel interval, intervals of casing perforations, and depths and types of fill materials used.

11. DATE WELL ABANDONED 7/23/10

I DO HEREBY CERTIFY THAT THIS WELL WAS ABANDONED IN ACCORDANCE WITH 15A NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER.

Keith Speece 8/18/10

SIGNATURE OF CERTIFIED WELL CONTRACTOR **DATE**

SIGNATURE OF PRIVATE WELL OWNER ABANDONING THE WELL **DATE**

(The private well owner must be an individual who personally abandons his/her residential well in accordance with 15A NCAC 2C .0113.)

Keith Speece

PRINTED NAME OF PERSON ABANDONING THE WELL

Submit a copy to the owner and the original to the Division of Water Quality within 30 days.
Attn: Information Management, 1617 Mail Service Center – Raleigh, NC 27699-1617. Phone No. (919) 733-7015 ext 568.

Form GW-30
Rev. 5/06

WELL ABANDONMENT RECORD

North Carolina Department of Environment and Natural Resources- Division of Water Quality

WELL CONTRACTOR CERTIFICATION # 2856A

1. WELL CONTRACTOR:

Keith Speece
Well Contractor (Individual) Name

Subsurface Environmental Investigations, LLC
Well Contractor Company Name

STREET ADDRESS 132 Gurney Rd.

Olin | NC | 28660
City or Town | State | Zip Code

(704) - 876-0010
Area code - Phone number

2. WELL INFORMATION:

SITE WELL ID # (if applicable) SH-08

STATE WELL PERMIT # (if applicable)

COUNTY WELL PERMIT # (if applicable)

DWQ or OTHER PERMIT # (if applicable)

WELL USE (Check applicable use): ☑ **Monitoring** ☐ **Residential**
☐ **Municipal/Public** ☐ **Industrial/Commercial** ☐ **Agricultural**
☐ **Recovery** ☐ **Injection** ☐ **Irrigation**
☐ Other (list use)

3. WELL LOCATION:

COUNTY Rutherford QUADRANGLE NAME Rutherfordton South

NEAREST TOWN: Rutherfordton

Highway 221 South, 1510 Parcel 1305 141 1305140 28139
(Street/Road Name, Number, Community, Subdivision, Lot No., Parcel, Zip Code)

TOPOGRAPHIC / LAND SETTING:
☐ Slope ☐ Valley ☑ Flat ☐ Ridge ☐ Other
(Check appropriate setting)

LATITUDE -81.9327
LONGITUDE 35.3161

May be in degrees, minutes, seconds, or in a decimal format

Latitude/longitude source: ☑ **GPS** ☐ **Topographic map**

(Location of well must be shown on a USGS topo map and attached to this form if not using GPS.)

4a. FACILITY - The name of the business where the well is located. Complete 4a and 4b. (If a residential well, skip 4a, complete 4b, well owner information only.)

FACILITY ID # (if applicable)

NAME OF FACILITY Timken US LLC

STREET ADDRESS 1510 Highway 221 South

Rutherfordton | NC | 28139
City or Town | State | Zip Code

4b. CONTACT PERSON/WELL OWNER:

NAME Libby Gibson

STREET ADDRESS 1510 Hwy 221 South, Rutherfordton

828-287-2800

5. WELL DETAILS:

a. Total Depth: 22.2 ft. Diameter 2 in.
b. Water Level (Below Measuring Point): 16.38 ft.
Measuring point is 0.23 ft. above land surface

6. CASING:

	Length		Diameter	
a. Casing Depth (if known):	11.9	ft	2	in.
b. Casing Removed:	3	ft.	2	in.

7. DISINFECTION:

(Amount of 65%-75% calcium hypochlorite used)

8. SEALING MATERIAL:

Neat Cement
Cement 8 lb.
Water gal.

Sand Cement
Cement lb.
Water gal.

Bentonite
Bentonite lb.
Type: ☐ Slurry ☐ Pellets
Water gal.

Other
Type material
Amount

9. EXPLAIN METHOD OF EMPLACEMENT OF MATERIAL:

Tremie Grout

10. WELL DIAGRAM: Draw a detailed sketch of the well on the back of this form showing total depth, depth and diameter of screens (if any) remaining in the well, gravel interval, intervals of casing perforations, and depths and types of fill materials used.

11. DATE WELL ABANDONED 7/22/10

I DO HEREBY CERTIFY THAT THIS WELL WAS ABANDONED IN ACCORDANCE WITH 15A NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER.

Keith Speece — 8/18/10
SIGNATURE OF CERTIFIED WELL CONTRACTOR **DATE**

SIGNATURE OF PRIVATE WELL OWNER ABANDONING THE WELL **DATE**
(The private well owner must be an individual who personally abandons his/her residential well in accordance with 15A NCAC 2C .0113.)

Keith Speece
PRINTED NAME OF PERSON ABANDONING THE WELL

Submit a copy to the owner and the original to the Division of Water Quality within 30 days.
Attn: Information Management, 1617 Mail Service Center – Raleigh, NC 27699-1617, Phone No. (919) 733-7015 ext 568.

Form GW-30
Rev. 5/06

WELL ABANDONMENT RECORD

North Carolina Department of Environment and Natural Resources- Division of Water Quality

WELL CONTRACTOR CERTIFICATION # 2856A

1. WELL CONTRACTOR:

Keith Speece
Well Contractor (Individual) Name

Subsurface Environmental Investigations, LLC
Well Contractor Company Name

STREET ADDRESS 132 Gurney Rd.

Olin | NC | 28660
City or Town | State | Zip Code

(704) - 876-0010
Area code - Phone number

2. WELL INFORMATION:

SITE WELL ID # (if applicable) SH-09

STATE WELL PERMIT # (if applicable)

COUNTY WELL PERMIT # (if applicable)

DWQ or OTHER PERMIT # (if applicable)

WELL USE (Check applicable use): ☑ **Monitoring** ☐ **Residential**
☐ **Municipal/Public** ☐ **Industrial/Commercial** ☐ **Agricultural**
☐ **Recovery** ☐ **Injection** ☐ **Irrigation**
☐ Other (list use)

3. WELL LOCATION:

COUNTY Rutherford QUADRANGLE NAME Rutherfordton South

NEAREST TOWN: Rutherfordton

Highway 221 South, 1510 Parcel 1305141 1305140 28139
(Street/Road Name, Number, Community, Subdivision, Lot No., Parcel, Zip Code)

TOPOGRAPHIC / LAND SETTING:
☐ Slope ☐ Valley ☑ Flat ☐ Ridge ☐ Other
(Check appropriate setting)

LATITUDE -81.9334
LONGITUDE 35.3157

May be in degrees, minutes, seconds, or in a decimal format

Latitude/longitude source: ☑ **GPS** ☐ **Topographic map**
(Location of well must be shown on a USGS topo map and attached to this form if not using GPS.)

4a. FACILITY - The name of the business where the well is located. Complete 4a and 4b. (If a residential well, skip 4a, complete 4b, well owner information only.)

FACILITY ID # (if applicable)

NAME OF FACILITY Timken US L.L.C.

STREET ADDRESS 1510 Highway 221 South

Rutherfordton | NC | 28139
City or Town | State | Zip Code

4b. CONTACT PERSON/WELL OWNER:

NAME Libby Gibson

STREET ADDRESS 1510 Hwy 221 South, Rutherfordton

888-287-2800

5. WELL DETAILS:

a. Total Depth: 19 ft. Diameter 2 in.
b. Water Level (Below Measuring Point): 10.78 ft.
Measuring point is 0.29 ft. above land surface.

6. CASING:

	Length		Diameter	
a. Casing Depth (if known):	9	ft.	2	in.
b. Casing Removed	3	ft.	2	in.

7. DISINFECTION:

(Amount of 65%-75% calcium hypochlorite used)

8. SEALING MATERIAL:

Neat Cement
Cement 7 gal.
Water gal

Sand Cement:
Cement lb
Water gal

Bentonite
Bentonite lb.
Type: ☐ Slurry ☐ Pellets
Water gal

Other
Type material
Amount

9. EXPLAIN METHOD OF EMPLACEMENT OF MATERIAL:

Tremie Grout

10. WELL DIAGRAM: Draw a detailed sketch of the well on the back of this form showing total depth, depth and diameter of screens (if any) remaining in the well, gravel interval, intervals of casing perforations, and depths and types of fill materials used

11. DATE WELL ABANDONED 7/22/10

I DO HEREBY CERTIFY THAT THIS WELL WAS ABANDONED IN ACCORDANCE WITH 15A NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER.

Keith Speece 8/18/10
SIGNATURE OF CERTIFIED WELL CONTRACTOR **DATE**

SIGNATURE OF PRIVATE WELL OWNER ABANDONING THE WELL **DATE**
(The private well owner must be an individual who personally abandons his/her residential well in accordance with 15A NCAC 2C .0113.)

Keith Speece
PRINTED NAME OF PERSON ABANDONING THE WELL

Submit a copy to the owner and the original to the Division of Water Quality within 30 days.
Attn: Information Management, 1617 Mail Service Center – Raleigh, NC 27699-1617, Phone No. (919) 733-7015 ext 568.

Form GW-30
Rev. 5/06

WELL ABANDONMENT RECORD

North Carolina Department of Environment and Natural Resources- Division of Water Quality

WELL CONTRACTOR CERTIFICATION #2856A

1. WELL CONTRACTOR:

Keith Speece
Well Contractor (Individual) Name

Subsurface Environmental Investigations, LLC
Well Contractor Company Name

STREET ADDRESS 132 Gurney Rd

Olin | NC | 28660
City or Town | State | Zip Code

(704) - 876-0010
Area code - Phone number

2. WELL INFORMATION:

SITE WELL ID # (if applicable) SH-10

STATE WELL PERMIT # (if applicable)

COUNTY WELL PERMIT # (if applicable)

DWQ or OTHER PERMIT # (if applicable)

WELL USE (Check applicable use) ☑ Monitoring ☐ Residential

☐ Municipal/Public ☐ Industrial/Commercial ☐ Agricultural

☐ Recovery ☐ Injection ☐ Irrigation

☐ Other (list use)

3. WELL LOCATION:

COUNTY Rutherford QUADRANGLE NAME Rutherfordton South

NEAREST TOWN: Rutherfordton

Highway 221 South, 1510 Parcel 1305141 1305140 28139
(Street/Road Name, Number, Community, Subdivision, Lot No., Parcel, Zip Code)

TOPOGRAPHIC / LAND SETTING:

☐ Slope ☐ Valley ☑ Flat ☐ Ridge ☐ Other
(Check appropriate setting)

LATITUDE -81.9330
LONGITUDE 35.3164

May be in degrees, minutes, seconds, or in a decimal format

Latitude/longitude source: ☑ GPS ☐ Topographic map

(Location of well must be shown on a USGS topo map and attached to this form if not using GPS.)

4a. FACILITY - The name of the business where the well is located. Complete 4a and 4b. (If a residential well, skip 4a; complete 4b, well owner information only.)

FACILITY ID # (if applicable)

NAME OF FACILITY Timken US LLC

STREET ADDRESS 1510 Highway 221 South

Rutherfordton | NC | 28139
City or Town | State | Zip Code

4b. CONTACT PERSON/WELL OWNER:

NAME Libby Gibson

STREET ADDRESS 1510 Hwy 221 South, Rutherfordton

828 287-2200

5. WELL DETAILS:

a. Total Depth: 17.9 ft. Diameter 2 in.

b. Water Level (Below Measuring Point): 10.71 ft.

Measuring point is 0.02 ft. above land surface.

6. CASING:

	Length		Diameter	
a. Casing Depth (if known):	7.6	ft.	2	in.
b. Casing Removed:	3	ft.	2	in.

7. DISINFECTION:

(Amount of 65%-75% calcium hypochlorite used)

8. SEALING MATERIAL:

Neat Cement

Cement 6 Qt
Water gal.

Sand Cement

Cement lb.
Water gal.

Bentonite

Bentonite lb

Type ☐ Slurry ☐ Pellets

Water gal.

Other

Type material

Amount

9. EXPLAIN METHOD OF EMPLACEMENT OF MATERIAL:

Tremie Grout

10. WELL DIAGRAM: Draw a detailed sketch of the well on the back of this form showing total depth, depth and diameter of screens (if any) remaining in the well, gravel interval, intervals of casing perforations, and depths and types of fill materials used.

11. DATE WELL ABANDONED 7/22/10

I DO HEREBY CERTIFY THAT THIS WELL WAS ABANDONED IN ACCORDANCE WITH 15A NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER.

Keith Speece 8/18/10
SIGNATURE OF CERTIFIED WELL CONTRACTOR DATE

SIGNATURE OF PRIVATE WELL OWNER ABANDONING THE WELL DATE
(The private well owner must be an individual who personally abandons his/her residential well in accordance with 15A NCAC 2C .0113.)

Keith Speece
PRINTED NAME OF PERSON ABANDONING THE WELL

Submit a copy to the owner and the original to the Division of Water Quality within 30 days.
Attn: Information Management, 1617 Mail Service Center – Raleigh, NC 27699-1617, Phone No. (919) 733-7015 ext 568.

Form GW-30
Rev. 3/06

WELL ABANDONMENT RECORD

North Carolina Department of Environment and Natural Resources- Division of Water Quality

WELL CONTRACTOR CERTIFICATION #2856A

1. WELL CONTRACTOR:

Keith Speece
Well Contractor (Individual) Name

Subsurface Environmental Investigations, LLC
Well Contractor Company Name

STREET ADDRESS 132 Gurney Rd.

Olin | NC | 28660
City or Town | State | Zip Code

(704) - 876-0010
Area code - Phone number

2. WELL INFORMATION:

SITE WELL ID # (if applicable) SH-11

STATE WELL PERMIT # (if applicable)

COUNTY WELL PERMIT # (if applicable)

DWQ or OTHER PERMIT # (if applicable)

WELL USE (Check applicable use): ☑ **Monitoring** ☐ **Residential**
☐ **Municipal/Public** ☐ **Industrial/Commercial** ☐ **Agricultural**
☐ **Recovery** ☐ **Injection** ☐ **Irrigation**
☐ Other (list use)

3. WELL LOCATION:

COUNTY Rutherford QUADRANGLE NAME Rutherfordton South
NEAREST TOWN Rutherfordton
Highway 221 South, 1510 Parcel 1305141 1305140 28139
(Street/Road Name, Number, Community, Subdivision, Lot No., Parcel, Zip Code)

TOPOGRAPHIC / LAND SETTING:
☐ Slope ☐ Valley ☑ Flat ☐ Ridge ☐ Other
(Check appropriate setting)

LATITUDE -81.9331
LONGITUDE 35.3156
May be in degrees, minutes, seconds, or in a decimal format

Latitude/longitude source: ☑ **GPS** ☐ **Topographic map**
(Location of well must be shown on a USGS topo map and attached to this form if not using GPS.)

4a. FACILITY - The name of the business where the well is located. Complete 4a and 4b. (If a residential well, skip 4a; complete 4b, well owner information only.)

FACILITY ID # (if applicable)
NAME OF FACILITY Timken US LLC
STREET ADDRESS 1510 Highway 221 South
Rutherfordton | NC | 28139
City or Town | State | Zip Code

4b. CONTACT PERSON/WELL OWNER:

NAME Libby Gibson
STREET ADDRESS 1510 Hwy 221 South, Rutherfordton
828-287-2200

5. WELL DETAILS:

a. Total Depth: 21.3 ft. Diameter: 2 in.
b. Water Level (Below Measuring Point): 15.35 ft
Measuring point is 0.41 ft. above land surface.

6. CASING:

	Length		Diameter	
a. Casing Depth (if known):	11.0	ft.	2	in.
b. Casing Removed:	3	ft.	2	in.

7. DISINFECTION:

(Amount of 65%-75% calcium hypochlorite used)

8. SEALING MATERIAL:

Neat Cement
Cement 7 gal.
Water gal.

Sand Cement
Cement lb.
Water gal.

Bentonite
Bentonite lb.
Type ☐ Slurry ☐ Pellets
Water gal

Other
Type material
Amount

9. EXPLAIN METHOD OF EMPLACEMENT OF MATERIAL:

Tremie Grout

10. WELL DIAGRAM. Draw a detailed sketch of the well on the back of this form showing total depth, depth and diameter of screens (if any) remaining in the well, gravel interval, intervals of casing perforations, and depths and types of fill materials used.

11. DATE WELL ABANDONED 7/22/10

I DO HEREBY CERTIFY THAT THIS WELL WAS ABANDONED IN ACCORDANCE WITH 15A NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER.

Keith Speece 8/18/10
SIGNATURE OF CERTIFIED WELL CONTRACTOR **DATE**

SIGNATURE OF PRIVATE WELL OWNER ABANDONING THE WELL DATE
(The private well owner must be an individual who personally abandons his/her residential well in accordance with 15A NCAC 2C .0113.)

Keith Speece
PRINTED NAME OF PERSON ABANDONING THE WELL

Submit a copy to the owner and the original to the Division of Water Quality within 30 days.
Attn: Information Management, 1617 Mail Service Center – Raleigh, NC 27699-1617, Phone No. (919) 733-7015 ext 568.

Form GW-30
Rev. 5/06

WELL ABANDONMENT RECORD

North Carolina Department of Environment and Natural Resources- Division of Water Quality

WELL CONTRACTOR CERTIFICATION # 2856A

1. WELL CONTRACTOR:

Keith Speece
Well Contractor (Individual) Name

Subsurface Environmental Investigations, LLC
Well Contractor Company Name

STREET ADDRESS 132 Gurney Rd.

Olin | NC | 28660
City or Town | State | Zip Code

(704) - 876-0010
Area code - Phone number

2. WELL INFORMATION:

SITE WELL ID # (if applicable) SH-12

STATE WELL PERMIT # (if applicable)

COUNTY WELL PERMIT # (if applicable)

DWQ or OTHER PERMIT # (if applicable)

WELL USE (Check applicable use): ☑ **Monitoring** ☐ **Residential**
☐ **Municipal/Public** ☐ **Industrial/Commercial** ☐ **Agricultural**
☐ **Recovery** ☐ **Injection** ☐ **Irrigation**
☐ Other (list use)

3. WELL LOCATION:

COUNTY Rutherford QUADRANGLE NAME Rutherfordton South

NEAREST TOWN: Rutherfordton

Highway 221 South, 1510 Parcel 1305141 1305140 28139
(Street/Road Name, Number, Community, Subdivision, Lot No., Parcel, Zip Code)

TOPOGRAPHIC / LAND SETTING:
☐ Slope ☐ Valley ☑ Flat ☐ Ridge ☐ Other
(Check appropriate setting)

LATITUDE -81.9331
LONGITUDE 35.3162

May be in degrees, minutes, seconds, or in a decimal format

Latitude/longitude source: ☑ **GPS** ☐ **Topographic map**

(Location of well must be shown on a USGS topo map and attached to this form if not using GPS.)

4a. FACILITY: The name of the business where the well is located. Complete 4a and 4b. (If a residential well, skip 4a; complete 4b, well owner information only.)

FACILITY ID # (if applicable)

NAME OF FACILITY Timken US LLC

STREET ADDRESS 1510 Highway 221 South

Rutherfordton | NC | 28139
City or Town | State | Zip Code

4b. CONTACT PERSON/WELL OWNER:

NAME Libby Gibson

STREET ADDRESS 1510 Hwy 221 South, Rutherfordton

828-287-2200

5. WELL DETAILS:

a. Total Depth: 17.9 ft. Diameter 2 in.
b. Water Level (Below Measuring Point): 10.67 ft.
Measuring point is 0.21 ft. above land surface.

6. CASING:

	Length		Diameter	
a. Casing Depth (if known):	7.6	ft.	2	in.
b. Casing Removed:	3	ft.	2	in.

7. DISINFECTION:

(Amount of 65%-75% calcium hypochlorite used)

8. SEALING MATERIAL:

Neat Cement

Bentonite/Cement 7 gal.
Water gal

Sand Cement

Cement lb
Water gal

Bentonite

Bentonite lb.
Type: ☐ Slurry ☐ Pellets
Water gal

Other

Type material
Amount

9. EXPLAIN METHOD OF EMPLACEMENT OF MATERIAL:

Tremie Grout

10. WELL DIAGRAM: Draw a detailed sketch of the well on the back of this form showing total depth, depth and diameter of screens (if any) remaining in the well, gravel interval, intervals of casing perforations, and depths and types of fill materials used.

11. DATE WELL ABANDONED 7/23/10

I DO HEREBY CERTIFY THAT THIS WELL WAS ABANDONED IN ACCORDANCE WITH 15A NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER.

Keith Speece 8/18/10
SIGNATURE OF CERTIFIED WELL CONTRACTOR DATE

SIGNATURE OF PRIVATE WELL OWNER ABANDONING THE WELL DATE
(The private well owner must be an individual who personally abandons his/her residential well in accordance with 15A NCAC 2C .0113.)

Keith Speece
PRINTED NAME OF PERSON ABANDONING THE WELL

Submit a copy to the owner and the original to the Division of Water Quality within 30 days.
Attn: Information Management, 1617 Mail Service Center – Raleigh, NC 27699-1617. Phone No. (919) 733-7015 ext 568.

Form GW-30
Rev. 5/06

WELL ABANDONMENT RECORD

North Carolina Department of Environment and Natural Resources- Division of Water Quality

WELL CONTRACTOR CERTIFICATION # 2856A

1. WELL CONTRACTOR:

Keith Speece
Well Contractor (Individual) Name

Subsurface Environmental Investigations, LLC
Well Contractor Company Name

STREET ADDRESS 132 Gurney Rd.

Olin | NC | 28660
City or Town | State | Zip Code

(704) 876-0010
Area code - Phone number

2. WELL INFORMATION:

SITE WELL ID # (if applicable) SH-13

STATE WELL PERMIT # (if applicable)

COUNTY WELL PERMIT # (if applicable)

DWQ or OTHER PERMIT # (if applicable)

WELL USE (Check applicable use): ☑ **Monitoring** ☐ **Residential**
☐ **Municipal/Public** ☐ **Industrial/Commercial** ☐ **Agricultural**
☐ **Recovery** ☐ **Injection** ☐ **Irrigation**
☐ Other (list use)

3. WELL LOCATION:

COUNTY Rutherford QUADRANGLE NAME Rutherfordton South

NEAREST TOWN: Rutherfordton

Highway 221 South, 1510 Parcel 1305141 (3051340 28139
(Street/Road Name, Number, Community, Subdivision, Lot No., Parcel, Zip Code)

TOPOGRAPHIC / LAND SETTING:
☐ Slope ☐ Valley ☑ Flat ☐ Ridge ☐ Other
(Check appropriate setting)

LATITUDE -81.9328
LONGITUDE 35.3173

May be in degrees, minutes, seconds, or in a decimal format

Latitude/longitude source: ☑ **GPS** ☐ **Topographic map**

(Location of well must be shown on a USGS topo map and attached to this form if not using GPS.)

4a. FACILITY- The name of the business where the well is located. Complete 4a and 4b. (If a residential well, skip 4a; complete 4b, well owner information only.)

FACILITY ID # (if applicable)

NAME OF FACILITY Timken US LLC

STREET ADDRESS 1510 Highway 221 South

Rutherfordton | NC | 28139
City or Town | State | Zip Code

4b. CONTACT PERSON/WELL OWNER:

NAME Libby Gibson

STREET ADDRESS 1510 Hwy 221 South, Rutherfordton

828-287-2200

5. WELL DETAILS:

a. Total Depth: 19.3 ft. Diameter 2 in.
b. Water Level (Below Measuring Point): 16.98 ft.
Measuring point is +2.62 ft. above land surface.

6. CASING:

	Length		Diameter	
a. Casing Depth (if known):	9.0	ft.	2	in.
b. Casing Removed.	3	ft.	2	in.

7. DISINFECTION:

(Amount of 65%-75% calcium hypochlorite used)

8. SEALING MATERIAL:

Neat Cement
Cement 5 gal.
Water gal.

Sand Cement
Cement lb.
Water gal.

Bentonite
Bentonite lb.
Type: ☐ Slurry ☐ Pellets
Water gal.

Other
Type material
Amount

9. EXPLAIN METHOD OF EMPLACEMENT OF MATERIAL:

Tremie Grout

10. WELL DIAGRAM: Draw a detailed sketch of the well on the back of this form showing total depth, depth and diameter of screens (if any) remaining in the well, gravel interval, intervals of casing perforations, and depths and types of fill materials used

11. DATE WELL ABANDONED 7/22/10

I DO HEREBY CERTIFY THAT THIS WELL WAS ABANDONED IN ACCORDANCE WITH 15A NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER.

Keith Speece 8/18/10
SIGNATURE OF CERTIFIED WELL CONTRACTOR **DATE**

SIGNATURE OF PRIVATE WELL OWNER ABANDONING THE WELL DATE
(The private well owner must be an individual who personally abandons his/her residential well in accordance with 15A NCAC 2C .0113.)

Keith Speece
PRINTED NAME OF PERSON ABANDONING THE WELL

Submit a copy to the owner and the original to the Division of Water Quality within 30 days.
Attn: Information Management, 1617 Mail Service Center – Raleigh, NC 27699-1617. Phone No. (919) 733-7015 ext 568.

Form GW-30
Rev. 5/00

WELL ABANDONMENT RECORD

North Carolina Department of Environment and Natural Resources- Division of Water Quality

WELL CONTRACTOR CERTIFICATION # 2856A

1. WELL CONTRACTOR:

Keith Speece
Well Contractor (Individual) Name

Subsurface Environmental Investigations, LLC
Well Contractor Company Name

STREET ADDRESS 132 Gurney Rd.

Olin | NC | 28660
City or Town | State | Zip Code

(704) - 876-0010
Area code - Phone number

2. WELL INFORMATION:

SITE WELL ID # (if applicable) SH-14

STATE WELL PERMIT # (if applicable)

COUNTY WELL PERMIT # (if applicable)

DWQ or OTHER PERMIT # (if applicable)

WELL USE (Check applicable use): ☑ **Monitoring** ☐ **Residential**

☐ **Municipal/Public** ☐ **Industrial/Commercial** ☐ **Agricultural**

☐ **Recovery** ☐ **Injection** ☐ **Irrigation**

☐ Other (list use)

3. WELL LOCATION:

COUNTY Rutherford QUADRANGLE NAME Rutherfordton South

NEAREST TOWN: Rutherfordton

Highway 221 South, 1510 Parcels 1505141 1505140 28139
(Street/Road Name, Number, Community, Subdivision, Lot No., Parcel, Zip Code)

TOPOGRAPHIC/LAND SETTING:

☐ Slope ☐ Valley ☑ Flat ☐ Ridge ☐ Other
(Check appropriate setting)

LATITUDE -81.9320
LONGITUDE 35.3148

May be in degrees, minutes, seconds, or in a decimal format

Latitude/longitude source: ☑ **GPS** ☐ **Topographic map**

(Location of well must be shown on a USGS topo map and attached to this form if not using GPS.)

4a. FACILITY: The name of the business where the well is located. Complete 4a and 4b. (If a residential well, skip 4a; complete 4b, well owner information only.)

FACILITY ID # (if applicable)

NAME OF FACILITY Timken US LLC

STREET ADDRESS 1510 Highway 221 South

Rutherfordton | NC | 28139
City or Town | State | Zip Code

4b. CONTACT PERSON/WELL OWNER:

NAME Libby Gibson

STREET ADDRESS 1510 Hwy 221 South, Rutherfordton

828-287-2200

5. WELL DETAILS:

a. Total Depth: 27.9 ft. Diameter 2 in.

b. Water Level (Below Measuring Point): 25.25 ft.

Measuring point is 0.26 ft. above land surface.

6. CASING:

	Length	Diameter
a. Casing Depth (if known)	12.6 ft.	2 in.
b. Casing Removed	3 ft.	2 in.

7. DISINFECTION:

(Amount of 65%-75% calcium hypochlorite used)

8. SEALING MATERIAL:

Neat Cement

Bentonite/ Cement 9 gal.
Water 5 gal

Sand Cement

Cement lb.
Water gal

Bentonite

Bentonite lb.
Type ☐ Slurry ☐ Pellets
Water gal.

Other

Type material

Amount

9. EXPLAIN METHOD OF EMPLACEMENT OF MATERIAL:

Tremie Grout

10. WELL DIAGRAM. Draw a detailed sketch of the well on the back of this form showing total depth, depth and diameter of screens (if any) remaining in the well, gravel interval, intervals of casing perforations, and depths and types of fill materials used.

11. DATE WELL ABANDONED 7/23/10

I DO HEREBY CERTIFY THAT THIS WELL WAS ABANDONED IN ACCORDANCE WITH 15A NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER.

Keith Speece — 8/18/10
SIGNATURE OF CERTIFIED WELL CONTRACTOR **DATE**

SIGNATURE OF PRIVATE WELL OWNER ABANDONING THE WELL **DATE**
(The private well owner must be an individual who personally abandons his/her residential well in accordance with 15A NCAC 2C .0113.)

Keith Speece
PRINTED NAME OF PERSON ABANDONING THE WELL

Submit a copy to the owner and the original to the Division of Water Quality within 30 days.
Attn: Information Management, 1617 Mail Service Center – Raleigh, NC 27699-1617. Phone No. (919) 733-7015 ext 568.

Form GW-30
Rev. 5/06

WELL ABANDONMENT RECORD

North Carolina Department of Environment and Natural Resources- Division of Water Quality

WELL CONTRACTOR CERTIFICATION # 2856A

1. WELL CONTRACTOR:

Keith Speece
Well Contractor (Individual) Name

Subsurface Environmental Investigations, LLC
Well Contractor Company Name

STREET ADDRESS 132 Gurney Rd.

Olin | NC | 28660
City or Town | State | Zip Code

(704) - 876-0010
Area code - Phone number

2. WELL INFORMATION:

SITE WELL ID # (if applicable) SH-15

STATE WELL PERMIT # (if applicable)

COUNTY WELL PERMIT # (if applicable)

DWQ or OTHER PERMIT # (if applicable)

WELL USE (Check applicable use): ☑ **Monitoring** ☐ **Residential**

☐ **Municipal/Public** ☐ **Industrial/Commercial** ☐ **Agricultural**

☐ **Recovery** ☐ **Injection** ☐ **Irrigation**

☐ Other (list use)

3. WELL LOCATION:

COUNTY Rutherford QUADRANGLE NAME Rutherfordton South

NEAREST TOWN Rutherfordton

Highway 221 South, 1510 (2 parcels 1305141 1305140) 28139
(Street/Road Name, Number, Community, Subdivision, Lot No., Parcel, Zip Code)

TOPOGRAPHIC / LAND SETTING

☐ Slope ☐ Valley ☑ Flat ☐ Ridge ☐ Other
(Check appropriate setting)

LATITUDE -81.9335
LONGITUDE 35.3140

May be in degrees, minutes, seconds, or in a decimal format

Latitude/longitude source: ☑ **GPS** ☐ **Topographic map**

(Location of well must be shown on a USGS topo map and attached to this form if not using GPS.)

4a. FACILITY - The name of the business where the well is located. Complete 4a and 4b. (If a residential well, skip 4a, complete 4b, well owner information only.)

FACILITY ID # (if applicable)

NAME OF FACILITY Timken US LLC

STREET ADDRESS 1510 Highway 221 South

Rutherfordton | NC | 28139
City or Town | State | Zip Code

4b. CONTACT PERSON/WELL OWNER:

NAME Libby Gibson

STREET ADDRESS 1510 Hwy 221 South, Rutherfordton

828-287-2200

5. WELL DETAILS:

a. Total Depth: 22.1 ft Diameter: 2 in.
b. Water Level (Below Measuring Point) 13.47 ft
Measuring point is +2.79 ft. above land surface

6. CASING:

	Length	Diameter
a. Casing Depth (if known)	6 & 8 ft.	2 in.
b. Casing Removed:	3 ft.	2 in.

7. DISINFECTION:

(Amount of 65%-75% calcium hypochlorite used)

8. SEALING MATERIAL:

Neat Cement
Cement 6 gal.
Water gal

Sand Cement
Cement lb.
Water gal

Bentonite
Bentonite lb
Type ☐ Slurry ☐ Pellets
Water gal

Other
Type material
Amount

9. EXPLAIN METHOD OF EMPLACEMENT OF MATERIAL:

Tremie Grout

10. WELL DIAGRAM: Draw a detailed sketch of the well on the back of this form showing total depth, depth and diameter of screens (if any) remaining in the well, gravel interval, intervals of casing perforations, and depths and types of fill materials used

11. DATE WELL ABANDONED 7/22/10

I DO HEREBY CERTIFY THAT THIS WELL WAS ABANDONED IN ACCORDANCE WITH 15A NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER.

Keith Speece 8/18/10
SIGNATURE OF CERTIFIED WELL CONTRACTOR **DATE**

SIGNATURE OF PRIVATE WELL OWNER ABANDONING THE WELL DATE
(The private well owner must be an individual who personally abandons his/her residential well in accordance with 15A NCAC 2C .0113.)

Keith Speece
PRINTED NAME OF PERSON ABANDONING THE WELL

Submit a copy to the owner and the original to the Division of Water Quality within 30 days.
Attn: Information Management, 1617 Mail Service Center – Raleigh, NC 27699-1617. Phone No. (919) 733-7015 ext 568.

Form GW-30
Rev. 5/06

WELL ABANDONMENT RECORD

North Carolina Department of Environment and Natural Resources- Division of Water Quality

WELL CONTRACTOR CERTIFICATION # 2856A

1. WELL CONTRACTOR:

Keith Speece
Well Contractor (Individual) Name

Subsurface Environmental Investigations, LLC
Well Contractor Company Name

STREET ADDRESS 132 Gurney Rd.

Olin | NC | 28660
City or Town | State | Zip Code

(704) - 876-0010
Area code - Phone number

2. WELL INFORMATION:

SITE WELL ID # (if applicable) SH-16

STATE WELL PERMIT # (if applicable)

COUNTY WELL PERMIT # (if applicable)

DWQ or OTHER PERMIT # (if applicable)

WELL USE (Check applicable use): ☑ **Monitoring** ☐ **Residential**
☐ **Municipal/Public** ☐ **Industrial/Commercial** ☐ **Agricultural**
☐ **Recovery** ☐ **Injection** ☐ **Irrigation**
☐ Other (list use)

3. WELL LOCATION:

COUNTY Rutherford QUADRANGLE NAME Rutherfordton South

NEAREST TOWN: Rutherfordton

Highway 221 South, 1510 Parcels 1305101 1305140 28139
(Street/Road Name, Number, Community, Subdivision, Lot No., Parcel, Zip Code)

TOPOGRAPHIC / LAND SETTING:
☐ Slope ☐ Valley ☑ Flat ☐ Ridge ☐ Other
(Check appropriate setting)

LATITUDE -81.9311
LONGITUDE 35.3152

May be in degrees, minutes, seconds, or in a decimal format

Latitude/longitude source: ☑ **GPS** ☐ **Topographic map**

(Location of well must be shown on a USGS topo map and attached to this form if not using GPS.)

4a. FACILITY - The name of the business where the well is located. Complete 4a and 4b (If a residential well, skip 4a; complete 4b, well owner information only.)

FACILITY ID # (if applicable)

NAME OF FACILITY Timken US LLC

STREET ADDRESS 1510 Highway 221 South

Rutherfordton | NC | 28139
City or Town | State | Zip Code

4b. CONTACT PERSON/WELL OWNER:

NAME Libby Gibson

STREET ADDRESS 1510 Hwy 221 South, Rutherfordton

828-287-2200

5. WELL DETAILS:

a. Total Depth: 34.3 ft. Diameter 2 in.
b. Water Level (Below Measuring Point) 26.26 ft.
Measuring point is 0.19 ft. above land surface.

6. CASING:

	Length		Diameter	
a. Casing Depth (if known):	19.0	ft.	2	in.
b. Casing Removed:	3	ft.	2	in.

7. DISINFECTION:

(Amount of 65%-75% calcium hypochlorite used)

8. SEALING MATERIAL:

Neat Cement

Bentonite Cement 9 gal.
Water gal.

Sand Cement

Cement lb
Water gal.

Bentonite

Bentonite lb.
Type ☐ Slurry ☐ Pellets
Water gal.

Other

Type material
Amount

9. EXPLAIN METHOD OF EMPLACEMENT OF MATERIAL:

Tremie Grout

10. WELL DIAGRAM: Draw a detailed sketch of the well on the back of this form showing total depth, depth and diameter of screens (if any) remaining in the well, gravel interval, intervals of casing perforations, and depths and types of fill materials used.

11. DATE WELL ABANDONED 7/23/10

I DO HEREBY CERTIFY THAT THIS WELL WAS ABANDONED IN ACCORDANCE WITH 15A NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER

Keith Speece 8/18/10
SIGNATURE OF CERTIFIED WELL CONTRACTOR **DATE**

SIGNATURE OF PRIVATE WELL OWNER ABANDONING THE WELL **DATE**
(The private well owner must be an individual who personally abandons his/her residential well in accordance with 15A NCAC 2C .0113.)

Keith Speece
PRINTED NAME OF PERSON ABANDONING THE WELL

Submit a copy to the owner and the original to the Division of Water Quality within 30 days.
Attn: Information Management, 1617 Mail Service Center – Raleigh, NC 27699-1617. Phone No. (919) 733-7015 ext 568.

Form GW-30
Rev. 5/06

SHA
IMPROVING EARTH

SANBORN, HEAD & ASSOCIATES, INC.
20 Foundry Street ▪ Concord, NH 03301
P (603) 229-1900 ▪ F (603) 229-1919
www.sanbornhead.com

RESPONSE TO NOV
INCIDENT NUMBER: 87719
Timken US LLC
Rutherfordton, North Carolina

Prepared for
Timken US LLC

Prepared by
Sanborn, Head & Associates, Inc.

File 3114.01.010
April 2010

SHA
IMPROVING EARTH

SANBORN, HEAD & ASSOCIATES, INC.
20 Foundry Street ▪ Concord, NH 03301
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April 7, 2010
File No. 3114.01.010

Ms. Jan Andersen
Division of Waste Management - UST Section
NC DENR – Asheville Regional Office
2090 U.S. 70 Highway
Swannanoa, NC 28778

Re: Response to NOV
Incident Number: 87719
NOV Number: NOV-2006-OC-0014
Timken US LLC (formerly Timken US Corporation)
Rutherfordton, North Carolina

Dear Ms. Andersen:

As you are aware, Timken US LLC (Timken - formerly Timken US Corporation), was issued a Notice of Violation (NOV) on May 8, 2006 for certain subsurface conditions at its facility located at 1510 US Highway 221 in Rutherfordton, North Carolina (Site). As required by the NC DENR's Underground Storage Tank (UST) Section in a letter to Timken dated April 25, 2008, Sanborn, Head & Associates, Inc. (SHA) conducted additional groundwater sampling at the Site on behalf of Timken, in accordance with our approved Work Plan dated July 22, 2008, to address remaining requirements associated with the above-referenced NOV.

SHA has prepared this letter report primarily to document our completion of the requisite groundwater sampling activities. However, to provide broader context for the 2009 groundwater results, we have also summarized the work previously performed and reported to NC DENR in various correspondence related to issues described in the NOV. Based on the 2009 groundwater sampling results and the results of previous investigations, we request and recommend that NC DENR conclude that "No Further Action" (NFA) is necessary related to the May 8, 2006 NOV. Our rationale for this NFA request/recommendation is presented below. Our services and this report are subject to the Limitations in Attachment A.

BACKGROUND

A NOV was issued to Timken on May 8, 2006 by the NC DENR Division of Water Quality (DWQ),[1] a copy of which is included in Attachment B. The NOV required Timken to address issues related to certain subsurface conditions in four areas identified as part of a Phase II

[1] Regulatory oversight of the Site was later transferred to the Division of Waste Management (DWM) – UST Section.

Environmental Site Assessment (ESA) performed by SHA in 2005. Figure 1 provides a summary of each NOV issue by area. Further discussion of the background related to each of these issues is presented below.

The DWQ's May 8, 2006 NOV letter required certain actions including: 1) additional delineation and assessment of chromium, Oil & Grease (O&G), and Diesel Range Organics (DRO) in soils (including the option to establish a Site-specific cleanup level for DRO); 2) evaluation of the speciation of chromium detected in soils; and 3) collection of a groundwater sample from monitoring well SH-14 for laboratory analysis of Resource Conservation and Recovery Act (RCRA) 8 metals. DWQ focused additional delineation / speciation requirements for chromium in the vicinity of wells SH-03 and SH-13, and additional delineation requirements for O&G and DRO in soil in the vicinity of wells SH-11 and SH-13.

In a letter dated July 24, 2006 SHA, proposed alternative approaches to the actions required by DWQ in the NOV (including, in many cases, requests for NFA). In addition, SHA completed a Site Sensitivity Evaluation (SSE) based on conditions observed in the vicinity of SH-11 (located in a former UST area) and calculated a Site-specific cleanup level in soil for DRO of 480 milligrams per kilogram (mg/kg) in that area, which was provided to DWQ in an electronic mail dated August 23, 2006. An SSE previously completed at the Site in 1994 by Advent, Inc. (Advent) on behalf of the Torrington Company, established a Site-specific cleanup level for O&G of 550 mg/kg. The concentrations of O&G and DRO detected in the soil sample collected by SHA from SH-11 were less than the Site-specific cleanup levels calculated for both O&G and DRO. As such, in a letter dated November 21, 2006, DWQ stated that further delineation was unnecessary in the area of SH-11.

In a letter dated November 21, 2006, DWQ responded to SHA's proposed course of action outlined in our July 24, 2006 letter. DWQ concurred with SHA's recommendations to delineate O&G and DRO in the vicinity of SH-13, and to collect a groundwater sample from SH-14 for laboratory analysis of cadmium only, rather than the full suite of RCRA 8 metals originally requested in the NOV. Although SHA proposed to further delineate / speciate chromium-impacted soils in the vicinity of SH-13 only, the DWQ indicated that additional delineation / speciation of chromium in soils in the vicinity of SH-03 (located inside the active manufacturing facility) would need to be performed as well. SHA provided a Work Plan to DWQ on January 22, 2007 to address requirements described in DWQ's November 21, 2006 letter, which was approved by DWQ in a letter dated February 2, 2007.

Following implementation of the approved Work Plan, a summary of our findings was presented in SHA's report entitled "Response to Notice of Violation, Incident Number 87719" dated December 11, 2007, a copy of the which is included in Attachment B. In a letter dated April 25, 2008, NC DENR concurred with SHA's recommendations for NFA on all open issues, except for the matter of petroleum hydrocarbons in soil in the vicinity of SH-13. The April 25, 2008 letter stated that in order for a final NFA determination to be issued for the site, quarterly groundwater monitoring had to be performed at SH-13 with results showing no violations of groundwater standards for four consecutive quarters. Therefore, SHA prepared a Work Plan, dated July 22,

2008, for quarterly groundwater sampling of well SH-13, which was approved by NC DENR in a letter dated July 25, 2008.

ADDITIONAL ENVIRONMENTAL SERVICES COMPLETED

Consistent with our July 22, 2008 Work Plan, SHA collected groundwater samples from monitoring well SH-13 on a quarterly basis for one year. SHA attempted to begin groundwater sampling on August 18, 2008, but an adequate amount of water was not present in monitoring well SH-13 at that time to allow for collection of a groundwater sample. After an adequate amount of water was observed, SHA collected groundwater samples from monitoring well SH-13 on February 25, 2009, May 13, 2009, August 24, 2009, and November 12, 2009.

Prior to sampling, depth-to-water measurements were recorded. SHA collected the groundwater samples using a peristaltic pump using "low flow" groundwater sampling techniques by directing the purge water through a flow-through cell. SHA screened the purge water for pH, temperature, specific conductance, dissolved oxygen (DO), oxidation reduction potential (ORP), and turbidity. Groundwater samples were collected in laboratory provided containers following stabilization of these water quality parameters. We have summarized the depth to groundwater measurements and low flow groundwater sampling information (e.g., field screening information) on the Low Flow Purge and Sample data sheets included as Attachment C.

The groundwater samples were submitted to Prism Laboratories, Inc. (Prism) of Charlotte, North Carolina for laboratory analysis of volatile organic compounds (VOCs) using Standard Method 6200B and semi-volatile organic compounds (SVOCs) by United States Environmental Protection Agency (USEPA) Method 625, as required by NC DENR. For each sampling event, a blind field duplicate sample and trip blank were also submitted to the laboratory for analysis. Samples were placed on ice in coolers and delivered to Prism following standard chain-of-custody protocols. Analytical laboratory data reports are provided in Attachment D.

To further assess the groundwater sample analytical data, SHA performed a Data Quality Assessment (DQA) and Data Usability Evaluation (DUE) of the laboratory data. The DQA was used to identify quality control issues that occurred during analysis, and it involved review of sample blanks, laboratory control samples, surrogates, matrix spike/matrix spike duplicates and field duplicates. A review of the laboratory narrative was performed to determine if non-conformances were noted for any of these quality assessment methods. The results of the DQA were then used in the DUE to determine if the data are of sufficient quality for the intended purpose. The DQA and DUE assessment are presented in Attachment E.

CONCLUSIONS AND RECOMMENDATIONS

Neither VOCs nor SVOCs were detected at concentrations greater than their respective laboratory reporting limits in the four groundwater samples collected from monitoring well SH-13 in 2009. Table E.1 includes a tabulated summary of results on a sample-by-sample and analyte-by-analyte basis. As summarized in Attachment E, our DQA and DUE did not identify

quality assurance/quality control (QA/QC) problems that would require rejection of data related to SVOCs and VOCs of interest to this investigation.

Since groundwater analytical results from monitoring well SH-13 were below laboratory detection limits (and therefore are below Class GA Groundwater Standards), and since Timken has satisfied all other requirements described in NOV Incident Number 87719, we recommend and request that NC DENR issue a final NFA determination for the Site.

Further, since the conditions of the NOV have all been satisfied and contingent upon NC DENR's issuance of a NFA determination for the site, we recommend that all monitoring wells installed as part of SHA's Phase II ESA be abandoned in a manner consistent with NC DENR Rules 15A NCAC 02C. We request NC DENR's concurrence with this recommendation prior to proceeding with well abandonment.

CLOSING

We look forward to receiving your response to our conclusions, recommendations, and requests described above. Should you require additional information, or have questions or comments following your review of these findings and recommendations, please contact us.

Very truly yours,
SANBORN, HEAD & ASSOCIATES, INC.

Bradley A. Green
Senior Project Manager

NORTH CAROLINA LICENSED SEAL 1911 GEOLOGIST Charles A. Corbett, Jr. PG

Charles A. Corbett, Ph.D., P.G.
Principal and Vice President

AEA/BAG/CAC:aea/las

Encl.

	Figure 1	Site Plan/Summary of NOV Issues
	Attachment A	Limitations
	Attachment B	Correspondence
	Attachment C	Low flow forms
	Attachment D	Analytical Laboratory Data Reports
	Attachment E	DQA/DUE

cc: Alan Oberster, Timken
Libby Gibson, Timken

S:\CONDATA\3100s\3114.01\Originals\20100407_GW Monitoring Report DRAFT.docx

FIGURE

SHA
IMPROVING EARTH

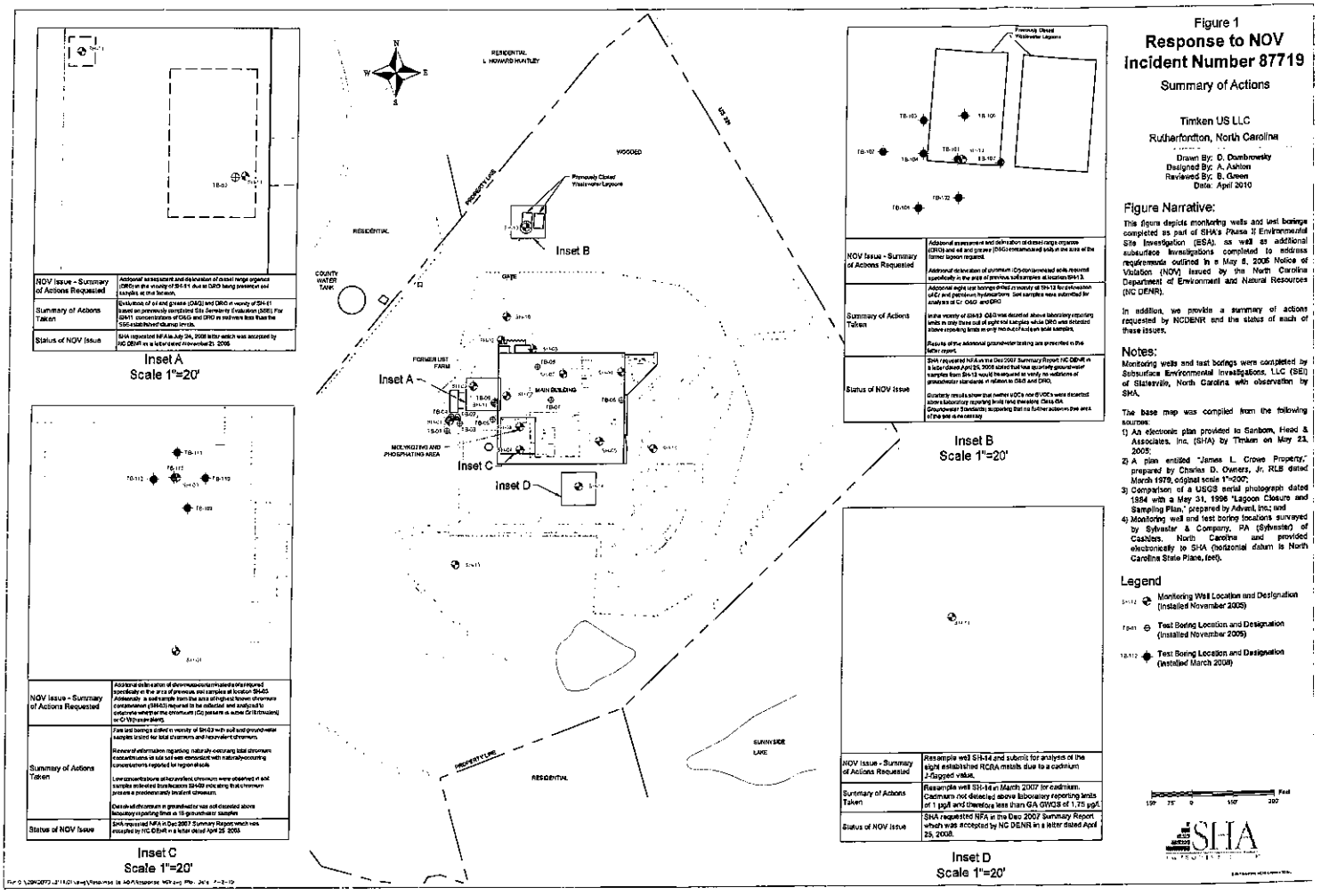

Figure 1

Response to NOV Incident Number 87719

Summary of Actions

Timken US LLC

Rutherfordton, North Carolina

Drawn By: D. Dombrowsky
Designed By: A. Ashton
Reviewed By: B. Green
Date: April 2010

Figure Narrative:

This figure depicts monitoring wells and test borings completed as part of SHA's Phase II Environmental Site Investigation (ESA), as well as additional subsurface investigations completed to address requirements outlined in a May 8, 2008 Notice of Violation (NOV) issued by the North Carolina Department of Environment and Natural Resources (NC DENR).

In addition, we provide a summary of actions requested by NCDENR and the status of each of these issues.

Notes:

Monitoring wells and test borings were completed by Subsurface Environmental Investigations, LLC (SEI) of Statesville, North Carolina with observation by SHA.

The base map was compiled from the following sources:

1) An electronic plan provided to Sanborn, Head & Associates, Inc. (SHA) by Timken on May 23, 2005;
2) A plan entitled "James L. Crowe Property," prepared by Charles D. Owners, Jr. RLS dated March 1979, original scale 1"=200';
3) Comparison of a USGS aerial photograph dated 1954 with a May 31, 1996 "Lagoon Closure and Sampling Plan," prepared by Advant, Inc; and
4) Monitoring well and test boring locations surveyed by Sylvester & Company, PA (Sylvester) of Cashiers, North Carolina and provided electronically to SHA (horizontal datum is North Carolina State Plane, feet).

Legend

- SH-12 — Monitoring Well Location and Designation (Installed November 2005)
- TB-01 — Test Boring Location and Designation (Installed November 2005)
- TB-112 — Test Boring Location and Designation (Installed March 2008)

2152.01 7038 C

Michael F. Easley, Governor

William G. Ross Jr., Secretary
North Carolina Department of Environment and Natural Resources

Alan W. Klimek, P.E. Director
Division of Water Quality

AQUIFER PROTECTION SECTION

May 8, 2006

CERTIFIED MAIL 7005 0390 0001 3552 5021
RETURN RECEIPT REQUESTED

Mr. William Fladung
Director, Environmental Health and Safety
The Timken Company
Environmental Affairs/GNE-24
P.O. Box 6928
Canton, Ohio 44706-0928

MAY 12 2006

Subject: **NOTICE OF VIOLATION**
G.S. 143-215. et seq.
Oil Pollution and Hazardous Substance Control Act of 1978
Timken US Corporation
1510 Highway 221 South, Rutherfordton, Rutherford County
Incident Number: 87719
BIMS Incident Number: 200600972
NOV Number: NOV-2006-OC-0014

Dear Mr. Fladung:

North Carolina General Statutes, Chapter 143, authorizes and directs the Environmental Management Commission of the Department of Environment and Natural Resources to protect and preserve the water and air resources of the state. The Division of Water Quality (DWQ) has the delegated authority to enforce adopted pollution control rules and regulations.

Based upon information contained in a *Soil and Groundwater Analytical Data Report* submitted on your behalf by Sanborn, Head and Associates for the subject property, and received on January 4, 2006, the DWQ has reason to believe that you are responsible for activities resulting in noncompliance with North Carolina law. Specifically, chromium has been found in soils at the subject property above naturally occurring background levels for that area, and in excess of established North Carolina soil standards, and high concentrations of oil and grease and diesel-range organics (DRO) were found in soils at the former lagoon area. Additionally, cadmium was detected in well SH-14 at a value estimated to be above the established groundwater standard. The specific violations of General Statute 143-215.75 et seq., Oil Pollution and Hazardous Substances Control Act, are as follows:

1. G.S. 143-215.83 (a) Unlawful Discharges:
It shall be unlawful for any person to discharge oil or other hazardous substances into or upon any waters or land within the state;

2. G.S. 143-215.84 (a) Removal of Prohibited Discharges:
Any person having control over oil or other hazardous substances discharged in violation of this article shall immediately undertake to collect and remove the discharge and to restore the area affected by the discharge as nearly as may be to the condition existing prior to the discharge.

To correct the violations, you are required to do the following:

1. Resample well SH-14 and submit for analysis of the eight established RCRA metals due to the cadmium flagged value.

2. Additional delineation of chromium-contaminated soils is required, specifically in the areas of previous soil samples SH-03 and SH-13. Additionally, a soil sample from the area of highest known chromium contamination (SH-03) shall be collected and analyzed to determine whether the chromium present is either Cr III (trivalent) or Cr VI (hexavalent).

3. Additional assessment and delineation of DRO and oil and grease contaminated soils in the area of the former lagoon is required. Although this area was issued a Notice of No Further Action letter in December, 1998, concentrations of oil and grease at soil location SH-13 are well above the previously established Site Sensitivity Established cleanup value of 550 ppm. Additionally, DROs are also present at high levels from the locations of soil samples SH-13 and SH-11. In order to establish targeted cleanup levels, two approaches can be made:
   a.) Cleanup the impacted soils to the previously established SSE soil value of 550 ppm and calculate SSE values for the DRO contamination, or
   b.) Cleanup the impacted soils to the NCDENR constituent specific soil cleanup standards in accordance with the *Groundwater Section Guidelines for the Investigation and Remediation of Soil and Groundwater* (July, 2000).

   Soil samples are also to be collected and analyzed for eight RCRA metals.

4. Submit a report to the Asheville Regional Office assessing the cause, significance and extent of the release.

You are requested to contact the Division in writing, within 15 days of receipt of this letter, of your intention to comply and submit a plan of action and a schedule for achieving compliance. Failure to respond within the time specified and to voluntarily achieve compliance may result in further enforcement action, to include a recommendation for proposed penalty assessment, which provides for a civil penalty of not more than $10,000.00 for each violation. Your responses should be directed to Meg E. Howard at the Asheville Regional Office.

Sincerely,

G. Landon Davidson, LG
Aquifer Protection Section Regional Supervisor

cc: Bradley Green – Sanborn, Head and Associates
Debra Watts – CO Files
ARO files

SHA
Sanborn, Head & Associates
Consulting Engineers & Scientists

July 24, 2006
File No. 2152.02 T038

Ms. Meg Howard
North Carolina Division of Water Quality - Asheville Regional Office
2090 U.S. Highway 70
Swannanoa, North Carolina 28778

Re: Response to Notice of Violation
Incident Number: 87719
NOV Number: NOV-2006-OC-0014
Timken US Corporation
Rutherfordton, North Carolina

Dear Ms. Howard:

As indicated in The Timken Company's letter to you dated May 25, 2006 and on behalf of the Timken US Corporation, Sanborn, Head & Associates, Inc. (SHA) has prepared this letter in response to the above-referenced Notice of Violation (NOV) issued by the North Carolina Division of Water Quality (DWQ) on May 8, 2006 in relation to certain environmental conditions described in a January 3, 2006 *Soil and Groundwater Analytical Data Report* concerning the Timken US Corporation facility located at 1510 Highway 221 South in Rutherfordton, North Carolina (Site).

The NOV requires certain actions be undertaken at the Site to address the alleged violations, including:

1. Collection of a confirmatory groundwater sample from monitoring well SH-14 (downgradient of the facility) for RCRA-8 metals analyses due the presence of dissolved cadmium at a concentration estimated to be in excess of North Carolina Department of Environment and Natural Resources (NC DENR) Class GA Groundwater Quality Standard (GA GWQS).

2. Additional delineation and speciation of chromium-containing soils in the areas of previous soil samples SH-03 (inside the facility) and SH-13 (former lagoon area), which exhibited total chromium concentrations in excess of the NC DENR Contaminated Soil Cleanup Level (CSCL), and in the DWQ's estimation, above naturally occurring background levels for the area.

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

3. Additional assessment and delineation of petroleum-impacted soils in the area of previous soil samples SH-13 (former lagoon area) and SH-11 (former UST area), which exhibited concentrations of diesel range organics (DRO) and oil and grease (O&G) in excess of NCDENR Action Levels.

4. Submission of a report documenting the findings of the above.

Without admission of any fact or liability on behalf of The Timken Company or Timken US Corporation, the Timken US Corporation intends to work in good faith with DWQ to reach a mutually satisfactory resolution of the matters alleged in the NOV. As such, we have outlined below an approach to address the DWQ's requirements summarized in the NOV. This approach has been developed in consideration of the available analytical data, historic Site information, and the DWQ's regulatory guidance documents, as well as our conversations with you and Mr. Landon Davidson during our conference call on June 28, 2006.

DWQ REQUIREMENT #1

Dissolved cadmium was detected in the groundwater sample collected by SHA from monitoring well SH-14 at an estimated concentration of 0.0040 milligrams per liter (mg/L), which was less than the laboratory reporting limit (RL), but greater than the laboratory method detection limit (MDL). This "J-flagged" concentration was greater than the GA GWQS of 0.00175 mg/L; however, dissolved cadmium was not detected at concentrations above the laboratory MDL in the other groundwater sample collected by SHA at the Site. Furthermore, no other dissolved RCRA-8 metals were detected at concentrations above their respective GA GWQSs in the groundwater samples collected by SHA at the Site.

Based on the forgoing, we propose to collect a confirmatory groundwater sample from monitoring well SH-14 for laboratory analysis of dissolved cadmium. However, we are not proposing to complete laboratory analyses for the other dissolved RCRA-8 metals because none of these other dissolved metals were detected at concentrations above their respective GA GWQSs in the groundwater samples collected by SHA at the Site.

DWQ REQUIREMENT #2

Within the NOV, the DWQ indicates that total chromium concentrations detected in Site soils, and particularly in soil samples SH-03 (140 milligrams per kilogram [mg/kg]; inside the facility) and SH-13 (100 mg/kg; former lagoon area), are elevated relative to naturally occurring background levels for the area, as well as in excess of the CSCL of 27 mg/kg. However, dissolved chromium was not detected above the laboratory MDL in the groundwater samples collected by SHA at the Site (including those collected from wells SH-03 and SH-13), which supports that the presence of chromium in soils has not affected groundwater quality at the Site.

Inside the Facility

The soil sample from SH-03 was collected from beneath a concrete floor of an active manufacturing facility that limits both the accessibility of and the potential for direct exposure to these soils, as well as limits the potential for leaching of chromium from soils to groundwater via infiltrating precipitation, which is supported by the absence of dissolved chromium in groundwater collected from well SH-03. As such, the potential disruptions to manufacturing operations associated with additional delineation and speciation of chromium in soils in the vicinity of SH-03 do not appear warranted. Rather, it is our opinion that no further action is necessary in the vicinity of SH-03.

Former Lagoon Area

The soil sample from SH-13 was collected at a depth of 7.5 to 10 feet below backfill emplaced during the closure of the former west lagoon, which limits the potential for direct exposure to these soils. Furthermore, despite the presence of these soil and recharge conditions since the closure of the former west lagoon in 1997, the absence of dissolved chromium above the laboratory MDL in groundwater collected from well SH-13 supports that the potential leaching of chromium from soils to groundwater via infiltrating precipitation has not affected groundwater quality.

Nevertheless, we propose to complete additional delineation of chromium in soils in the vicinity of SH-13 in concert with additional delineation of petroleum-impacted soils in this area (described below), as requested by the DWQ. In addition, although our review of current and former manufacturing activities at the Site did not indicate operations likely to use hexavalent chromium (e.g., plating operations have not been conducted at this Site), we propose to collect soil samples for both hexavalent and trivalent chromium analysis as part of the delineation activities, as requested by DWQ.

DWQ REQUIREMENT #3

DRO and O&G were detected in soil sample SH-13 (former lagoon area) at concentrations of 2,100 and 8,200 mg/kg, respectively, which are in excess of the NCDENR Action Levels of 40 and 250 mg/kg, respectively. Similarly, DRO and O&G were detected in soil sample SH-11 (former UST area) at concentrations of 420 and 390 mg/kg, respectively, also in excess of NCDENR Action Levels. However, gasoline range organics (GRO), petroleum-related volatile organic compounds (VOCs), and petroleum-related polycyclic aromatic hydrocarbons (PAHs) were not present in soil samples SH-13 and SH-11 at concentrations above laboratory MDLs. Furthermore, GRO, DRO, O&G, VOCs, and PAHs were not present above laboratory RLs in the groundwater samples collected by SHA at the Site (including those collected from wells SH-13 and SH-11), which supports that the presence of DRO and O&G in soils has not materially affected groundwater quality at the Site.

As you are aware, the NCDENR previously issued notices of "no further action" for NOVs issued for conditions associated with the former USTs and the 20,000-gallon coolant UST

located near the former lagoons. In addition, the NCDENR approved the abandonment of groundwater monitoring wells located in the areas of the former USTs and former lagoons following oversight of the UST removals and lagoon closures, contaminated soil disposal, and post-closure groundwater sampling and analyses. Concentrations of O&G and DRO observed in soil samples collected from these areas are generally consistent with concentrations reported to NCDENR by others as part of these previous activities, which were the basis for NCDENR issuing the notices of "no further action" and approving abandonment of monitoring wells in these areas.

Former Lagoon Area

As previously mentioned, the soil sample from SH-13 was collected at a depth of 7.5 to 10 feet below backfill emplaced during the closure of the former west lagoon, which limits the potential for direct exposure to these soils. Furthermore, despite the presence of these soil and recharge conditions since the closure of the former west lagoon in 1997, the absence of GRO, DRO, O&G, VOCs, and PAHs above laboratory MDLs in groundwater collected from well SH-13 supports that the potential leaching of petroleum-related constituents from soils to groundwater via infiltrating precipitation has not affected groundwater quality.

Nevertheless, we propose to complete additional assessment and delineation of DRO and O&G in soils in the vicinity of SH-13 in concert with additional delineation of chromium in soils in this area (described above), as requested by DWQ. We propose to perform one day of drilling, during which time we anticipate the completion of approximately six to ten additional soil borings in the vicinity of well SH-13. We propose to collect soil samples from these soil borings for laboratory analysis of GRO, DRO, O&G, VOCs, PAHs, and trivalent and hexavalent chromium (as described above). However, we are not proposing to complete laboratory analyses for the other RCRA-8 metals because none of these other metals were detected at concentrations above their respective CSCLs (where established) in the soil samples collected by SHA at the Site, nor were dissolved RCRA-8 metals, except for cadmium (described above), detected above their respective GA GWQSs in the groundwater samples collected by SHA at the Site.

Former UST Area

The soil sample from SH-11 was collected adjacent to the facility at a depth of 6.1 to 10 feet below grade, which limits both the accessibility of and the potential for direct exposure to these soils. Furthermore, despite the presence of these soil and recharge conditions since the removal of the former USTs between 1989 and 1991, the absence of GRO, DRO, O&G, VOCs, and PAHs above laboratory RLs in groundwater collected from well SH-11 supports that the potential leaching of petroleum-related constituents from soils to groundwater via infiltrating precipitation has not materially affected groundwater quality.

Nevertheless, as suggested by DWQ in the NOV, we have evaluated the O&G and DRO concentrations recorded in soil sample SH-11 in the context of a previously completed Site Sensitivity Evaluation (SSE) for O&G and a SSE that we completed for DRO in the former UST area based on the NC DENR UST Division's April 2001 guidance. The previously completed

SSE established a cleanup level of 550 mg/kg for O&G, whereas the DRO Final Cleanup Level (DRO-FCL) calculated as part of our SSE was 480 mg/kg. As such, the concentrations of O&G and DRO recorded in the soil sample collected from SH-11 (390 and 420 mg/kg, respectively) are below SSE-established cleanup levels. Therefore, additional assessment and delineation of DRO and O&G in soils in the vicinity of SH-11 do not appear warranted. Rather, it is our opinion that no further action is necessary in the vicinity of SH-11.

DWQ REQUIREMENT #4

The data generated during the completion of the above-described activities will be evaluated in conjunction with the previous soil and groundwater analytical data collected by SHA and others at the Site. Subsequently, SHA will prepare a summary report that documents the work performed and assesses the cause, significance, and the extent of the environmental conditions outlined above.

CLOSING

We appreciate your review and consideration of the matters addressed in this letter. As discussed during our June 28, 2006 conference call, following your review of this letter we are willing to further discuss these matters with you via a conference call. In the meantime, please feel free to contact either of the undersigned with any questions you may have.

Very truly yours,
SANBORN, HEAD & ASSOCIATES, INC.

Barret S. Cole
Associate

Charles L. Head, P.E.
Principal

BAG/BSC/CLH:bag/bsc/amg

cc: William Fladung – The Timken Company
Dan Waugh – Timken US Corporation
David Sordi – Ingersol Rand Company

2152.02 7038 C

Michael F. Easley, Governor

William G. Ross Jr., Secretary
North Carolina Department of Environment and Natural Resources

Alan W. Klimek, P.E. Director
Division of Water Quality

AQUIFER PROTECTION SECTION

November 21, 2006

Mr. William Fladung
Director, Environmental Health and Safety
The Timken Company
Environmental Affairs/GNE-24
P.O. Box 6928
Canton, Ohio 44706-0928

Subject: **Response to Notice of Violation**
Timken US Corporation
1510 Highway 221 South, Rutherfordton, Rutherford County
Incident Number: 87719
BIMS Incident Number: 200600972
NOV Number: NOV-2006-OC-0014

Dear Mr. Fladung:

On July 25, 2006, the Division of Water Quality (Division) received the above referenced letter. This letter was issued by Sanborn Head and Associates (SHA) on your behalf in response to the May 8, 2006 Notice of Violation (NOV) issued by this office. The letter outlines SHA's proposal for completion of the requirements listed in the NOV. In response, the Division offers the following:

1.) The Division concurs with the recommendation to submit a groundwater sample from well SH-14 for analysis of cadmium only rather than the full suite of eight RCRA metals.
2.) In the subject letter, SHA proposes additional delineation of chromium contamination at the location of soil boring SH-13 only since soil boring SH-03 was collected beneath a concrete floor within the facility. Sample SH-03 was collected by SHA as part of the Phase II Environmental Site Assessment (ESA) dated January 3, 2006, as is necessary for due diligence. Since results indicate high levels of chromium in this area, additional delineation will need to be performed in this area despite the location.
3.) The Division concurs with the recommendation that diesel range organics and oil and grease levels found at SH-11 are below appropriate calculated cleanup levels for these constituents. Cleanup levels for oil and grease were determined during a Site Sensitivity Evaluation (SSE) completed in 1994, and was provided for diesel-range organics in an SSE submitted to the Division on August 23, 2006 by Sanborn Head and Associates. Therefore, no further delineation is needed in this area.

4.) The Division concurs with the recommendation to run additional soil samples collected during delineation of contaminants near soil boring SH-13 for chromium only rather than the full suite of eight RCRA metals. Diesel-range organics and oil and grease shall also be run for samples collected near this location as well.

Throughout the subject letter, SHA notes that although soils have documented impacts of metals and petroleum contamination, groundwater does not appear to be affected. While groundwater beneath the site does not appear to be impacted at this time, since soil contamination documented during completion of the Phase II ESA remains in place, the possibility for future contamination of groundwater exists. Therefore it is important to fully delineate and, if feasible, remediate any remaining soil contamination that is greater than the established cleanup standards at the site. This approach to site assessment and remediation is supported by requirement 15A NCAC 02L.0106 (f) (4), which states that "corrective action following discovery of a release of a contaminant...shall include, but is not limited to...removal, treatment or control of secondary pollution sources which would be ***potential continuing*** sources of pollutants to the groundwaters such as contaminated soils...".

We appreciate your continued cooperation and effort on this project. If you have any questions, please do not hesitate to contact me at (828) 296-4500.

Sincerely,

Meg E. Howard, L.G.
Hydrogeologist

c: Bradley Green – Sanborn, Head and Associates
ARO files

MEH\Incident Correspondence\Timken\NOVresp.doc

SHA
ENGINEERS • SCIENTISTS

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January 22, 2007
File No. 2152.02 Task 038

Ms. Meg Howard
North Carolina Division of Water Quality - Asheville Regional Office
2090 U.S. Highway 70
Swannanoa, North Carolina 28778

Re: Response to Notice of Violation
Incident Number: 87719
NOV Number: NOV-2006-OC-0014
Timken US Corporation
Rutherfordton, North Carolina

Dear Ms. Howard:

On behalf of the Timken US Corporation, Sanborn, Head & Associates, Inc. (SHA) has prepared this letter in response to your letter dated November 21, 2006, which was issued by the North Carolina Division of Water Quality (DWQ) to The Timken Company in response to a letter prepared by SHA on behalf of the Timken US Corporation dated July 24, 2006. In our July 24, 2006 letter, SHA proposed additional investigatory activities intended to address requirements set forth in a Notice of Violation (NOV) issued by the DWQ on May 8, 2006. The NOV was issued to The Timken Company in relation to certain environmental conditions described in a January 3, 2006 *Soil and Groundwater Analytical Data Report* concerning the Timken US Corporation facility located at 1510 Highway 221 South in Rutherfordton, North Carolina (Site).

Based on your November 21, 2006 letter, it is our understanding that the DWQ concurs with SHA's proposed actions to address the requirements of the NOV, with the exception of our recommendation for "no further action" related to the delineation of potentially chromium-contaminated soils in the vicinity of interior monitoring well SH-03. To that end, we have attached for your consideration a Work Plan (Attachment A) further describing the scope of work proposed by SHA to address the requirements of the NOV, inclusive of further delineation of potentially chromium-contaminated soils in the vicinity of interior monitoring well SH-03. The attached Work Plan has been developed in consideration of the available analytical data, historic Site information, and the DWQ's regulatory guidance documents, as well as our conversations with you and Mr. Landon Davidson.

As we have previously indicated, without admission of any fact or liability on behalf of The Timken Company or Timken US Corporation, the Timken US Corporation intends to work in good faith with the DWQ to reach a mutually satisfactory resolution of the matters alleged in the NOV. As such, we request the DWQ's approval of the attached Work Plan prior to

initiating additional work at the Site. We currently anticipate that the additional work could commence within approximately two to four weeks of receiving the DWQ's approval.

We appreciate your review and consideration of the matters addressed in this letter. In the meantime, please feel free to contact either of the undersigned with any questions you may have.

Very truly yours,
SANBORN, HEAD & ASSOCIATES, INC.

Barret S. Cole
Associate

Charles L. Head, P.E.
Principal

BSC/CLH:bsc

Encl. Attachment A – Additional Soil and Groundwater Sampling Work Plan

cc: Bill Fladung – The Timken Company
Dan Waugh – Timken US Corporation
David Sordi – Ingersoll-Rand Company

ATTACHMENT A
ADDITIONAL SOIL AND GROUNDWATER SAMPLING

As described in a letter sent to The Timken Company (Timken) from the North Carolina Department of Water Quality (NC DWQ) dated November 21, 2006, NC DWQ has requested additional soil and groundwater sampling activities in response to the detection of chromium and petroleum constituents in soil and cadmium in groundwater at the Timken US Corporation facility located at 1510 Highway 221 South in Rutherfordton, North Carolina (Site). As such, Sanborn, Head & Associates, Inc. (SHA) has prepared this Work Plan for Additional Soil and Groundwater Sampling. A summary of our proposed Scope of Services is presented below.

TASK 1.0 PROJECT MANAGEMENT

The services provided under this task include preparation of this Work Plan and a site-specific Health and Safety Plan. Coordination, scheduling, and general oversight of subcontractors, including the analytical laboratory and drilling subcontractor are also included in this task.

TASK 2.0 TEST BORINGS

SHA will retain a qualified drilling subcontractor to assist us with the collection of soil samples. We propose to perform two days of drilling, during which we anticipate completing a total of approximately 13 soil borings in the vicinity of monitoring wells SH-03 and SH-13. Proposed laboratory analysis of soil samples is described in further detail below.

As required under North Carolina law, SHA or the drilling subcontractor will notify the North Carolina One-Call Center, Inc. to locate subsurface utilities near the Site before drilling. In addition, before drilling, each proposed location will be reviewed with plant personnel for the possible presence of subsurface utilities. While precaution will be taken by SHA and the subcontractor to avoid subsurface utilities, per standard practice, it will be plant personnel's ultimate responsibility to approve of each exploration location before drilling.

Task 2.1 Vicinity of SH-03 – Delineation of Chromium in Soil

Up to five test borings will be drilled in the vicinity of well SH-03 at the approximate locations depicted on Figure A.1. Note that the locations and number of test borings may change based on field observations and the presence of buried utilities. Test borings will be completed using limited access Geoprobe®, or equivalent, direct-push equipment through the overburden soil. The concrete floor will be cored prior to drilling to allow access of the drill tools. We are assuming the test borings will be completed to approximately 10 feet below grade.

Soil samples from the test borings will be collected continuously using a Geoprobe® macrocore sampler (or equivalent). SHA will visually classify soil samples collected during borehole advancement and field screen the soils samples for the potential presence of VOCs using a photoionization detector (PID). We are assuming that two soil samples will be collected from

each of the test borings for submission to a North Carolina-accredited laboratory for analysis of total chromium and hexavalent chromium by USEPA Methods 6010B and SM3500CR-D, respectively. Unless field conditions dictate otherwise, we propose to collect samples for laboratory analysis from depths of 1.5 to 3.5 feet below grade (i.e., depth at which the previous sample was collected at SH-03) and 6.5 to 8.5 feet below grade for the purpose of vertical delineation.

Task 2.2 Vicinity of SH-13 – Delineation of Chromium, DRO, and Oil & Grease

Up to eight test borings will be drilled in the vicinity of well SH-13 at the approximate locations depicted on Figure A.1. Note that the locations and number of test borings may change based on field observations and the presence of buried utilities. Test borings will be completed using Geoprobe®, or equivalent, direct-push equipment through the overburden soil. We are assuming the test borings will be completed to approximately 15 feet below ground surface.

Soil samples from the test borings will be collected continuously using a Geoprobe® macrocore sampler (or equivalent). SHA will visually classify soil samples collected during borehole advancement and field screen the soils samples for the potential presence of VOCs using a photoionization detector (PID). We are assuming that two soil samples will be collected from each of the test borings for submission to a North Carolina-accredited laboratory for analysis of total chromium and hexavalent chromium by USEPA Methods 6010B and SM3500CR-D, respectively, diesel range organics (DRO) by USEPA Method 8015B, and oil and grease (O&G) by USEPA Method 9071I. Unless field conditions dictate otherwise, we propose to collect samples for laboratory analysis from depths of 7.5 to 10 feet below ground surface (i.e., depth at which previous sample was collected at SH-13) and 12.5 to 15 feet below ground surface (i.e., approximate depth of groundwater table) for the purpose of vertical delineation.

Please note that sampling depths and/or locations may be adjusted and/or augmented based on visual, olfactory, and/or PID screening evidence of petroleum contamination at alternate depths/locations.

TASK 3.0 GROUNDWATER SAMPLING AND ANALYSIS

SHA will record depth-to-groundwater measurements at wells SH-03, SH-13, and SH-14, and will collect a groundwater sample from well SH-14. Prior to collecting the groundwater sample, the well will be purged by removing approximately three times the volume of water in the well measured under ambient conditions using a polyethylene bailer. Purge water will be discharged to the ground surface adjacent to the well unless evidence of gross contamination is present. Field screening parameters including pH, temperature, and specific conductivity will be measured and recorded for the groundwater sample. The groundwater sample will be collected and submitted to a North Carolina-accredited laboratory for analysis of dissolved cadmium by USEPA Method 6010B with SM 3030C sample preparation.

TASK 4.0 DATA ANALYSIS

Results of chemical analyses will be tabulated and compared to relevant NC DWQ criteria and/or site-sensitivity evaluation-derived standards for soil and groundwater quality. Concentrations of constituents present in soil and groundwater at the Site, if any, will be evaluated pursuant to NC DWQ protocols to evaluate potential remedial requirements. If warranted, contaminant distribution plots for soil and groundwater will be generated from the laboratory data to evaluate the nature and extent of contamination, if any.

TASK 5.0 REPORT

SHA will prepare a report documenting the NOV response actions, as well as our findings, conclusions, and recommendations.

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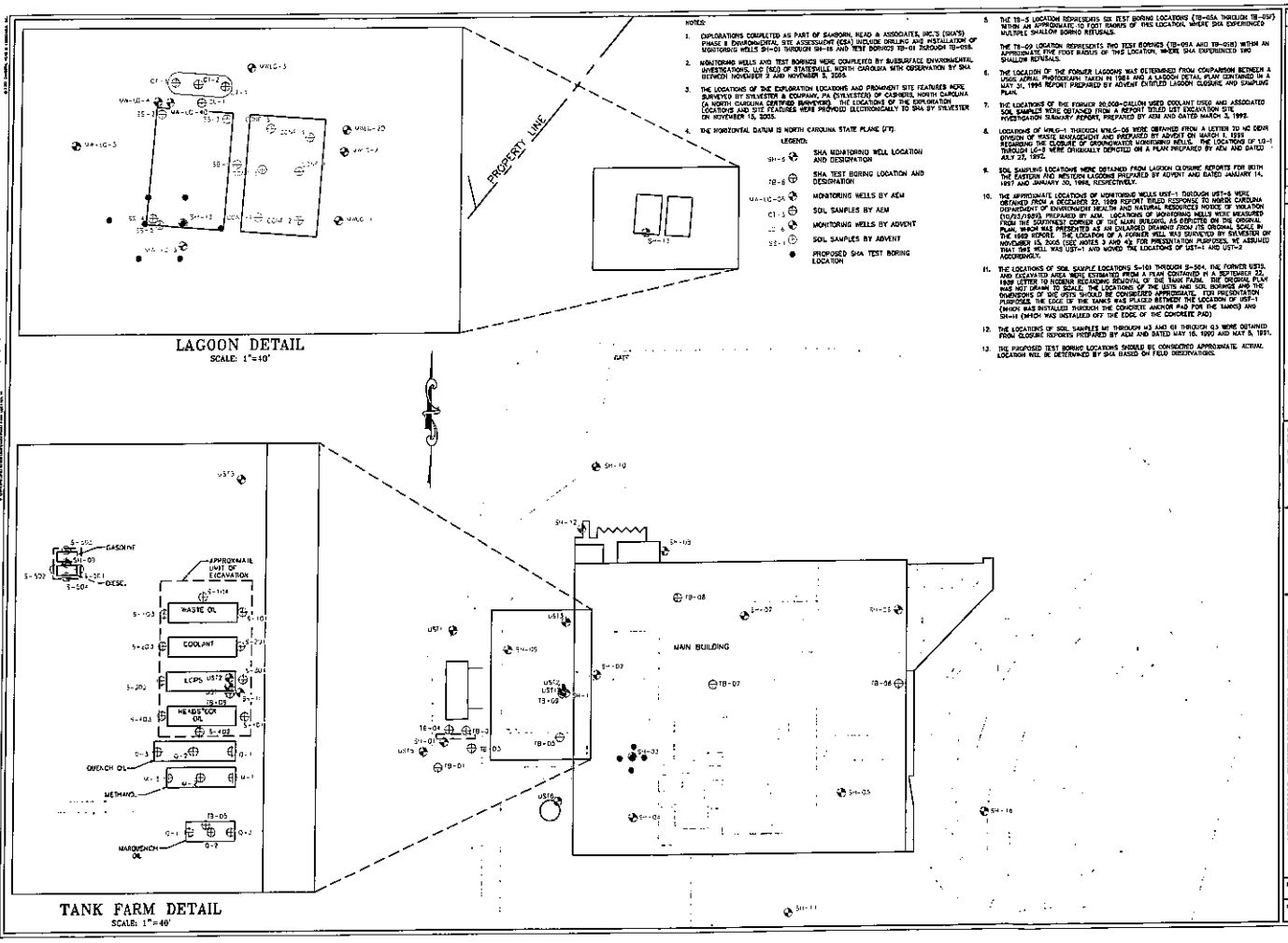

ADDITIONAL ENVIRONMENTAL SERVICES
TIMKEN US CORPORATION
RUTHERFORDTON, NORTH CAROLINA

SITE PLAN AND PROPOSED EXPLORATION LOCATION PLAN

PROJECT NUMBER 2152.02.038

FIGURE NUMBER A-1

DRAWN BY: ELD/CSG
DESIGN BY: LAA
CHECKED BY: DAG
APPROVED BY: RSF
PM: CLH
DATE: JAN. 07

Sanborn, Head & Associates
Consulting Engineers & Scientists

DRAWING SCALE
60' 30' 0' 60' 120'

NO. DATE DESCRIPTION BY

SHA
ENGINEERS ▪ SCIENTISTS

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RESPONSE TO NOTICE OF VIOLATION

Incident Number: 87719
Timken US Corporation
Rutherfordton, North Carolina

Prepared for
Timken US Corporation

Prepared by
Sanborn, Head & Associates, Inc.

File 2152.02.038
December 2007

State of North Carolina
Department of Environment
and Natural Resources

Asheville Regional Office
Division of Waste Management – UST Section

NCDENR
NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

Michael F. Easley, Governor
William G. Ross, Secretary
Dexter R. Matthews, Director

April 24, 2008

Mr. William Fladung
Director, Environmental Health and Safety
The Timken Company
Environmental Affairs/GNE-24
P.O. Box 6928
Canton, Ohio 44706-0928

Subject: Response to Notice of Violation Report
Timken US Corporation
1510 Highway 221 South, R
Rutherfordton, Rutherford County
Incident Number: 87719

Dear Mr. Fladung:

This letter is to acknowledge receipt and review of the subject report dated December 11, 2007 prepared by Sanborn Head and Associates (SHA) I concur with SHA's conclusions requesting no further action for all the issues listed in the report except for the petroleum hydrocarbon soil matter.

In order for a no further action determination to be issued for the petroleum hydrocarbon issue additional groundwater monitoring must be performed. The site will be reviewed for a no further action determination after quarterly groundwater monitoring has been performed verifying no violations of the groundwater standards.

Please note that a Licensed Geologist or a Professional Engineer, certified by the State of North Carolina, is required to prepare and certify all reports submitted to the Department in accordance with Title 15A NCAC 2L .0103(e) and 2L .0111(b). The monitoring reports must meet these certification requirements.

If you have any questions, do not hesitate to contact me at (828) 296-4640.

Sincerely,

Jan Andersen
Asheville Regional Supervisor

cc: Brad Green, Sanborn Head and Associates

2090 US Highway 70, Swannanoa, North Carolina, 28778 **Telephone 828-296-4500 FAX 828-299-7043**
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December 11, 2007
File No. 2152.02.038

Ms. Jan Anderson
Division of Waste Management - UST Section
NC DENR – Asheville Regional Office
2090 U.S. 70 Highway
Swannanoa, NC 28778

Re: Response to NOV
Incident Number: 87719
NOV Number: NOV-2006-OC-0014
Timken US Corporation
Rutherfordton, North Carolina

Dear Ms. Anderson:

On behalf of Timken US Corporation, Sanborn, Head & Associates, Inc. (SHA) has prepared this report to provide you with a summary of our findings from additional environmental services completed at the Timken US Corporation (formerly the Torrington Company) facility located at 1510 Highway 221 South in Rutherfordton, North Carolina (Site). As required by the North Carolina Department of Environment and Natural Resources (NC DENR) Division of Water Quality (DWQ), additional soil and groundwater sampling was conducted at the Site to address a Notice of Violation (NOV) issued by the DWQ on May 8, 2006 regarding certain soil and groundwater conditions at the Site. A Locus Plan is provided as Figure 1, and a Site Plan, which depicts prominent Site features and the locations of monitoring wells previously completed by SHA and highlights those areas where SHA collected additional soil samples, is provided as Figure 2. Our services and this report are subject to the Limitations in Appendix A.

Although the NOV was originally issued by DWQ, it is SHA's understanding based on our recent discussions that the Site is currently regulated by the NC DENR Underground Storage Tank (UST) Section due to internal restructuring at the NC DENR. As such, the findings of our additional environmental services completed at the Site relative to the NOV and associated DWQ directives are provided to the UST Section for review and comment. As we have previously indicated, without admission of any fact or liability on behalf of Timken US Corporation, Timken US Corporation intends to continue to work in good faith with NC DENR to reach a mutually satisfactory resolution of the matters alleged in the NOV.

BACKGROUND

Following Timken US Corporation's acquisition of the Torrington Company, SHA completed a Phase II Environmental Site Assessment (ESA) at the Site in November 2005. The Phase II

ESA included collection and laboratory analysis of soil and groundwater samples, the results of which were submitted to DWQ in a *Soil and Groundwater Analytical Data Report* dated January 3, 2006, in accordance with DWQ reporting requirements. Upon review of these data, DWQ issued a NOV on May 8, 2006 due to the presence of several constituents detected in soil and groundwater at concentrations greater than applicable criteria. Specifically, cadmium was detected at an estimated concentration (i.e., a "J-flagged" value[1]) slightly greater than its Class GA Groundwater Quality Standard (GA GWQS)[2] of 0.00175 milligrams per liter (mg/L) in a groundwater sample collected from monitoring well SH-14, which is located southeast of the manufacturing facility. In addition, total chromium and/or petroleum-related constituents were detected at concentrations greater than applicable DWQ standards in soil samples collected in three areas of the Site, as described below.

- Oil and Grease (O&G) was detected at a concentration of 390 milligrams per kilogram (mg/kg) and Diesel Range Organics (DRO) was detected at a concentration of 420 mg/kg (greater than their DWQ Action Levels[3] of 250 mg/kg and 40 mg/kg respectively) in a soil sample collected from the boring in which monitoring well SH-11 was installed, which is located in the vicinity of a former UST farm.

- Total chromium was detected at a concentration of 140 mg/kg (greater than its Contaminated Soil Cleanup Level [CSCL][3] of 27 mg/kg) in a soil sample collected from the boring in which monitoring well SH-03 was installed, which is located inside the active manufacturing facility in an area used for phosphating and molykoting operations.

- Total chromium was detected at a concentration of 100 mg/kg (greater than its CSCL of 27 mg/kg) in a soil sample collected from the boring in which monitoring well SH-13 was installed, which is located in the vicinity of a previously closed industrial wastewater lagoon. In addition, O&G was detected at a concentration of 8,200 mg/kg (greater than its Action Level of 250 mg/kg), and DRO was detected at a concentration of 2,100 mg/kg (greater than its Action Level of 40 mg/kg) in the soil sample collected from the boring in which monitoring well SH-13 was installed. The concentrations of O&G and DRO observed in this area are generally consistent with those observed in samples collected by others from soils left in place at the time of lagoon closure in 1997.

In the NOV, DWQ required certain actions related to the conditions listed above, which included additional delineation and assessment of chromium, O&G, and DRO in soils (including the option to establish a Site-specific cleanup level for DRO), evaluation of the speciation of chromium detected in soils, and collection of a groundwater sample from monitoring well SH-14 for laboratory analysis of Resource Conservation and Recovery Act (RCRA) 8 metals. DWQ focused additional delineation / speciation requirements for

[1] Greater than the method detection limit, but less than the laboratory reporting limit.

[2] GA GWQS standards are defined in the North Carolina Administrative Code 15A NCAC 02L.020 (g).

[3] Action Levels and Contaminated Soil Cleanup Levels are listed in the DWQ's July 2000 "Groundwater Section Guidelines for the Investigation and Remediation of Soil and Groundwater."

chromium in the vicinity of wells SH-03 and SH-13 and additional delineation requirements for O&G and DRO in the vicinity of wells SH-11 and SH-13.

On behalf of Timken US Corporation, SHA responded to the NOV in a letter dated July 24, 2006, in which SHA proposed alternative approaches to the actions required by DWQ in the NOV (including, in many cases, requests for "no further action"). In addition, SHA completed a Site Sensitivity Evaluation (SSE) based on conditions observed in the vicinity of SH-11 (located in the former UST farm area) and calculated a Site-specific cleanup level for DRO of 480 mg/kg in that area. SHA provided the SSE calculations to DWQ via electronic mail dated August 23, 2006. An SSE previously completed at the Site in 1994 by Advent, Inc. (Advent) established a Site-specific cleanup level for O&G of 550 mg/kg. The concentrations of O&G and DRO detected in the soil sample collected by SHA from SH-11 were less than the Site-specific cleanup levels calculated for both O&G and DRO, and in a letter dated November 21, 2006, DWQ stated that further delineation was unnecessary in the area of SH-11.

In their November 21, 2006 letter, DWQ responded to SHA's proposed course of action outlined in our July 24, 2006 letter. DWQ concurred with SHA's recommendations to delineate O&G and DRO in the vicinity of SH-13, and to collect a groundwater sample from SH-14 for laboratory analysis of cadmium only, rather than the full suite of RCRA 8 metals originally requested in the NOV. Although SHA proposed to further delineate / speciate chromium-impacted soils in the vicinity of SH-13 only, the DWQ indicated that additional delineation / speciation of chromium in soils in the vicinity of SH-03 (located inside the active manufacturing facility) would need to be performed as well. SHA provided a Work Plan to DWQ on January 22, 2007 to address requirements described in DWQ's November 21, 2006 letter, which was approved by DWQ in a letter dated February 2, 2007.

NC DENR underwent a restructuring in February 2007 and transferred incident management responsibilities for some sites from the DWQ to the Division of Waste Management (DWM). As a result, the current incident and NOV for the Site are now being addressed under regulatory oversight by the DWM's UST Section, rather than the DWQ, who originally issued the NOV.

ADDITIONAL ENVIRONMENTAL SERVICES COMPLETED

SHA collected additional soil and groundwater samples at the Site on March 28 and March 29, 2007 to address the requirements specified in DWQ's November 21, 2006 letter. Additional environmental services completed at the Site included the following:

- Depth-to-groundwater measurements were recorded at monitoring wells SH-03, SH-13, and SH-14.

- A groundwater sample was collected from SH-14 and submitted for laboratory analysis of dissolved cadmium by United States Environmental Protection Agency (USEPA) 6010B with SM 3030C sample preparation.

- Eight test borings (TB-101 through TB-108) were completed in the vicinity of SH-13, located in and near the previously closed wastewater lagoon. For the purpose of horizontal delineation, borings were completed at distances ranging approximately 2 feet (ft) to 40 ft from SH-13. For the purpose of vertical delineation, soil samples were collected at two different depths within each test boring (from the approximate depth at which impacted soil was previously encountered ["shallow"] and from a depth below that at which impacted soil was previously encountered ["deep"]) and submitted for laboratory analysis. Soil samples collected from TB-101 through TB-108 were submitted for laboratory analysis of O&G by USEPA Method 9071A with a silica gel cleanup procedure, DRO by USEPA Method 8015B, total chromium by USEPA Method 3050B/6010B, and hexavalent chromium by USEPA Method 7196A.

- Five test borings (TB-109 through TB-113) were completed in the vicinity of SH-03, located on the interior of the Main Building. For the purpose of horizontal delineation, borings were completed at distances ranging approximately 2 ft to 15 ft from SH-03. For the purposes of vertical delineation, soil samples were collected from two different depths within each test boring (from the approximate depth at which impacted soil was previously encountered ["shallow"] and from a depth below that at which impacted soil was previously encountered ["deep"]) and submitted for laboratory analysis. Soil samples collected from TB-109 through TB-113 were submitted for laboratory analysis of total chromium by USEPA Method 3050B/6010B and hexavalent chromium by USEPA Method 7196A.

In addition, at the request of DWQ, SHA reviewed readily available information regarding naturally-occurring chromium concentrations in soils in the Inner Piedmont geologic province of North Carolina. Analytical data available in a United States Geological Survey (USGS) Open File Report[4] and on the United States Department of Agriculture – Natural Resources Conservation Services (USDA NRCS) Soil Geochemistry Data viewer website[5] were reviewed. In addition, DWQ provided a draft internal document to SHA via electronic mail on July 27, 2007, which contained chromium analytical data for soil samples collected in western North Carolina.

A Site Plan is provided as Figure 2, which depicts the locations of monitoring wells previously completed by SHA and highlights those areas where additional test borings were completed. In addition, the locations of the additional test borings completed by SHA are depicted on Figures 3 and 4, and location and elevation data for the exploration locations are summarized in Table 1. A summary of field methods, including details of the soil and groundwater sampling methods, are provided in Appendix B.

[4] Boerngen, J.G. and Shacklette, H.T., 1981, Chemical Analyses of Soils and Other Surficial Materials of the Conterminous United States, United States Geological Society Open File Report 81-197.

[5] http://nm6.ftw.nrcs.usda.gov/website/trace_elements/viewer.htm

SUMMARY OF FINDINGS

A summary of the findings of our additional environmental services completed at the Site relative to the NOV and associated DWQ directives is provided below. Subsurface soil descriptions are provided on the test boring logs included in Appendix B. Analytical data are summarized in Tables 2 and 3, and presented on Figures 3, 4, and 6. Analytical laboratory data reports are provided in Appendix C. In addition, the data we reviewed regarding naturally-occurring chromium concentrations in soils in North Carolina are summarized in Table 4 and presented on Figure 5.

Depths-to-Groundwater

Depth-to-groundwater measurements recorded in SH-03, SH-13, and SH-14 are indicated on the Groundwater Quality Field Sampling Summary (GWQFSS) form in Appendix B. Groundwater elevations ranged from 1,018 to 1,041 ft above the North American Vertical Datum of 1988 (NAVD 88), with depths-to-groundwater ranging from approximately 15 to 25 ft bgs at these locations.

Cadmium in Groundwater

As summarized in Table 2, dissolved cadmium was not detected at a concentration greater than its laboratory reporting limit of 0.0010 mg/L in the groundwater sample collected from monitoring well SH-14 in March 2007. Dissolved cadmium was previously detected in a groundwater sample collected from monitoring well SH-14 at an estimated concentration of 0.0040 mg/L. This concentration was less than the laboratory reporting limit, but greater than the laboratory method detection limit (i.e., "J-flagged"), and was greater than the GA GWQS standard for cadmium of 0.00175 mg/L.

Chromium in Soils

Analytical results for total chromium detected in the additional soil samples collected in the vicinity of SH-03 (TB-109 through TB-113), located inside the active manufacturing facility, are summarized in Table 3 and depicted on Figure 3. Total chromium was detected at concentrations ranging from 50 to 63 mg/kg in shallow soil samples and at concentrations ranging from 7.0 to 140 mg/kg in deep soil samples. The highest observed chromium concentration detected in the additional samples was in the deep soil sample collected from TB-109, located south of SH-03. Total chromium was previously detected in a shallow soil sample collected from SH-03 at a concentration of 140 mg/kg.

Analytical results for total chromium detected in the additional soil samples collected in the vicinity of SH-13 (TB-101 through TB-108), located in and near the previously closed lagoon, are summarized in Table 3 and depicted on Figure 4. Total chromium was detected at concentrations ranging from 4.0 to 41 mg/kg in shallow soil samples and at concentrations ranging from 3.4 to 86 mg/kg in deep soil samples. The highest observed chromium concentration detected in the additional samples was in the deep soil sample collected from

TB-105, located northwest of SH-13. Total chromium was previously detected in a shallow soil sample collected from SH-13 at a concentration of 100 mg/kg.

To evaluate chromium speciation, soil samples collected from TB-101 through TB-113 were submitted for laboratory analysis of hexavalent chromium. Hexavalent chromium was detected in each soil sample at concentrations ranging from 0.932 to 1.83 mg/kg (near the laboratory reporting limit) in the samples submitted for analysis. In 12 of the 26 samples, hexavalent chromium was detected at concentrations less than the laboratory reporting limit, but above the method detection limit (i.e., "B-flagged").

Although bedrock was not encountered in any of the borings completed by SHA at the Site, information available from the North Carolina Geological Survey[6] indicates that the composition of bedrock underlying the Site is amphibolite, biotite gneiss, and / or mica schist. Naturally-occurring chromium can be present in these types of bedrock as a result of substitution for other metals (e.g., iron and magnesium) during rock formation and weathering processes[7,8,9]. Soils encountered by SHA at the Site are fine-grained and generally characterized by reddish-brown to orangish-brown clayey silt, silt and clay, and silt, with varying amounts of fine to medium sand, generally consistent with residual saprolitic soils, which were generated from the in-place weathering of bedrock. As a result, naturally-occurring chromium may be present in soils derived from weathering of bedrock parent material at the Site.

As such, SHA reviewed readily available information regarding naturally-occurring chromium concentrations in soils in the Inner Piedmont geologic province of North Carolina, which is characterized by deformed metamorphic rocks, primarily gneiss and schist. As depicted on Figure 5, naturally-occurring chromium has been reported in soils at concentrations ranging from about 3 to 300 mg/kg in samples collected by others from North Carolina counties within the Inner Piedmont geologic province. We note that chromium was reported at a concentration of 76 mg/kg in a soil sample collected in Rutherford County, and at a concentration of 300 mg/kg in a soil sample collected in Cleveland County (adjacent to Rutherford County).

Petroleum Hydrocarbons in Soils

Analytical results for O&G and DRO detected in the additional soil samples collected in the vicinity of SH-13 (TB-101 through TB-108), located near the previously closed lagoon, are summarized in Table 3 and depicted on Figure 6. O&G and DRO were previously detected at concentrations of 8,200 and 2,100 mg/kg, respectively, in a shallow soil sample collected from SH-13.

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[6] http://gis.enr.state.nc.us/sid/bin/index.plx?client=zGeologic_Maps&site=9AM

[7] Klein, C. and Hurlbut, C.S. Jr, 1977, Manual of Mineralogy: New York, John Wiley and Sons, Inc., 681 p.

[8] Deer, W.A., Howie, R.A., and Zussman, J., 1978, An Introduction to the Rock Forming Minerals: London, Longman, 528 p.

[9] Foregs Geochemical Atlas of Europe: Part 1: Background Information, Methodology, and Maps, Salminen, R., editor, ISBN 951-690-913-2 (electronic version): http://www.gtk.fi/publ/foregsatlas/

O&G was detected in only three of the eight additional shallow soil samples submitted for analysis. Where detected, O&G concentrations ranged from 54 to 1,800 mg/kg, with the highest observed concentration detected in the sample collected from TB-101, located immediately adjacent to SH-13. O&G was detected in only one out of the eight deep soil samples. O&G was detected at a concentration of 75 mg/kg in the deep soil sample collected from TB-103, located on the eastern edge of the previously closed lagoon.

DRO was detected above laboratory reporting limits in only two out of the sixteen additional soil samples submitted for analysis. DRO was detected at a concentration of 705 mg/kg in the shallow sample collected from TB-101, located immediately adjacent to SH-13. DRO was detected at a concentration of 280 mg/kg in the deep sample collected from TB-106, located in the center of the previously closed lagoon.

CONCLUSIONS

Based on our analysis of data from the previous soil and groundwater sampling at the Site conducted in November 2005 in conjunction with the results of additional soil and groundwater sampling completed at the Site in March 2007, SHA concludes the following regarding the items specified in the NOV.

Cadmium in Groundwater

Cadmium was previously detected at a "J-flagged" concentration slightly greater than its GA GWQS in a groundwater sample collected from SH-14 in November 2005. Cadmium was not detected at a concentration greater than its laboratory reporting limit in the confirmatory groundwater sample collected from this location in March 2007. It is noted that unlike the initial data, the laboratory reporting limit of 0.0010 mg/L for the confirmatory data was less than the GA GWQS of 0.00175 mg/L. As such, it is SHA's opinion that no further action is warranted regarding this matter.

Chromium in Soils

It is SHA's opinion that no further action is warranted regarding chromium in soils at the Site based on the following:

- In the vicinity of SH-03, total chromium concentrations ranging from 7.0 to 140 mg/kg were observed in shallow and deep soil samples, with an arithmetic mean concentration of about 65 mg/kg. In the vicinity of SH-13, total chromium concentrations ranging from 3.4 to 100 mg/kg were observed in shallow and deep soil samples, with an arithmetic mean concentration of about 28 mg/kg. Naturally-occurring chromium concentrations reported by others in soils located within the Inner Piedmont geologic province of North Carolina range from about 3 to 300 mg/kg, which spans the range of chromium concentrations observed in soil at the Site.

- Low concentrations of hexavalent chromium ranging from 0.932 to 1.83 mg/kg (i.e., near the laboratory reporting limit) were reported in each soil sample submitted for laboratory analysis. These data support that the chromium present in the soil samples collected at the site is predominantly trivalent chromium, which poses significantly less risk than hexavalent chromium[10].

- Dissolved chromium was not present at concentrations greater than laboratory reporting limits in 16 groundwater samples previously collected from monitoring wells located across the Site (these data were previously reported to DWQ by SHA on January 3, 2006), including wells SH-03 and SH-13, which indicates that the presence of chromium in soils has not adversely affected groundwater quality at the Site.

- Soils in the vicinity of SH-03 are located at an industrial site beneath the concrete floor inside an active manufacturing facility, which limits the potential for direct contact exposure to these soils and also limits the potential for leaching of chromium in soil to groundwater. Soils in the vicinity of SH-13 are located at an industrial site at depths greater than 7.5 feet below ground surface beneath clean backfill emplaced during lagoon closure, which limits the potential for direct contact exposure to these soils.

Petroleum Hydrocarbons in Soils

It is SHA's opinion that no further action is warranted regarding petroleum hydrocarbons in soil at the Site based on the following:

- Additional delineation of petroleum hydrocarbons in soil in and near the previously closed lagoon support that the presence of elevated levels of O&G and DRO is limited to the near vicinity of SH-13. These soils are located at an industrial site at depths greater than 7.5 feet below ground surface beneath clean backfill emplaced during lagoon closure, which limits the potential for direct exposure to these soils.

- The highest observed concentrations of O&G and DRO were recorded in the soil sample collected at 7.5 to 10 ft bgs from the boring in which monitoring well SH-13 was installed. This soil sample was also submitted for laboratory analysis of Gasoline Range Organics (GRO), Volatile Organic Compounds (VOCs), and Polycyclic

[10] Agency for Toxic Substances and Disease Registry (ASTDR), ToxFAQs for Chromium, February 2001.

Aromatic Hydrocarbons (PAHs; these data were reported to DWQ by SHA on January 3, 2006). With the exception of acetone at a low concentration (i.e., below its CSCL of 2.81 mg/kg), none of these analytes were detected at concentrations greater than laboratory reporting limits.

- Concentrations of O&G and DRO observed in soil samples collected by SHA are generally consistent with concentrations reported to NC DENR by others as part of lagoon closure activities in 1997. Despite the presence of elevated O&G and DRO in soil since at least 1997, O&G, DRO, GRO, VOCs, and PAHs were not detected at concentrations greater than laboratory reporting limits in the groundwater sample previously collected from monitoring well SH-13 in 2005 (these data were reported to DWQ by SHA on January 3, 2006). The absence of these constituents in groundwater after at least ten years of the constituents being present in soil indicates that soil contamination has not adversely affected groundwater quality, nor is it likely to do so in the future.

CLOSING

We look forward to hearing your response to our conclusions outlined above. Should you require additional information, or have questions or comments following your review of these findings and recommendations, please contact us.

Very truly yours,
SANBORN, HEAD & ASSOCIATES, INC.

Bradley A. Green
Senior Project Manager

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LAA/BSC/CLH\BAG:laa/las

Encl. Tables 1-3
Figures 1-6
Appendix A - Limitations
Appendix B - Field Methods

cc: William Fladung – The Timken Company (via electronic mail)
David Sordi – The Ingersoll-Rand Company
Dan Waugh – Timken US Corporation (via electronic mail)
Thomas Hamilton – Jones, Day (via electronic mail)

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TABLES

SHA
ENGINEERS ▪ SCIENTISTS

TABLE 1
SUMMARY OF LOCATION AND ELEVATION DATA
Timken US Corporation
Rutherfordton, North Carolina

Test Boring Designation	Date Completed	Northing (ft)	Easting (ft)	Ground Elevation (ft)	Bottom of Boring Depth (ft b.g.s.)	Bottom of Boring Elevation (ft)	Sample Interval (ft b.g.s.)			Sample Elevation (ft)		
TB-101	3/28/07	538345.34	1125257.5	1030.7	15	1015.70	7.5	-	10.0	1008.20	-	1005.70
TB-101	3/28/07	538345.34	1125257.5	1030.7	15	1015.70	12.5	-	15.0	1003.20	-	1000.70
TB-102	3/28/07	583326.49	1125258.1	1031.88	20	1011.88	10.0	-	12.5	1001.88	-	999.38
TB-102	3/28/07	583326.49	1125258.1	1031.88	20	1011.88	15.0	-	17.5	996.88	-	994.38
TB-103	3/28/07	583343.10	1125278.83	1030.63	15	1015.63	7.5	-	10.0	1008.13	-	1005.63
TB-103	3/28/07	583343.10	1125278.83	1030.63	15	1015.63	12.5	-	15.0	1003.13	-	1000.63
TB-104	3/28/07	583347.85	1125240.53	1031.92	15	1016.92	7.5	-	10.0	1009.42	-	1006.92
TB-104	3/28/07	583347.85	1125240.53	1031.92	15	1016.92	12.5	-	15.0	1004.42	-	1001.92
TB-105	3/28/07	583363.91	1125240.48	1031.66	15	1016.66	7.5	-	10.0	1009.16	-	1006.66
TB-105	3/28/07	583363.91	1125240.48	1031.66	15	1016.66	12.5	-	15.0	1004.16	-	1001.66
TB-106	3/28/07	583366.30	1125260.58	1030.91	15	1015.91	8.8	-	10.0	1007.11	-	1005.91
TB-106	3/28/07	583366.30	1125260.58	1030.91	15	1015.91	12.5	-	15.0	1003.41	-	1000.91
TB-107	3/28/07	583348.88	1125220.53	1036.63	20	1016.63	12.5	-	15.0	1004.13	-	1001.63
TB-107	3/28/07	583348.88	1125220.53	1036.63	20	1016.63	17.5	-	20.0	999.13	-	996.63
TB-108	3/28/07	583321.60	1125238.24	1035.56	20	1015.56	12.5	-	15.0	1003.06	-	1000.56
TB-108	3/28/07	583321.60	1125238.24	1035.56	20	1015.56	17.5	-	20.0	998.06	-	995.56
TB-109	3/29/07	582606.20	1125251.99	1041.13	10	1031.13	1.5	-	3.5	1029.63	-	1027.63
TB-109	3/29/07	582606.20	1125251.99	1041.13	10	1031.13	7.7	-	9.7	1023.43	-	1021.43
TB-110	3/29/07	582620.40	1125260.43	1041.14	10	1031.14	1.5	-	3.5	1029.64	-	1027.64
TB-110	3/29/07	582620.40	1125260.43	1041.14	10	1031.14	6.5	-	8.5	1024.64	-	1022.64
TB-111	3/29/07	582632.88	1125246.66	1041.09	10	1031.09	1.5	-	3.5	1029.59	-	1027.59
TB-111	3/29/07	582632.88	1125246.66	1041.09	10	1031.09	6.5	-	8.5	1024.59	-	1022.59
TB-112	3/29/07	582620.03	1125234.85	1041.07	10	1031.07	1.5	-	3.5	1029.57	-	1027.57
TB-112	3/29/07	582620.03	1125234.85	1041.07	10	1031.07	6.8	-	8.8	1024.27	-	1022.27
TB-113	3/29/07	582620.86	1125245.22	1041.16	10	1031.16	1.5	-	3.5	1029.66	-	1027.66
TB-113	3/29/07	582620.86	1125245.22	1041.16	10	1031.16	6.5	-	8.5	1024.66	-	1022.66

Notes:

1. The northing and easting coordinates and ground elevations were surveyed by Sylvester & Company, PA (Sylvester) of Cashiers, North Carolina on April 2, 2007. The coordinates and elevations of the exploration locations and site features were provided electronically to SHA by Sylvester on April 12, 2007. The horizontal datum is North Carolina State Plane (ft).

2. Elevations are relative to the North American Vertical Datum of 1988 (NAVD 88).

3. "ft b.g.s." indicates feet below ground surface.

4. "Bottom of Boring Depth" refers to the maximum depth of drilling.

TABLE 2
SUMMARY OF ANALYTICAL DATA - GROUNDWATER
Timken US Corporation
Rutherfordton, North Carolina

Analyte	SH-14	
	11/7/2005	3/29/2007
VOCs	ND	-
PAHs	ND	-
Petroleum Hydrocarbons		
Oil and Grease, Hydrocarbons	< 5	-
Diesel Range Organics (DRO)	<1.0	-
Metals		
Barium	**0.014**	-
Cadmium	0.0040 J	<0.0010
Lead	<0.0050	-
Nickel	0.0026 J	-
Zinc	0.028 J	-

Notes:

1. Concentrations are presented in units of milligrams per liter (mg/L), which are equivalent to parts per million (ppm).

2. Groundwater samples were collected by Sanborn, Head & Associates, Inc. (SHA) on the dates indicated.

3. The groundwater sample collected in November 2005 was analyzed by Prism Laboratories, Inc. (Prism) of Charlotte, North Carolina for volatile organic compounds (VOCs, including n-methyl pyrrolidone, Freon 113, Freon 141b, Freon 123a, and Freon 1113, which were reported as tentatively identified compounds) by USEPA Method 8260B/5035; polycyclic aromatic hydrocarbons (PAHs) by USEPA Method 8270C; total petroleum hydrocarbons (TPH) diesel-range organics (DRO) and gasoline-range organics (GRO) by USEPA Method 8015B; oil and grease (O&G) by soxhlet extraction and silica gel treatment by USEPA Method 9071A; and dissolved arsenic, barium, cadmium, chromium, lead, mercury, nickel, selenium, silver, and zinc by USEPA Methods 6010B and 7470A. Analytical results for VOCs and PAHs were reported by Prism in micrograms per liter (ug/L); however, for presentation purposes, these results were converted to mg/L. The sample for metals analysis was field filtered with a 0.45 micron filter.

4. The groundwater sample collected in March 2007 was analyzed by Prism for dissolved cadmium by 6010B with SM 3030C sample preparation. The sample was filtered by Prism prior to analysis.

5. Only those VOCs and metals detected at concentrations above laboratory reporting limits in one or more groundwater samples are tabulated.

6. "<" indicates that the analyte was not detected at concentrations greater than or equal to the stated laboratory reporting limit. Results in boldface were detected at concentrations greater than the laboratory reporting limit.

7. "J" indicates that the analyte was positively identified but the value is estimated below the laboratory reporting limit.

8. "ND" indicates not detected above laboratory reporting limits.

9. "-" indicates the sample was not analyzed for the given analyte.

TABLE 3
SUMMARY OF ANALYTICAL DATA - SOIL
Timken US Corporation
Rutherfordton, North Carolina

Analyte	SB-13, S-2B	TB-101, S-2B	TB-101, S-3	TB-102, S-3	TB-102, S-4	TB-103, S-2B	TB-103, S-3	TB-104, S-1	TB-104, S-3	TB-105, S-2B	TB-105, S-3	TB-106, S-2B	TB-106, S-3	TB-107, S-3	TB-107, S-4	TB-108, S-3	TB-108, S-4
	7.5-10'	7.5-10'	12.5-15'	16-17.5'	15-17.5'	7.5-10'	12.5-15'	7.5-10'	12.5-15'	7.5-10'	12.5-15'	8.5-10'	12.5-15'	12.5-15'	17.5-20'	12.5-15'	17.5-20'
	11/5/2005	3/28/2007	3/28/2007	3/28/2007	3/28/2007	3/28/2007	3/28/2007	3/28/2007	3/28/2007	3/28/2007	3/28/2007	3/28/2007	3/28/2007	3/28/2007	3/28/2007	3/28/2007	3/28/2007
VOCs																	
Acetone	0.048	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene (2-) (MEK)	<0.021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Carbon disulfide	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichloroethane (1,1,1-)	<0.0052	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PAHs	ND	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Petroleum Hydrocarbons																	
Oil and Grease, Hydrocarbons	8,200	1,600	<31	<53	<51	54	78	<48	<31	44	<47	<48	<53	<30	<48	<52	<50
Diesel Range Organics (DRO)	2,100	750	<3.8	<9.5	<8.9	<8.3	<8.4	<8.5	<8.8	<9.1	<8.2	<8.4	180	<8.7	<8.4	<9.1	<8.7
Metals																	
Arsenic	4.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barium	49	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium	0.90	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium (hexavalent)	-	1.22	1.78	1.34	0.958 B	1.33	1.34	1.26 B	1.37	1.48	1.61	1.48	1.36	1.43	1.19 B	1.14 B	1.39 B
Chromium (total)	100	29	39	5.6	19	11	3.4	4.6	29	9.2	86	41	17	19	45	4	19
Lead	23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mercury	0.057	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nickel	5.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zinc	25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Analyte	SB-03,S-1	TB-109, S-1	TB-109, S-3B	TB-110, S-1	TB-110, S-2A	TB-111, S-1	TB-111, S-2B	TB-112, S-1	TB-112, S-2B	TB-113, S-1	TB-113, S-2B
	1.5'-3.5'	1.5-3.5'	7.5-8.5'	1.5-3.5'	6.5-8.5'	1.5-3.5'	6.5-8.5'	1.5-3.5'	6.5-8.5'	1.5-3.5'	6.5-8.5'
	11/2/2005	3/28/2007	3/28/2007	3/28/2007	3/28/2007	3/28/2007	3/28/2007	3/28/2007	3/28/2007	3/28/2007	3/28/2007
VOCs											
Acetone	<0.026	-	-	-	-	-	-	-	-	-	-
Benzene (2-) (MEK)	<0.026	-	-	-	-	-	-	-	-	-	-
Carbon disulfide	<0.013	-	-	-	-	-	-	-	-	-	-
Trichloroethane (1,1,1-)	0.0038 B	-	-	-	-	-	-	-	-	-	-
PAHs	ND	-	-	-	-	-	-	-	-	-	-
Petroleum Hydrocarbons											
Oil and Grease, Hydrocarbons	<48	-	-	-	-	-	-	-	-	-	-
Diesel Range Organics (DRO)	<8.4	-	-	-	-	-	-	-	-	-	-
Metals											
Arsenic	3.4	-	-	-	-	-	-	-	-	-	-
Barium	12	-	-	-	-	-	-	-	-	-	-
Cadmium	0.53	-	-	-	-	-	-	-	-	-	-
Chromium (hexavalent)	-	1.10 B	1.67	1.08 B	1.00 B	1.31	0.932 B	0.993 B	1.48	0.958 B	1.15 B
Chromium (total)	140	52	140	61	59	50	19	63	7.0	51	67
Lead	18	-	-	-	-	-	-	-	-	-	-
Mercury	0.051	-	-	-	-	-	-	-	-	-	-
Selenium	19	-	-	-	-	-	-	-	-	-	-
Nickel	<3.0	-	-	-	-	-	-	-	-	-	-
Zinc	26	-	-	-	-	-	-	-	-	-	-

Notes:

1. Concentrations are presented in units of milligrams per kilogram (mg/kg), which are equivalent to parts per million (ppm).

2. Soil samples were collected from the depths indicated (e.g., 2-4') in feet below ground surface (ft bgs) by Sanborn, Head & Associates, Inc. (SHA) on the dates indicated.

3. Soil samples collected in November 2005 were analyzed by Prism Laboratories, Inc. (Prism) of Charlotte, North Carolina for volatile organic compounds (VOCs - including n-methyl pyrrolidone, Freon 113, Freon 141b, Freon 123a, and Freon 1113, which were reported as tentatively identified compounds by United States Environmental Protection Agency (USEPA) Method 8260B/5035; polycyclic aro USEPA Method 8270C; total petroleum hydrocarbons (TPH) diesel-range organics (DRO) and gasoline-range organics (GRO) by USEPA Method 8015B; and oil and grease (O&G) by soxhlet extraction and silica gel treatment by (USEPA) Method 9071A. Soil samples collected from select locations were also submitted to Prism for analysis of total arsenic, barium, cadmium, chromium, lead, mercury, se USEPA Methods 6010B and 7471A. Analytical results for VOCs were reported by Prism in micrograms per kilogram (ug/kg); however, for presentation purposes, these results were converted to mg/kg.

4. Soil samples collected in March 2007 were analyzed by Prism for O&G by soxhlet extraction and silica gel treatment by USEPA Method 9071A, DRO by USEPA Method 8015B, and total chromium by USEPA Method 6010B. Soil samples were sub-contracted by Prism to Gulf Coast Analytical Laboratories (GCAL) of Baton Rouge, Louisiana for analysis of hexavalent chromium by USEPA Method 7

5. Only those analytes detected at concentrations above laboratory reporting limits in one or more soil samples are tabulated.

6. "<" indicates that the analyte was not detected at concentrations greater than or equal to the stated laboratory reporting limit. Results in boldface were detected at concentrations greater than the laboratory reporting limit.

7. "B" indicates that the result is between the laboratory reporting limit and the method detection limit.

8. "ND" indicates not detected above laboratory reporting limits.

9. "-" indicates the sample was not analyzed for the given analyte.

TABLE 4
CHROMIUM CONCENTRATIONS REPORTED BY OTHERS IN SOILS OF THE INNER PIEDMONT GEOLOGIC PROVINCE OF NORTH CAROLINA
(To accompany Figure 6)

County	Town	Soil Depth (ft)	Soil Description	Cr Concentration (ppm)	Source
Burke	-	NA	Red clay	70.0	USGS
Caldwell	Boomer	3.5	Sand	26.00	NC DWQ
Caldwell	Granite Falls	2.5	Clayey silt	35.00	NC DWQ
Cleveland	-	NA	B horizon soil	300.0	USGS
Davie†	-	NA	Red clay	70.0	USGS
Henderson	Hendersonville	2.5	Clayey silt	53.00	NC DWQ
Henderson†	Arden	3.0	Sandy silt	23.00	NC DWQ
McDowell	Nebo	2.0	Sand	39.00	NC DWQ
McDowell	Marion	3.0	Sandy silt	44	NC DWQ
Polk	Tryon	4.3	Silty clay	34.00	NC DWQ
Polk	Mill Springs	3.0	Clayey silt	42.00	NC DWQ
Rutberford	Ellenboro	3.0	Silty sand	76.00	NC DWQ
Surry†	-	0.0 - 0.8	Clay and sand, little silt	7.16	USDA
Surry†	-	1.5 - 2.0	Sand, little silt, little clay	13.63	USDA
Surry†	-	2.5 - 5.0	Sand, little silt, little clay	3.39	USDA
Surry†	-	NA	Stony residual on phyllite	100.0	USGS
Translyvania	Brevard	3.0	Sandy silt	11.00	NC DWQ
Translyvania	Penrose	2.5	Clayey silt	15.00	NC DWQ

Notes:

1. Concentrations of naturally-occurring chromium in soils were obtained from three sources: a) Boerngen, J.G. and Shacklette, H.T., 1981, Chemical Analyses of Soils and Other Surficial Materials of the Conterminous United States, United States Geological Society Open File Report 81-197 (**USGS**); b) the United States Department of Agriculture Natural Resource Conservation Service (NRCS) interactive Soil Geochemistry Data website (http://nm6.ftw.nrcs.usda.gov/website/) (**USDA**); and c) a draft data table compiled by the Aquifer Protection Section of the North Carolina Department of Environment and Natural Resources, Division of Water Quality and provided electronically to Sanborn, Head & Associates, Inc. (SHA) on July 27, 2007 (**DWQ**).

2. Soil descriptions are presented as they appeared in the original data source, except for the USDA samples, which SHA described based on sand, silt, and clay percentages presented by the USDA.

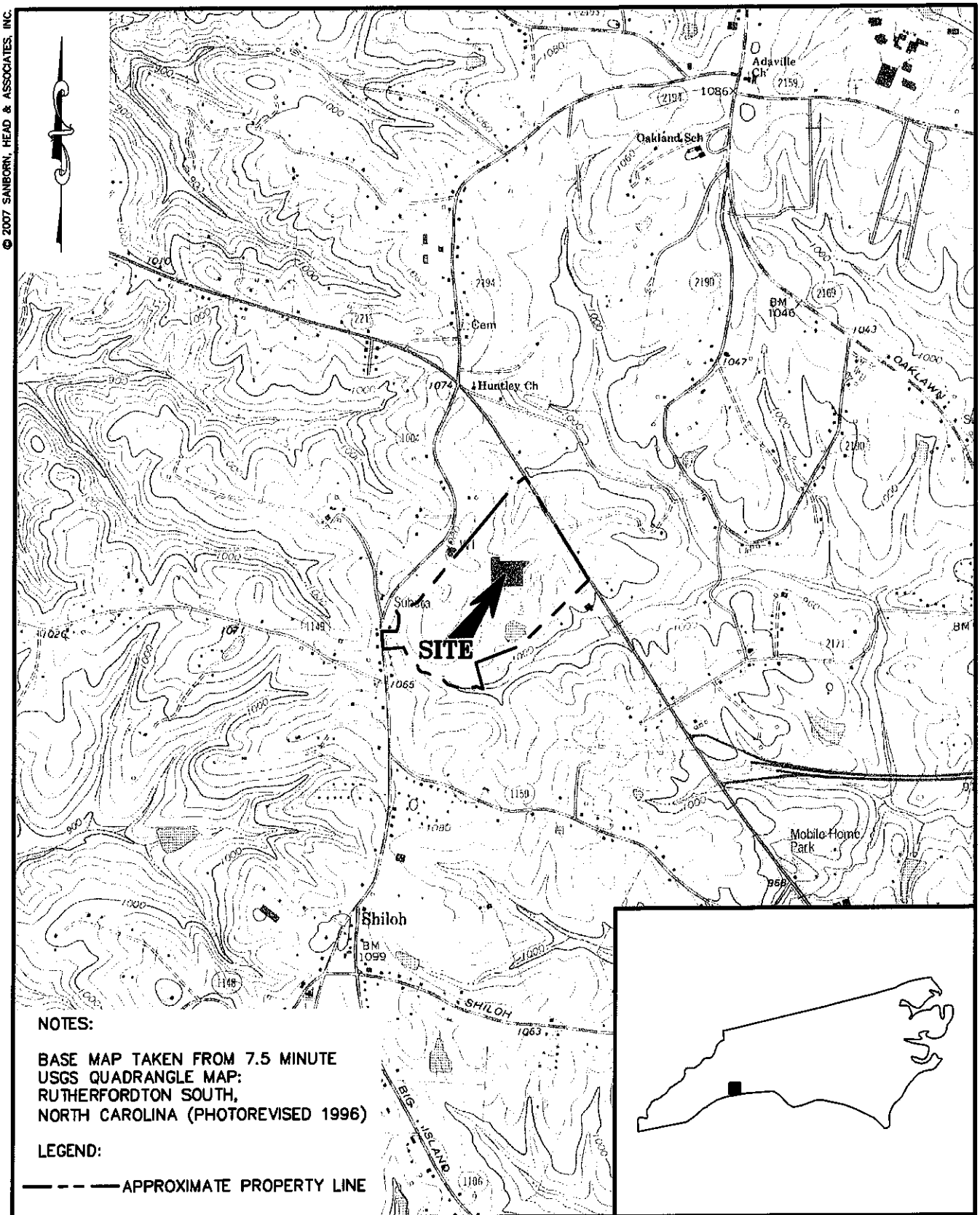
3. "-" indicates that the Town name was not provided in the original data source.

4. "NA" indicates that the sample depth was not indicated in the original data source.

5. "†" indicates that the sample may have been collected outside of the Inner Piedmont geologic province, as only a portion of the county is located within the Inner Piedmont geologic province.

FIGURES

SHA
ENGINEERS▪SCIENTISTS



NOTES:

BASE MAP TAKEN FROM 7.5 MINUTE USGS QUADRANGLE MAP: RUTHERFORDTON SOUTH, NORTH CAROLINA (PHOTOREVISED 1996)

LEGEND:

——— — — ——APPROXIMATE PROPERTY LINE

TIMKEN US CORPORATION
RUTHERFORDTON, NORTH CAROLINA

ADDITIONAL ENVIRONMENTAL SERVICES
LOCUS PLAN

SHA ENGINEERS SCIENTISTS

SCALE: 1" =2000'	DRAWN BY: CBG	FILE NO. 2152.02 038
DATE: NOV 07	CHECKED BY: LAA	FIGURE NO. 1

IMAGES: G:\CONCORD\2152.01.038\dwg\Images\2152_01_038-LOCUS.TIF
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LAYOUT: Layout1
CTB FILE: SHA STANDARD.CTB
PLOT DATE: 10-29-07

RESIDENTIAL
L. HOWARD MAINTLEY
ULTIMATE TEXTILES
WOODED
FORMER LAGOONS
PROPERTY LINE
RESIDENTIAL
COUNTY WATER TANK
FIGURES 4 AND 6 EXTENT
PEACH ORCHARD
CATF
FORMER UST FARM
MAIN BUILDING
MOLYKOTING AND PHOSPHATING AREA
FIGURE 3 EXTENT
HOWE (SR) ROAD
PROPERTY LINE
RESIDENTIAL
WOODED
PROPERTY LINE
RESIDENTIAL
RESIDENTIAL
SUNNYSIDE LAKE
NOTES:
1. THE BASE MAP WAS DRAWN FROM A PLAN PROVIDED ELECTRONICALLY TO SANBORN, HEAD AND ASSOCIATES, INC. (SHA) BY TIMKEN ON MAY 23, 2005. THE APPROXIMATE LOCATION OF THE PROPERTY LINE WAS BASED ON A PLAN ENTITLED "JAMES L. CROWE PROPERTY," PREPARED BY CHARLES G. OWENS, JR. PLS, DATED MARCH 1978. ORIGINAL SCALE 1"=200'.
2. THE APPROXIMATE LOCATION OF THE FORMER LAGOONS WAS DETERMINED FROM COMPARISON BETWEEN A UNITED STATES GEOLOGICAL SURVEY (USGS) AERIAL PHOTOGRAPH DATED 1984 AND A MAY 31, 1995 "LAGOON CLOSURE AND SAMPLING PLAN," PREPARED BY ADVENT, INC.
3. PREVIOUSLY INSTALLED MONITORING WELLS WERE COMPLETED AS PART OF SANBORN, HEAD & ASSOCIATES, INC.'S (SHA'S) PHASE II ENVIRONMENTAL SITE ASSESSMENT (ESA). MONITORING WELLS WERE COMPLETED BY SUBSURFACE ENVIRONMENTAL INVESTIGATIONS, LLC (SEI) OF STATESVILLE, NORTH CAROLINA FROM NOVEMBER 2 THROUGH NOVEMBER 6, 2003 WITH OBSERVATION BY SHA. THE LOCATIONS OF THE MONITORING WELLS AND PROMINENT SITE FEATURES WERE SURVEYED BY SYLVESTER & COMPANY, PA (SYLVESTER) OF CASHIERS, NORTH CAROLINA AND WERE PROVIDED ELECTRONICALLY TO SHA ON NOVEMBER 18, 2003. THE HORIZONTAL DATUM IS NORTH CAROLINA STATE PLANE (FEET).
LEGEND:
PREVIOUSLY INSTALLED MONITORING WELL LOCATION AND DESIGNATION
AREAS WHERE ADDITIONAL SOIL SAMPLING WAS PERFORMED. REFER TO FIGURES 3 AND 4 FOR FURTHER DETAIL.
SHA
ADDITIONAL ENVIRONMENTAL SERVICES
TIMKEN US CORPORATION

NOTES:

1. EXPLORATIONS COMPLETED AS PART OF SANBORN, HEAD & ASSOCIATES, INC.'S (SHA'S) ADDITIONAL ENVIRONMENTAL SERVICES INCLUDE COMPLETION OF TEST BORINGS TB-101 THROUGH TB-108 (DEPICTED ON FIGURES 4 AND 5) AND TB-109 THROUGH TB-114 (DEPICTED ON THIS FIGURE).
2. ADDITIONAL MONITORING WELLS AND TEST BORINGS WERE COMPLETED BY SUBSURFACE ENVIRONMENTAL INVESTIGATIONS, LLC (SEI) OF STATESVILLE, NORTH CAROLINA FROM MARCH 28 THROUGH MARCH 29, 2007 WITH OBSERVATION BY SHA.
3. THE LOCATIONS OF THE MONITORING WELLS AND TEST BORINGS AND PROMINENT SITE FEATURES WERE SURVEYED BY SYLVESTER & COMPANY, PA (SYLVESTER) OF CASHIERS, NORTH CAROLINA AND WERE PROVIDED ELECTRONICALLY TO SHA ON APRIL 12, 2007. THE HORIZONTAL DATUM IS NORTH CAROLINA STATE PLANE (FEET).
4. THIS FIGURE DEPICTS THE CONCENTRATIONS OF TOTAL CHROMIUM AND HEXAVALENT CHROMIUM DETECTED IN SOIL SAMPLES COLLECTED BY SHA ON MARCH 28 AND MARCH 29, 2007 AND SUBMITTED TO PRISM LABORATORIES, INC. (PRISM) OF CHARLOTTE, NORTH CAROLINA FOR LABORATORY ANALYSIS. IN ADDITION, A SOIL SAMPLE WAS COLLECTED FROM SH-03 IN NOVEMBER 2005 AND SUBMITTED TO PRISM FOR ANALYSIS OF TOTAL CHROMIUM.
5. "B" INDICATES THAT THE RESULT IS BETWEEN THE LABORATORY REPORTING LIMIT AND THE LABORATORY METHOD DETECTION LIMIT. "NS" INDICATES THAT THE SOIL SAMPLE WAS NOT ANALYZED FOR THE SPECIFIED ANALYTE.
6. "SHALLOW" SOIL SAMPLES WERE COLLECTED FROM THE APPROXIMATE DEPTH AT WHICH IMPACTED SOIL WAS PREVIOUSLY ENCOUNTERED. "DEEP" SOIL SAMPLES WERE COLLECTED FROM A DEPTH BELOW THAT AT WHICH IMPACTED SOIL WAS PREVIOUSLY ENCOUNTERED.
7. REFER TO FIGURE 2 FOR ADDITIONAL NOTES AND LEGEND

LEGEND:

TB-112 ● NEWLY INSTALLED TEST BORING LOCATION AND DESIGNATION

TB-110	6.5-8.5'	FEET BELOW GROUND SURFACE
CHROMIUM (TOTAL)	59	RESULT IN mg/kg
CHROMIUM (HEXAVALENT)	1.09 B	

MAIN BUILDING EXTERIOR WALL

TB-112	1.5-3.5'
CHROMIUM (TOTAL)	63
CHROMIUM (HEXAVALENT)	0.998 B

TB-111	1.5-3.5'
CHROMIUM (TOTAL)	50
CHROMIUM (HEXAVALENT)	1.31

TB-110	1.5-3.5'
CHROMIUM (TOTAL)	61
CHROMIUM (HEXAVALENT)	1.06 B

TB-113	1.5-3.5'
CHROMIUM (TOTAL)	51
CHROMIUM (HEXAVALENT)	0.958 B

TB-109	1.5-3.5'
CHROMIUM (TOTAL)	52
CHROMIUM (HEXAVALENT)	1.10 B

SH-03	1.5-3.5'
CHROMIUM (TOTAL)	140
CHROMIUM (HEXAVALENT)	NS

SH-04
NS

TB-111, TB-112, TB-113, SH-03, TB-110, TB-109, SH-04

CHROMIUM IN "SHALLOW" SOIL (MG/KG)

MAIN BUILDING EXTERIOR WALL

TB-111	6.5-8.5'
CHROMIUM (TOTAL)	19
CHROMIUM (HEXAVALENT)	0.932 B

TB-112	6.5-8.5'
CHROMIUM (TOTAL)	7.0
CHROMIUM (HEXAVALENT)	1.48

TB-110	6.5-8.5'
CHROMIUM (TOTAL)	59
CHROMIUM (HEXAVALENT)	1.09 B

TB-113	6.5-8.5'
CHROMIUM (TOTAL)	87
CHROMIUM (HEXAVALENT)	1.15 B

SH-03
NS

TB-109	7.7-8.7'
CHROMIUM (TOTAL)	140
CHROMIUM (HEXAVALENT)	1.67

SH-04
NS

TB-111, TB-112, TB-113, SH-03, TB-110, TB-109, SH-04

CHROMIUM IN "DEEP" SOIL (MG/KG)

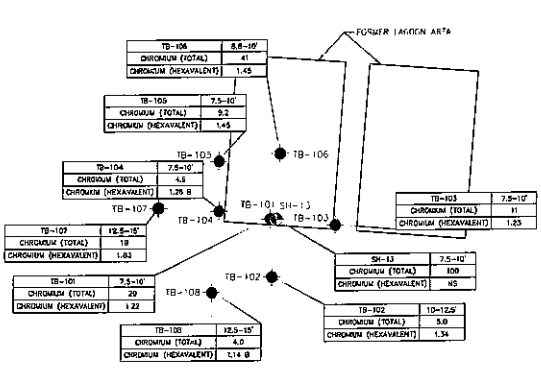
SHA ENGINEERS • SCIENTISTS

ADDITIONAL ENVIRONMENTAL SERVICES
TIMKEN US CORPORATION
RUTHERFORDTON, NORTH CAROLINA

CHROMIUM DETECTED IN SOIL - INTERIOR LOCATIONS

PROJECT NUMBER 2152.22036

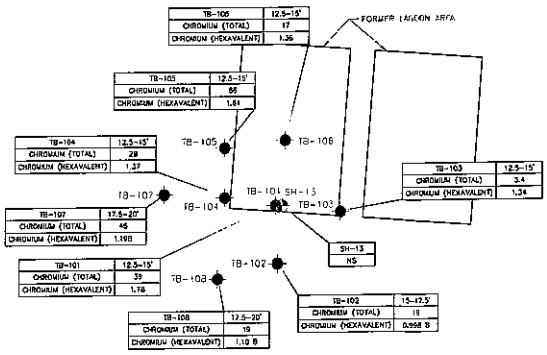
FIGURE NUMBER 3



CHROMIUM IN
"SHALLOW" SOIL (MG/KG)

NOTES:

1. THIS FIGURE DEPICTS THE CONCENTRATIONS OF TOTAL CHROMIUM AND HEXAVALENT CHROMIUM DETECTED IN SOIL SAMPLES COLLECTED FROM TB-101 THROUGH TB-108 BY SANBORN, HEAD & ASSOCIATES (SHA) ON MARCH 28 AND MARCH 29, 2007 AND SUBMITTED TO PRISM LABORATORIES, INC. (PRISM) OF CHARLOTTE, NORTH CAROLINA FOR LABORATORY ANALYSIS. IN ADDITION, A SOIL SAMPLE WAS COLLECTED FROM SH-13 IN NOVEMBER 2005 AND SUBMITTED TO PRISM FOR ANALYSIS OF TOTAL CHROMIUM.
2. "SHALLOW" SOIL SAMPLES WERE COLLECTED FROM THE APPROXIMATE DEPTH AT WHICH IMPACTED SOIL WAS PREVIOUSLY ENCOUNTERED. "DEEP" SOIL SAMPLES WERE COLLECTED FROM A DEPTH BELOW THAT AT WHICH IMPACTED SOIL WAS PREVIOUSLY ENCOUNTERED.
3. THE GROUND SURFACE IN THE FORMER LAGOON IS APPROXIMATELY FIVE FEET LOWER IN ELEVATION THAN THE SURROUNDING GROUND SURFACE OUTSIDE THE LAGOON. TO ACCOUNT FOR THIS ELEVATION DIFFERENCE, SOIL SAMPLES WERE COLLECTED AT DIFFERENT DEPTHS TO TARGET THE SAME HORIZON FROM BORINGS LOCATED IN THE FORMER LAGOON AND OUTSIDE THE FORMER LAGOON.
4. REFER TO FIGURES 2 AND 3 FOR ADDITIONAL NOTES AND LEGEND.



CHROMIUM IN
"DEEP" SOIL (MG/KG)

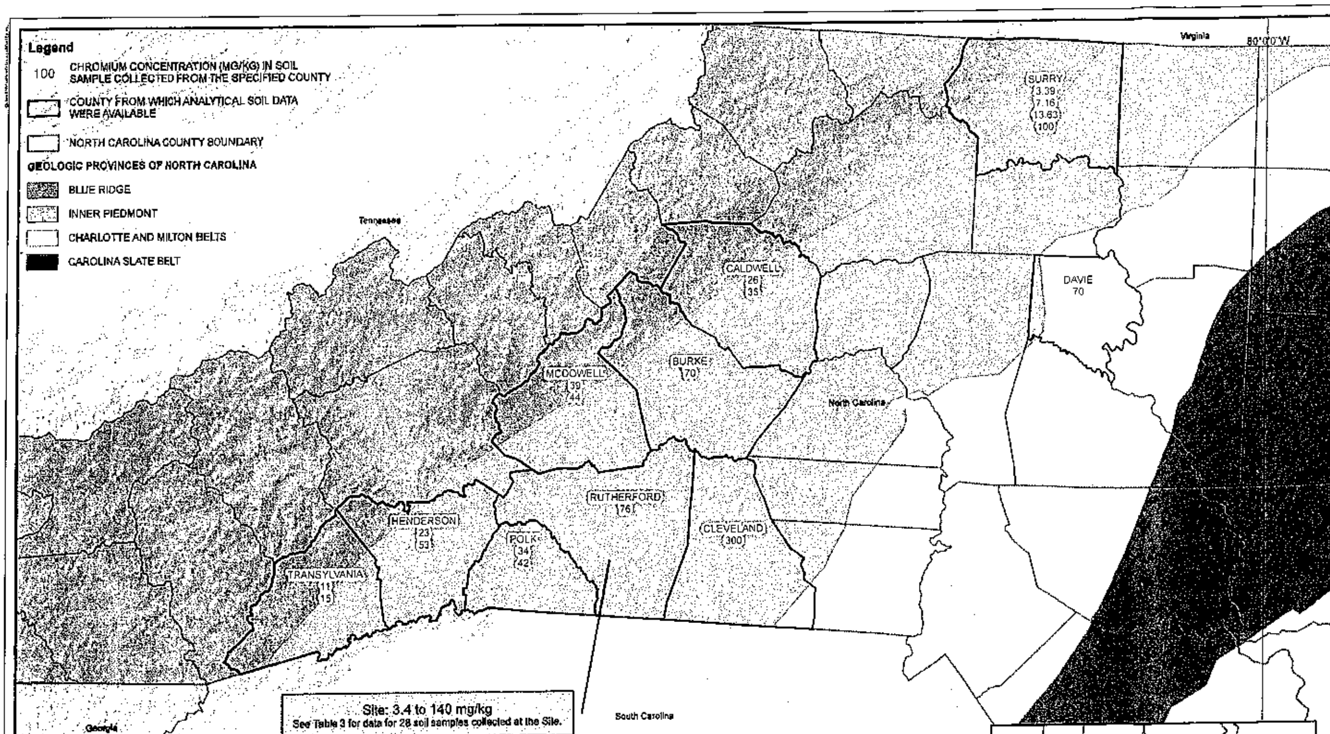
SHA
SANBORN, HEAD & ASSOCIATES, INC.

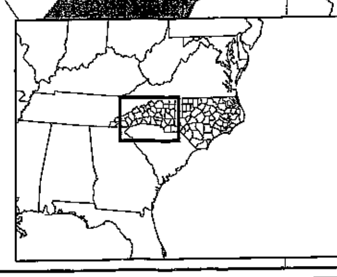
ADDITIONAL ENVIRONMENTAL SERVICES
TIMKEN US CORPORATION
RUTHERFORDTON, NORTH CAROLINA

CHROMIUM DETECTED IN SOIL-
FORMER LAGOON AREA

PROJECT NUMBER
2152-02-038

FIGURE NUMBER
4





NOTES:

1. CONCENTRATIONS OF NATURALLY-OCCURRING CHROMIUM IN SOILS WERE OBTAINED FROM THE FOLLOWING SOURCES: A) BOERNGEN, J.G. AND SHACKLETTE, H.T., 1981, CHEMICAL ANALYSES OF SOILS AND OTHER SURFICIAL MATERIALS OF THE CONTERMINOUS UNITED STATES. UNITED STATES GEOLOGICAL SOCIETY (USGS) OPEN FILE REPORT 81-197; B) THE UNITED STATES DEPARTMENT OF AGRICULTURE (USDA) NATURAL RESOURCE CONSERVATION SERVICE (NRCS) INTERACTIVE SOIL GEOCHEMISTRY DATA WEBSITE (HTTP://NMS.FTW.NRCS.USDA.GOV/WEBSITE/); AND C) A DRAFT DATA TABLE COMPILED BY THE AQUIFER PROTECTION SECTION OF THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES, DIVISION OF WATER QUALITY AND PROVIDED ELECTRONICALLY TO SANBORN, HEAD & ASSOCIATES, INC. (SHA) ON JULY 27, 2007.

2. CHROMIUM CONCENTRATIONS ARE PRESENTED ON A COUNTY-WIDE BASIS AND ARE NOT INTENDED TO REPRESENT THE ACTUAL LOCATIONS FROM WHICH SOIL SAMPLES WERE COLLECTED. THE EXACT LOCATIONS OF MANY OF THE SOIL SAMPLES ARE UNKNOWN AND SOME OF THE DATA SHOWN MAY BE FOR SOIL SAMPLES COLLECTED OUTSIDE OF THE INNER PIEDMONT GEOLOGICAL PROVINCE. REFER TO TABLE 4 FOR SAMPLE DEPTHS AND DESCRIPTIONS OF SOIL SAMPLES.

3. GEOLOGIC PROVINCE BOUNDARIES WERE DIGITIZED FROM THE INTERSTATE ROADSIDE GEOLOGY OF NORTH CAROLINA, AVAILABLE FROM THE NORTH CAROLINA GEOLOGICAL SURVEY WEBSITE (WWW.GEOLOGY.ENR.STATE.NC.US), AND SHOULD BE CONSIDERED APPROXIMATE.

4. SHA DOWNLOADED THE NORTH CAROLINA COUNTY BOUNDARIES FROM THE NC ONE MAP WEBSITE (HTTP://WWW.CGIA.STATE.NC.US/DATARESOURCES/TABID/55/DEFAULT.ASPX) ON AUGUST 3, 2007. THE SOURCE OF THE COUNTY BOUNDARIES (1:100,000) IS THE NORTH CAROLINA CORPORATE GEOGRAPHIC DATABASE. BOUNDARIES WERE DEVELOPED BY THE NORTH CAROLINA CENTER FOR GEOGRAPHIC INFORMATION AND ANALYSES (CGIA) AS MAPPED BY THE USGS DIGITAL LINE GRAPH PROGRAM. EARLIER VERSIONS OF THIS DATA SET MAY EXIST. THE USER MUST BE SURE TO USE THE APPROPRIATE DATA SET FOR THE TIME PERIOD OF INTEREST. WHILE EFFORTS HAVE BEEN MADE TO ENSURE THAT THESE DATA ARE ACCURATE AND RELIABLE WITHIN THE STATE OF THE ART, CGIA CANNOT ASSUME LIABILITY FOR ANY DAMAGES OR MISREPRESENTATION CAUSED BY ANY INACCURACIES IN THE DATA OR AS A RESULT OF CHANGES TO THE DATA CAUSED BY SYSTEM TRANSFERS. THE DATASET WAS LAST UPDATED IN MARCH 2005.

5. STATE BOUNDARIES WERE CREATED BY ESRI IN APRIL 2001. SHA OBTAINED THE DATASET FROM THE ARCGIS 9 ESRI DATA & MAPS MEDIA KIT.

6. THE SHADED RELIEF MAP WAS DOWNLOADED BY SHA FROM THE ARCGIS ONLINE MAP SERVICE (HTTP://ARCGISONLINE.ESRI.COM). THE MAP IS APPROXIMATELY 30M RESOLUTION FOR THE UNITED STATES AND WAS DEVELOPED BY ESRI USING GTOPO30, SRTM, AND NED ELEVATION DATA FROM THE USGS.

GRAPHICAL SCALE
40,000 0 40,000 80,000 120,000 Feet

SHA

ADDITIONAL ENVIRONMENTAL SERVICES
TIMKEN US CORPORATION
RUTHERFORDTON, NORTH CAROLINA

CHROMIUM CONCENTRATIONS REPORTED BY OTHERS IN SOILS OF THE INNER PIEDMONT GEOLOGIC PROVINCE OF NORTH CAROLINA

PROJECT NUMBER
2152.02.038

FIGURE NUMBER
5

NOTES:

1. THIS FIGURE DEPICTS THE CONCENTRATIONS OF TOTAL PETROLEUM HYDROCARBONS – DIESEL RANGE ORGANICS (DRO) AND OIL AND GREASE DETECTED IN SOIL SAMPLES COLLECTED FROM TB-101 THROUGH TB-108 BY SAMBORN, HEAD, & ASSOCIATES (SHA) ON MARCH 29 AND MARCH 29, 2007 AND SUBMITTED TO PRISM LABORATORIES, INC. (PRISM) OF CHARLOTTE, NORTH CAROLINA FOR LABORATORY ANALYSIS. A SOIL SAMPLE WAS COLLECTED FROM SH-13 IN NOVEMBER 2003 AND SUBMITTED TO PRISM FOR ANALYSIS OF DRO AND OIL AND GREASE.
2. "SHALLOW" SOIL SAMPLES WERE COLLECTED FROM THE APPROXIMATE DEPTH AT WHICH IMPACTED SOIL WAS PREVIOUSLY ENCOUNTERED. "DEEP" SOIL SAMPLES WERE COLLECTED FROM A DEPTH BELOW THAT AT WHICH IMPACTED SOIL WAS PREVIOUSLY ENCOUNTERED.
3. THE GROUND SURFACE IN THE FORMER LAGOON IS APPROXIMATELY FIVE FEET LOWER IN ELEVATION THAN THE SURROUNDING GROUND SURFACE OUTSIDE THE LAGOON. TO ACCOUNT FOR THIS ELEVATION DIFFERENCE, SOIL SAMPLES WERE COLLECTED AT DIFFERENT DEPTHS TO TARGET THE SAME HORIZON FROM BORINGS LOCATED IN THE FORMER LAGOON AND OUTSIDE THE FORMER LAGOON.
4. REFER TO FIGURES 2 THROUGH 4 FOR ADDITIONAL NOTES AND LEGEND

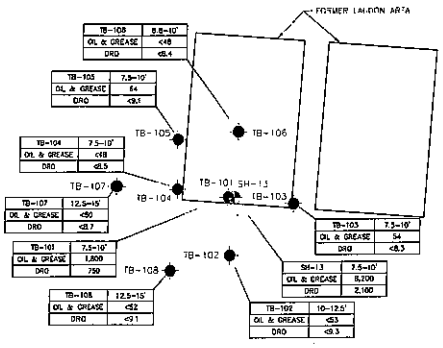
LEGEND:

TB-106	12.5-15'
OIL & GREASE	<53
DRO	280

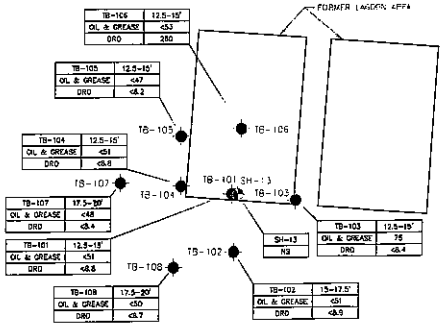
FEET BELOW GROUND SURFACE

ANALYTE WAS NOT DETECTED ABOVE THE INDICATED LABORATORY REPORTING LIMIT

RESULT IN MG/KG



PETROLEUM HYDROCARBONS IN "SHALLOW" SOIL (MG/KG)



PETROLEUM HYDROCARBONS IN "DEEP" SOIL (MG/KG)

ADDITIONAL ENVIRONMENTAL SERVICES
TIMKEN US CORPORATION
RUTHERFORDTON, NORTH CAROLINA

PETROLEUM HYDROCARBONS DETECTED IN SOIL – FORMER LAGOON AREA

PROJECT NUMBER: 2152.02.010

FIGURE NUMBER: 1

SHA SAMBORN, HEAD & ASSOCIATES

SHA
Sanborn, Head & Associates
Consulting Engineers & Scientists

JAN - 4 2006

January 3, 2006
File No. 2152.01 T038 C

Mr. Landon Davidson
Regional Supervisor
Ashville Aquifer Protection Section
North Carolina Department of Environment and Natural Resources (NC DENR)
2090 US Highway 70
Swannanoa, North Carolina 28778

Re: Soil and Groundwater Analytical Data Report
Timken US Corporation
Rutherfordton, North Carolina

Dear Mr. Davidson:

On behalf of the Timken US Corporation (Timken), Sanborn, Head & Associates, Inc. (SHA) has prepared this letter to document the findings of our recent Phase II Environmental Site Assessment (ESA) field program performed at the Timken facility located at 1510 Hwy 221 South in Rutherfordton, North Carolina (Site). As you requested, this letter has been prepared to follow up on our telephone conversation on December 8, 2005, during which we notified you of the presence of contaminants at concentrations above laboratory detection limits in soil and groundwater at the Site in accordance with the reporting requirements outlined in North Carolina Administrative Code 15A NCAC 02L – Groundwater Classifications and Standards Section 0106. A Locus Plan, Site Plan, and Site Features Plan are provided as Figures 1 through 3.

Please note that the Site was formerly owned and operated by the Torrington Company (Torrington). Timken acquired Torrington and its subsidiaries from the Ingersoll-Rand Company (Ingersoll-Rand) in February 2003. SHA has been retained by Timken to conduct a Phase II ESA as a component of baseline environmental information regarding the Site. The objective of the Phase II ESA was to assess the potential for soil and groundwater contamination.

SITE DESCRIPTION

The Site consists of approximately 100 acres in a primarily rural residential setting in Rutherfordton, North Carolina. The Main Building is an approximately 210,000 square foot concrete block structure with steel girders, which was constructed in 1979/1980. Approximately 75 acres of the on-Site land surrounding the facility are not utilized for production, and include grassy fields, wooded areas, a recreational area, and a man-made pond. Additional buildings at the site include a Construction Building (currently used for storage) and a Recreational Building.

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

Prior to building construction, the property was primarily farmland (peach orchard), and facility personnel report that portions of the Site may have been utilized as a graveyard.

Municipal water and sewer are provided to the Site, and the facility is heated by natural gas. Surrounding properties are reportedly serviced by private wells and private septic systems. There are two sanitary leachfields and one water supply well located at the Site that service the restrooms in the Construction Building and the Recreation Building, but not the manufacturing portions of the facility.

The facility currently employs about 375 people operating two shifts, five days per week and manufactures ball bearings, ball bushings, bearing races, and high precision metal components. Production operations include milling and other metal working processes, heat treatment, grinding, honing, assembly, phosphating, molykoting, and aqueous and/or petroleum-based degreasing. In addition to those process mentioned above, former manufacturing processes included screw machining and chlorinated solvent / Freon degreasing. Metal (e.g., cadmium, chromium) plating operations have not been conducted at the Site.

Primary petroleum products and chemicals used/stored at the Site include rust preventatives, quench oils, phosphating liquids, low odor petroleum solvents (LOPS), nitrogen, honing oil, hydraulic oils, lubricating oils, semi-synthetic coolants, grease, sulfuric acid, and caustic soap (potassium hydroxide). In addition to those listed above, historic chemicals/petroleum product usage included methanol (discontinued in 1991), Freon 113 (CFC 113-discontinued 1993), 1,1,1-trichloroethane (1,1,1-TCA-discontinued 1993), Freon 141 b (CFC 141b-discontinued in 1996), and n-methyl pyrrolidone (NMP-discontinued in 2002).

SUMMARY OF PREVIOUS PETROLEUM / CHEMICAL RELEASES

Historic subsurface petroleum product and chemical releases have been documented at this Site and were previously addressed by Torrington with NC DENR oversight. These releases are described below.

Former Industrial Wastewater Lagoons and 20,000-Gallon Grinding Coolant UST

Two 50,000-gallon wastewater lagoons were formerly located north of the Main Building. These concrete-lined lagoons (formerly referred to as the "eastern" and "western" lagoons) received industrial wastewater discharge from the time the facility was built (1979/1980) until 1996/1997, when both lagoons were closed. In 1990 both lagoons were cleaned, and the eastern lagoon was removed from service. The eastern and western lagoons were closed in September 1996 and August 1997, respectively. As part of the closure activities, total petroleum hydrocarbons (TPH) and oil and grease (O&G) were detected in soil at concentrations greater than NC DENR soil standards; therefore, soils were excavated from in and around the lagoons. In addition, eight monitoring wells were installed in the vicinity of these lagoons and an underground storage tank (UST-described below). Groundwater analytical results indicated that

no analytes were present at concentrations above their respective NC DENR groundwater quality standards.

A 20,000-gallon used grinding coolant UST was formerly located north of the lagoons. TPH concentrations observed in soil samples collected from the vicinity of the UST were greater than NC DENR soil standards. Therefore, the UST was removed and impacted soils were excavated. In addition, groundwater samples were collected from monitoring wells installed in the vicinity of this UST. Groundwater analytical results indicated that no analytes were present at concentrations above their respective NC DENR groundwater quality standards.

In a letter dated December 20, 1998, and in a subsequent telephone conversations between Advent (Torrington's consultant) and NC DENR on January 6, 1999, NC DENR indicated that "no further action" was required related to the UST and the former lagoons. The monitoring wells were abandoned in accordance with NC DENR regulations in February 1999.

Former Underground Storage Tanks

There are no active USTs currently present at the Site; however, in addition to the 20,000-gallon used grinding coolant UST described above, ten other USTs formerly existed at the Site. These USTs included:

- One 12,000-gallon waste oil UST;
- One 12,000-gallon coolant UST;
- One 12,000-gallon LOPS UST;
- One 12,000-gallon cutting oil UST;
- One 20,000-gallon quench oil UST;
- One 12,000-gallon methanol UST;
- One 4,000-gallon quench oil UST;
- One 1,000-gallon unleaded gasoline UST;
- One 1,000-gallon diesel UST; and
- One 10,000-gallon quench oil maintenance UST.

With the exception of the 10,000-gallon quench oil maintenance UST, the above-listed USTs were located west of the Main Building in the areas depicted on Figure 3. The 10,000-gallon quench oil maintenance UST was located in the Heat Treatment Area of the facility. The above-listed USTs were reportedly removed or closed-in-place as part of a company-wide policy to remove USTs at Torrington facilities in the late 1980s and early 1990s. Soil samples collected from beneath some of the USTs contained TPH and O&G contamination at concentrations greater than NC DENR soil standards. Therefore, soils were excavated from the vicinity of some of these USTs and six monitoring wells were installed in the general vicinity of the former USTs. Neither TPH nor O&G were not detected at concentrations greater than NC DENR groundwater standards in the groundwater samples collected from these monitoring wells. In a letter dated December 20, 1998, NC DENR indicated that no further action was required related to the USTs

described above. The six monitoring wells were abandoned in accordance with NC DENR regulations in February 1999.

Coolant Release from Exterior Trench

Two releases of coolant were observed near the northeastern wall of the Main Building where a former coolant filtration unit was located (southeast of the current Loading Dock Area). Reportedly, the exterior trench north of the main building was clogged. As a result, the coolant level in the trench rose to a level where faulty welds in the steel trench liner allowed coolant to escape the trench on two occasions. The faulty welds were subsequently repaired, and soil samples were collected from the vicinity of the release and submitted for laboratory analysis of O&G. O&G concentrations in these soil samples exceeded NC DENR's default cleanup levels; however, concentrations were below a Site-specific clean up level for O&G of 550 milligrams per kilogram (mg/kg), which was established in a Site Sensitivity Evaluation (SSE) in January 1995. A letter from NC DENR to Torrington dated May 28, 1996 indicates "no further action" related to this release was required.

Gravel Road Clean Up

In October 1994, petroleum-contaminated soil and gravel was excavated in the area along the gravel road to the north of the facility. Reportedly, the soil was contaminated by storm water run-off that had been impacted by minor releases of lubricants, cutting oils, and rust preventatives from a paved area on the north side of the facility, which was used for storage and staging of bar stock metal, scrap metal, and surplus equipment. Concentrations of O&G in soil samples collected prior to soil excavation exceeded a Site-specific cleanup level of 550 mg/kg, established in a SSE. The upper six inches of soil were excavated from this area and containerized in 55-gallon drums for eventual off-Site disposal. Analytical results for a composite soil sample collected after excavation indicated concentrations below the SSE-derived clean-up level of 550 mg/kg. The NC DENR approved the clean up and indicated "no further action" was necessary in a letter dated July 21, 1995.

PHASE II ESA FIELD PROGRAM

As we discussed during our December 8, 2005 telephone conversation, SHA recently completed the fieldwork for the Phase II ESA, which included the installation of 16 monitoring wells (designated SH-01 through SH-16) and the completion of 15 test borings without monitoring wells (designated TP-01 through TP-04, TP-05A through TP-05F, TP-06 through TP-08, TP-09A, and TP-09B). Exploration locations are depicted on Figure 4. A summary of the locations and elevations of the monitoring wells and test borings, as well as the groundwater elevation data is presented in Table 1. Exploration locations were selected to target areas of potential soil and groundwater contamination based on current and historic petroleum product and chemical usage and storage practices.

Test boring advancement and monitoring well installation were completed by Subsurface Environmental Investigations, LLC (SEI – a North Carolina certified driller) using standard hollow stem auger and/or Geoprobe® drilling techniques through the overburden soil. Geoprobe® macrocore samplers were used to collect soil samples continuously from the ground surface to the base of the boring. SHA visually classified soil samples collected during drilling and field screened the soil samples for the potential presence of VOCs using a flame ionization detector (FID).

Monitoring wells were installed in general accordance with NC DENR monitoring well construction standards. In general, monitoring wells were constructed of two-inch outside diameter (OD) polyvinyl chloride (PVC) with approximately 10- to 15-ft long sections of 0.01-inch slotted well screen attached to approximately 10-ft long sections of solid-walled riser pipe. The well screens were installed such that an approximately half of the well screen was below the groundwater table. Filter sand was installed between the borehole wall and the well screen from the bottom of the well to a distance approximately one- to two-ft above the top of the well screen. Bentonite chips were installed between the borehole wall and PVC riser pipe from the top of the filter sand to approximately one-ft below the ground surface. Monitoring wells were completed at the ground surface with either a flush-mounted road box or an above ground protective casing secured in a concrete surface seal. Table 1 summarizes the total depths of test borings and monitoring wells as well as the depths of the monitoring well screens.

After the wells were installed, they were developed by removing approximately five times the volume of water standing in the wells at equilibrium, or until they became dry.

Soil Sampling and Analysis

Between November 2 and November 5, 2005, SHA collected and submitted 21 soil samples to Prism Laboratories, Inc. (Prism) of Charlotte, North Carolina for analysis of VOCs (including CFC 113, CFC 1113, CFC 123a, CFC 141b, and NMP, which were reported as tentatively identified compounds [TICs]) by United States Environmental Protection Agency (USEPA) Method 5035/8260B; polycyclic aromatic hydrocarbons (PAHs) by USEPA Method 8270C; TPH-gasoline range organics (TPH-GRO) and TPH-diesel range organics (TPH-DRO) by USEPA Method 8015B; and O&G by soxhlet extraction and silica gel treatment by USEPA Method 9071. In addition, five soil samples were also analyzed by Prism for total arsenic, barium, cadmium, chromium, lead, mercury, nickel, selenium, silver, and zinc by USEPA Methods 6010B/7471A. Table 2 and Figure 6 list the soil samples submitted for laboratory analysis and summarize the results of these analyses. Prism's laboratory data reports are provided in Attachment A.

Groundwater Sampling and Analysis

After the groundwater levels in the monitoring wells had equilibrated, SHA recorded depth-to-groundwater measurements at each monitoring well. Prior to collecting groundwater samples,

the new wells were purged by removing approximately three times the volume of water in the well measured under ambient conditions. Groundwater was field screened prior to collection of groundwater samples for pH, temperature, and specific conductivity. Groundwater samples were collected on November 7 and November 8, 2005 and submitted to Prism for analysis of VOCs (including CFC 113, CFC 1113, CFC 123a, CFC 141b, and NMP as TICs) by USEPA Method 8260B; PAHs by USEPA Method 8270C; TPH-GRO and TPH-DRO by USEPA Method 8015B; O&G by USEPA Method 9071; and dissolved arsenic, barium, cadmium, chromium, lead, mercury, nickel, selenium, silver, and zinc by USEPA Methods 6010B/7471A. Groundwater samples submitted for dissolved metals analysis were field filtered with a 0.45-micron filter prior to submittal to the laboratory.

Table 1 summarizes the groundwater elevations recorded during two comprehensive groundwater elevation measurement rounds (November 6 and November 9, 2005). Figure 5 depicts our inferred groundwater elevation contours from water level measurements collected on November 6, 2005. Table 2 and Figure 7 summarize the results of the groundwater analytical data. Prism's laboratory data reports are included in Attachment A.

Site Survey

The exploration locations and prominent Site features were surveyed by Sylvester & Company (Sylvester) of Cashiers, North Carolina, a North Carolina-licensed land surveyor. Figures 2 through 4 depict the surveyed features, and Table 1 summarizes the relative locations and elevations of the newly installed monitoring wells and test borings. Exploration locations were surveyed relative to the North Carolina State Plane (ft) horizontal coordinate system and the National Geodetic Vertical Datum (1988).

SUMMARY OF ANALYTICAL DATA

Soil Analytical Data

As summarized in Table 2 and depicted on Figure 6, the following analytes were detected in soil samples at concentrations greater than their respective laboratory reporting limits: acetone; 2-butanone (MEK); carbon disulfide; 1,1,1-TCA; O&G, TPH-DRO; arsenic; barium; cadmium; chromium (total); lead; mercury; nickel; selenium; and zinc. However, only O&G, TPH-DRO, and total chromium were detected at concentrations in excess of the NC DENR's Action Levels or Contaminated Soil Cleanup Levels (CSCLs) presented in the July 2000 "Groundwater Section Guidelines for the Investigation and Remediation of Soil and Groundwater."

O&G and TPH-DRO were detected at concentrations of 8,200 and 2,100 mg/kg, greater than their respective CSCLs of 250 and 40 mg/kg, in the soil sample collected from SH-13, which is located in the vicinity of the former lagoon area where NC DENR issued a "no further action" letter in December 1998. O&G and TPH DRO were also detected at concentrations of 390 and 420 mg/kg, greater than their respective CSCLs, in the soil sample colleted from SH-11, which is

located in the vicinity of the former USTs where NC DENR also issued a "no further action" letter in December 1998.

Total chromium was detected at concentrations greater than the CSCL of 27 mg/kg in the soil samples collected from SH-02 (73 mg/kg), SH-03 (140 mg/kg), SH-13 (100 mg/kg), and SH-14 (42 mg/kg). SH-02 is located adjacent to a former hazardous waste storage area, SH-03 is located adjacent to a molykoting and phosphating area, and SH-13 is located in the vicinity of the former lagoon area. SH-14 is located in a downgradient direction from the Main Building in an area that has not historically been utilized for manufacturing processes or petroleum product/chemical storage.

Groundwater Analytical Data

As summarized in Table 3 and depicted on Figure 7, the following analytes were detected in groundwater samples submitted for laboratory analysis at concentrations greater than laboratory reporting limits: chloroform; 1,1-dichloroethene (1,1-DCE); naphthalene; 1,2,4-trimethylbenzene; 1,3,5-trimethylbenzene; O&G; TPH-DRO; barium; cadmium; lead; nickel; and zinc. However, only chloroform and cadmium were detected at concentrations in excess of the NC DENR's Class GA Groundwater Quality Standards (GA GWQSs) listed in North Carolina Administrative Code 15A NCAC 02L.020(g), or the Chlorinated Solvent Groundwater Standards (CS GWSTDs) listed in the July 2003 addendum to the July 2000 "Groundwater Section Guidelines for the Investigation and Remediation of Soil and Groundwater," entitled "Groundwater Section Guidelines for the Investigation of Soil and Groundwater Contamination: Chlorinated Solvents and Other Dense Non-Aqueous Phase Liquids."

Chloroform was detected at a concentration slightly greater than the laboratory reporting limit and greater than its CS GWSTD of 0.00019 milligrams per liter (mg/L) in groundwater samples collected from monitoring wells SH-08 (0.0019 mg/L) and SH-12 (0.0012 mg/L). However, concentrations of chloroform were below the GA GWQS of 0.07 mg/L in the groundwater samples collected from monitoring wells SH-08 and SH-12. Monitoring well SH-08 is located in the vicinity of the former coolant release near the exterior trench where NC DENR issued a "no further action" letter in May 1996, and monitoring well SH-12 is located in the vicinity of an area designated by the facility as a steam cleaning area.

Cadmium was detected at a concentration less than the laboratory reporting limit, but greater than the laboratory method detection limit (i.e., J-flagged) and its GA GWQS of 0.00175 mg/L in the groundwater sample collected from monitoring well SH-14 (0.0040 mg/L). As mentioned above, monitoring well SH-14 is located in a downgradient direction from the Main Building in an area that has not historically been utilized for manufacturing processes or petroleum product/chemical storage.

CONCLUSIONS

O&G and TPH-DRO were detected at concentrations greater than CSCLs only in soil samples collected from the former lagoon area and the former UST area. The NC DENR previously issued notices of "no further action" for both of these areas. Concentrations of O&G and TPH-DRO observed in soil samples collected from these areas are generally consistent with concentrations reported to NC DENR by others as part of previous subsurface investigations, which were the basis for NC DENR issuing notices of "no further action" in these areas. GA GWQSs are not available for O&G and TPH-DRO; however, neither VOCs nor PAHs were detected at concentrations greater than their respective GA GWQSs (where available) in groundwater samples collected from the same locations, indicating that the presence of O&G and TPH-DRO in soil has not impacted groundwater in these areas.

Chromium was detected in soil samples at concentrations greater than its CSCL in four samples submitted for laboratory analysis; however, chromium was not detected above laboratory reporting limits in the groundwater samples collected at the Site indicating that the presence of chromium in soil has not adversely impacted Site groundwater. Furthermore, the distribution and low concentrations of chromium observed in soil at the Site suggest that its presence may be unrelated to manufacturing activities at the Site, and that these conditions may be naturally occurring.

Chloroform was detected at concentrations slightly greater than the laboratory reporting limit and slightly greater than its CS GWSTD in two groundwater samples. However, concentrations of chloroform in groundwater samples are below the GA GWQS of 0.07 mg/L. The distribution and low concentrations of chloroform at the Site that suggest that its presence may be unrelated to manufacturing activities at the Site, and that these conditions may be related to municipally supplied potable water used at the Site.

Cadmium was detected at a concentration greater than the GA GWSTD (0.00175 mg/L) in one groundwater sample. Cadmium was detected in soil samples collected from the Site at concentrations ranging from 0.19 to 0.9 mg/kg. The distribution and low concentrations of cadmium observed in soil and groundwater at the Site suggest that its presence may be unrelated to manufacturing activities at the Site, and that these conditions may be naturally occurring.

Based on the foregoing, it is our opinion that "no further action" is warranted at this Site.

We look forward to receiving your prompt response following your review of the information contained in this submittal. In the meantime, if you have any questions regarding this submittal, please contact Bradley Green, SHA's Project Manager for this Site, or either of the undersigned.

Very truly yours,
SANBORN, HEAD & ASSOCIATES, INC.

Barret S. Cole
Associate

for Charles L. Head, P.E.
Principal

BAG/BSC/CLH:bag/las

Encl. Table 1 – Summary of Location and Elevation Data
Table 2 – Summary of Analytical Data – Soil
Table 3 – Summary of Analytical Data – Groundwater
Figure 1 – Locus Plan
Figure 2 – Site Plan
Figure 3 – Site Features Plan
Figure 4 – Exploration Location Plan
Figure 5 – Groundwater Elevation Contour Plan
Figure 6 – Analytes Detected in Soil (mg/kg)
Figure 7 – Analytes Detected in Groundwater (mg/L)
Attachment A – Laboratory Analytical Data Reports

cc: William Fladung – The Timken Company
David Sordi – The Ingersoll-Rand Company
Dan Waugh – The Timken US Corporation

TABLES

TABLE 1
SUMMARY OF LOCATION AND ELEVATION DATA
Timken US Corporation
Rutherfordton, North Carolina

Monitoring Well Designation	Date Completed	Northing (ft)	Easting (ft)	Ground Elevation (ft)	Bottom of Boring Depth (ft b.g.s.)	Bottom of Well Depth (ft b.g.s.)	Screened Interval Depths (ft b.g.s.)	Bottom of Boring Elevation (ft)	Bottom of Well Elevation (ft)	Screened Interval Elevations (ft)	PVC Elevation (ft)	Depth to Groundwater from PVC (ft)		Groundwater Elevation (ft)	
												11/6/2005	11/9/2005	11/6/2005	11/9/2005
SH-01	11/3/05	582642.67	1124981.23	1036.91	20.0	16.8	6.5 - 16.5	1016.91	1020.11	1030.41 - 1020.41	1036.92	9.17	9.25	1027.75	1027.67
SH-02	11/2/05	582734.06	1125194.34	1041.00	25.0	24.9	9.6 - 24.6	1016.00	1016.10	1031.40 - 1016.40	1040.85	16.18	16.23	1024.67	1024.62
SH-03	11/2/05	582620.76	1125246.35	1041.18	25.1	25.1	9.8 - 24.8	1016.08	1016.08	1031.38 - 1016.38	1041.00	17.86	17.92	1023.14	1023.08
SH-04	11/2/05	582536.98	1125247.18	1041.18	25.0	24.9	9.6 - 24.6	1016.18	1016.28	1031.58 - 1016.58	1040.84	19.23	19.29	1021.61	1021.55
SH-05	11/3/05	582568.01	1125541.40	1041.10	30.0	28.9	13.6 - 28.6	1011.10	1012.20	1027.50 - 1012.50	1040.80	24.97	24.99	1015.83	1015.81
SH-06	11/3/05	582818.92	1125619.37	1041.15	30.0	29.9	14.6 - 29.6	1011.15	1011.25	1026.55 - 1011.55	1040.98	23.80	23.82	1017.18	1017.16
SH-07	11/3/05	582812.91	1125402.81	1041.04	30.0	24.9	9.6 - 24.6	1011.04	1016.14	1031.44 - 1016.44	1040.75	19.18	19.22	1021.57	1021.53
SH-08	11/4/05	582903.92	1125289.02	1040.65	23.0	22.2	11.9 - 21.9	1017.65	1018.45	1028.75 - 1018.75	1040.42	15.99	16.04	1024.43	1024.38
SH-09	11/4/05	582769.01	1125068.84	1037.06	20.0	19.0	8.7 - 18.7	1017.06	1018.06	1028.36 - 1018.36	1036.79	9.91	10.00	1026.88	1026.79
SH-10	11/4/05	583020.86	1125191.21	1036.25	18.5	17.9	7.6 - 17.6	1017.75	1018.35	1028.65 - 1018.65	1036.23	10.43	10.51	1025.80	1025.72
SH-11	11/4/05	582708.94	1125150.56	1040.05	22.0	21.3	11.0 - 21.0	1018.05	1018.75	1029.05 - 1019.05	1039.64	14.56	14.63	1025.08	1025.01
SH-12	11/4/05	582935.72	1125171.12	1036.87	20.0	17.9	7.6 - 17.6	1016.87	1018.97	1029.27 - 1019.27	1036.66	10.15	10.24	1026.51	1026.42
SH-13	11/5/05	583345.00	1125259.65	1030.75	20.0	19.3	9.0 - 19.0	1010.75	1011.45	1021.75 - 1011.75	1033.37	16.73	16.78	1016.64	1016.59
SH-14	11/5/05	582403.45	1125466.78	1038.73	30.0	27.9	12.6 - 27.6	1008.73	1010.83	1026.13 - 1011.13	1038.47	25.40	25.45	1013.07	1013.02
SH-15	11/5/05	582121.08	1125010.95	1024.40	25.0	22.1	6.8 - 19.8	999.40	1002.30	1017.60 - 1004.60	1027.19	11.90	12.09	1015.29	1015.10
SH-16	11/5/05	582339.91	1125742.39	1033.97	35.0	34.3	19.0 - 34.0	1000.97	1001.67	1016.97 - 1001.97	1035.78	26.97	27.01	1008.81	1008.77

Test Boring Designation	Date Completed	Northing (ft)	Easting (ft)	Ground Elevation (ft)	Bottom of Boring Depth (ft b.g.s.)	Bottom of Boring Elevation (ft)
TB-01	11/2/05	582607.82	1124972.59	1036.26	15.0	1021.26
TB-02	11/2/05	582658.71	1125011.80	1036.37	15.0	1021.37
TB-03	11/2/05	582634.42	1125019.64	1036.02	15.0	1021.02
TB-04	11/2/05	582660.07	1124987.77	1036.42	15.0	1021.42
TB-05A	11/3/05	582648.71	1125146.72	1040.03	8.0	1032.03
TB-05B	11/3/05	582648.45	1125142.96	1040.04	8.0	1032.04
TB-05C	11/3/05	582648.47	1125138.73	1039.90	8.0	1031.90
TB-05D	11/3/05	582642.59	1125146.76	1039.98	8.0	1031.98
TB-05E	11/3/05	582650.96	1125146.81	1040.03	8.0	1032.03
TB-05F	11/3/05	582648.68	1125148.60	1040.07	8.0	1032.07
TB-06	11/3/05	582717.41	1125620.39	1041.02	10.0	1031.02
TB-07	11/3/05	582719.09	1125359.08	1041.03	10.0	1031.03
TB-08	11/3/05	582839.24	1125308.53	1041.05	10.0	1031.05
TB-09A	11/4/05	582708.65	1125145.88	1039.64	10.2	1029.44
TB-09B	11/4/05	582711.56	1125147.31	1039.79	11.0	1028.79

Notes:

1. The northing and easting locations, ground elevations, and polyvinyl chloride (PVC) elevations were surveyed by Sylvester & Company, PA (Sylvester) of Cashiers, North Carolina on November 9, 2005. "PVC" indicates the top of the monitoring well riser pipe. The locations of the exploration locations and site features were provided electronically to SHA by Sylvester on November 15, 2005. The horizontal datum is North Carolina State Plane (ft).

2. Elevations are relative to the National Geodetic Vertical Datum (NGVD) of 1988.

3. The groundwater elevations are based on groundwater levels recorded by Sanborn, Head & Associates, Inc. (SHA) on November 6 and November 9, 2005 using a Solinst model 101 water level meter.

4. "ft b.g.s." indicates feet below ground surface.

5. "Bottom of Boring Depth" refers to the maximum depth of drilling.

6. "Bottom of Well Depth" refers to the depth of the monitoring well.

7. "Screened Interval" refers to the depth interval over which the monitoring well screen was installed.

TABLE 2
SUMMARY OF ANALYTICAL DATA - SOIL
Timken US Corporation
Rutherfordton, North Carolina

Analyte	Action/ Contaminated Soil Cleanup Levels	Maximum Soil Contaminant Concentration	Sample Name	SH-01,S-1B	SH-02,S-1A	SH-03,S-1	SH-04,S-1B	SH-05, S-1	SH-06,S-3	SH-07,S-1	SH-08, S-2A	SH-09, S-1B	SH-10, S-1	SH-11, S-1B	SH-12, S-1B	SH-13, S-1B	SH-14, S-1	SH-15, S-1B	TB-01,S-1B	TB-02,S-1B	TB-03,S-1B	TB-04,S-1B	TB-06,S-1B	TB-07,S-1	TB-08,S-1B
			Depth (ft bgs)	0.5'-2'	0.5'-2.5'	1.5'-3.5'	7.1'-10'	0.5'-2.5'	11'-15'	2.5'-4.5'	5'-6.7'	3'-5'	0'-5'	6.1'-10'	2'-5'	7.5'-40'	0'-5'	0.1'-1.8'	0.3'-2.3'	0.5'-2'	0.2'-3.5'	0.3'-5'	3'-11'	0.4'-5'	1.5'-5'
			Date Collected	11/2/2005	11/2/2005	11/2/2005	11/3/2005	11/3/2005	11/3/2005	11/3/2005	11/4/2005	11/4/2005	11/4/2005	11/4/2005	11/4/2005	11/5/2005	11/5/2005	11/5/2005	11/1/2005	11/1/2005	11/1/2005	11/2/2005	11/3/2005	11/2/2005	11/3/2005
VOCs (mg/kg)																									
Acetone	2.81	3		<0.026	<0.025	<0.026	<0.022	0.029	<0.021	<0.021	0.13	0.023	<0.02	0.077	<0.024	0.048	-	0.15	<0.021	<0.024	<0.021	<0.019	0.03	<0.019	0.19
Butanone (2-) (MEK)	0.69	N/A		<0.026	<0.025	<0.026	<0.022	0.018	J <0.021	<0.021	0.038	<0.02	<0.02	0.027	<0.024	<0.021	-	<0.024	<0.021	<0.024	<0.021	<0.019	<0.019	<0.019	0.055
Carbon disulfide	4	N/A		<0.013	<0.012	<0.013	<0.011	0.01	J <0.01	<0.01	<0.01	<0.011	<0.01	<0.0095	<0.012	<0.01	-	<0.012	<0.011	<0.013	<0.011	<0.0096	<0.0093	<0.0095	<0.011
Trichloroethene (1,1,1-)	N/A / 0.6	1.38		<0.0065	<0.0065	0.0028	J <0.0055	<0.0053	<0.0051	<0.0052	<0.0055	<0.005	<0.0049	<0.0063	<0.0061	<0.01	-	<0.0062	<0.0053	<0.0065	<0.0057	<0.0048	<0.0047	<0.0048	<0.0057
Total VOCs		N/A		ND	ND	0.0028	J ND	0.369	ND	ND	0.168	0.052	ND	0.104	ND	0.048	-	0.15	ND	ND	ND	ND	ND	ND	0.243
PAHs (mg/kg)	Varies by analyte	N/A		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	ND	ND	ND	ND	ND	ND	ND	ND
TPH (mg/kg)																									
Oil and Grease, Hydrocarbons	250	N/A		<28	<29	<28	<26	<29	<25	<25	31	<27	92	390	130	8,200	-	<28	<25	<29	<28	<23	<25	<23	<27
Diesel Range Organics (DRO)	50	N/A		<8.4	<8.6	<8.4	<8.8	<8.6	<8.7	6.3	<8.2	<8.7	<8.6	420	<9.7	3,100	-	6.1	J <8.4	34	<8.4	<8.2	<8.7	<7.9	<8.3
Metals (mg/kg)																									
Arsenic	N/A	N/A		0.65	0.46	J 3.4	-	-	-	-	-	-	-	-	-	4.8	4.8	-	-	-	-	-	-	-	-
Barium	848	N/A		18	40	12	-	-	-	-	-	-	-	-	-	49	15	-	-	-	-	-	-	-	-
Cadmium	N/A	N/A		0.19	J 0.45	0.53	-	-	-	-	-	-	-	-	-	0.89	0.44	-	-	-	-	-	-	-	-
Chromium (total)	77	N/A		13	73	749	-	-	-	-	-	-	-	-	-	106	42	-	-	-	-	-	-	-	-
Lead	370	N/A		12	49	18	-	-	-	-	-	-	-	-	-	22	13	-	-	-	-	-	-	-	-
Mercury	N/A	N/A		0.0044	J 0.0021	J 0.012	-	-	-	-	-	-	-	-	-	0.037	0.018	-	-	-	-	-	-	-	-
Selenium	N/A	N/A		9.4	15	19	-	-	-	-	-	-	-	-	-	15	15	-	-	-	-	-	-	-	-
Nickel	N/A	N/A		0.27	J 1.7	J <3.0	-	-	-	-	-	-	-	-	-	8.3	6.3	-	-	-	-	-	-	-	-
Zinc	N/A	N/A		16	33	26	-	-	-	-	-	-	-	-	-	55	37	-	-	-	-	-	-	-	-

Notes:

1. Concentrations are presented in units of milligrams per kilogram (mg/kg), which are equivalent to parts per million (ppm).

2. Soil samples were collected from the depths indicated (e.g., 2'-4') in feet below ground surface (ft bgs) by Sunborn, Hindl & Associates, Inc. (SHA) on the dates indicated.

3. Soil samples were analyzed by Prism Laboratories, Inc. (Prism) of Charlotte, North Carolina for volatile organic compounds (VOCs - including n-methyl pyrrolidone, Freon 113, Freon 141b, Freon 123a, and Freon 1113, which were reported as tentatively identified compounds) by USEPA Method 8260B/5035; for polycyclic aromatic hydrocarbons (PAHs) by USEPA Method 8270C; for total petroleum hydrocarbons (TPH) diesel-range organics (DRO) and gasoline-range organics (GRO) by USEPA Method 8015B; and for oil and grease (O&G) by soxhlet extraction and silica gel treatment by USEPA Method 9071A. Soil samples collected from SH-07, S-1B; SH-02, S-1; SH-03, S-1; SH-13, S-2B; and SH-15, S1B were also submitted to Prism for analysis of total arsenic, barium, cadmium, chromium, lead, mercury, nickel, selenium, silver, and by USEPA Methods 6010B and 7471A. Analytical results for VOCs were reported by Prism in micrograms per kilogram (ug/kg); however, for presentation purposes, these results were converted to mg/kg.

4. Only those VOCs and metals detected at concentrations above laboratory reporting limits in one or more soil samples are tabulated. Please note that PAHs were not detected above laboratory reporting limits.

5. Total concentrations listed (e.g., Total VOCs) are the sum of detected concentrations for the relevant suite of compounds.

6. "<" indicates that the analyte was not detected at concentrations greater than or equal to the stated laboratory reporting limit. Results in boldface were detected at concentrations greater than the laboratory reporting limit.

7. "J" indicates that the analyte was positively identified, but the value is estimated below the laboratory reporting level.

8. Concentrations within shaded cells are greater than or equal to the screening levels for the given analyte. As required by the North Carolina Department of Environment and Natural Resources (NC DENR), soil analytical results are compared to the Action Levels or Contaminated Soil Clean-up Levels (CSCLs), which are listed in the July 2000 "Groundwater Section Guidelines for the Investigation and Remediation of Soil and Groundwater" and/or the Maximum Soil Contaminant Concentrations (MSCCs) listed in the July 2003 addendum to these guidelines entitled "Groundwater Section Guidelines for the Investigation of Soil and Groundwater Contamination Chlorinated Solvents and Other Dense Non-Aqueous Phase Liquids," or the MSCCs listed in the September 2003 "UST Section Guidelines for Sampling."

9. "N/A" indicates that a screening level for the given analyte is not available in the documents referenced in note #8.

10. "ND" indicates not detected above laboratory detection limits.

11. "-" indicates the sample was not analyzed for the given analyte.

TABLE 3
SUMMARY OF ANALYTICAL DATA - GROUNDWATER
Thraken US Corporation
Rutherfordton, North Carolina

Analyte	Class GA Groundwater Quality Standards	Groundwater Standards for Chlorinated Solvents	Sample Name	SH-01	SH-02	SH-03	SH-04	SH-05	SH-06	SH-07	SH-08	SH-09	SH-10	SH-11	SH-11 Dup	SH-12	SH-13	SH-14	SH-15	SH-16
			Date Collected	11/7/2005	11/7/2005	11/7/2005	11/7/2005	11/7/2005	11/7/2005	11/7/2005	11/7/2005	11/7/2005	11/7/2005	11/7/2005	11/7/2005	11/7/2005	11/7/2005	11/7/2005	11/7/2005	11/7/2005
				Concentrations in mg/L																
VOCs (mg/L)																				
Chloroform (Trichloromethane)	0.07	0.00019		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.0019	<0.001	<0.001	<0.001	<0.001	0.0012	<0.001	<0.001	<0.001	<0.001
Dichloroethene (1,1-)	0.007	0.007		<0.001	<0.001	0.0018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Naphthalene	0.021	N/A		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.0029 J	0.0028	<0.001	<0.001	<0.001	<0.001	<0.001
Trimethylbenzene (1,2,4-)	0.350	N/A		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.00058 J	0.00052 J	<0.001	<0.001	<0.001	<0.001	<0.001
Trimethylbenzene (1,3,5-)	0.350	N/A		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.00073 J	0.00096 J	<0.001	<0.001	<0.001	<0.001	<0.001
Total VOCs		N/A		ND	ND	0.0018	ND	ND	ND	ND	0.0019	ND	ND	0.00421	0.00148	0.0012	ND	ND	ND	ND
PAHs (mg/L)	Varies by analyte.	N/A		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	ND	ND	ND	ND	ND
TPH (mg/L)																				
Oil and Grease, Hydrocarbons	N/A	N/A		< 5	< 5	2.8 J	< 5	< 5	3.5 J	< 5	< 5	< 5	< 5	< 5	-	< 5	< 5	< 5	< 5	< 5
Diesel Range Organics (DRO)	N/A	N/A		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.93 J	<1.0	<1.0	0.34 J	-	<1.0	<1.0	<1.0	<1.0	<1.0
Metals (mg/L)																				
Barium	2.0	N/A		0.0094 J	0.055	0.012	0.019	0.011	0.0058 J	0.0096 J	0.094	0.0088 J	0.040	0.21	-	0.016	0.075	0.014	0.033	0.029
Cadmium	0.00175	N/A		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	-	<0.0050	<0.0050	0.0040 J	<0.0050	<0.0050
Lead	0.015	N/A		<0.0050	0.0018 J	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	-	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Nickel	0.1	N/A		0.0025 J	0.0047 J	0.0058 J	0.0041 J	0.0029 J	0.0039 J	0.0063 J	0.0077 J	<0.010	0.0062 J	0.0039 J	-	0.0037 J	0.0042 J	0.0026 J	0.0059 J	0.0042 J
Zinc	1.05	N/A		0.019 J	0.077	0.026 J	0.014 J	0.0072 J	0.015 J	0.010 J	0.051	0.0094 J	0.033	0.0035 J	-	0.025 J	0.015 J	0.028 J	0.081	0.011 J

Notes:

1. Concentrations are presented in units of milligrams per liter (mg/L), which are equivalent to parts per million (ppm).

2. Groundwater samples were collected by Sanborn, Head & Associates, Inc. (SHA) on the dates indicated. A duplicate groundwater sample was collected from monitoring well SH-11 and submitted for laboratory analysis of volatile organic compounds (VOCs) by USEPA Method 8260B. The duplicate sample is labeled 'SH 11 Dup' on this table.

3. Groundwater samples were analyzed by Prism Laboratories, Inc. (Prism) of Charlotte, North Carolina for VOCs (including n-methyl pyrrolidone, Freon 113, Freon 141b, Freon 123a, and Freon 1113, which were reported as tentatively identified compounds) by USEPA Method 8260B/5035; for polycyclic aromatic hydrocarbons (PAHs) by USEPA Method 8270C; for total petroleum hydrocarbons (TPH) diesel-range organics (DRO) and gasoline-range organics (GRO) by USEPA Method 8015B; for oil and grease (O&G) by soxhlet extraction and silica gel treatment by USEPA Method 9071A; and for dissolved arsenic, barium, cadmium, chromium, lead, mercury, nickel, selenium, silver, and by USEPA Methods 6010B and 7470A. Analytical results for VOCs and PAHs were reported by Prism in micrograms per liter (ug/L); however, for presentation purposes, these results were converted to mg/L.

4. Only those VOCs and metals detected at concentrations above laboratory reporting limits in one or more groundwater samples are tabulated. Please note that PAHs were not detected at concentrations above laboratory reporting limits.

5. Groundwater samples submitted for metals analysis were field filtered with a 0.45 micron filter.

6. Total concentrations listed (e.g., total VOCs) are the sum of the detected concentrations for the relevant suite of compounds.

7. "<" indicates that the analyte was not detected at concentrations greater than or equal to the stated laboratory reporting limit. Results in boldface were detected at concentrations greater than the laboratory reporting limit.

8. "J" indicates that the analyte was positively identified but the value is estimated below the laboratory reporting level.

9. Concentrations within shaded cells are greater than or equal to the screening levels for the given analyte. As required by the North Carolina Department of Environment and Natural Resources (NC DENR), groundwater analytical results are compared to Class GA Groundwater Quality Standards (GA GWQS) listed in North Carolina Administrative Code 15A NCAC 02L.020 (g) or the Groundwater Standards listed in the September 2003 "UST Section Guidelines for Sampling," (UST GWSTDs) and/or the July 2003 addendum to July 2000 "Groundwater Section Guidelines for the Investigation and Remediation of Soil and Groundwater," entitled "Groundwater Section Guidelines for the Investigation of Soil and Groundwater Contamination: Chlorinated Solvents and Other Dense Non-Aqueous Phase Liquids" (CS GWSTDs).

10. "N/A" indicates that a screening level for the given analyte is not available in the documents referenced in note #9.

11. "ND" indicates not detected above laboratory detection limits.

12. "-" indicates the sample was not analyzed for the given analyte.

FIGURES

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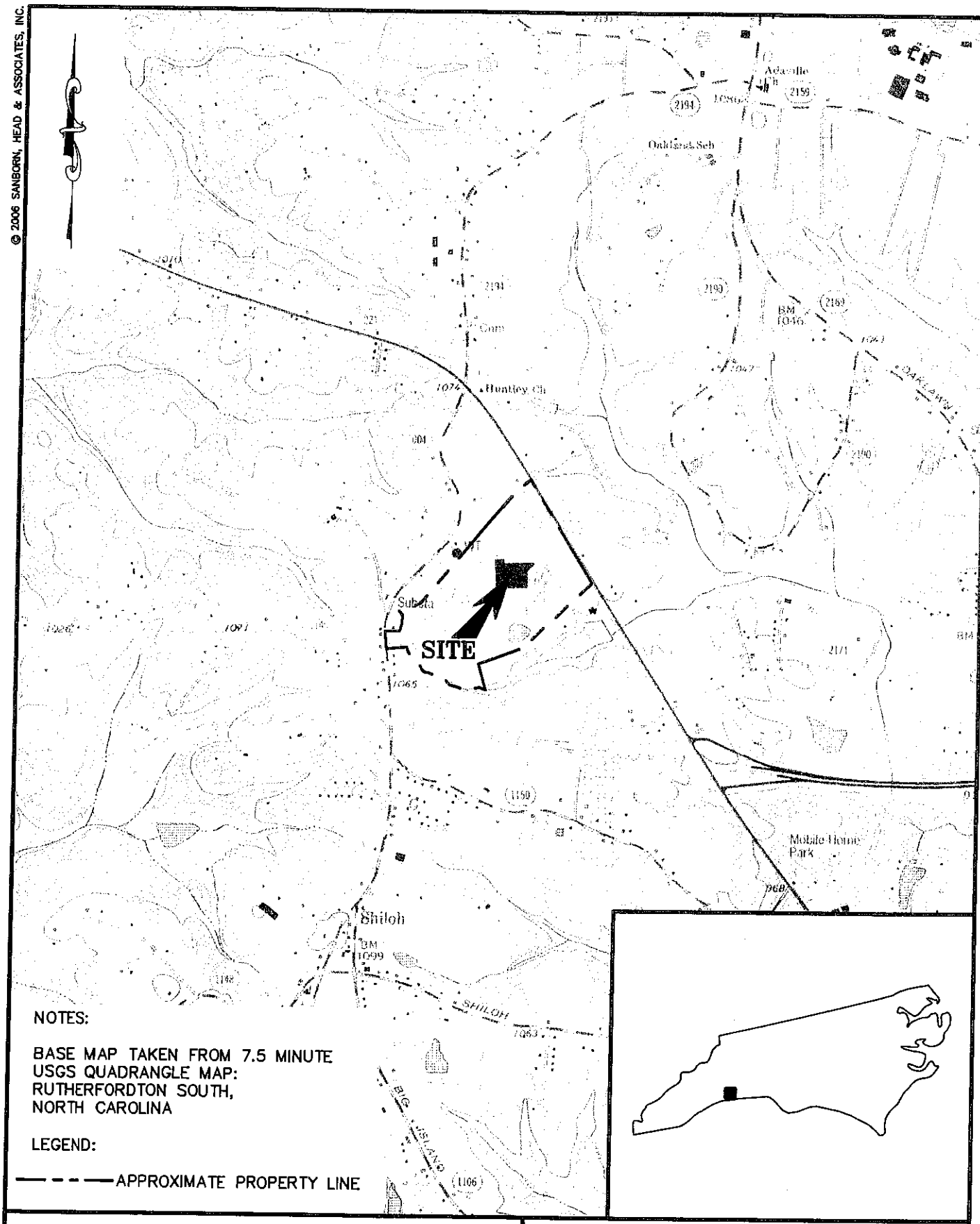


NOTES:

BASE MAP TAKEN FROM 7.5 MINUTE USGS QUADRANGLE MAP: RUTHERFORDTON SOUTH, NORTH CAROLINA

LEGEND:

——— — ——APPROXIMATE PROPERTY LINE

TIMKEN US CORPORATION
RUTHERFORDTON, NORTH CAROLINA

PHASE I & II ENVIRONMENTAL SITE ASSESSMENT

LOCUS PLAN

Sanborn, Head & Associates
Consulting Engineers & Scientists

SCALE: 1" =2000'	DRAWN BY: EMW	FILE NO. 2152.01 038
DATE: JAN 06	CHECKED BY: BAG	FIGURE NO. 1

FILE: G:\CONCORD\2152.01.038\dwg\Phase I&II ESA\2152_01_038-Locus.dwg
LAYOUT: Layout1
CTB FILE: SHA STANDARD.CTB
PLOT DATE: 1-3-06

XREFS:

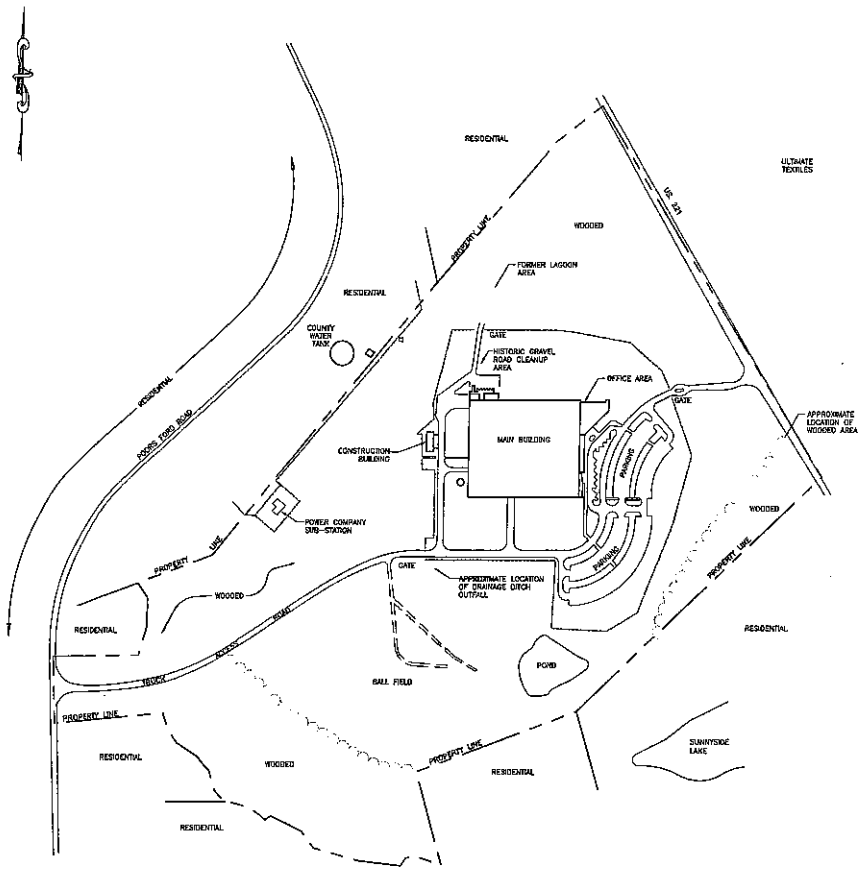
NOTES:

1. THE BASE MAP WAS DRAWN FROM A PLAN PROVIDED ELECTRONICALLY BY TIMKEN ON MAY 23, 2005. THE APPROXIMATE LOCATION OF THE PROPERTY LINE WAS BASED ON A PLAN ENTITLED "JAMES L. CROSE PROPERTY," PREPARED BY CHARLES D. ONDAL, JR. RLS, DATED MARCH 1979. ORIGINAL SCALE 1"=200'. PROVIDED TO SHA BY TIMKEN.
2. OBSERVATIONS PRESENTED ON THIS PLAN ARE BASED ON A SITE VISIT PERFORMED BY SANBORN, HEAD & ASSOCIATES, INC. (SHA) ON JUNE 29 & 30, 2005. THE LOCATIONS OF THE FEATURES DESCRIBED IN EACH OF THE OBSERVATION LOCATIONS SHOULD BE CONSIDERED APPROXIMATE ONLY.

LEGEND:

APPROXIMATE PROPERTY LINE

APPROXIMATE FENCE LINE



GRAPHICAL SCALE
200' 100' 0 200' 400'

Sanborn, Head & Associates

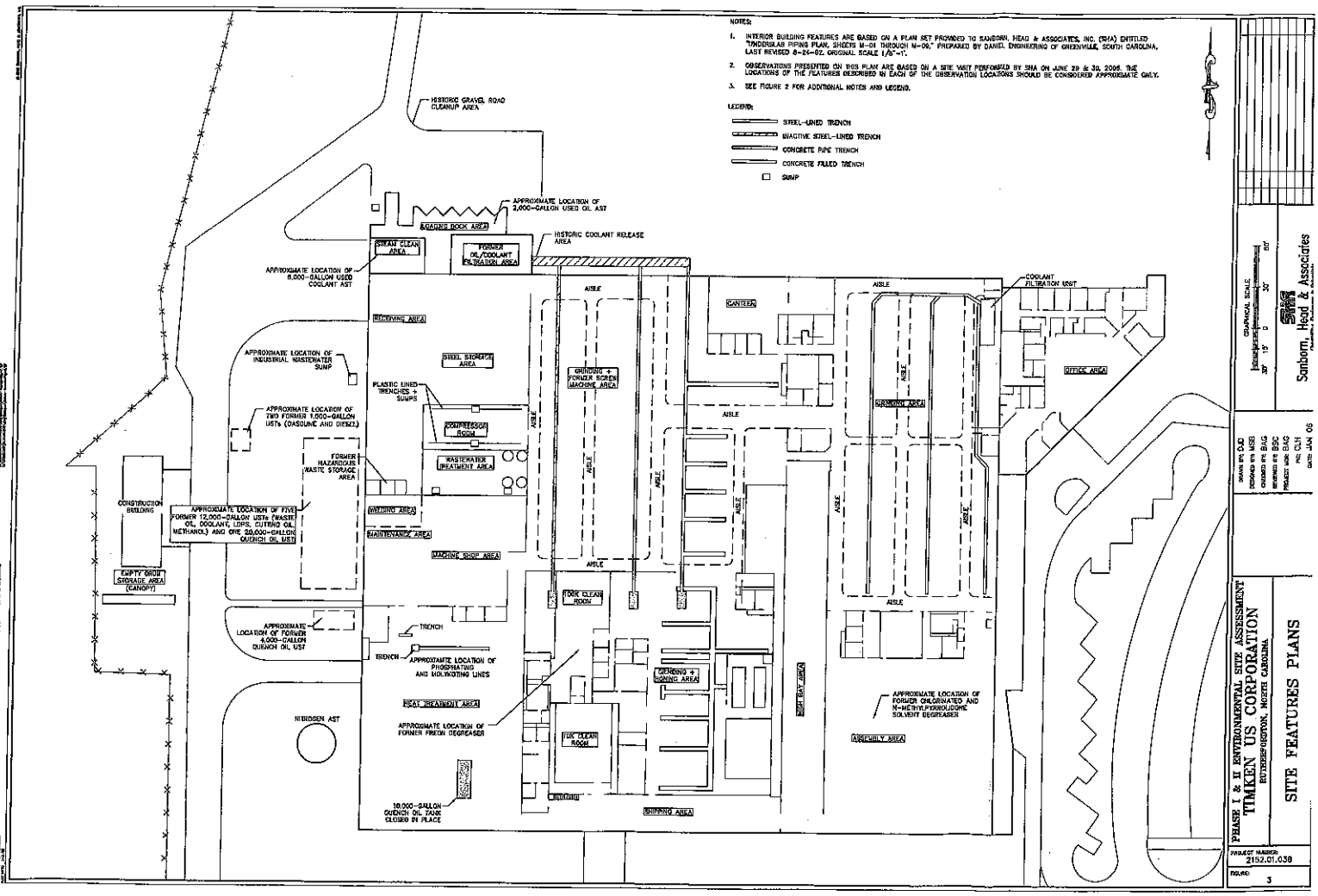
Drawn on: DJD
SCALED to: 1"=200'
REVISED on: 8/06
PROJECT mgr: BJG
PC: CLH
DATE: JAN 06

PHASE I & II ENVIRONMENTAL SITE ASSESSMENT
TIMKEN US CORPORATION
NORTHSBORO, NORTH CAROLINA

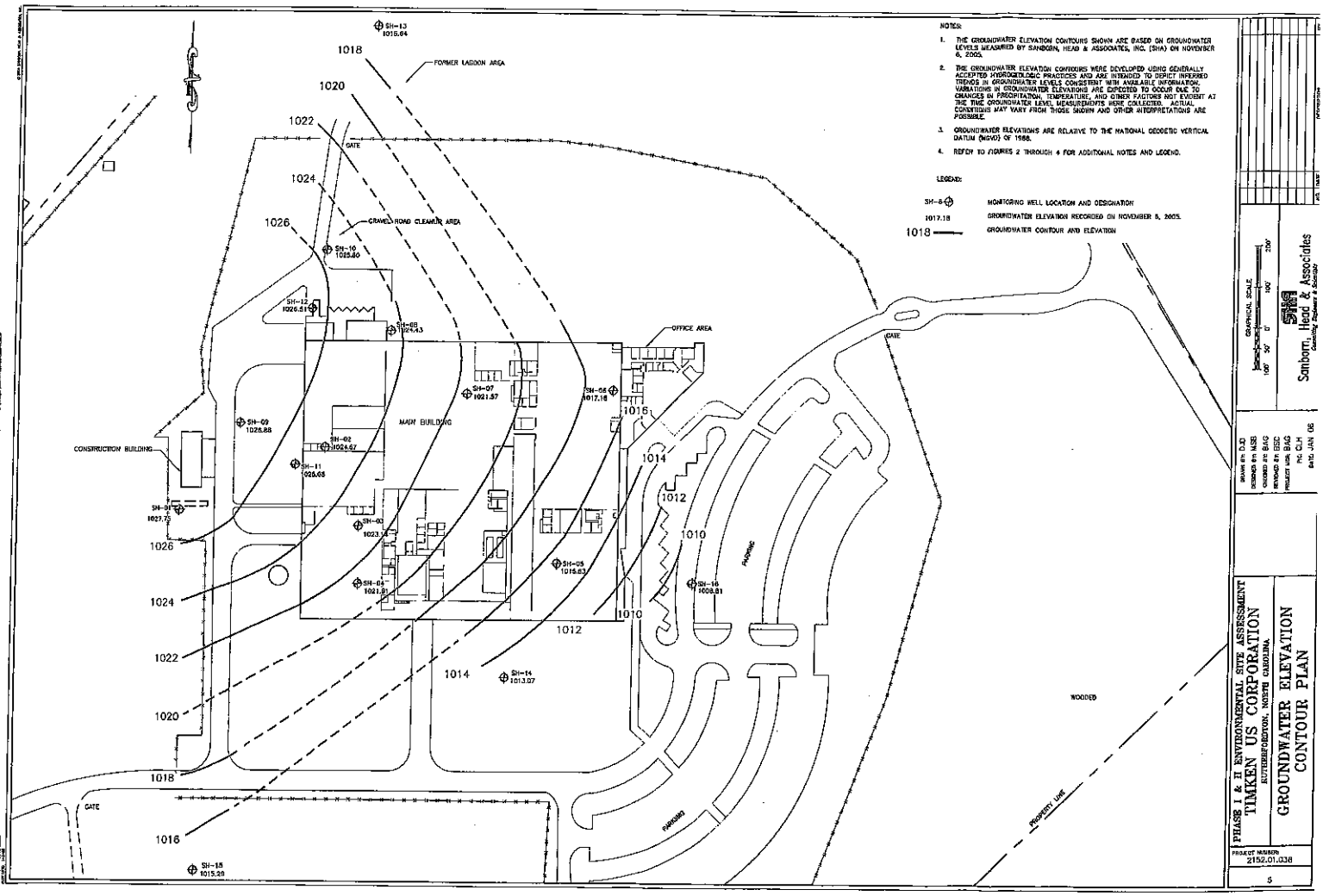
SITE PLAN

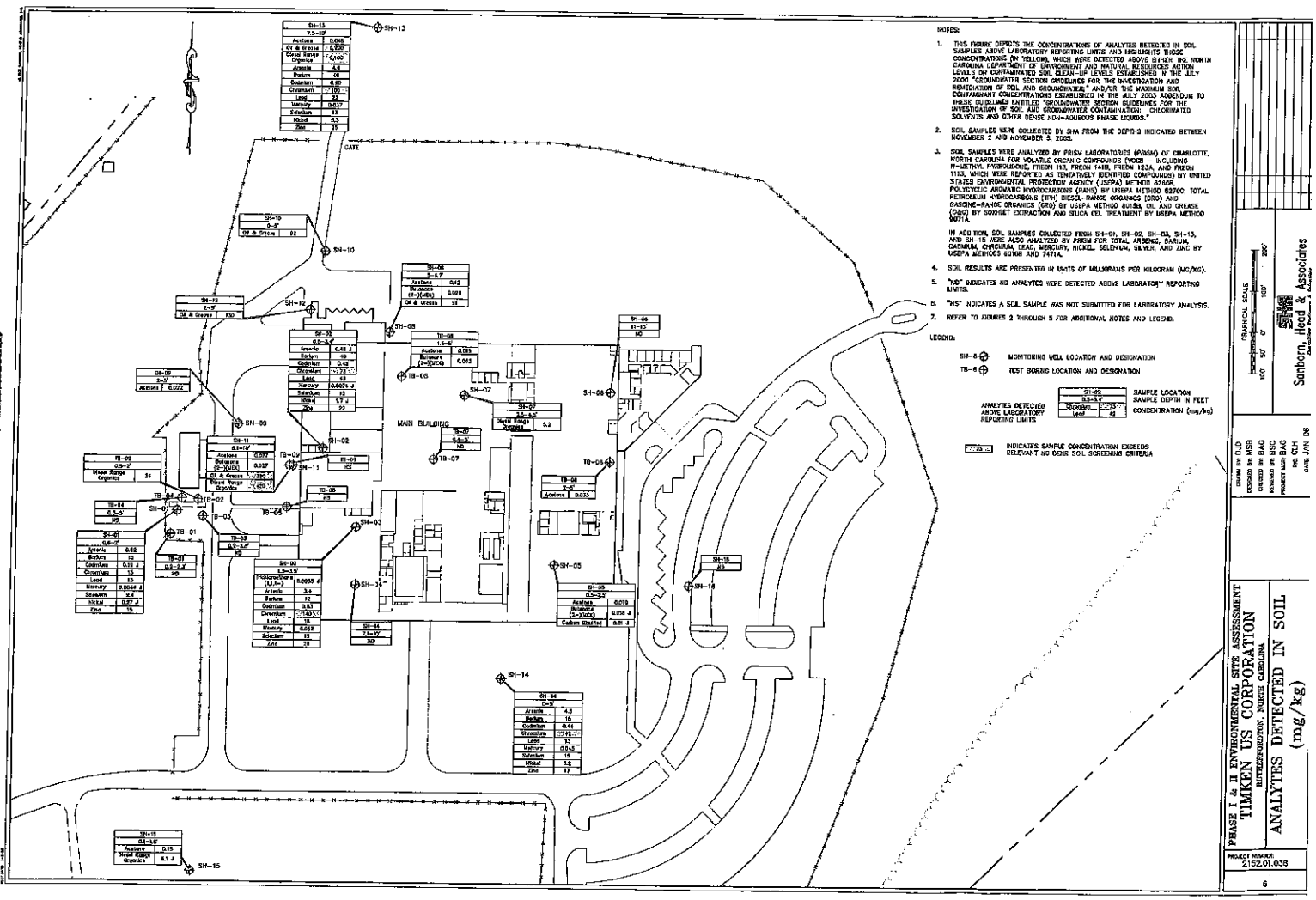
PROJECT NUMBER
2182.01.038

FIGURE
2


NOTES:
1. INTERIOR BUILDING FEATURES ARE BASED ON A PLAN SET PROVIDED TO SANBORN, HEAD & ASSOCIATES, INC. (SHA) ENTITLED "UNDERSLAB PIPING PLAN, SHEETS M-01 THROUGH M-06," PREPARED BY DANIEL ENGINEERING OF GREENVILLE, SOUTH CAROLINA, LAST REVISED 8-24-02, ORIGINAL SCALE 1/8"=1'.
2. OBSERVATIONS PRESENTED ON THIS PLAN ARE BASED ON A SITE VISIT PERFORMED BY SHA ON JUNE 29 & 30, 2005. THE LOCATIONS OF THE FEATURES DESCRIBED IN EACH OF THE OBSERVATION LOCATIONS SHOULD BE CONSIDERED APPROXIMATE ONLY.
3. SEE FIGURE 2 FOR ADDITIONAL NOTES AND LEGEND.
LEGEND:
STEEL-LINED TRENCH
MASTIVE STEEL-LINED TRENCH
CONCRETE PIPE TRENCH
CONCRETE FILLED TRENCH
SUMP
HISTORIC GRAVEL ROAD CLEANUP AREA
APPROXIMATE LOCATION OF 2,000-GALLON USED OIL AST
LOADING DOCK AREA
HISTORIC COOLANT RELEASE AREA
STEAM CLEAN AREA
FORMER OIL/COOLANT FILTRATION AREA
APPROXIMATE LOCATION OF 6,000-GALLON USED COOLANT AST
AISLE
CANTEEN
COOLANT FILTRATION UNIT
RECEIVING AREA
APPROXIMATE LOCATION OF INDUSTRIAL WASTEWATER SUMP
STEEL STORAGE AREA
GRINDING + FORMER SCREW MACHINE AREA
OFFICE AREA
PLASTIC LINED TRENCHES + SUMPS
APPROXIMATE LOCATION OF TWO FORMER 1,000-GALLON USTs (GASOLINE AND DIESEL)
COMPRESSOR ROOM
GRINDING AREA
WASTEWATER TREATMENT AREA
FORMER HAZARDOUS WASTE STORAGE AREA
CONSTRUCTION BUILDING
APPROXIMATE LOCATION OF FIVE FORMER 12,000-GALLON USTs (WASTE OIL, COOLANT, LOPS, CUTTING OIL, METHANOL) AND ONE 20,000-GALLON QUENCH OIL UST
WELDING AREA
MAINTENANCE AREA
MACHINE SHOP AREA
EMPTY DRUM STORAGE AREA (CANOPY)
TOOL CLEAN ROOM
APPROXIMATE LOCATION OF FORMER 4,000-GALLON QUENCH OIL UST
TRENCH
APPROXIMATE LOCATION OF PHOSPHATING AND MOLYKOTING LINES
GRINDING + HONING AREA
HEAT TREATMENT AREA
APPROXIMATE LOCATION OF FORMER FREON DEGREASER
NITROGEN AST
OIL CLEAN ROOM
APPROXIMATE LOCATION OF FORMER CHLORINATED AND N-METHYLPYRROLIDONE SOLVENT DEGREASER
ASSEMBLY AREA
10,000-GALLON QUENCH OIL TANK CLOSED IN PLACE
GRINDING
SHIPPING AREA
FOR BAY AREA
GRAPHICAL SCALE
30' 15' 0 30' 60'
Sanborn, Head & Associates
DRAWN BY: CAD
DESIGNED BY: MSB
CHECKED BY: BAG
REVIEWED BY: BSC
PROJECT MGR: BAG
PM: CLH
DATED: JAN 06
PHASE I & II ENVIRONMENTAL SITE ASSESSMENT
TIMKEN US CORPORATION
ROTTERDAM/BOSTON, NORTH CAROLINA
SITE FEATURES PLANS
PROJECT NUMBER
2152.01.030
FIGURE
3

SH-13
GATE
SH-10
SH-12
SH-08
TB-08
SH-07
SH-06
SH-09
MAIN BUILDING
SH-02
TB-07
TB-06
SH-11
TB-04
TB-02
SH-01
TB-03
TB-05
SH-03
TB-01
SH-05
SH-04
SH-16
SH-14
SH-15
NOTES:
1. EXPLORATIONS COMPLETED AS PART OF SANBORN, HEAD & ASSOCIATES, INC.'S (SHA'S) PHASE I ENVIRONMENTAL SITE ASSESSMENT (ESA) INCLUDE DRILLING AND INSTALLATION OF MONITORING WELLS SH-01 THROUGH SH-16 AND TEST BORINGS TB-01 THROUGH TB-09B.
2. MONITORING WELLS AND TEST BORINGS WERE COMPLETED BY SUBSURFACE ENVIRONMENTAL INVESTIGATIONS, LLC (SEI) OF STATESVILLE, NORTH CAROLINA WITH OBSERVATION BY SHA BETWEEN NOVEMBER 2 AND NOVEMBER 5, 2005.
3. THE LOCATIONS OF THE EXPLORATION LOCATIONS AND PROMINENT SITE FEATURES WERE SURVEYED BY SYLVESTER & COMPANY, PA (SYLVESTER) OF CASHIERS, NORTH CAROLINA (A NORTH CAROLINA CERTIFIED SURVEYOR). THE LOCATIONS OF THE EXPLORATION LOCATIONS AND SITE FEATURES WERE PROVIDED ELECTRONICALLY TO SHA BY SYLVESTER ON NOVEMBER 15, 2005.
4. THE HORIZONTAL DATUM IS NORTH CAROLINA STATE PLANE (FT).
5. THE TB-9 LOCATION REPRESENTS SIX TEST BORING LOCATIONS (TB-09A THROUGH TB-09F) WITHIN AN APPROXIMATE 10 FOOT RADIUS OF THIS LOCATION, WHERE SHA EXPERIENCED MULTIPLE SHALLOW BORING REFUSALS.
THE TB-09 LOCATION REPRESENTS TWO TEST BORINGS (TB-09A AND TB-09B) WITHIN AN APPROXIMATE FIVE FOOT RADIUS OF THIS LOCATION, WHERE SHA EXPERIENCED TWO SHALLOW REFUSALS.
6. REFER TO FIGURES 2 AND 3 FOR ADDITIONAL NOTES AND LEGEND.
LEGEND:
SH-6 MONITORING WELL LOCATION AND DESIGNATION
TB-5 TEST BORING LOCATION AND DESIGNATION
GRAPHICAL SCALE
100' 50' 0 100' 200'
Sanborn, Head & Associates
PHASE I & II ENVIRONMENTAL SITE ASSESSMENT
TIMKEN US CORPORATION
SUTHERLINGTON, NORTH CAROLINA
EXPLORATION LOCATION PLAN
PROJECT NUMBER
2152.01.038
4


NOTES:
1. THE GROUNDWATER ELEVATION CONTOURS SHOWN ARE BASED ON GROUNDWATER LEVELS MEASURED BY SANBORN, HEAD & ASSOCIATES, INC. (SHA) ON NOVEMBER 8, 2005.
2. THE GROUNDWATER ELEVATION CONTOURS WERE DEVELOPED USING GENERALLY ACCEPTED HYDROGEOLOGIC PRACTICES AND ARE INTENDED TO DEPICT INFERRED TRENDS IN GROUNDWATER LEVELS CONSISTENT WITH AVAILABLE INFORMATION. VARIATIONS IN GROUNDWATER ELEVATIONS ARE EXPECTED TO OCCUR DUE TO CHANGES IN PRECIPITATION, TEMPERATURE, AND OTHER FACTORS NOT EXISTENT AT THE TIME GROUNDWATER LEVEL MEASUREMENTS WERE COLLECTED. ACTUAL CONDITIONS MAY VARY FROM THOSE SHOWN AND OTHER INTERPRETATIONS ARE POSSIBLE.
3. GROUNDWATER ELEVATIONS ARE RELATIVE TO THE NATIONAL GEODETIC VERTICAL DATUM (NGVD) OF 1988.
4. REFER TO FIGURES 2 THROUGH 4 FOR ADDITIONAL NOTES AND LEGEND.
LEGEND:
SH-6 MONITORING WELL LOCATION AND DESIGNATION
1017.18 GROUNDWATER ELEVATION RECORDED ON NOVEMBER 8, 2005.
1018 GROUNDWATER CONTOUR AND ELEVATION
SH-13 1015.64
SH-10 1025.80
SH-12 1026.51
SH-08 1024.43
SH-07 1021.37
SH-06 1017.18
SH-09 1026.88
SH-02 1024.67
SH-11 1026.05
SH-01 1027.72
SH-03 1023.14
SH-04 1021.91
SH-05 1015.83
SH-16 1008.01
SH-14 1013.07
SH-15 1015.29
1018
1020
1022
1024
1026
1016
1014
1012
1010
FORMER LAGOON AREA
GRAVEL ROAD CLEANUP AREA
OFFICE AREA
MAIN BUILDING
CONSTRUCTION BUILDING
GATE
PARKING
WOODED
PROPERTY LINE
GRAPHICAL SCALE
100' 50' 0' 100' 200'
Sanborn, Head & Associates
Drawn By: DJD
Designed By: BAG
Reviewed By: BSG
Project Mgr: BAG
PC: CLH
Date: JAN 06
PHASE I & II ENVIRONMENTAL SITE ASSESSMENT
TIMKEN US CORPORATION
BUTTERFORDTON, NORTH CAROLINA
GROUNDWATER ELEVATION CONTOUR PLAN
PROJECT NUMBER
2152.01.038
5



NOTES:

1. THIS FIGURE DEPICTS THE CONCENTRATIONS OF ANALYTES DETECTED IN SOIL SAMPLES ABOVE LABORATORY REPORTING LIMITS AND HIGHLIGHTS THOSE CONCENTRATIONS (IN YELLOW) WHICH WERE DETECTED ABOVE EITHER THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES ACTION LEVELS OR CONTAMINATED SOIL CLEAN-UP LEVELS ESTABLISHED IN THE JULY 2000 "GROUNDWATER SECTION GUIDELINES FOR THE INVESTIGATION AND REMEDIATION OF SOIL AND GROUNDWATER," AND/OR THE MAXIMUM SOIL CONTAMINANT CONCENTRATIONS ESTABLISHED IN THE JULY 2003 ADDENDUM TO THESE GUIDELINES ENTITLED "GROUNDWATER SECTION GUIDELINES FOR THE INVESTIGATION OF SOIL AND GROUNDWATER CONTAMINATED WITH CHLORINATED SOLVENTS AND OTHER DENSE NON-AQUEOUS PHASE LIQUIDS."
2. SOIL SAMPLES WERE COLLECTED BY SHA FROM THE DEPTHS INDICATED BETWEEN NOVEMBER 2 AND NOVEMBER 5, 2005.
3. SOIL SAMPLES WERE ANALYZED BY PRISM LABORATORIES (PRISM) OF CHARLOTTE, NORTH CAROLINA FOR VOLATILE ORGANIC COMPOUNDS (VOCS — INCLUDING N-METHYL PYRROLIDONE, FREON 113, FREON 1488, FREON 133A, AND FREON 113A, WHICH WERE REPORTED AS TENTATIVELY IDENTIFIED COMPOUNDS) BY UNITED STATES ENVIRONMENTAL PROTECTION AGENCY (USEPA) METHOD 8260B, POLYCYCLIC AROMATIC HYDROCARBONS (PAHS) BY USEPA METHOD 8270C, TOTAL PETROLEUM HYDROCARBONS (TPH) DIESEL-RANGE ORGANICS (DRO) AND GASOLINE-RANGE ORGANICS (GRO) BY USEPA METHOD 8015B, OIL AND GREASE (O&G) BY SOXHLET EXTRACTION AND SILICA GEL TREATMENT BY USEPA METHOD 9071A.

   IN ADDITION, SOIL SAMPLES COLLECTED FROM SH-01, SH-02, SH-03, SH-13, AND SH-15 WERE ALSO ANALYZED BY PRISM FOR TOTAL ARSENIC, BARIUM, CADMIUM, CHROMIUM, LEAD, MERCURY, NICKEL, SELENIUM, SILVER, AND ZINC BY USEPA METHODS 6010B AND 7471A.
4. SOIL RESULTS ARE PRESENTED IN UNITS OF MILLIGRAMS PER KILOGRAM (MG/KG).
5. "ND" INDICATES NO ANALYTES WERE DETECTED ABOVE LABORATORY REPORTING LIMITS.
6. "NS" INDICATES A SOIL SAMPLE WAS NOT SUBMITTED FOR LABORATORY ANALYSIS.
7. REFER TO FIGURES 2 THROUGH 5 FOR ADDITIONAL NOTES AND LEGEND.

LEGEND:

SH-6 ⊕ MONITORING WELL LOCATION AND DESIGNATION

TB-6 ⊕ TEST BORING LOCATION AND DESIGNATION

ANALYTES DETECTED ABOVE LABORATORY REPORTING LIMITS

SH-02	SAMPLE LOCATION
0.5-3.5'	SAMPLE DEPTH IN FEET
Chromium	75	CONCENTRATION (mg/kg)
Lead	48	

INDICATES SAMPLE CONCENTRATION EXCEEDS RELEVANT NC DENR SOIL SCREENING CRITERIA

GRAPHICAL SCALE
0 50' 100' 200'

Sanborn, Head & Associates

DRAWN BY: DJD
CHECKED BY: MSB
CHECKED BY: BAG
REVIEWED BY: ESC
PROJECT MGR: BAG
PIC: CLH
DATE: JAN 06

PHASE I & II ENVIRONMENTAL SITE ASSESSMENT
TIMKEN US CORPORATION
BUTTERWORTH, NORTH CAROLINA

ANALYTES DETECTED IN SOIL (mg/kg)

PROJECT NUMBER
2152.01.038

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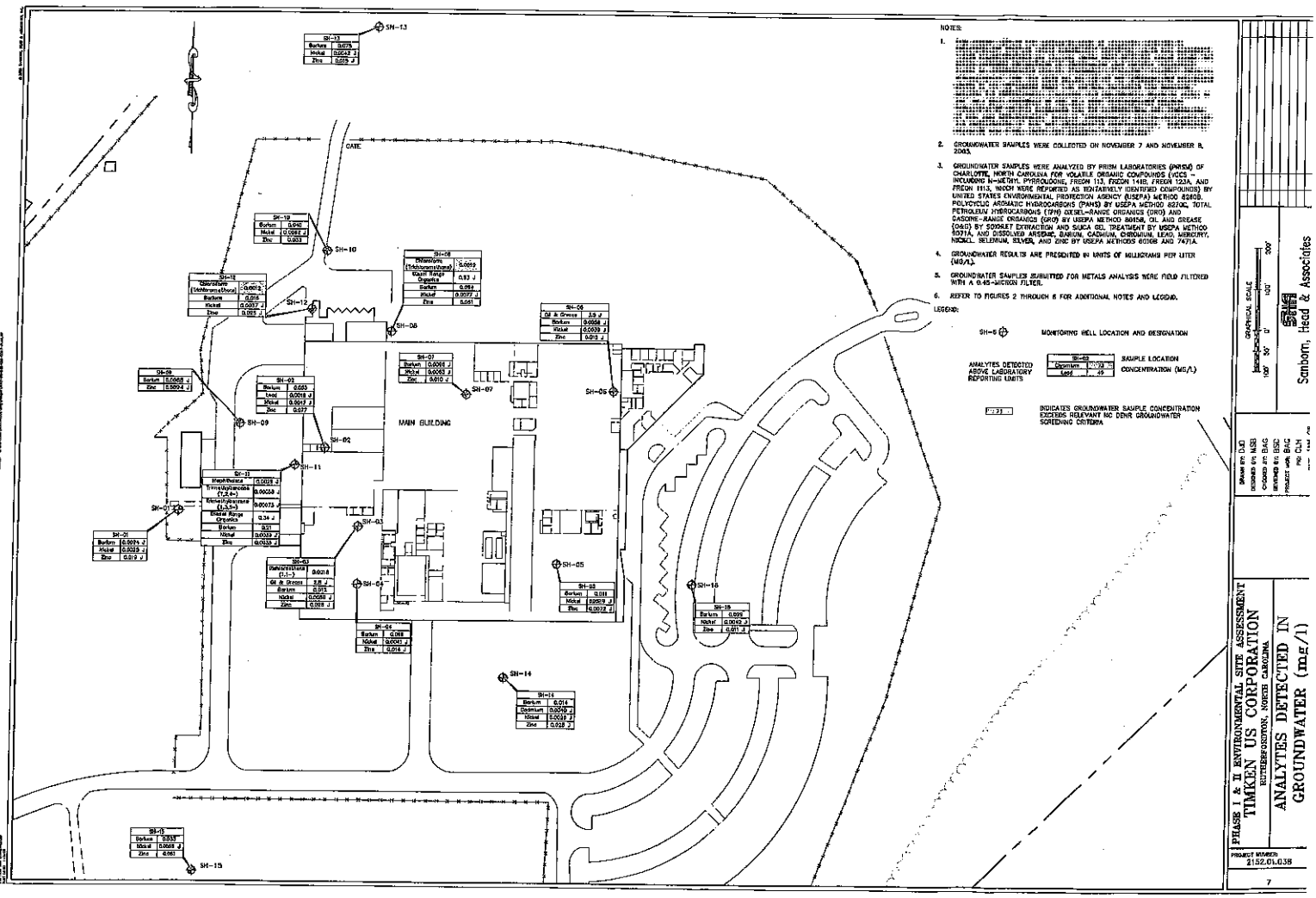

NOTES:

1. [redacted]
2. GROUNDWATER SAMPLES WERE COLLECTED ON NOVEMBER 7 AND NOVEMBER 8, 2005.
3. GROUNDWATER SAMPLES WERE ANALYZED BY PRISM LABORATORIES (PRISM) OF CHARLOTTE, NORTH CAROLINA FOR VOLATILE ORGANIC COMPOUNDS (VOCS - INCLUDING N-METHYL PYRROLIDONE, FREON 113, FREON 114B, FREON 123A, AND FREON 1113, WHICH WERE REPORTED AS TENTATIVELY IDENTIFIED COMPOUNDS) BY UNITED STATES ENVIRONMENTAL PROTECTION AGENCY (USEPA) METHOD 8260B, POLYCYCLIC AROMATIC HYDROCARBONS (PAHS) BY USEPA METHOD 8270C, TOTAL PETROLEUM HYDROCARBONS (TPH) DIESEL-RANGE ORGANICS (DRO) AND GASOLINE-RANGE ORGANICS (GRO) BY USEPA METHOD 8015B, OIL AND GREASE (O&G) BY SOXHLET EXTRACTION AND SILICA GEL TREATMENT BY USEPA METHOD 9071A, AND DISSOLVED ARSENIC, BARIUM, CADMIUM, CHROMIUM, LEAD, MERCURY, NICKEL, SELENIUM, SILVER, AND ZINC BY USEPA METHODS 6010B AND 7471A.
4. GROUNDWATER RESULTS ARE PRESENTED IN UNITS OF MILLIGRAMS PER LITER (MG/L).
5. GROUNDWATER SAMPLES SUBMITTED FOR METALS ANALYSIS WERE FIELD FILTERED WITH A 0.45-MICRON FILTER.
6. REFER TO FIGURES 2 THROUGH 6 FOR ADDITIONAL NOTES AND LEGEND.

LEGEND:

SH-6 ⊕ MONITORING WELL LOCATION AND DESIGNATION

SH-03 Cadmium 0.0018 J Lead 45 — SAMPLE LOCATION AND CONCENTRATION (MG/L)

ANALYTES DETECTED ABOVE LABORATORY REPORTING LIMITS

"J" — INDICATES GROUNDWATER SAMPLE CONCENTRATION EXCEEDS RELEVANT NC DENR GROUNDWATER SCREENING CRITERION

GRAPHICAL SCALE
100' 50' 0' 100' 200'

Sanborn, Head & Associates

Drawn by: DJD
Designed by: NASI
Checked by: BAG
Reviewed by: BSC
Project Mgr: BAG
PM CLN

PHASE I & II ENVIRONMENTAL SITE ASSESSMENT
TIMKEN US CORPORATION
RUTHERFORDTON, NORTH CAROLINA

ANALYTES DETECTED IN GROUNDWATER (mg/l)

PROJECT NUMBER
2152.01.038

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