brick. Forms are often coated with a release oil to aid stripping. The concrete "sets" or cures in the forms for a number of hours (depending upon the type of admixtures used). When the concrete has cured, the forms are removed. Forms are washed for reuse, and the concrete products are stored until they can be shipped.

In addition to the permanent concrete product facilities, there are a number of portable ready mix concrete operations which operate on a temporary basis. The portable plants are typically dedicated to providing ready mix concrete to one construction project. Portable plants have the same significant materials and industrial activities as permanent facilities. Therefore, portable concrete plants are eligible for coverage under Part XI.E. of today's permit.

(5) Gypsum Products Manufacturing. Facilities primarily engaged in manufacturing plaster, wallboard, and other products composed wholly or partially of gypsum (except plaster of paris and papier-mâché) are classified as SIC code 3275.

The gypsum product manufacturing process begins with calcining the gypsum: finely ground raw gypsum (referred to as "land plaster") is fed into imp mills or calcining kettles where extreme heat removes 75 percent of the gypsum's molecular moisture. The result is a dry powder called stucco, which is cooled and conveyed to storage bins.

To produce wallboard, stucco is fed into pin mixers where it is blended with water and other additives to produce a slurry. The slurry is then applied to continuous sheets of paper to form wallboard. In addition to producing wallboard, some facilities may combine stucco with additives (excluding water) to produce plaster. Plaster is then bagged or bulked and shipped off site for purchase.

ÈPA considers calcining the first step in gypsum product manufacturing. Many facilities with a primary SIC code of 3275 may have mining/quarry and crushing activities at their sites. Please note, however, that because these activities are not considered part of the manufacturing operations, storm water discharges from mining/quarry and crushing are not covered under Part XI.E. of the today's permit. Discharges associated with gypsum mining activities are addressed under Part XI.J. of today's permit and VIII.J. of the fact sheet.

2. Pollutants in Storm Water Discharges Associated With Glass, Clay, Cement, Concrete, and Gypsum Product Manufacturing

Impacts caused by storm water discharges from gypsum, concrete, clay, glass, and concrete manufacturing operations will vary. Several factors influence to what extent industrial activities and significant materials from these types of facilities and processing operations can affect water quality. Such factors include: geographic location; hydrogeology; the type of industrial activity occurring outside (e.g., material storage, loading and unloading, or vehicle maintenance); the

type of material stored outside (e.g., aggregate, limestone, clay, concrete, etc.); the size of the operation; and type, duration, and intensity of precipitation events. These and other factors will interact to influence the quantity and quality of storm water runoff. For example, air emissions (i.e., settled dust) may be a significant source of pollutants at some facilities, while material storage is a primary source at others. In addition, sources of pollutants other than storm water, such as illicit connections,<sup>41</sup> spills, and other improperly dumped materials, may increase the pollutant loadings discharged into waters of the United States.

Table E–1, Potential Sources of Pollutants in Storm Water Discharges Associated with Glass, Clay, Cement, Concrete, and Gypsum Manufacturing, summarizes the industrial activities indicated in the part 1 group applications for facilities covered under this section of today's permit. Table E-1 also lists the likely sources of contamination of storm water that are associated with this activity. The third column of the table lists the pollutants or the indicator parameters for the pollutants which may be present in the storm water discharges associated with the industrial activity. The table is limited to the industrial activities which are commonly exposed to storm water. Industrial activities which predominantly occur indoors, such as glass forming, are not listed in Table E-

TABLE E–1.—POTENTIAL SOURCES OF POLLUTANTS IN STORM WATER DISCHARGES ASSOCIATED WITH GLASS, CLAY, CEMENT, CONCRETE, AND GYPSUM MANUFACTURING

Activity	Pollutant source	Pollutants/indicators
Material Storage at Glass Manufac- turing Facilities.	Exposed or spilled: sand, soda ash, limestone, cullet, and petroleum products.	TSS, COD, oil and grease, pH, lead.
Materials Storage at Clay Products Manufacturing Facilities.	Exposed: ceramic parts, pryophyllite ore, shale, ball clay, fire clay, kaolin, tile, silica, graphite, coke, coal, brick, sawdust, waste oil, and used solvents.	TSS, pH, COD, oil and grease, aluminum, lead, zinc.
Material Handling at Clay Products Manufacturing Facilities Including: Loading/Unloading.	Exposed: ceramic parts, liquid chemicals, ammonia, waste oil, used solvents, pryophyllite ore, shale, ball clay, fire clay, kaolin, tile, alumina, silica, graphite, coke, coal, olivine, magnesite magnesium carbonate, brick, sawdust, and wooden pallets.	TSS, pH, oil and grease, TKN, COD, BOD, aluminum, lead, zinc.
Forming/Drying Clay Products	Clay, shale, slag, cement, and lime	TSS, pH.
Material Storage at Cement Manu- facturing Facilities.	Exposed: kiln dust, limestone, shale, coal, clinker, gypsum, clay, slag, and sand.	TSS, pH, COD, potassium, sul- fate.
Material Handling at Cement Manufacturing Facilities.	Exposed: kiln dust, limestone, shale, coal, clinker, gypsum, clay, slag, anhydrite, and sand.	TSS, pH, COD, potassium, sul- fate, oil and grease.
Crushing/Grinding at Cement Manufacturing Facilities.	Settled dust and ground limestone, cement, oyster shell, chalk, and clinker.	TSS, pH.
Material Storage at Concrete Prod- uct Manufacturing Facilities.	Exposed: aggregate (sand and gravel), concrete, shale, clay, lime- stone, slate, slag, and pumice.	TSS, COD, pH.

<sup>&</sup>lt;sup>41</sup> Illicit connections are contributions of unpermitted non-storm water discharges to storm sewers from any of a number of sources including

sanitary sewers, industrial facilities, commercial

establishments, or residential dwellings.