PERMIT RATIONALE FOR REISSUANCE

Gerdau MacSteel Inc

Union County

New Albany, Mississippi

Water NPDES No. MS0000931

July 7, 2020

1. FACILITY INFORMATION

Facility Name: Gerdau MacSteel Inc

Facility Address: 922 Highway 15 North

 New Albany, MS 38652

Fort Smith,

Permit No.: MS0000931

SIC: 3482

Permit Writer: Rusty Parrish

EPD Branch: Water II Branch

1. NATURE OF BUSINESS

Quanex Corporation stopped manufacturing at this facility by January 1, 2005. In August 2005, the property was sold to Jasper Creek LLC (who uses it for warehousing), but Quanex retained the groundwater treatment system which discharges to Outfall 003. In August 2008, Gerdau MacSteel bought the shares of Quanex.

1. EFFLUENT AND RECEIVING STREAM FLOW DATA

Outfall 003 is for remediated groundwater. Outfall 003 discharges into an unnamed ditch thence into Jasper Creek with a long term average flow of 0.00285 MGD and a maximum daily flow of 0.0170 MGD. Jasper Creek has a 7Q10 flow of 0 cfs and a mean annual flow (MAF) of 31.01 cfs or 20.04 MGD.

1. 303(d) and TOTAL MAXIMUM DAILY LOAD (TMDL) ISSUES

Jasper Creek is on the 303(d) List of impaired streams due to biological impairment. This will not have an impact on the permit.

1. TYPE OF WASTEWATER TREATMENT

Outfall 003- Equalization, neutralization, filtration, and air stripping.

1. EPA APPLICABLE CATEGORICAL GUIDELINES

None.

VII. DATA FROM APPLICATION FORM 2C

|  |  |  |  |
| --- | --- | --- | --- |
| Parameter | Daily Max | Long Term Avg. | No. of Analyses |
| lbs/day | mg/L | lbs/day | mg/L |  |
| Biochemical Oxygen Demand (5-Day) | 2.44 | 17.2 | N/A | N/A | 24 |
| Chemical Oxygen Demand | 0.84 | 5.9 | N/A | N/A | 2 |
| Total Organic Carbon | 0.192 | 1.35 | N/A | N/A | 2 |
| Total Suspended Solids | ND | ND | N/A | N/A | 24 |
| Ammonia (as N) | 0.019 | 0.14 | N/A | N/A | 24 |
| Flow | 0.017 MGD | N/A | 0.00285 MGD | N/A | 365 |
| pH (SU) | 7.23 min. | 8.6 max. | 7.76 avg. | N/A | 303 |
| Chlorobenzene | ND | ND | N/A | N/A | 24 |
| 1,1- Dichloroethylene | ND | ND | N/A | N/A | 24 |
| Tetrachloroethylene | ND | ND | N/A | N/A | 24 |
| Toluene | ND | ND | N/A | N/A | 24 |
| 1,2 Trans-Dichloroethylene | ND | ND | N/A | N/A | 24 |
| Tricholorethylene | ND | ND | N/A | N/A | 24 |
| Vinyl Chloride | ND | ND | N/A | N/A | 24 |

#### VIII. WATER QUALITY LIMITATIONS BASED ON WASTELOAD ALLOCATION

 None

1. CATEGORICAL GUIDELINE LIMITATIONS CALCULATIONS

Not Applicable

1. TOXICITY SCREENING

Water Quality Evaluation for discharges into unnamed ditch thence into Jasper Creek for Outfall 003. Chlorobenzene, 1,1-Dichloroethylene, Tetrachloroethylene, Toulene, 1,2 Trans-Dichloroethylee, Trichloroethylene, and Vinyl Chloride only have national recommended criteria for Human Health and historical effluent data for these parameters has been reported as non-detect; therefore, toxicity screening will not completed for these parameters. These parameters are all report in the current permit with the exception of Tetrachloroethylene; therefore, the current permit limit for this parameter will be screened to confirm that it is still protective of the human health criteria.

IWC = Instream Wastewater Concentration

Qw = maximum 30 day average wastewater flow, if available

Qr = receiving stream flow (mean annual flow (MAF) for human health screening)

Xwa = permit limits from previous permit or from effluent guidelines

Xta = the calculated instream concentration based on existing permit limits or the calculated limit based on current effluent guidelines

Xr = receiving stream concentration

Qw = 0.0053 MGD

Qr (MAF) = 20.04 MGD

IWC = 100 \* (Qw/ (Qr + Qw))

IWC = 100 \* (0.0053/ (20.04 + 0.0053)) = 0.000264 = 0.026%

Xta = (Qr \* Xr) + (Qw \* Xwa)/ (Qr + Qw)

Xta = (20.04 \* 0) + (0.0053 \* 0.254)/ (20.04 + 0.0053) = 0.000067

Human Health Screening

Parameter HHWQC (mg/L) Xta (mg/L) Pass/Fail

Tetrachloroethylene 0.029 0.000067 Pass

XI. PROPOSED PERMIT LIMITATIONS

Outfall 003

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Parameter | Water Quality Limitations (mg/L) | Current Permit Limit (CPL) | Present Permit Limit (PPL) | Basis |
| Average | Maximum | Average | Maximum |
| 1, 1- dichloroethylene | --- | Report | Report | Report | Report | PPL |
| 1, 2- transdichloroethylene | --- | Report | Report | Report | Report | PPL |
| Ammonia (as N) + unionized Ammonia | --- | Report | Report | Report | Report | PPL |
| Chlorobenzene | --- | Report | Report | Report | Report | PPL |
| Flow | --- | 0.018 MGD | Report | 0.018 MGD | Report | PPL |
| BOD5 | --- | Report | Report | Report | Report | PPL |
| DO, minimum | --- | 6.0 mg/L | --- | 6.0 mg/L | --- | PPL |
| pH | 6.0 SU (min)9.0 SU (max) | 6.5 SU (min) | 9.0 SU | 6.0 SU (min) | 9.0 SU | MSWQS |
| TSS | --- | Report | Report | Report | Report | PPL |
| Tetrachloroethylene | --- | 0.254 mg/L0.04 lbs/day | 0.381 mg/L0.06 lbs/day | 0.254 mg/L0.04 lbs/day | 0.381 mg/L0.06 lbs/day | PPL |
| Toluene | --- | Report | Report | Report | Report | PPL |
| Trichloroethylene | --- | Report | Report | Report | Report | PPL |
| Vinyl Chloride | --- | Report | Report | Report | Report | PPL |

MSWQS = Mississippi Water Quality Standards

1-1, dichloroethylene, 1,2- transdichloroethylene, Ammonia (as N), Chlorobenzene, BOD5, TSS, Tetrachloroethylene, Toluene, Trichloroethylene, and Vinyl chloride shall be monitored twice per month via grab sampling. DO shall be monitored monthly via grab sampling. pH shall be monitored weekly via grab sampling. Flow shall be monitored daily via a totalizer.