TABLE AA–3.—STATISTICS FOR SELECTED POLLUTANTS REPORTED BY COATING, ENGRAVING, AND ALLIED SERVICES FACILITIES SUBMITTING PART II SAMPLING DATAⁱ (mg/L)

Pollutant Sample type	No. of facilities		No. of samples		Mean		Minimum		Maximum		Median		95th percentile		99th percentile	
	Grab	Comp ⁱⁱ	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp
BOD 5	13	13	16	16	12.0	6.06	0.0	0.0	81.0	17.0	7.5	6.0	39.3	15.8	74.4	24.58
COD	13	13	16	17	68.8	56.9	12.0	0.0	320.0	160.0	45.0	49.0	194.4	262.7	349.4	559.3
Nitrate + Nitrate Nitrogen	13	13	16	17	1.82	1.60	0.21	0.0	7.70	12.5	0.96	0.80	5.64	4.44	10.91	8.67
Total Kjeldahl Nitrogen	13	13	16	17	2.36	1.52	0.00	0.0	7.20	5.2	1.35	0.80	6.87	4.41	12.12	7.68
Oil & Grease	13	N/A	16	N/A	1.7	N/A	0.0	N/A	9.0	N/A	0.0	N/A	9.4	N/A	18.2	N/A
рН	11	N/A	14	N/A	N/A	N/A	5.5	N/A	8.2	N/A	6.6	N/A	8.0	N/A	8.7	N/A
Total Phosphorus	13	13	16	17	1.91	0.90	0.00	0.0	16.00	12.0	0.16	0.15	6.30	2.77	23.91	9.37
Total Suspended Solids	13	13	16	17	112	88	0	0	461	990	26	21	474	272	1215	764
Zinc, Total	10	10	13	14	0.489	0.218	0.050	0.000	2.100	0.830	0.32	0.15	1.481	0.800	2.758	1.632

Applications that did not report the units of measurement for the reported values of pollutants were not included in these statistics. Values reported as non-detect or below detection limit were assumed to be 0. "Composite samples.

4. Options for Controlling Pollutants

The measures to control pollutants at metal fabricating operations should focus primarily on the storage of waste and raw materials; chemical storage areas; and equipment storage and service areas. Since most of the operations occur indoors, procedures are necessary in the handling and transporting of materials to minimize exposure of pollutants to storm water runoff. Of primary importance is the control of activities and use of chemicals that have been identified as potential sources of pollutants. The most effective discharge controls for these facilities are BMPs targeted toward source control. This includes utilizing inside storage as much as possible; and implementing programs for recycling scrap materials. Many of these practices require the use of covers, indoor storage, and indoor operations. Some structural

measures would provide an additional control to reduce the potential for exposure at these facilities. These include source reduction diversion dikes, grass swales, vegetative covers, and sedimentation ponds. Preventive controls are typically low in cost and relatively easy to implement, as the majority of the facilities in this industry already employ these practices. In addition, directing flows to privately owned treatment works or retention ponds will be the most effective measure. The industry also must give consideration to the non-storm water discharges associated with improper disposal of materials from the indoor processes due to the extensive use of chemicals in the preparation and finishing phases of metal preparation and fabrication. The industry also involves grinding, welding, and sanding operations that will require special consideration to control potential

pollutants that could accumulate and be subject to storm water runoff. Most of the measures commonly implemented to reduce pollutants in storm water associated with the fabricated metals industry are generally uncomplicated practices. Some of the practices may be predicated on the size of the operation, the types of processes that are exercised from a full-scale plant operation to a more specialized company that conducts only a portion of the operations usually found in the fabricating industry. Table AA-4 below is an outline of the most common activities and sources that may produce pollutants associated with different activities that routinely take place at fabricated metal industries. Following the table is a brief list of BMPs that EPA believes will help reduce and control the potential pollutant sources at fabricating facilities from contaminating storm water.

TABLE AA–4.—POLLUTANTS POTENTIALLY FOUND IN STORM WATER DISCHARGES ASSOCIATED WITH THE FABRICATED METAL INDUSTRY

Activity	Pollutant source	Pollutant
Metal preparation	Grinding, welding, sawing, shaving, brazing, bending, cutting, etching.	Steel scraps, aluminum scraps, brass, copper, dust, chips and borings, steel scale, teflon, manganese.
Parts cleaning	Solvents, cold and hot dips, cleaning parts, degreasing.	Acid, coolants, clean composition, degreaser, mineral spirits, pickle liquor, spent caustic, sludge.
Surface Treatment	Finishing, plating, case hardening, chemical coating, coating, polishing, rinsing, abrasive cleaning, electroplating.	Acid, aromatic solvent, corn cob, lubricants, sand, oil, pH, nitrates, nitrites, carbon, phosphates, borates, nitrogen, oily sludge, nickel, chromium, hydrofluoric acid.
Galvanizing	Spills, leaks, transporting materials	Acid solution, phosphates, zinc chromate, hexavalent chromium, nickel.
Painting	Empty containers, paint application wastes, spills, over spraying, storage areas.	Paint wastes, thinner, varnish, heavy metals, spent chlorinated solvents
Heavy equipment use and storage	Leaking fluids, fluids replacement, washing equipment, use on poor surface area, soil disturbance.	Oil, heavy metals, organics, fuels, TSS, hy- draulic oil, diesel fuel, gasoline
Equipment maintenance	Leaking fluids, fluids replacement, washing equipment.	Oil, grease
Storage of uncoated structural steel	Stored on porous pavement	Aluminum, lead, zinc, copper, iron, oxide, oil, nickel, manganese.
Storing galvanized steel directly on the ground	Galvanizing material drippage or leaching	
Vehicle/equipment traffic	Soil disturbance and erosion	TSS from erosion, hydraulic fluid loss/spillage
Cleaning equipment/vehicles	Chemicals disposed improperly, spillage	Oil, grease, surfactants, chromates, acid, hy- droxide, nitric acid.