**TEXAS COMMISSION ON ENVIRONMENTAL QUALITY**

APPLICATION FOR A REGISTRATION TO LAND APPLY

OR DISPOSE OF WATER TREATMENT PLANT RESIDUALS

CHECKLIST

Complete and submit this checklist with your application.

Applicant's Name: Click here to enter text.

Registration Number (if assigned): Click here to enter text.

**Indicate if each of the following items is included in your application.**

Y N

Administrative Report   

Attachment A: Core Data Form   

Attachment B: General Highway Map   

Attachment C: USGS Topographic Map   

Attachment D: USDA NRCS Soils Map   

Attachment E: Copy of Deed   

Attachment F: Transporters’ Registrations   

Attachment G: Residuals Analyses Lab Sheets   

Attachment H: Soil Analyses Lab Sheets   

Required Signature Pages   

Supplement #1 For Individuals   

Technical Report   

Appendix A: Agronomic Rate Calculations   

For TCEQ Use Only

Segment Number \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_County \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Expiration Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Region \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Registration Number \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

APPLICATION FOR A REGISTRATION TO LAND APPLY WATER TREATMENT PLANT RESIDUALS

ADMINISTRATIVE REPORT

Please contact the Water Quality Division’s Applications Review and Processing Team at 512-239-4671 if you have questions about completing this form.

**IMPORTANT:** Will the land application activity occur greater than five feet below the surface of the land?

   Yes. STOP. Do not submit this form. Refer to TCEQ Form 00744.

   No. Continue to Section 1.

# SECTION 1. TYPE OF APPLICATION

  New (original site that was not previously registered)

  New (previously registered but registration was allowed to expire or was canceled)

  Major Amendment with Renewal (changes to substantive provisions of the registration)

Minor Amendment *without* Renewal (including non-substantive provisions of the registration, the expiration date will remain the same)

  Renewal (with or without minor amendment changes)

For existing registrations, provide the registration number: Click here to enter text.

For amendments, describe the proposed changes in the text box below:

|  |
| --- |
| Click here to enter text. |

# SECTION 2. APPLICANT INFORMATION

1. Provide the legal name of the applicant. The legal name must be spelled exactly as filed with the Texas Secretary of State, County, or in the legal document forming the entity.

Click here to enter text

1. If the applicant is an existing TCEQ customer, provide the Customer Number (CN) issued to this entity. CN Click here to enter text.
2. List the contact information for this applicant.

Contact Name: Click here to enter text.

Mailing Address: Click here to enter text.

City, State, and Zip Code: Click here to enter text.

Phone Number: Click here to enter text. Fax Number: Click here to enter text.

E-mail Address: Click here to enter text.

# SECTION 3. CO-APPLICANT INFORMATION

Complete this section only if another person or entity is required to apply as a co-permittee. For guidance, please see the instructions at the end of this document.

1. Provide the legal name of the co-applicant. The legal name must be spelled exactly as filed with the Texas Secretary of State, County, or in the legal document forming the entity.

Click here to enter text.

1. If the co-applicant is an existing TCEQ customer, provide the Customer Number (CN) issued to this entity. CN Click here to enter text.
2. List the contact information for this applicant.

Contact Name: Click here to enter text.

Mailing Address: Click here to enter text.

City, State, and Zip Code: Click here to enter text.

Phone Number: Click here to enter text. Fax Number: Click here to enter text.

E-mail Address: Click here to enter text.

# SECTION 4. APPLICATION CONTACT INFORMATION

This is the person TCEQ will contact if additional information is needed about this application.

1. **Application Contact (Operator):**

Prefix (Mr., Ms., Miss): Click here to enter text.

Application Contact First and Last Name: Click here to enter text.

Title: Click here to enter text. Credentials: Click here to enter text.

Organization Name: Click here to enter text.

Mailing Address: Click here to enter text.

City, State, and Zip Code: Click here to enter text.

Phone Number: Click here to enter text. Fax Number: Click here to enter text.

E-mail Address: Click here to enter text.

1. **Application Contact (Landowner/Authorized Agent):**

Prefix (Mr., Ms., Miss): Click here to enter text.

Application Contact First and Last Name: Click here to enter text.

Title: Click here to enter text. Credentials: Click here to enter text.

Organization Name: Click here to enter text.

Mailing Address: Click here to enter text.

City, State, and Zip Code: Click here to enter text.

Phone Number: Click here to enter text. Fax Number: Click here to enter text.

E-mail Address: Click here to enter text.

# SECTION 5. REGISTRATION CONTACT INFORMATION

Provide two names of individuals that TCEQ can contact during the term of the registration.

**A.** **Registration Contact (Annual Report Contact):**

Prefix (Mr., Ms., Miss): Click here to enter text.

Registration Contact First and Last Name: Click here to enter text.

Title: Click here to enter text. Credentials: Click here to enter text.

Organization Name: Click here to enter text.

Mailing Address: Click here to enter text.

City, State, and Zip Code: Click here to enter text.

Phone Number: Click here to enter text. Fax Number: Click here to enter text.

E-mail Address: Click here to enter text.

**B.** **Registration Contact:**

Prefix (Mr., Ms., Miss): Click here to enter text.

Registration Contact First and Last Name: Click here to enter text.

Title: Click here to enter text. Credentials: Click here to enter text.

Organization Name: Click here to enter text.

Mailing Address: Click here to enter text.

City, State, and Zip Code: Click here to enter text.

Phone Number: Click here to enter text. Fax Number: Click here to enter text.

E-mail Address: Click here to enter text.

# SECTION 6. BILLING CONTACT INFORMATION

Please identify the individual for receiving the annual fee invoices.

Prefix (Mr., Ms., Miss): Click here to enter text.

Billing Contact First and Last Name: Click here to enter text.

Title: Click here to enter text. Credentials: Click here to enter text.

Organization Name: Click here to enter text.

Mailing Address: Click here to enter text.

City, State, and Zip Code: Click here to enter text.

Phone Number: Click here to enter text. Fax Number: Click here to enter text.

E-mail Address: Click here to enter text.

# SECTION 7. REGULATED ENTITY (SITE) INFORMATION

1. Site Name: Click here to enter text.
2. If this is an existing registered site, provide the Regulated Entity Number (RN) issued to this site. RN Click here to enter text.
3. Is the location of the application site used in the existing registration accurate?

Yes  No

If **YES**, skip to D. If **NO**, or if this application is for a new site, provide the physical address of the site such as: 12100 Park 35 Circle, Austin, TX 78753. If the site doesn’t have a physical address, provide a location description such as: “*located on the north side of FM 123, 2 miles west of the intersection of FM 123 and Highway 1*”. Click here to enter text.

1. County where the site is located: Click here to enter text.
2. Latitude: Click here to enter text. Longitude: Click here to enter text.
3. Landowner Information:

Provide the following information for each landowner. Attach an additional sheet if needed for more than one landowner.

Prefix (Mr., Ms., Miss): Click here to enter text.

First and Last Name: Click here to enter text.

Organization Name: Click here to enter text.

Mailing Address: Click here to enter text.

City, State, and Zip Code: Click here to enter text.

Phone Number: Click here to enter text.

# SECTION 8. MISCELLANEOUS INFORMATION

1. Did any person who was formerly employed by the TCEQ represent your company and get paid for service regarding this application?

Yes     No

If yes, provide the name(s) of the former TCEQ employee(s) and their functional duties while at the TCEQ: Click here to enter text.

1. Is the site located on Indian Lands? Yes     No
2. Is any permanent school fund land affected by this application?

Yes     No

**If yes**, provide the location, foreseeable impacts, and effects this application has on the land(s). Click here to enter text.

1. Is the production area located within the protection zone of a sole source drinking water supply? Yes     No
2. Delinquent Fees and Penalties:

Do you owe fees to the TCEQ? Yes    No

Do you owe any penalties to the TCEQ? Yes    No

If you answered yes to either of the above questions, provide the amount owed, the type of fee or penalty, and an identifying number. Click here to enter text.

# SECTION 9. ATTACHMENTS

1. **TCEQ Core Data Form**

Submit a TCEQ Core Data Form (TCEQ-10400) for each applicant/co-applicant.

Attachment Number: Click here to enter text.

1. **General Highway (County) Map**

Submit a General Highway (County) Map. See instructions for information that must be displayed on the map.

Attachment Number: Click here to enter text.

1. **United States Geological Survey (USGS) Topographic Map**

Submit a USGS Topographic Map of the land application site. See instructions for information that must be displayed on the map.

Attachment Number: Click here to enter text.

1. **USDA Natural Resources Conservation Service (NRCS) Soil Map**

Submit a legible copy of a USDA Natural Resources Conservation Service (NRCS) Soil Map. See instructions for information that must be displayed on the map.

Attachment Number: Click here to enter text.

1. **Copy of Deed for the Site**

Submit copies of the meets and bounds legal description and the deed of record.

Attachment Number: Click here to enter text.

1. **TCEQ Transporters Registration Approval Documents**

Submit a copy of the TCEQ Transporter Registration approval documents.

Attachment Number: Click here to enter text.

1. **Residuals Analyses Laboratory Results Sheets**

Attach the residuals laboratory analysis results sheets for each source. Provide results for all pollutants listed in instructions at the end of this document, including Toxicity Characteristics Leaching Procedure (TCLP), polychlorinated biphenyls (PCBs), and metals. Use the lab results to complete the tables in the Technical Report.

Attachment Number: Click here to enter text.

1. **Soils Analyses Laboratory Results Sheets**

Attach the soil sampling laboratory analysis results sheets for each composite sample. Provide results for all pollutants listed in the instructions at the end of this document. Use the lab results to complete the tables in the Technical Report. **This item is not required for dedicated land disposal sites.**

Attachment Number: Click here to enter text.

# LABORATORY ACCREDITATION

All laboratory tests performed must meet the requirements of *30 Texas Administrative Code (TAC) Chapter 25, Environmental Testing Laboratory Accreditation and Certification*, which includes the following general exemptions from National Environmental Laboratory Accreditation Program (NELAP) certification requirements:

* The laboratory is an in-house laboratory and is:
  + periodically inspected by the TCEQ; or
  + located in another state and is accredited or inspected by that state; or
  + performing work for another company with a unit located in the same site; or
  + performing pro bono work for a governmental agency or charitable organization.
* The laboratory is accredited under federal law.
* The data are needed for emergency-response activities, and a laboratory accredited under the Texas Laboratory Accreditation Program is not available.
* The laboratory supplies data for which the TCEQ does not offer accreditation.

The applicant should review *30 TAC Chapter 25* for specific requirements. The following certification statement shall be signed and submitted with every application.

**CERTIFICATION:**

I certify that all laboratory tests submitted with this application meet the requirements of *30 TAC Chapter 25, Environmental Testing Laboratory Accreditation and Certification.*

Printed Name: Click here to enter text.

Title: Click here to enter text.

Signature: Date:

# APPLICANT SIGNATURE PAGE

**If co-applicants are necessary, each co-applicant must submit an original, separate signature page.**

Registration Number: Click here to enter text.

Applicant Name: Click here to enter text.

I understand that I am responsible for operating the site described in the legal description in accordance with the Texas Commission on Environmental Quality (TCEQ) requirements in *30 Texas Administrative Code (TAC) Chapter 312*, the conditions set forth in this application, and any additional conditions as required by the TCEQ.

I certify under penalty of law that all information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine, imprisonment for violations, and revocation of this registration.

I further certify that I am authorized under *30 TAC §305.44* to sign and submit this document and can provide documentation in proof of such authorization upon request.

Signatory Name: Click here to enter text.

Title: Click here to enter text.

Signature (use blue ink): Date:

SUBSCRIBED AND SWORN to before me by the said on

this day of , 20 .

My commission expires on the day of , 20 .

(Seal) Notary Public

County, Texas

# LANDOWNER OR LEASE AGREEMENT HOLDER SIGNATURE PAGE

**Required if the landowner or lease agreement holder is not the applicant or co-applicant. Each landowner or lease agreement holder must submit an original, separate signature page.**

Registration Number: Click here to enter text.

Applicant Name: Click here to enter text.

I certify, as the owner/lease agreement holder of the land described in this application, that I have all rights and covenants to authorize the applicant for this registration to use this site for the land application of water treatment residuals.

*Note: If this page is signed by a lease agreement holder, please* ***provide a copy of******the lease agreement****.*

Signatory Name: Click here to enter text.

Title: Click here to enter text.

Signature (use blue ink): Date:

SUBSCRIBED AND SWORN to before me by the said on

this day of , 20 .

My commission expires on the day of , 20 .

(Seal) Notary Public

County, Texas

Supplement #1

Individual Information

Complete this supplement if the applicant or co-applicant is an individual. Make additional copies of this attachment for each individual, if needed. **This information is only required for landowners or lease agreement holders if they are also an applicant or co-applicant.**

Prefix (Mr., Ms., Miss): Click here to enter text.

Full Legal Name, including middle name: Click here to enter text.

Driver's License or State Identification Number: Click here to enter text.

State that Issued the License or Identification Number: Click here to enter text.

Date of Birth: Click here to enter text.

Mailing Address: Click here to enter text.

City, State, and Zip Code: Click here to enter text.

Phone Number: Click here to enter text. Fax Number: Click here to enter text.

E-mail Address: Click here to enter text.

For TCEQ Use Only

Customer Number \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Regulated Entity Number \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Registration Number \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



APPLICATION FOR A REGISTRATION TO LAND APPLY WATER TREATMENT PLANT RESIDUALS

TECHNICAL REPORT

Please contact the Water Quality Division’s Land Application Team- Biosolids Group at 512-239-4671 if you have questions completing this form.

# SECTION 1. LAND APPLICATION INFORMATION

1. Will the water treatment plant residuals be incorporated into the soil?

   Yes.

   No.

1. **Sources of Water Treatment Plant Residuals**

Provide the source(s) of residuals, the water quality or public water supply permit number issued by TCEQ, and the location of the source(s). Complete Section 2 for each source identified below.

Table 1- Sources of Water Treatment Plant Residuals.

| **Facility Name** | **Permit Number** | **Location (Physical Address or Description)** |
| --- | --- | --- |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

1. **Transportation Method**

Describe the transportation methods proposed (e.g. authorized hauler or pipeline): Click here to enter text.

1. **Property Acreage**

Total acreage listed in the legal description, including the application area and buffer zones: Click here to enter text.

1. **Application Area Acreage**

Total acreage where the water treatment residuals may be applied, excluding the buffer zones: Click here to enter text.

1. **Cropping Plan and Site Management**

Indicate the type of site activity by checking the appropriate box below for either beneficial use or dedicated land disposal. Provide a short narrative on the vegetation and/or crops planned. The narrative must indicate that the residuals will be evenly distributed across the site and include the following elements for the associate site activity:

Beneficial Use

* Management practices to ensure erosion control and stable vegetative cover;
* Frequency of application of residuals to the land;
* Planting dates;
* Crops to be grown; and
* Methods to achieve even distribution of residuals.

Dedicated Land Disposal

* Management practices to prevent contamination of surface water or groundwater;
* Methods to ensure residuals do not run-off from the disposal area boundaries (i.e. berms, silt fences, etc.);
* Methods for erosion control;
* Frequency of application of residuals on the land;
* Methods to achieve even distribution of residuals.

|  |
| --- |
| Click here to enter text. |

**G. Site Use**

Will water treatment residuals be land applied to this site for the production of food-chain crops (i.e. hay, vegetables, tobacco, etc.)?

Yes.

No.

# SECTION 2: POLLUTANT AND NUTRIENT CONCENTRATIONS IN WATER TREATMENT PLANT RESIDUALS

Complete this page **for each source** of water treatment plant residuals. See instructions.

Water Treatment Facility Name: Click here to enter text.

Water Treatment Facility’s TCEQ Authorization Number: Click here to enter text.

**Estimated Dry Tons**: Click here to enter text.

Table 2- Metal Concentrations in Residuals.

| **Pollutant** | **Maximum Concentration, mg/kg**  **dry weight** | **Test Results, mg/kg**  **dry weight** | **Sample Date** | **Detection Level for Analysis** | **Sample Method** |
| --- | --- | --- | --- | --- | --- |
| Arsenic (As) | 75 |  |  |  |  |
| Cadmium (Cd) | 85 |  |  |  |  |
| Chromium (Cr) | 3,000 |  |  |  |  |
| Copper (Cu) | 4,300 |  |  |  |  |
| Lead (Pb) | 840 |  |  |  |  |
| Mercury (Hg) | 57 |  |  |  |  |
| Molybdenum (Mo) | 75 |  |  |  |  |
| Nickel (Ni) | 420 |  |  |  |  |
| Selenium (Se) | 100 |  |  |  |  |
| Zinc (Zn) | 7,500 |  |  |  |  |
| PCB (ppm) | 50.0 ppm |  |  |  |  |

Table 3- Nutrient Concentrations in Residuals. **This table is not required for dedicated land disposal sites.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Nutrient** | **Concentration (%)**  mg/kg ÷ 10,000 | **Sample**  **Date** | **Detection Level for Analysis** | **Sample Method** |
| Total Kjeldahl Nitrogen (TKN) |  |  |  |  |
| Ammonium Nitrogen (NH4-N) |  |  |  |  |
| Nitrate Nitrogen (NO3-N) |  |  |  |  |
| Total Phosphorus (P) |  |  |  |  |
| Total Potassium (K) |  |  |  |  |

Conversions: mg/kg ÷ 10,000 = % and ppm = mg/kg

Volume Weighted Average (Mean) of Nutrient and Pollutant Concentrations

Complete this table only if more than one source of water treatment plant residuals is land applied at the site. **This table is not required for dedicated land disposal sites.**

**Directions:**

1. For each pollutant, multiply the Pollutant Concentrations from Tables 2 and 3 (previous page) by the estimated number of dry tons you expect to apply from that facility and enter in the columns below.
2. Sum the individual columns. Enter results in Sum row of the table.
3. Divide the sum of each parameter column by the dry tons sum. Enter the number in the appropriate Volume Weighted Average Box (bottom row).
4. Use these final results to complete Step 1 of Appendix A.

Table 4. Volume Weighted Nutrient and Metal Concentrations.

| TCEQ Auth. Number | Est. Dry Tons\* | As | Cd | Cr | Cu | Pb | Hg | Mo | Ni | Se | Zn | TKN | NH4-N | NO3-N | P | K |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
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|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Sum |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Volume Weighted Average mg/kg |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

\*Total estimated dry tons to be land applied from the source facility.

# SECTION 3. SOIL SAMPLING TESTING RESULTS

Complete this table by entering the soil sample analytical results for the land application site. **This section is not required for dedicated land disposal sites.**

**Directions:**

1. For each parameter, indicate the composite sample results at the appropriate soil depth (0-6” or 6-24”). Report sample results in mg/kg unless otherwise noted.
2. If the land application site is greater than 80 acres, more than one composite sample is required. Make copies of this page if needed for sites greater than 320 acres.
3. Report results of ‘non-detect’ as the quantification level or detection level.

Table 5. Soil Sampling Results

| Parameter in mg/kg | Samp. 1  0-6” | Samp. 1  6-24” | Samp. 2  0-6” | Samp. 2  6-24” | Samp. 3  0-6” | Samp. 3  6-24” | Samp. 4  0-6” | Samp. 4  6-24” |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Nitrate Nitrogen |  |  |  |  |  |  |  |  |
| Ammonium Nitrogen |  |  |  |  |  |  |  |  |
| Total Kjeldahl Nitrogen |  |  |  |  |  |  |  |  |
| Phosphorus (plant available) |  |  |  |  |  |  |  |  |
| Potassium (plant available) |  |  |  |  |  |  |  |  |
| Sodium (plant available) |  |  |  |  |  |  |  |  |
| Magnesium (plant available) |  |  |  |  |  |  |  |  |
| Calcium (plant available) |  |  |  |  |  |  |  |  |
| Electrical Conductivity in dS/m |  |  |  |  |  |  |  |  |
| Soil Water pH (S.U.) |  |  |  |  |  |  |  |  |
| Total Arsenic |  |  |  |  |  |  |  |  |
| Total Cadmium |  |  |  |  |  |  |  |  |
| Total Chromium |  |  |  |  |  |  |  |  |
| Total Copper |  |  |  |  |  |  |  |  |
| Total Lead |  |  |  |  |  |  |  |  |
| Total Mercury |  |  |  |  |  |  |  |  |
| Total Molybdenum |  |  |  |  |  |  |  |  |
| Total Nickel |  |  |  |  |  |  |  |  |
| Total Selenium |  |  |  |  |  |  |  |  |
| Total Zinc |  |  |  |  |  |  |  |  |

For land application sites greater than 80 acres, use the values from the previous table (Table 5) to complete this calculation for **each** composite sample. Then take the highest NO3-N calculated in Column E and enter in Line 2B in Appendix A: Agronomic Rate Calculations.

Table 6- Available Nitrogen in the Soil

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **A.**  **NO3-N (mg/kg) in 0”-6” zone** | **B.**  **0”-6” zone**  **[A x 2]** | **C.**  **NO3-N (mg/kg) in 6”-24” zone** | **D.**  **6”-24” zone**  **[C x 6]** | **E.**  **Nitrogen Available in the Soil**  **[B + D]** |
| Samp. 1 |  |  |  |  |  |
| Samp. 2 |  |  |  |  |  |
| Samp. 3 |  |  |  |  |  |
| Samp. 4 |  |  |  |  |  |

APPENDIX A

AGRONOMIC RATE CALCULATIONS

**Note:** The maximum allowable agronomic rate for land application of water treatment plant residuals is **40 dry tons/acre/year.** Use the values entered in Tables 2 and 3 for a single source of residuals or Table 4 for multiple sources. **Appendix A is not required for dedicated land disposal sites.**

# STEP 1. CALCULATE QUANTITY OF NUTRIENTS AND METALS IN RESIDUALS IN LBS/TON

Table 7. Metal Concentrations in Pounds Per Ton.

| **Pollutant** | **Test Results, mg/kg**  **dry weight** | **Conversion Factor** | **Pounds per Ton** |
| --- | --- | --- | --- |
| Arsenic (As) |  | x 0.002 |  |
| Cadmium (Cd) |  | x 0.002 |  |
| Chromium (Cr) |  | x 0.002 |  |
| Copper (Cu) |  | x 0.002 |  |
| Lead (Pb) |  | x 0.002 |  |
| Mercury (Hg) |  | x 0.002 |  |
| Molybdenum (Mo) |  | x 0.002 |  |
| Nickel (Ni) |  | x 0.002 |  |
| Selenium (Se) |  | x 0.002 |  |
| Zinc (Zn) |  | x 0.002 |  |

Table 8. Nutrient Concentrations in Pounds Per Ton.

|  |  |  |  |
| --- | --- | --- | --- |
| **Nutrient** | **Concentration (%)\*\*** | **Conversion Factor** | **Pounds per Ton** |
| Total Kjeldahl Nitrogen (TKN) |  | x 20 |  |
| Ammonium Nitrogen (NH4-N) |  | x 20 |  |
| Nitrate Nitrogen (NO3-N) |  | x 20 |  |
| Total Phosphorus (P) |  | x 20 |  |
| Total Potassium (K) |  | x 20 |  |

\*\*Values from residuals laboratory analysis (dry weight only).

Conversions: mg/kg ÷ 10,000 = % ppm = mg/kg

# STEP 2. DETERMINE THE CROPPING PLAN AND NUTRIENT NEEDS

Warm Season Intended Crop(s): Click here to enter text.

Yield Goal: Click here to enter text.

Nitrogen Requirement, in lb/yr: Click here to enter text.

Cool Season Intended Crop(s): Click here to enter text.

Yield Goal: Click here to enter text.

Nitrogen Requirement, in lb/yr: Click here to enter text.

Provide the data source for the nitrogen requirements above.

Click here to enter text.

Nitrogen needed by crop:

2A. Total Nitrogen Requirement\* in lbs/yr Click here to enter text.

2B. Nitrogen available in soil\*\* Click here to enter text.

**2C. Nitrogen amount still needed (lbs/acre/yr)**

Line 2A – Line 2B Click here to enter text.

\*Line 2A = Sum of the nitrogen requirement for the specified yield goals for the warm season crop and cool season crop.

\*\*Line 2B = 2\*NO3-N (ppm)(in the 0-6" soil depth) + 6\*NO3- N(ppm)(in the 6-24" soil depth). For land application sites greater than 80 acres, use the highest value calculated in Section 3-Table 6 across all composite samples and enter in Line 2B.

# STEP 3. CALCULATE THE PLANT AVAILABLE NITROGEN (PAN) PROVIDED BY THE RESIDUALS

Use the TKN, NH4-N, and NO3-N values in the residuals from **Step 1**.

Organic Nitrogen (lbs/ton)= TKN-(NH4-N) – (NO3-N) Click here to enter text.

3A. Organic Nitrogen x 0.20 (mineralization rate) Click here to enter text.

3B. Ammonium Nitrogen (NH4-N) x V (volatilization factor) Click here to enter text.

V = 0.5 if residuals are left on soil surface

V = 1.0 if residuals are worked into the soil

3C. Nitrate Nitrogen (NO3-N) lbs/ton Click here to enter text.

**3D. Total PAN in lbs/ton= (Line 3A + Line 3B + Line 3C)** Click here to enter text.

# STEP 4. CALCULATE MAXIMUM RESIUDALS APPLICATION RATES BASED ON CROP NITROGEN NEEDS (RARN)

4A. Nitrogen amount still needed (lbs/acre/year)

Enter amount from Step 2C. Click here to enter text.

4B. Total PAN (lbs/ton)

Enter amount from Step 3D. Click here to enter text.

4C. Residuals Application Rate (RARN) (tons/acre/year)

Line 4A ÷ Line 4B Click here to enter text.

**NOTE: The maximum allowable RARN is 40 tons/acre/year. If line 4C exceeds the maximum allowed, use 40 tons/acre/year instead.**

# STEP 5. CALCULATE MAXIMUM RESIDUALS APPLICATION RATE BASED ON METALS (RARM)

Table 9. Metals-Based Application Rate Calculations.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| METAL | A  Cumulative Metal Limits  (lbs/acre) | B  Max Loading Rate (lbs/acre/yr) | C  Metals In Residuals (lbs/ton)  (Step 1) | D  Metals Applied Yearly at RARN (lbs/acre/yr)  (C x RARN) | E  Residuals Applied Yearly at RARM (tons/acre/yr)  (B ÷ C) | F  Max Residuals Loading Rate (tons/acre)  (A ÷ C) |
| Arsenic | 36 | 1.8 |  |  |  |  |
| Cadmium | 35 | 1.7 \*\* |  |  |  |  |
| Chromium | 2,677 | 134 |  |  |  |  |
| Copper | 1,339 | 67 |  |  |  |  |
| Lead | 268 | 13 |  |  |  |  |
| Mercury | 15 | 0.76 |  |  |  |  |
| Molybdenum | Monitor | Monitor |  |  |  |  |
| Nickel | 375 | 18.7 |  |  |  |  |
| Selenium | 89 | 4.5 |  |  |  |  |
| Zinc | 2,500 | 125 |  |  |  |  |
| Other |  |  |  |  |  |  |

**Note:** For each metal, if the value in Column B is greater than the value in Column D (B>D), the RARN dictates the max residuals application rate. Enter N/A in Column E.

If the value in Column B is less than the value in Column D (B<D), then the RARM dictates the maximum residuals application rate and the value of E = B ÷ C.

\*\*The max loading rate for cadmium for food crops is 0.446 lbs/acre/year.

# STEP 6. CALCULATE THE FINAL CUMULATIVE LOADING RATE AND SITE LIFE

6A. Maximum allowable cumulative residuals loading rate

Lowest value in Step 5, Column F (tons/acre) Click here to enter text.

6B. Previous applications of residuals (tons/acre) \*\* Click here to enter text.

6C. Remaining residuals application rate to reach metal limits

Line 6A – Line 6B (tons/acre) Click here to enter text.

6D. Maximum allowable residuals application rate

Lowest value comparing Step 4C and Step 5 Column E (tons/acre/year)

Click here to enter text.

6E. Years remaining to reach the maximum cumulative loading

Line 6C ÷ Line 6D (years) Click here to enter text.

APPLICATION FOR REGISTRATION TO LAND APPLY

WATER TREATMENT RESIDUALS

**INSTRUCTIONS**

# GENERAL INFORMATION

# Purpose of the Application

This form is to be used to:

* **Register a new** site to land apply water treatment plant residuals;
* Submit an **amendment** to change acreage or to make any other substantive change to a registered site to land apply water treatment plant residuals; or
* **Renew** an existing registered site to land apply water treatment plant residuals.

# Who Should Apply?

**This application must be submitted by the site operator**. A Signature Page must be completed for each applicant and each landowner if the landowner is different from the site operator.

A permit must be transferred when a change in ownership or operator occurs. A transfer application (TCEQ-20031) must be submitted at least 30 days before the proposed transfer date.

# When Is the Application Submitted?

For new and amendment applications, the completed application must be submitted at least 180 days before the proposed date of land application. For renewal applications, the completed application must be submitted at least 180 days before the expiration date of the current registration.

# Where to Send the Application Form

**One original and three copies** of the application, including attachments, must be provided to Applications Review and Processing (ARP) Team at the address below:

Regular U.S. Mail:

TCEQ

ARP Team, MC 148

P.O. Box 13087

Austin TX 78711-3087

Express Mail or Hand Delivery:

TCEQ

ARP Team, MC 148

Building F Room 2101

12100 Park 35 Circle

Austin TX 78753

# TCEQ Contact List

Application Forms or Administrative Information, Attn: ARP Team: 512-239-4671

Technical Information, Attn: Biosolids Group: 512-239-4671

Environmental Law Division: 512-239-0600

Copies of records on file with the TCEQ may be obtained for a minimal fee from the Records Management Office at 512-239-2900.

# Procedural Information

1. The Executive Director's staff will review the application to make sure it is administratively complete. The review staff may request additional information to complete or clarify questions. An incomplete application will be returned in accordance with *30 TAC §281.18* if adequate information is not provided in a timely manner.
2. Following review of the application and any comments submitted concerning the application, staff will forward the application to the Biosolids Group of the Water Quality Division for review and action.

# INSTRUCTIONS FOR THE ADMINISTRATIVE REPORT

If the land application activity will occur greater than five feet below the surface of the land, DO NOT SUBMIT this application form. Refer to TCEQ Form 00744 for more information about registering the site.

# Section 1. Type of Application

Select the appropriate type of application for the site being registered.

For existing registrations, provide the TCEQ registration number.

For amendment applications, describe the proposed changes and justify their need.

# Section 2. Applicant Information

Provide the full legal name of the site operator (i.e. applicant). If the site operator is an existing TCEQ customer, provide the Customer Number (CN) for the site operator. The Customer Number is available at the following website: <http://www15.tceq.texas.gov/crpub/>. If the site operator is not an existing TCEQ customer, leave this item blank.

Provide the following contact information for the applicant: mailing address, phone number, fax number (if available), and email address.

# Section 3. Co-Applicant Information

Provide the full legal name of the co-applicant. If the co-applicant is an existing TCEQ customer, provide the Customer Number (CN) for the co-applicant. The Customer Number is available at the following website: <http://www15.tceq.texas.gov/crpub/>. If the co-applicant is not an existing TCEQ customer, leave this item blank.

Provide the following contact information for the co-applicant: mailing address, phone number, fax number (if available), and email address.

# Section 4. Application Contact Information

Provide the name and contact information for the person that TCEQ will contact if additional information is needed about this application. Provide one contact for the operator and one contact for the landowner or authorized agent.

# Section 5. Registration Contact Information

Provide the name and contact information for two individuals that TCEQ can contact regarding the annual Water Treatment Plant Residuals report or if additional information is needed during the term of the registration.

# Section 6. Billing Contact Information

Provide the name and contact information for the person that TCEQ can contact regarding the annual fee invoices. According to *30 TAC §305.66*, failure to pay fees is good cause for registration denial or revocation. If an applicant has outstanding fees, a proposed registration application will not be considered for approval by the Commission or Executive Director.

# Section 7. Regulated Entity (Site) Information

1. Provide the name of the site as known by the public in the area where it is located.
2. If the site is currently regulated by TCEQ, provide the regulated entity reference number (RN) for the site. The RN is available at the following website: <http://www15.tceq.texas.gov/crpub/>. If the site is not currently regulated by TCEQ, leave this item blank.
3. If the location in the existing registration is not correct or if this is a new site, provide the physical address of the site. If a physical address is not available, provide a location description.
4. Provide the county in which the site is located.
5. Provide the latitude and longitude in decimal degrees for the site.
6. Provide the name and contact information for the landowner of the application site.

# Section 8. Miscellaneous Information

1. Provide the name of each person that was previously employed by TCEQ and who was paid for services regarding this application.
2. Identify if the application site is located on Indian lands. If the answer is yes, TCEQ does not have jurisdiction to process this application. Do not send this application to TCEQ. Contact the ARP Team at 512-239-4671.
3. Identify if any permanent school fund land is affected by this application. If yes, provide the location and potential impacts on the school fund land.
4. Identify if the production area is located within the protection zone of a sole source drinking water supply.
5. Indicate if the site operator or co-applicant(s) owe fees or penalties to TCEQ. If yes, provide the amount owed, the type of fee or penalty, and the account number for fees or the TCEQ Docket number for penalties. The following TCEQ website will help you determine if you owe any fees or penalties to the TCEQ and how to make a payment: <https://www.tceq.texas.gov/agency/financial/fees/delin>. For questions about delinquent fees and penalties, contact the Financial Administration Division, Revenue Section, at 512-239-0354.

**Please note:** The TCEQ will not issue, amend, or renew permits, registrations, certifications, or licenses to an entity or person who is delinquent on a penalty or fee owed to the TCEQ. The TCEQ will not declare any application administratively complete that is submitted by a person or entity who is delinquent on a fee or penalty until the fee or penalty is paid, or if on an approved installment plan, that payments under the plan are current. If after the application is considered administratively complete, we discover that the owner or entity who submitted the application is delinquent on a fee or penalty, the TCEQ will withhold final action on an application until the fee or penalty is paid and the account is current.

# Section 9. Attachments

1. Complete and submit the TCEQ Core Data Form (TCEQ-10400) for each applicant and co-applicant. This is not required for the landowner if they are not an applicant or co-applicant.
2. Submit a color General Highway (County) Map showing all boundaries of the site area and all areas within 1,000 feet of the area boundaries. A copy may be submitted for renewal or amendment applications in which the site and land application area boundaries have not changed. For new applications, submit an original map. These can be ordered from the Texas Department of Transportation Map Sales from the following web site: <http://www.txdot.gov/travel/county_grid_search.htm>
3. Submit a USGS topographic map on 8 ½ x 11” paper. A copy may be submitted for renewal or amendment applications in which the site and land application area boundaries have not changed. For new applications, submit an original map. Maps are available online at <https://www.usgs.gov/programs/national-geospatial-program/topographic-maps> or by contacting the Texas Natural Resource Information System at 512-463-8337. The map must show:

* the boundaries of the property(s) being registered;
* the boundaries of the application area within the property boundaries (if the site is on the border of the USGS map, the adjoining map is also needed); and
* all public and private wells within the land application site.

1. Submit a legible copy of a USDA Natural Resources Conservation Service (NRCS) Soil Map that shows the approximate application area boundaries, the soil legend, necessary interpretative information, and the **location of each grab sample** of the composite soil sample(s) taken for analyses. If the specific county is not mapped, have a soil scientist identify the soils.
2. Submit a copy of the meets and bounds legal description and the deed of record for the site.
3. Submit a copy of the TCEQ transporter’s registration approval documents.
4. Attach the residuals laboratory analysis for each source. Provide the laboratory results sheets. Each source must be analyzed for the following:

* Total Metals (in mg/kg) and Nutrients in % (= mg/kg ÷ 10,000);
* Toxicity Characteristics Leaching Procedure (TCLP) per *40 CFR §261.24*; and
* Polychlorinated Biphenyls (PCBs).

Data for total metals and nutrients must be from within one year from the date of application submittal. PCBs and TCLP data must be from within the past five years.

1. Attach the soil analysis for the land application unit. Provide the laboratory results sheets for each composite sample at each depth zone. Data for soil sampling must be from no more than one year ago. Soil reports shall include fertilizer recommendations for the crop yield goal.

# Signature Pages

All laboratory tests performed must meet the requirements of *30 TAC Chapter 25, Environmental Testing Laboratory Accreditation and Certification* with the general exemptions listed in the rule. The applicant should review *30 TAC Chapter 25* for specific requirements. The certification statement must be signed and submitted with every application.

A separate signature page must be provided for the site operator, each co-applicant, and the application site landowner or lease agreement holder (if different from the site operator and co-applicant). The signature page must bear an original signature and the seal of a notary public. The date signed by the applicant must be the same as the date notarized. The signature page will not be acceptable if the dates are different.

In accordance with *30 TAC §305.44* relating to Signatories to Applications, all applications shall be signed as follows:

For a corporation, the application shall be signed by a responsible corporate officer. For purposes of this paragraph, a responsible corporate officer means a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation; or the manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding $25 million (in second-quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures. Corporate procedures governing authority to sign permit or post-closure order applications may provide for assignment or delegation to applicable corporate positions rather than to specific individuals.

For a partnership or sole proprietorship, the application shall be signed by a general partner or the proprietor, respectively.

For a municipality, state, federal, or other public agency, the application shall be signed by either a principal executive officer or ranking elected official. For purposes of this paragraph, a principal executive officer of a federal agency includes the chief executive officer of the agency, or a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., regional administrator of the EPA).

Complete Supplement #1 if the applicant or co-applicant is an individual. This page is not required for the landowner unless the landowner is an applicant/co-applicant.

# INSTRUCTIONS FOR THE TECHNICAL REPORT

# Section 1. Land Application Information

1. Indicate if water treatment plant (WTP) residuals will be incorporated into the soil.
2. Complete Table 1. Provide the sources of WTP residuals, the TCEQ authorization number assigned to the water treatment plant (e.g. PWS or TPDES authorizations), and its location. Add additional rows to the table if needed.
3. Describe the method of transporting the WTP residuals to the land application site.
4. Provide the total acreage of the property where the application site is located. Include the application area and the buffer zones.
5. Provide total acreage where WTP residuals may be applied, excluding buffer zones.
6. Indicate the activity type by checking the box for either beneficial use or dedicated land disposal. Provide a short narrative on the vegetation and/or crops planned. This information is needed to complete the nutrients needed by the vegetation/crops when calculating the Residuals Application Rate (RAR), in Appendix A, based on crop nitrogen needs. Please ensure that all the elements listed are included in the narrative.
7. Indicate whether the vegetation grown on the land application site will be used as a food crop (e.g. fruits, vegetables, tobacco, etc.).

# Section 2. Pollutant and Nutrient Concentrations in Water Treatment Plant Residuals

Use the residuals laboratory analyses results sheets to complete Table 2 for **each source** listed in Section 1, Table 1. Entries of “ND”, “non-detect”, “<”, or “less than” are not acceptable. If an analytical result was non-detect, write the quantitative limit as a hard value result. For example, if the sample’s arsenic concentration was listed as “<5 mg/kg” on the laboratory results sheet, enter a result of “5 mg/kg” on Table 2. Indicate the estimated amount (in dry tons) of residuals to be land applied from each source.

Volume Weighted Averages of Metal and Nutrient Concentrations (Table 4)

is required only if multiple sources of WTP residuals will be land applied. Tables 3 and 4 are not required for dedicated land disposal sites.

# Section 3. Soil Sampling Testing Results

Table 5 is required for **beneficial use sites only**; it is not required for dedicated land disposal sites. Entries of “ND”, “non-detect”, “<”, or “less than” are not acceptable. If an analytical result was non-detect, write the quantitative limit as a hard value result.

Soil samples shall be taken prior to any application of commercial fertilizer. Do not use a galvanized container as this could give a false reading on zinc. Samples will need to be taken within the same 45-day timeframe each year, or by an approved sampling plan, and analyzed within 30 days of sample collection. The initial soil sample for a new registration application may be taken whenever necessary.

Obtain one composite sample for each soil depth per 80 acres and per uniform soil type (soils with the same characteristics and texture) within the 80 acres, or per approved soil sampling plan. Composite samples shall be comprised of 10 to 15 random sample cores taken from each of the following soil depth zones: 0-6 inches and 6-24 inches.

Soil samples shall be submitted to a soil testing laboratory along with a previous crop history of the site, intended crop growth and yield goal. Soil reports shall include fertilizer recommendations for the crop yield goal. Samples shall be analyzed for the parameters below:

| **Parameter \*** | **0- 6 "** | **6 -24"** |
| --- | --- | --- |
| Nitrate Nitrogen (NO3-N, mg/kg) (1) | x | x |
| Ammonium Nitrogen (NH4-N, mg/kg) (1) | x | x |
| Total Kjeldahl Nitrogen (TKN, mg/kg) (2) | x | x |
| Phosphorus (plant available, mg/kg) (3) | x | x |
| Potassium (plant available, mg/kg) (3) | x | x |
| Sodium (plant available, mg/kg) (3) | x | x |
| Magnesium (plant available, mg/kg) (3) | x | x |
| Calcium (plant available, mg/kg) (3) | x | x |
| Electrical Conductivity (4) | x | x |
| Soil Water pH (S.U.) (5) | x | x |
| Total Arsenic (mg/kg) (6) | x | N/A |
| Total Cadmium (mg/kg) (6) | x | N/A |
| Total Chromium (mg/kg) (6) | x | N/A |
| Total Copper (mg/kg) (6) | x | N/A |
| Total Lead (mg/kg) (6) | x | N/A |
| Total Mercury (mg/kg) (6) | x | N/A |
| Total Molybdenum (mg/kg) (6) | x | N/A |
| Total Nickel (mg/kg) (6) | x | N/A |
| Total Selenium (mg/kg) (6) | x | N/A |
| Total Zinc (mg/kg) (6) | x | N/A |

\* All parameters must be analyzed on a dry weight basis, except Soil Water pH and Electrical Conductivity.

1: Determined in a 1 N KCl soil extract (<http://soiltesting.tamu.edu/webpages/swftlmethods1209.html>).

2. Determined by Kjeldahl digestion or an equivalent accepted procedure. Methods that rely on Mercury as a catalyst are not acceptable.

3. Mehlich III extraction (yields plant-available concentrations) with inductively coupled plasma.

4. Electrical Conductivity (EC) - determine from extract of 2:1 (volume/volume) water/soil mixture and expressed in dS/m (same as mmho/cm).

5. Soil pH must be analyzed by the electrometric method in Test Methods for Evaluating Solid Waste, EPA SW-846, 40 CFR 260.11; method 9045C - determine from extract of 2:1 (volume/volume) water/soil mixture.

6. Analysis for metals in soil must be performed according to methods outlined in Test Methods for Evaluating Solid Waste, EPA SW-846; method 3050.

For sites larger than 80 acres, complete Table 6 by calculating the amount of nitrogen available in the soil at each depth zone. Use the nitrate-nitrogen concentrations in mg/kg from each composite sample to complete the table. If the land application unit is more than 80 acres, resulting in more than one composite sample analyzed, use the highest nitrogen available in the soil calculated in Column E when completing Step 2 in Appendix A.

# Appendix A: Agronomic Rate Calculations

Appendix A is required for **beneficial use sites only**; it is not required for dedicated land disposal sites.

STEP 1: Calculate the pounds of metals or nutrients per ton of residuals. Use the results entered in Tables 2 and 3 (when using a single source of residuals) or the final volume-weighted results entered Table 4 (when using more than one source of residuals). Multiply by the conversion factor provided to yield pounds per ton.

STEP 2: List the warm and cool season crops and their respective nitrogen requirements in lbs/year. Calculate the total nitrogen requirement by adding the nitrogen requirements of the warm season crops and cool season crops. Calculate the nitrogen available in the soil using the equation provided for Line 2B. If more than one composite sample was taken at the site (i.e., the application area is greater than 80 acres), enter the highest nitrogen available calculated in Table 6 into Line 2B. Calculate the nitrogen amount still needed for the intended crops by subtracting the nitrogen available in the soil from the total nitrogen requirement.

STEP 3: Use the converted nutrient data results (in pounds per ton) from the residuals sampling in Step 1. Assuming a mineralization rate of 20% for anaerobic digestion of residuals, calculate organic nitrogen in the residuals x 0.20. Use the appropriate volatilization factor for residuals left on the surface (V=0.5) or residuals incorporated into the soil (V=1.0) for calculating ammonium nitrogen. Finally, calculate the Plant Available Nitrogen (PAN) in the residuals using the equation provided in Line 3D.

STEP 4: Use the values calculated in Steps 2 and 3 to calculate the maximum Residuals Application Rate (RAR) for Crop Nitrogen Needs (RARN) in tons per acre per year. The maximum allowable RARN is 40 tons/acre/year. If line 4C exceeds the maximum allowed, use 40 tons/acre/year instead.

STEP 5: Complete Table 9 provided in Step 5 using the equations provided at the top of each column to calculate the Residuals Application Rate for Metals (RARM) for each metal. The maximum loading rate for cadmium is 0.446 lbs/acre/year when food crops are grown at the site.

STEP 6: Calculate the cumulating loading rate by comparing RARN and RARM. The maximum allowable RAR is the lower value of either RARN (calculated in Step 4C) or RARM (lowest value calculated in Column E of Step 5). Please note that the final RAR authorized in the registration will not exceed 40 tons/acre/year.

**Toxicity Characteristic Leaching Procedure (TCLP) Regulatory Levels**

|  |  |  |  |
| --- | --- | --- | --- |
| **METALS** | **TCLP Regulatory Level, mg/L** | **EPA Hazardous Waste Number** | **Recommended Test Method** |
| Arsenic | 5.0 | D004 | 7061 |
| Barium | 100.0 | D005 | 7080 |
| Cadmium | 1.0 | D006 | 7130 |
| Chromium | 5.0 | D007 | 7190 |
| Lead | 5.0 | D008 | 7420 |
| Mercury | 0.2 | D009 | 7471 |
| Selenium | 1.0 | D010 | 7741 |
| Silver | 5.0 | D011 | 7760 |

|  |  |  |  |
| --- | --- | --- | --- |
| **VOLATILE ORGANICS** | **TCLP Regulatory Level, mg/L** | **EPA Hazardous Waste Number** | **Recommended Test Method** |
| Benzene | 0.5 | D018 | 8260B |
| Carbon Tetrachloride | 0.5 | D019 | 8260B |
| Chlorobenzene | 100.0 | D021 | 8260B |
| Chloroform | 6.0 | D022 | 8260B |
| 1,4-Dichlorobenzene | 7.5 | D027 | 8260B |
| 1,2-Dichloroethane | 0.5 | D028 | 8260B |
| 1,1-Dichloroethylene | 0.7 | D029 | 8260B |
| Methyl Ethyl Ketone | 200.0 | D035 | 8260B |
| Tetrachloroethylene | 0.7 | D039 | 8260B |
| Trichloroethylene | 0.5 | D040 | 8260B |
| Vinyl Chloride | 0.2 | D043 | 8260B |

|  |  |  |  |
| --- | --- | --- | --- |
| **SEMIVOLATILE ORGANICS** | **TCLP Regulatory Level, mg/L** | **EPA Hazardous Waste Number** | **Recommended Test Method** |
| o-Cresol \* | 200 | D023 | 8270C |
| m-Cresol \* | 200 | D024 | 8270C |
| p-Cresol \* | 200 | D025 | 8270C |
| Cresol \* | 200 | D026 | 8270C |
| 2,4-Dinitrotoluene | 0.13 | D030 | 8270C |
| Hexachlorobenzene | 0.13 | D032 | 8270C |
| Hexachlorobutadiene | 0.5 | D033 | 8270C |
| Hexachloroethane | 3.0 | D034 | 8270C |
| Nitrobenzene | 2.0 | D036 | 8270C |
| Pentachlorophenol | 100.0 | D037 | 8270C |
| Pyridine | 5.0 | D038 | 8270C |
| 2,4,5-Trichlorophenol | 400.0 | D041 | 8270C |
| 2,4,6-Trichlorophenol | 2.0 | D042 | 8270C |

|  |  |  |  |
| --- | --- | --- | --- |
| **ORGANOCHLORINE PESTICIDES** | **TCLP Regulatory Level, mg/L** | **EPA Hazardous Waste Number** | **Recommended Test Method** |
| Chlordane | 0.03 | D020 | 8081A |
| Endrin | 0.02 | D012 | 8081A |
| Heptachlor (and its Epoxide) | 0.008 | D031 | 8081A |
| Lindane | 0.4 | D013 | 8081A |
| Methoxychlor | 10.0 | D014 | 8081A |
| Toxaphene | 0.5 | D015 | 8081A |

|  |  |  |  |
| --- | --- | --- | --- |
| **CHLOROPHENOXY ACID HERBICIDES** | **TCLP Regulatory Level, mg/L** | **EPA Hazardous Waste Number** | **Recommended Test Method** |
| 2,4-D | 10.0 | D016 | 8150 |
| 2,4,5-TP (Silvex) | 1.0 | D017 | 8150 |

\* If o-, m-, and p-Cresol concentrations cannot be differentiated, the total cresol (D026) concentration is used.

Reference: 40 CFR 261, Appendix II, 1993 ed., as amended by 58 FR 46040, August 31, 1993.