PART B APPLICATION

SECTION B
FACILITY DESCRIPTION

The Koyo Bearings North America Inc. (Koyo) Sylvania Georgia Plant (SGP), formerly Timken US Corporation (Timken), formerly The Torrington Company (Torrington), is located near Sylvania, Screven County, Georgia. Figure B-1 shows the facility location in relation to the city of Sylvania.

B-1 GENERAL DESCRIPTION

B-1a Ownership History

Torrington was formerly a wholly owned subsidiary of Ingersoll Rand Company (Ingersoll Rand). The Timken Company acquired Torrington from Ingersoll Rand on February 18, 2003. Koyo purchased the plant from Timken on December 31, 2009.

As part of the transaction, Ingersoll Rand retained responsibility for Resource Conservation and Recovery Act (RCRA) post-closure care at SGP. Thus, Ingersoll Rand is the "operator" of the closed RCRA units and is responsible for activities and inspections required for post-closure care at SGP. On March 2, 2020 Ingersoll Rand changed its name to Trane Technologies Company LLC pursuant to a Reverse Morris Trust Agreement entered into between Ingersoll Rand plc and Gardner Denver. Since March 2020, Trane Technologies Company LLC has been the "operator" of the closed RCRA Units and is responsible for the post-closure care at SGP. Koyo is the "owner" of the SGP facility. Post-closure care activities have been designated as the Ingersoll Rand–Sylvania Remediation to differentiate RCRA remediation activities from Koyo production activities at the facility.

B-1b Plant Description

The main SGP production facility was constructed in 1974, with a major addition in 1979, and covers approximately 87 acres. SGP manufactures drawn-cup needle bearings, precision pins, rolls, and shafts for the automotive and industrial market. The facility was originally assigned EPA I.D. Number GAD 065 344 301. When Ingersoll Rand sold the facility in 2003 EPA I.D. Number GAD 065 344 301 remained with the Ingersoll Rand-Sylvania Remediation and the facility was assigned a new EPA I.D. Number, GAR 000 036 152.

The SGP facility street and mailing addresses are as follows:

Mail	**Street**
Koyo Bearings North America (NA)	Koyo Bearings North America (NA)
Sylvania Georgia Plant	Sylvania Georgia Plant
400 Friendship Road	400 Friendship Road
Sylvania, Georgia 30467	Sylvania, Georgia 30467

The main plant telephone number is (912) 564-7151.

The Ingersoll Rand operator contact address and telephone number is as follows:

Regular Mail and Federal Express
Mr. Michael Goldstein
Global Remediation and Transaction Manager
Ingersoll Rand Company
800-E-Beaty Street,
Davidson, North Carolina 28036
tel. (704) 990-3250

From 1974 to 1996, the bearings production process involved a copper-plating and cyanide stripping operation that resulted in a hazardous waste stream containing cyanide and various heavy metals. By EPA definition, the waste plating solutions were listed hazardous wastes, F007, which were listed because of the presence of cadmium, hexavalent chromium, nickel, and cyanide (complexed). Sludges from the treatment of the waste plating solutions were also listed hazardous wastes, F006, which were also listed because of the presence of cadmium, hexavalent chromium, nickel, and cyanide (complexed). The facility also previously used chlorinated solvents for metal-cleaning purposes. Process changes and waste minimization efforts have eliminated the use of cyanide and chlorinated solvents at the plant. Cyanide has not been used at the plant since 1996 and chlorinated solvents have not been used at the plant since 1992. Prior to 1996 the facility also produced a nonhazardous waste stream that was combined with the hazardous waste stream in the former wastewater treatment system (WWTS).

The Ingersoll Rand–Sylvania Remediation is currently classified as a Treatment, Storage, and Disposal Facility (TSDF) in accordance with Georgia Environmental Protection Division (EPD) regulations for the management of RCRA regulated wastes in closed surface impoundments. The facility is also classified as a RCRA small quantity generator because it generates and stores hazardous waste in drums.

B-1c Wastewater Treatment Process Description

Prior to June 1, 1984, SGP operated two hazardous waste surface impoundments that received the cyanide wastes from the plant in route to the WWTS. These impoundments were referred to as the Dilute Cyanide Surface Impoundment (DCSI) and the Concentrated Cyanide Surface Impoundment (CCSI). The impoundment locations are presented on Figure B-2. These surface impoundments were regulated by EPD under RCRA.

A wastewater flow diagram of the previous wastewater treatment system used while the surface impoundments were in operation is shown as Figure B-3. Both dilute and concentrated F007 waste streams were produced at the plant and were stored in the separate concrete-lined surface impoundments from 1974 until June 1, 1984. Dilute cyanide wastewater was continually produced at the plant and was fed directly into the DCSI via underground piping.

The concentrated cyanide waste stream was produced from spent concentrated cyanide baths, which, after they became unusable, were placed in the CCSI via underground piping.

From 1974 to 1984, wastewater from the DCSI was discharged to the cyanide destruct unit in the WWTS, which operated eight hours a day. Prior to 1981, wastewater from the CCSI was gradually discharged into the DCSI and both waste streams were treated together. From 1981 to 1984 the dilute and concentrated waste streams were not mixed but were treated as two separate waste streams to remove the cyanide.

After treatment and removal of cyanide via chlorination and pH adjustment, the treated wastewater was piped to the clarifier and finally to an oil/water separator (OWS) before being discharged to a retention pond (holding pond). This pond served as a final oil catch and as a means for regulating water flow into the City of Sylvania's sanitary sewer line.

The emergency pond, adjacent to the retention pond, was constructed for emergency use when breakdowns occurred in either the clarifier or the cyanide destruct unit. The system was designed so that, in the event of a breakdown in the clarifier unit, tumble sludge could be piped to the emergency pond. In the event of a breakdown in the cyanide destruct unit, dilute cyanide wastewater exceeding the storage capacity of both impoundments could be piped to the emergency pond via overflow piping. Dilute cyanide wastewater was no longer discharged to the emergency pond after the CCSI and DCSI were replaced with aboveground holding tanks in 1984.

B-1d Lined Cyanide Surface Impoundments

B-1d(1) Operational History of the Lined Surface Impoundments (DCSI and CCSI)

B-1d(1)(a) DCSI

The concrete-lined DCSI was originally installed as two separate halves with an expansion joint running along the north–south axis of the impoundment. The DCSI had an estimated surface area of 1,225 feet and a storage capacity of approximately 13,000 gallons. The impoundment was lined with 4 inches of reinforced concrete and covered with a slanted fiberglass top to prevent rainfall from entering. Figures B-4 and B-5 show construction diagrams for the unit.

A dilute cyanide solution of approximately 1,500 parts per million (ppm) cyanide was stored in the DCSI over a 10-year period from 1974 to May 31, 1984. Between 2 and 5 feet of cyanide solution was held in the impoundment over a 24-hour period. Wastewater was typically processed during the eight-hour day shift only and accumulated in the impoundment during the other shifts as a measure to prevent overtopping. An overflow pipe at the 5-foot level was installed to allow the cyanide waste stream to be removed to the emergency pond, in the event that the cyanide WWTS was not operating.

Cyanide-contaminated soil (>10 ppm amenable cyanide) was noted in the initial soil sampling conducted around the DCSI in December 1984. During the closure action,

contaminated soil adjacent to the DCSI and in the DCSI was evaluated and treated on site in the concrete-lined CCSI to reduce cyanide soil levels to <10 ppm amenable cyanide. The treated soil was placed back into the DCSI.

B-1d(1)(b) CCSI

The concrete-lined CCSI was constructed similarly to the DCSI, with two separate halves joined by an expansion joint along the north–south axis. The CCSI had an estimated surface area of 1,225 square feet and a storage capacity of approximately 10,000 gallons. While both the DCSI and the CCSI had the same surface area they had different volumes. Figures B-6 and B-7 are construction diagrams for the CCSI.

A concentrated cyanide solution of approximately 30,000 ppm cyanide was contained in the CCSI over a 10-year period from 1974 to May 31, 1984. The concentrated cyanide waste stream from the plant was stored in the CCSI, typically to a depth of 3 feet. The concentrated cyanide solution was originally metered into the DCSI. From 1981 until May 31, 1984, the concentrated solution was piped to a pre-treatment tank for treatment before routing to the WWTS. Emptying the impoundment on May 31, 1984, revealed leaks along the expansion joint and at the corners where cracks appeared to penetrate the structure. Soil sampling indicated cyanide contamination beneath and adjacent to the unit.

B-1d(2) Closure of the Lined Surface Impoundments (DCSI and CCSI)

On June 1, 1984, as part of the facility's long-range environmental compliance program, SGP updated their WWTS by replacing the DCSI and CCSI with aboveground holding tanks in secondary containment.

A closure plan for the two cyanide surface impoundments (CSIs) was approved by EPD on March 30, 1984. The original plan called for an initial soil sampling program adjacent to the impoundments, followed by excavation and removal of any F006-contaminated soil to a permitted TSDF. Excavation was to continue until all the contaminated soil had been removed or until it became economically infeasible to continue excavation and disposal. If it became economically infeasible to obtain clean closure, which would be determined by soil sampling, SGP proposed to close the units in place and to implement post-closure care.

An initial program of soil sampling around the two CSIs began in December 1984. Results indicated that there was cyanide contamination in the soil adjacent to, and beneath, the impoundments. This preliminary sampling indicated that soil contamination extended beyond the expected boundary of contamination at the CCSI and would likely preclude SGP from obtaining a clean closure of the unit. Contamination at the DCSI, however, was shown to be more limited in area and, therefore, conducive to clean closure of the unit.

On-site chemical treatment of the contaminated soil at the units began in July 1985. The contaminated soil at the DCSI was treated to acceptable levels (<10 ppm amenable cyanide), previously agreed upon with EPD, using an EPD-approved method for the on-site treatment of the cyanide-contaminated soil within the basins. Based on the volume of contaminated soil

defined at the DCSI, an on-site chemical treatment process was determined to be a more economical means of clean closing the unit and a more environmentally desirable option than disposal of the soil at a TSDF.

Limits of contamination at the CCSI, however, were not completely defined before the excavation ceased. Soil sampling results showed that the limits of contamination at the CCSI extended beyond the area that was economically feasible for SGP to clean close using either the on-site chemical treatment process or shipment off site to a TSDF. Therefore, treatment was discontinued and the impoundment was closed in place and post-closure care was implemented.

B-1e Retention and Emergency Ponds

B-1e(1) Operational History of the Retention Pond and Emergency Pond

The retention pond and emergency pond were constructed when the plant was first built in 1974. As stated earlier, the wastewater stream was previously released from the clarifier, to an oil trap, to the retention pond, and then to the City of Sylvania Publicly Owned Treatment Works (POTW). The retention pond was constructed to supply an even flow of water to the POTW (see Figure B-3).

The hazardous and nonhazardous waste streams, which had historically been combined prior to treatment, were separated in 1985 with the installation of a new hazardous WWTS. After this change and prior to closure, the nonhazardous waste stream still flowed from the clarifier to the retention pond. The hazardous waste stream, which was treated in the facility's hazardous WWTS, flowed from the new system into a concrete holding basin at one end of the retention pond, which provided for a continual flow of water to the City of Sylvania POTW (see Figure B-3).

The retention pond was approximately 106 feet long, 116 feet wide, and 8.5 feet deep. A portion of this pond was in a dense clay layer that underlies the SGP waste treatment area (see Figure B-8).

The hazardous waste stored in the retention pond consisted of F006 sludge in the pond and a limited volume of soil contaminated with F006 hazardous constituents in the walls and the bottom of the pond. Prior to closure, the pond contained 200,000 gallons of water.

In the event of a shutdown of the clarifier, the emergency pond was designed to store the waste until the clarifier could be fixed; therefore, a total shutdown of the plant was not necessary. Because the emergency pond was used as a settling basin during periods when the clarifier was shut down, it is also classified as a hazardous waste surface impoundment regulated under RCRA.

The emergency pond was approximately 150 feet long, 80 feet wide, and 8 feet deep. The majority of this pond was in a dense clay layer that underlies the facility (see Figure B-8).

The hazardous waste stored in the emergency pond consisted of F006 sludge and a limited amount of soil contaminated with F006 hazardous constituents in the walls and on the bottom of the pond.

B-1e(2) Closure of the Retention and Emergency Ponds

SGP upgraded the WWTS in 1987 eliminating the need for retention and emergency ponds. Following the WWTS upgrades, the hazardous waste stream was treated in the Baker Brother Treatment System and discharged to the WWTS collection sump and then to the City of Sylvania POTW. Following the WWTS upgrades, the nonhazardous waste stream was treated in the existing clarifier and pH adjusted before passing through an additional clarifier and sand filter that were installed to provide additional treatment of the nonhazardous waste stream. The treated nonhazardous waste was then discharged to the WWTS collection sump and to the City of Sylvania POTW (See Figure B-3).

A closure plan for the retention and emergency ponds was approved by EPD. Closure of the two units began in November 1987 after the WWTS upgrades were completed.

Initially, the wastes stored in both ponds were treated to remove liquids from the two ponds as much as possible. Oil was removed from the retention pond. Next sludge was removed from both impoundments, dewatered, and shipped off site for disposal at a permitted hazardous waste landfill in Pinewood, South Carolina. Any remaining liquids were also excavated from the ponds after solidification with kiln dust.

Following the removal of oil and sludge from the ponds, soil sampling was conducted (December 7–10, 1987). Because a volatile organic compound (VOC) groundwater plume was known to exist beneath the ponds, soil samples were analyzed for VOCs and F006 constituents. Analytical results indicated that neither VOCs nor F006 constituents were detected in the soil samples. Excavation was determined to be complete and both ponds were capped.

Because groundwater at the area of the ponds is contaminated with VOCs, the units could not be clean closed. Therefore, SGP closed both the emergency pond and the retention pond as landfills, per the approved closure plan, with post-closure care being implemented per 40 CFR 265.288(c).

B-2 TOPOGRAPHIC MAP

To meet the requirement of 40 CFR 270.14(b)(19), several maps of the facility are included, as detailed below.

B-2a General Requirements

B-2a(1) Property Boundary, Surface Water Flow

Figure B-9 is a portion of four U.S.G.S. 7.5-minute quadrangles (scale 1″ = 2,000′) showing the SGP property boundary (including a minimum of 1,000 feet of area surrounding the facility) and contours sufficient to show the surface water flow. Figure B-10 is a topographic

map of the facility and its surrounding land area at a scale of 1″ = 100′ with a contour interval of 2 feet. Based on the surface topography, as shown in Figures B-9 and B-10, the surface water flow at the site is from south to north.

B-2a(2) Buildings, Structures, and Sewers

Buildings and structures are shown on Figure B-11. This figure also shows the property boundaries of the facility. The main plant includes the offices, shipping and receiving warehouses, heat treat area, and manufacturing area. The waste treat area is northeast of the main plant and includes the capped emergency and retention ponds and the capped CCSI and DCSI.

Figure B-12 is a site plan for the location of the sanitary sewer system and the process and industrial sewer. The sanitary sewer line flows east from the main building to where it intersects a line flowing north from the waste treat area. The sewer line then flows north to Friendship Road. Process and industrial sewer lines flow east from the main building to the waste treat area. Treated industrial and process wastewater is then discharged into the sanitary sewer system.

B-2a(3) Surface Water Description

Based on topography of the site, as shown in Figure B-10, the surface water from the facility flows generally south to north. Buck Creek is approximately 2,000 feet north of the closed units. No other surface water bodies appear to be in a location that would be directly affected by run-off from the facility.

B-2a(4) Surrounding Land Use

Figure B-13 shows the surrounding land use area. Most of the surrounding area is undeveloped woods; however, some residential and commercial use surrounds the property as well as a public school southwest of the property.

B-2a(5) Run-Off Control Systems and Drainage Barriers

Figure B-14 is a site plan plotted to a scale of 1″ = 200′ showing the plant and its on-site storm drainage facilities. The site is serviced by three primary drainage areas with three outfalls. These systems are designated as the Woods Outfall (northern property boundary), Roads Outfall (along Friendship Road), and Vehicle Outfall (eastern portion of property just east of parking lot area).

The following is a brief summary and description for each of the three outfalls:

Outfall	Latitude	Longitude	Total Drainage Area (acres)	Impervious Area (acres)	Percent Impervious
Woods	32.760392	-81.613923	50.27	6.54	13%
Vehicle	32.755939	-81.618287	25.57	4.70	18%

Road	32.759758	-81.61984	11.61	3.75	32%

The Woods Outfall receives run-off from the northern portion of property, including the industrial wastewater treatment plant and the Wellness Building area. All critical industrial activities are under cover for the Woods Outfall. The Woods Outfall is equipped with an oil/water separator, in case of any accidental discharge of oil into the storm water run-off.

The Road Outfall receives run-off from the small parking lots on the north and east sides of the main plant building. Two catch basins are located in grassy areas near the entrance to the east parking lot. A third catch basin is located in the north (visitors) parking lot. These three basins discharge through an outfall located adjacent to Friendship Road to the north. From the "Road Outfall," run-off follows a shallow ditch along Friendship Road for approximately ¼ mile and empties into an intermittent stream known locally as Buck Creek. No materials storage or industrial process areas are situated to impact storm water in this system, which collects run-off only from parts of the roof, parking lots, and undeveloped areas. No potential pollutants are stored or managed on the roof, and all undeveloped areas are landscaped so that storm water run-off will contain a minimum of silt from erosion.

The Vehicle Outfall collects run-off from the storage and operations areas on the east, south, and west sides of the main plant building. Seven catch basins in this area discharge storm water collected around the main building through an OWS located on the west side of the building. The Vehicle Outfall consists of a multi-step concrete weir and a slope reinforced with rip-rap. Effluent from the OWS is discharged via a ditch trending toward the northeast. This flow merges with the discharge from the WWTS at the "Woods Outfall," near the northeast property boundary. Because the catch basins are all sited to collect run-off from paved or concrete areas, it is not likely that any of the storm water run-off collected will contain sediment.

B-2a(6) Loading and Unloading Areas

Figure B-15 shows the areas used for loading/unloading raw and finished products.

B-2a(7) Access and Internal Roads and Access Control

Figure B-15 shows the access locations to the facility. The fences and gates to limit access to the facility are also shown.

B-2a(8) Injection and Withdrawal Wells

SGP currently has 11 permitted infiltration wells in the CCSI and DCSI area. The purpose of these wells is to increase the effectiveness of the remediation system at this area. The infiltration wells were permitted by EPD. Section E describes the locations of the withdrawal wells that are being used for the groundwater remediation system.

B-2a(9) Location of Solid Waste Management Units

The solid waste management units (SWMUs) are described in Section J.

B-2a(10) Legal Boundaries

The legal boundaries for the SGP property are shown in Figure B-16.

B-2a(11) Fire Control Facilities

Figure B-17 details the fire control facilities, as well as other safety equipment, at the site. The facility's fire control system consists of fire hydrants, portable fire extinguishers, fire hoses, a sprinkler system, and an audible fire alarm.

B-2a(12) Wind Intensity and Direction Graph

Figure B-18 is a wind rose of meteorological data collected from Plantation Airpark located approximately 6 miles south of Sylvania, which is the nearest weather station to SGP.

B-2a(13) Flood Control/100-Year Floodplain

Figure B-19 shows the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map for SGP. The FEMA Flood Insurance Rate Map for SGP shows the areas of 100-year flood to the west, northwest, and north of SGP, and approximately 500 feet from the northernmost property boundary and over 1,500 feet from the hazardous waste units (see Figure B-19). Based on the FEMA maps, none of the hazardous waste units at SGP would be impacted by a 100-year flood event.

B-2b Additional Topographic Requirements for Land Storage, Treatment, and Disposal Facilities

See Section E for information regarding the groundwater characterization at the facility, including a summary of the groundwater monitoring data, identification of aquifers, etc., pursuant to the requirements of 40 CFR 270.14(c).

B-3 LOCATION INFORMATION

B-3a Seismic Considerations

This section is not applicable. SGP is an existing facility and is not within the jurisdictions to require this information. For informational purposes only, the facility is within Zone 2A, which is one of the lowest-risk zones for seismic activity.

B-3b Floodplain Standard

SGP is not in a 100-year floodplain, as discussed in Section B-2a(13). See Figure B-19 for a current floodplain map from FEMA demonstrating that the facility does not lie in a FEMA-designated floodplain [see Section B-2a(13)].

B-3b(1) Demonstration of Compliance

This section is not applicable.

B-3b(2) Plan for Future Compliance with Floodplain Standard

This section is not applicable.

B-3b(3) Waiver for Land Storage and Disposal Facilities (Existing Facilities Only)

This section is not applicable.

B-4 TRAFFIC INFORMATION

B-4a Estimated Volume

All traffic enters and leaves the facility via Friendship Road. According to facility records, approximately 18 to 20 tractor–trailer trucks enter and leave the facility each day. Most of these trucks are either delivering raw materials or picking up finished products. Figure B-15 details the traffic flow at the site.

B-4b Traffic Pattern

Figure B-15 shows the traffic pattern at the facility for the delivery of raw materials and the pickup of finished products. As Figure B-15 shows, traffic enters the facility from Friendship Road and proceeds directly to the loading docks. Figure B-15 also shows the traffic pattern for the shipment of hazardous waste from the waste treat area.

B-4c Traffic Control

Vehicle access to the facility occurs through one of two gates leading into the main plant. Vehicle access to the waste treat area is through a gate at the waste treat area (see Figure B-15).

B-4d Access Roads and Surfacing and Load-Bearing Capacity

Access roads within the facility are surfaced with asphalt and/or concrete paving and have a single-axle load-bearing capacity of 40,000 pounds. The access road leading to the waste treat area is not paved. All the roads are sufficient to support fully loaded tractor–trailer traffic into and out of the facility.