# FACT SHEET AND EXECUTIVE DIRECTOR'S PRELIMINARY DECISION

For proposed Texas Pollutant Discharge Elimination System (TPDES) General Permit No. TXG500000 to discharge into or adjacent to water in the state.

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| Issuing Office: | Texas Commission on Environmental Quality<br>P.O. Box 13087<br>Austin, TX 78711 |
| Prepared by: | Kimberly Wilson<br>Wastewater Permitting Section<br>Water Quality Division<br>(512) 239-4644 |
| Date: | October 23, 2008 |
| Permit Action: | New General Permit TXG500000 |

## I. Summary

The Texas Commission on Environmental Quality (TCEQ) is proposing to issue a new TPDES general permit authorizing discharges of process wastewater, mine dewatering, storm water associated with industrial activity, construction storm water, and certain non-storm water discharges from quarries located greater than one mile from a water body within a water quality protection area in the John Graves Scenic Riverway. This general permit has been developed to comply with Texas Water Code Chapter 26 Subchapter M and 30 TAC Chapter 311 Subchapter H resulting from passage of Senate Bill 1354 of the 79th Legislative Session. Specifically, TWC §26.553(b) requires quarries greater than one mile from a water body to obtain a general permit.

## II. Executive Director's Recommendation

The executive director has made a preliminary decision that this general permit, if issued, meets all statutory and regulatory requirements. It is proposed that the general permit be issued to expire five years from date of issuance in accordance with the requirements of 30 TAC §205.5(a).

## III. Permit Applicability

A. This general permit authorizes the discharge of process wastewater, mine dewatering, storm water associated with industrial activity, construction storm water, and certain non-storm water discharges from quarries located greater than one mile from a water body within a water quality protection area in the John Graves Scenic Riverway. The permit specifies which facilities may be authorized under this general permit and those which must be authorized by individual permit.

B. This general permit does not apply to:

1. A quarry located outside a water quality protection area within the John Graves Scenic Riverway.

2. A quarry located within one mile from a water body within a water quality protection are in the John Graves Scenic Riverway. Quarries within one mile of a water body are required to obtain an individual TPDES permit.

3. A quarry or associated processing plant located greater than one mile from a water body within a water quality protection area that mines clay and shale for use in manufacturing structural clay products; or since on or before January 1, 1994, has been in regular operation without cessation of operation for more than 30 consecutive days and under the same ownership.

4. The construction or operation of a municipal solid waste facility regardless of whether the facility includes a pit or quarry that is associated with past quarrying.

5. Return flows from mining operations authorized by the US Army Corps of Engineers under 33 CFR §323.2(d)(1)(iii).

6. Discharges that are regulated by the Railroad Commission of Texas.

C. The following discharges are not eligible for general permit coverage:

1. Discharges of the constituent(s) of concern to impaired water bodies for which there is a total maximum daily load (TMDL) implementation plan are not eligible for this permit unless they are consistent with the approved TMDL. The executive director may amend this general permit or develop a separate general permit for discharges to these water bodies. For discharges not eligible for coverage under this general permit, the discharger must apply for and receive an individual or other applicable general permit prior to discharging.

2 Discharges that do not maintain existing uses of receiving waters, as determined by the executive director.

3 Discharges that would adversely affect a listed endangered or threatened species or its critical habitat are not authorized by this general permit. Federal requirements related to endangered species apply to all TPDES permitted activities, and site-specific controls may be required to ensure that protection of endangered or threatened species is achieved.

4 Sites that are classified as a poor performer as required under 30 TAC §60.3(a)(3)(A)(i).

## IV. Permit Effluent Limitations

A. Effluent discharged under the authority of this general permit must meet the following effluent limitations:

| Parameter | Daily Average Limitations | Daily Maximum Limitations | Sample Type | Monitoring Frequency |
|---|---|---|---|---|
| Flow | Report MGD | N/A | Estimate | One/day [1] |
| Total Suspended Solids | 45 mg/L | N/A | Grab | One/day [1, 2] |
| pH | 6.0-9.0 su | N/A | Grab | One/day [1, 2] |
| Arsenic, Total | 0.1 mg/L | 0.3 mg/L | Grab | One/year [1] |
| Barium, Total | 1.0 mg/L | 4.0 mg/L | Grab | One/year [1] |
| Cadmium, Total | 0.05 mg/L | 0.2 mg/L | Grab | One/year [1] |
| Chromium, Total | 0.5 mg/L | 5.0 mg/L | Grab | One/year [1] |
| Copper, Total | 0.04 mg/L | 0.09 mg/L | Grab | One/year[1] |
| Lead, Total | 0.35 mg/L | 0.75 mg/L | Grab | One/year [1] |
| Manganese, Total | 1.0 mg/L | 3.0 mg/L | Grab | One/year [1] |
| Mercury, Total | 0.002 mg/L | 0.004 mg/L | Grab | One/year [1] |
| Nickel, Total | 1.0 mg/L | 3.0 mg/L | Grab | One/year [1] |
| Selenium, Total | 0.02 mg/L | 0.04 mg/L | Grab | One/year [1] |
| Silver, Total | 0.03 mg/L | 0.06 mg/L | Grab | One/year [1] |
| Zinc, Total | 0.31 mg/L | 0.66 mg/L | Grab | One/year [1] |

1 When discharging.
2 Not applicable to discharges resulting from a rainfall event greater than the 25-year, 24-hour rainfall event. Monitoring is required when discharges result from a rainfall event greater than the 25-year, 24-hour event, however compliance with effluent limitations is not required.

B. The following best management practices (BMPs) and other non-numerical conditions/requirements are included in the draft general permit:

1. Quarries authorized under this general permit must develop a pollution prevention plan (P3) that covers the entire quarry. The P3 is required to be submitted along with the Notice of Intent (NOI) for review and approval. Minimum contents of the P3 include establishing a pollution prevention team with associated training, a description of potential pollutant sources, a description of management controls to regulate pollutants in discharges (including good housekeeping measures, preventative measures, and spill prevention and response procedures), erosion and sediment controls (including structural controls, stabilization practices, permanent storm water controls, other controls, and maintenance), and inspections and compliance evaluations.

2. Specifically under the requirements of the P3, runoff control berms are required to be constructed to direct runoff from quarrying activities into sedimentation ponds prior to discharge.

3. Specifically under the requirements of the P3, a sedimentation pond(s) is required to be constructed upgradient of each discharge point/outfall to allow for retention of the sediment at the quarry. A sedimentation pond(s) must be designed to retain the 25-year, 24- hour storm event.

4. Quarries authorized under this general permit must submit a restoration plan with the NOI. Minimum requirements of the restoration plan include, identifying receiving waters at risk of unauthorized discharges, documenting background conditions of receiving waters, identifying potential environmental impacts to receiving waters from unauthorized discharges, identifying goals and objectives of potential restoration actions, identifying a range of restoration alternatives, monitoring of the effectiveness of restoration activities, identifying a process for public involvement in restoration activities, and providing cost estimates for restoration.

5. Quarries authorized under this general permit must submit with the NOI and maintain proof of financial assurance for restoration.

6. Quarries authorized under this general permit must submit a final stabilization report with the notice of termination when quarrying activities are completed.

## V. Changes from Existing General Permit

Although this is a first time issuance of this general permit, existing quarries subject to this general permit are currently operating under the Multisector Storm Water General Permit (TXR050000). The following conditions proposed in this general permit are changes when compared to TXR050000:

A. Numeric effluent limitations are included in this general permit. The MSGP includes benchmark monitoring requirements with numeric target levels, which are not effluent limitations.

B. The MSGP includes the requirement to develop a storm water pollution prevention plan, similar to the requirements proposed in this general permit. The P3 requirements included in this general permit are specific to quarrying activities and more closely regulate the associated discharges from a quarry.

C. Specific BMPs are included in this general permit, including the requirement for construction of runoff control berms and sedimentation ponds, which are optional BMPs under the MSGP.

D. Specific requirements are included in this general permit as a result of the passage of legislation and the adoption of Chapter 26 Subchapter M of the Texas Water Code. These requirements include establishing a restoration plan and maintaining financial assurance.

## VI. Addresses

A. Comments on this proposed general permit should be sent to:

Office of the Chief Clerk (MC-105)
TCEQ
P.O. Box 13087
Austin, TX 78711-3087
(512) 239-3300

B. Questions concerning this draft general permit should be directed to:

Kimberly Wilson
TCEQ
Wastewater Permitting Section (MC-148)
Water Quality Division
P.O. Box 13087 Austin, TX 78711-3087
(512) 239-4644
kwilson@tceq.state.tx.us

Supplementary information on this fact sheet is organized as follows:

VII. Legal Basis
VIII. Regulatory Background
IX. Permit Coverage
X. Technology-based Requirements
XI. Water Quality-based Requirements
XII. Monitoring
XIII. Additional Permit Conditions
XIV. Procedures for Final Decision
XV. Administrative Record

## VII. Legal Basis

Section 26.121 of the Texas Water Code (TWC) makes it unlawful to discharge pollutants into or adjacent to water in the state except as authorized by a rule, permit, or order issued by the commission. TWC, §26.027 authorizes the commission to issue general permits and amendments to permits for the discharge of waste or pollutants into or adjacent to water in the state. TWC, §26.040 provides the commission with authority to amend rules adopted under §26.040 prior to amendment of the statute enacted by House Bill (HB) 1542 in 1997, and to authorize waste discharges by general permit. On September 14, 1998, the TCEQ received authority from the United States Environmental Protection Agency (EPA) to administer the Texas Pollutant

Discharge Elimination System (TPDES). The TCEQ and the EPA have signed a Memorandum of Agreement, which authorizes the administration of the National Pollutant Discharge Elimination System (NPDES) program by the TCEQ as it applies to the State of Texas. TWC §§26.551-26.562 are specific to water quality protection areas and are applicable to quarrying operations.

CWA §§301, 304, and 401 (33 United States Code (USC) §§1331, 1314, and 1341) include provisions that state that NPDES permits must include effluent limitations requiring authorized discharges to: (1) meet standards reflecting levels of technological capability; (2) comply with EPA-approved state water quality standards; and (3) comply with other state requirements adopted under authority retained by states under CWA §510, and 33 USC §1370.

Two types of technology-based effluent limitations must be included in the general permit. With regard to conventional pollutants, (i.e., pH, biochemical oxygen demand (BOD), oil and grease, total suspended solids (TSS), and fecal coliform bacteria), CWA, §301(b)(1)(E) requires effluent limitations based on "best conventional pollutant control technology" (BCT). With regard to nonconventional and toxic pollutants, CWA §301(b)(2)(A), (C), and (D) requires effluent limitations based on "best available technology economically achievable" (BAT), a standard that generally represents the best performing existing technology in an industrial category or subcategory. BAT and BCT effluent limitations may never be less stringent than corresponding effluent limitations based on best practicable control technology (BPT), a standard applicable to similar discharges before March 31, 1989 under CWA §301(b)(1)(A).

Frequently, EPA adopts nationally applicable guidelines identifying the BPT, BCT, and BAT standards to which specific industrial categories and subcategories are subject. Until such guidelines are published, however, CWA §402(a)(1) requires that appropriate BCT and BAT effluent limitations be included in permitting actions on the basis of its best professional judgment (BPJ).

## VIII. Regulatory Background

The commission was given authority to issue general permits in place of authorizations by rule through legislation, HB 1542, passed during the 75th Legislative Session. Further clarification of this general permit authority was provided in subsequent legislation, HB 1283, passed during the 76th Legislative Session. 40 CFR §122.26(b)(14) defines categories of industrial activities that must obtain an NPDES permit, quarries are included in this definition. Authorization to discharge storm water associated with industrial activity was initially provided by EPA in issuance of the NPDES multisector storm water general permit in the Federal Register, Volume 60, No. 189, September 29, 1995. The TCEQ (previously the Texas Natural Resource Conservation Commission) was provided authority to administer the NPDES program as the TPDES program on September 14, 1998. TCEQ reissued the MSGP as a TPDES general permit on August 20, 2001. Quarries are regulated under Sector J – Mineral Mining and Dressing. Senate Bill 1354 was passed during the 79th Legislative Session in 2005 and Chapter 26 of the Texas Water Code was amended to include Subchapter M (Water Quality Protection Areas) effective June 17, 2005. This section of the Texas Water Code requires quarries located greater than one mile from a water body to obtain a general permit and identifies specific requirements that were not included in TCEQ's 2001 MSGP. 30 TAC Chapter 311 Subchapter H was effective August 3, 2006. It implements the revisions to the

TWC. The MSGP was renewed by TCEQ on August 14, 2006 and Section J.4 specifically directs quarries located in the John Graves Scenic Riverway to obtain alternative permit authorizations.

## IX. Permit Coverage

The purpose of this general permit is to regulate the surface discharges of process wastewater, mine dewatering, storm water associated with industrial activity, construction storm water, and certain non-storm water discharges into or adjacent to water in the state from quarries located greater than one mile from a water body within a water quality protection area in the John Graves Scenic Riverway. To obtain authorization to discharge under this general permit, an applicant will need to use the following guidelines.

A. Applicants seeking authorization to discharge under this general permit must submit a completed NOI on a form approved by the executive director. The NOI shall, at a minimum, include: the legal name and address of the owner and operator, the facility name and address, specific description of its location, type of facility or discharges, and the receiving waters. This general permit also requires the submittal of technical documents for review and approval by the executive director, including a pollution prevention plan, proof of financial assurance, and a restoration plan.

B. An existing quarry operating under the MSGP must submit an NOI within 90 days of issuance of this general permit to continue quarry activities. A new quarry must submit an NOI and obtain authorization prior to commencing quarry activities, including construction activities at the quarry location.

C. Submission of an NOI is an acknowledgment that the conditions of this general permit are applicable to the proposed discharge, and that the applicant agrees to comply with the conditions of this general permit. The NOI must be submitted to the address indicated on the NOI form. Following review of the NOI, the executive director shall either confirm coverage by providing a notification and an authorization number to the applicant or notify the applicant that coverage under this general permit is denied. Applicants seeking authorization to discharge to a municipal separate storm sewer system (MS4) must provide a copy of the NOI to the operator of the MS4 at the same time an NOI is submitted to the TCEQ.

D. Authorization under this general permit is not transferable. If the owner or operator of the regulated entity changes, the present owner and operator must submit a Notice of Termination (NOT) and the new owner and operator must submit an NOI. The NOT and NOI must be submitted not later than 10 days before the change. Permittees discharging to a MS4 must submit a copy of the NOT to the operator of the MS4 at the same time the NOT is submitted to the TCEQ.

E. If the owner or operator becomes aware that it failed to submit any relevant facts or submitted incorrect information in an NOI, the correct information must be provided to the executive director in a Notice of Change (NOC) within 14 days after discovery. If relevant information provided in the NOI changes (for example, phone number or PO box number) an NOC must be submitted within 14 days after the change. Permittees discharging to a

MS4 must submit a copy of any NOC to the operator of the MS4 at the same time the NOC is submitted to the TCEQ.

F. Within 30 days after the effective date of authorization under this general permit, the permittee shall submit an NOT to the executive director for current authorizations held under TXR050000 (MSGP) and/or TXR150000 (Storm Water Construction General Permit).

## X. Technology-Based Requirements

The limitations and conditions of the general permit have been developed to comply with the technology-based standards of the Clean Water Act. There are currently no nationally applicable effluent limitation guidelines in 40 CFR Chapter I Subchapter N that identify the BPT, BCT, and BAT standards. National effluent limitation guidelines at 40 CFR Part 436 Subpart B (Crushed Stone Subcategory), Subpart C (Construction Sand and Gravel Subcategory), and Subpart D (Industrial Sand Subcategory) were considered when establishing technology-based limitations in this general permit. Technology-based effluent limitations included in this general permit are based on BPJ and rules included at 30 TAC §311.79 and §319.22. The parameters selected for BCT/BAT limits are the primary pollutants of concern for discharges authorized in the general permit. The limitations for these parameters are: 45 mg/L total suspended solids and between 6.0 to 9.0 standard units pH as established at 30 TAC §311.79. Additionally technology-based limitations are included for arsenic, barium, cadmium, chromium, lead, manganese, and nickel as established at 30 TAC §319.22. These effluent limitations are economically achievable based on inclusion in current state regulations.

## XI. Water Quality-Based Requirements

The Texas Surface Water Quality Standards found at 30 TAC Chapter 307 state that "surface waters will not be toxic to man, or to terrestrial or aquatic life." The methodology outlined in the *Procedures to Implement the Texas Surface Water Quality Standards* is designed to insure compliance with 30 TAC Chapter 307. Specifically, the methodology is designed to insure that no source will be allowed to discharge any wastewater or storm water that: (1) results in instream aquatic toxicity; (2) causes a violation of an applicable narrative or numerical state water quality standard; (3) results in the endangerment of a drinking water supply; or (4) results in aquatic bioaccumulation that threatens human health.

TPDES permits contain technology-based effluent limits reflecting the best controls available. Where these technology-based permit limits do not protect water quality or the designated uses, additional water quality-based effluent limitations and/or conditions are included in the permits. State narrative and numerical water quality standards are used in conjunction with EPA criteria and other toxicity data bases to determine the adequacy of technology-based permit limits and the need for additional water-quality based controls. A review by the TCEQ's Water Quality Standards Team determined that the proposed technology-based and water quality-based effluent limits are protective of water quality. Water quality based effluent limits for copper, mercury, selenium, silver, and zinc, which are more stringent than the technology-based limitations at 30 TAC §319.22, are established in this general permit.

The daily average and daily maximum effluent limitations for copper, mercury, selenium, silver, and zinc were developed based on the protection for acute freshwater aquatic life toxicity in situations where little or no dilution occurs. Chronic aquatic life and human health evaluation was not required based on the restriction of this general permit only applying to discharges greater than one mile from a waterbody, e.g. discharges may only occur to intermittent streams and discharges would likely only occur during and following significant rainfall events. Water quality based effluent limitations were evaluated for protection of receiving water bodies in Segments 1206 and 1207 of the Brazos River Basin, the two segments that have the potential to receive discharges authorized under this general permit.

Water quality based effluent limitations for these five metals are calculated in Appendix 1 of this fact sheet.

In order to achieve compliance with Texas Surface water quality standards, permittees must meet the following narrative water quality requirements:

A. There shall be no discharge of floating solids or visible foam in other than trace amounts and no discharge of visible oil.

B. Concentration of taste and odor producing substances shall not interfere with the production of potable water by reasonable water treatment methods, impart unpalatable flavor to food fish including shellfish, result in offensive odors arising from the waters, or otherwise interfere with the reasonable use of the water in the state.

The Texas Water Quality Standards also require that discharges must not be acutely toxic to aquatic life, as determined by requiring greater than 50% survival in 100% effluent using a 24-hour acute toxicity test. This requirement is typically only required for continuously flowing discharges or discharges with the potential to exert toxicity in the receiving stream, according to the state's implementation procedures.

The discharges authorized under this general permit are not typically continuous flowing discharges and the limitations for pollutants of concern in the permit should preclude toxicity instream.

## XII. Monitoring

Monitoring is required by 40 CFR §122.44(i) for each pollutant limited in a permit to ensure compliance with the permit limits. The general permit has the following criteria established for monitoring.

A. The permittee shall ensure that properly trained and authorized personnel monitor and sample the discharge.

B. The sampling point must be downstream of any treatment unit or technique.

C. All samples must be collected according to the latest edition of *Standard Methods for the Examination of Water and Wastewater* (prepared and published jointly by the American Public Health Association, the American Waterworks Association, and the Water Pollution Control Federation), or EPA's, *Methods for Chemical Analysis of Water and Wastes* (1979), or EPA's, *Biological Field and Laboratory Methods for Measuring the Quality of Surface Waters and Effluents* (1973).

D. Sample containers, holding times, preservation methods, and analytical methods, shall either follow the requirements in 40 CFR Part 136, or *Standard Methods for the Examination of Water and Wastewater*.

E. All analytical results shall be reported on a Discharge Monitoring Report (DMR) (EPA Form 3320-1). The analytical results must be submitted to the TCEQ's Enforcement Division (MC-224), on a quarterly basis, and the DMR must arrive by the 20th day in the months of April, July, October, and January. The DMR for any given month is required for each discharge that is described by this permit whether or not a discharge is made for the month. If noncompliance with a discharge limitation occurs, the permittee shall provide notification according to Part VIII.D.8.

## XIII. Additional Permit Conditions

Additional permit conditions are proposed in this draft general permit for the purpose of water quality protection and compliance with enacted legislation and associated revisions to the Texas Water Code and Texas Administrative Code applicable to quarries in the John Graves Scenic Riverway.

A pollution prevention plan (P3) is required to be developed and implemented by permittees authorized under this general permit. The P3 is structured similar to the storm water pollution prevention plan (SWP3) required in the MSGP, however the conditions in this general permit are tailored specifically to quarry operations in the John Graves Scenic Riverway. Specific best management practices (BMPs) and structural controls are proposed as part of the P3 to address the prevention of unauthorized discharges and to retain sediment onsite. Runoff control berms are required to be installed around the entire perimeter of the active quarry to direct storm water runoff into sedimentation pond(s). The sedimentation pond(s) must be sized to capture the resulting runoff from the 25-year 24-hour storm event. These requirements should ensure that all runoff containing sediment and other pollutants will be controlled and treated to remove sediment prior to controlled releases into receiving waters and will assist in discharges complying with the total suspended solids and other effluent limitations proposed in the general permit.

The proposed general permit includes the requirement for permittees to develop a restoration plan that would be implemented should unauthorized discharges occur from the quarry that impact receiving waters. The restoration plan is required under Texas Water Code Section 26.553(f)(1) and Title 30 Texas Administrative Code Section 311.76.

The proposed general permit includes the requirement for permittees to maintain proof of financial assurance for restoration. This is required in Texas Water Code §26.553(f)(2) and 30 TAC §311.81(a) and Chapter 37 Subchapter W.

A final stabilization report is required to be submitted with the notice of termination (NOT) for review and approval by the executive director. The purpose of the stabilization report is to ensure that the quarry location does not continue to be a source of pollution after quarrying activities have ceased and requires the permittee to maintain compliance with the conditions of the general permit until the plan is approved.

## XIV. Procedures for Final Decision

The memorandum of agreement between the EPA and TCEQ provides that EPA has 90 days to comment, object, or make recommendations to the general permit before it is published in the *Texas Register*. According to 30 TAC Chapter 205, when the draft general permit is proposed, notice must be published, at a minimum, in a newspaper of general circulation. The commission may also publish notice in one or more additional newspapers of statewide or regional circulation. Mailed notice must also be provided to the following:

A. The county judge of the county or counties in which the discharges under the general permit could be located;
B. if applicable, state and federal agencies for which notice is required in 40 CFR §124.10(c);
C. persons on a relevant mailing list kept under 30 TAC §39.407, relating to Mailing Lists; and
D. any other person the executive director or chief clerk may elect to include.

After notice of the general permit is published in the *Texas Register* and the newspaper(s), the public will have 30 days to provide public comment on the proposed permit.

Based on previous significant public interest in quarrying activities in this geographic region of the state, the executive director has determined that holding a public meeting is warranted. A public comment hearing is intended for the taking of public comment, and is not a contested case proceeding under the Texas Administrative Procedure Act. The public meeting on this general permit will be held in Mineral Wells, Texas.

The commission will give notice of the date, time, and place of the meeting, as required by commission rule. The executive director shall prepare a response to all significant public comments on the draft general permit raised during the public comment period. The executive director shall make the response available to the public. The general permit will then be filed with the commission to consider final authorization of the general permit. The executive director's response to public comment shall be made available to the public and filed with the chief clerk at least ten days before the commission acts on the general permit.

## XV. Administrative Record

The following section is a list of the fact sheet citations to applicable statutory or regulatory provisions and appropriate supporting references.

A. 40 CFR Citations

40 CFR §122

40 CFR §124
40 CFR §136
40 CFR §436
40 CFR Chapter I Subchapter N

B. TCEQ Rules

30 TAC Chapter 311 Suchapter H – *Regulation of Quarries in the John Graves Scenic Riverway*
30 TAC Chapter 37 Suchapter W – *Financial Assurance for Quarries*
30 TAC Chapters 39, 60, 205, 281, 305, 307, 309, 319, 321, 331, and 335

C. Letters/Memoranda/Records of Communication

Memo from the TCEQ's Water Quality Standards Team dated May 29, 2008.

D. TPDES General Permit TXR050000 - Multisector General Permit, issued August 14, 2006

E. TPDES General Permit TXR150000 – Construction General Permit, effective March 5, 2008

F. Miscellaneous

1. Texas Surface Water Quality Standards, 30 TAC §§307.1 – 307.10
2. Texas Water Code Chapter 26 Subchapter M
3. Senate Bill 1354, 79th Legislative Session
4. *Procedures to Implement the Texas Surface Water Quality Standards*, TCEQ, January 2003.

# Fact Sheet and Executive Director's Preliminary Decision
# TPDES General Permit No. TXG500000

## Appendix 1

**TEXTOX MENU #1 - INTERMITTENT STREAM**

The water quality-based effluent limitations demonstrated below are calculated using:

Table 1, 1997 Texas Surface Water Quality Standards (30 TAC 307) for Freshwater Aquatic Life
Table 3, 2000 Texas Surface Water Quality Standards for Human Health
Procedures to Implement the Texas Surface Water Quality Standards, Texas Commission on Environmental Quality, January 2003.

| | |
|---|---|
| TPDES Permit No: | TXG500000 |
| Permittee Name: | N/A |
| Outfall No: | N/A |
| Prepared By: | N/A |
| Date: | 6/27/2008 |

**DISCHARGE INFORMATION:**

| | |
|---|---|
| Immediate Receiving Waterbody: | Lake Granbury & Brazos River Below Possum Kindom Lake |
| Segment No: | 1205 & 1206 (the lowest TSS, pH, hardness, and chloride ambient values are used below) |
| TSS: | 5 |
| pH: | 7.5 |
| Hardness: | 104 |
| Chloride: | 460 |
| Effluent Flow for Aquatic Life (MGD): | N/A |
| Critical Low Flow [7Q2] (cfs): | 0 |
| Acute Effluent % for Aquatic Life: | 100 |

**CALCULATE TOTAL/DISSOLVED RATIO:**

| *Stream/River Metal* | *Intercept (b)* | *Slope (m)* | *Partitioning Coefficient (Kpo)* | *Dissolved Fraction (Cd/Ct)* | | *Water Effects Ratio (WER)* | |
|---|---|---|---|---|---|---|---|
| Aluminum | N/A | N/A | N/A | 1.00 | Assumed | 1 | Assumed |
| Arsenic | 5.68 | -0.73 | 147826.36 | 0.57 | | 1 | Assumed |
| Cadmium | 6.6 | -1.13 | 645897.93 | 0.24 | | 1 | Assumed |
| Chromium (Total) | 6.52 | -0.93 | 741238.38 | 0.21 | | 1 | Assumed |
| Chromium (+3) | 6.52 | -0.93 | 741238.38 | 0.21 | | 1 | Assumed |
| Chromium (+6) | N/A | N/A | N/A | 1.00 | Assumed | 1 | Assumed |
| Copper | 6.02 | -0.74 | 318245.45 | 0.39 | | 1 | Assumed |
| Lead | 6.45 | -0.8 | 777721.31 | 0.20 | | 1 | Assumed |
| Mercury | N/A | N/A | N/A | 1.00 | Assumed | 1 | Assumed |
| Nickel | 5.69 | -0.57 | 195698.32 | 0.51 | | 1 | Assumed |
| Selenium | N/A | N/A | N/A | 1.00 | Assumed | 1 | Assumed |
| Silver | 6.38 | -1.03 | 457152.29 | 0.30 | | 1 | Assumed |
| Zinc | 6.1 | -0.7 | 408057.15 | 0.33 | | 1 | Assumed |

***AQUATIC LIFE***
***CALCULATE DAILY AVERAGE AND DAILY MAXIMUM EFFLUENT LIMITATIONS***

| *Parameter* | *Acute Standard (ug/L)* | *WLAa* | *LTAa* | *Daily Avg. (ug/L)* | *Daily Max. (ug/L)* |
|---|---|---|---|---|---|
| Aldrin | 3 | 3.00 | 1.72 | 2.53 | 5.35 |
| Aluminum(d) | 991 | 991.00 | 567.84 | 834.73 | 1765.99 |

| | | | | | |
|---|---|---|---|---|---|
| Arsenic(d) | 360 | 626.09 | 358.75 | 527.36 | 1115.71 |
| Cadmium(d) | 35.215 | 148.94 | 85.34 | 125.45 | 265.42 |
| Carbaryl | 2 | 2.00 | 1.15 | 1.68 | 3.56 |
| Chlordane | 2.4 | 2.40 | 1.38 | 2.02 | 4.28 |
| Chlorpyrifos | 0.083 | 0.08 | 0.05 | 0.07 | 0.15 |
| Chromium (+3)(d) | 1793.20 | 8439.14 | 4835.62 | 7108.37 | 15038.79 |
| Chromium (+6)(d) | 16 | 16.00 | 9.17 | 13.48 | 28.51 |
| Copper(d) | 19.916 | 51.61 | 29.57 | 43.47 | 91.97 |
| Cyanide (free) | 45.78 | 45.78 | 26.23 | 38.56 | 81.58 |
| 4,4'-DDT | 1.1 | 1.10 | 0.63 | 0.93 | 1.96 |
| Dementon | N/A | N/A | N/A | N/A | N/A |
| Dicofol | 59.3 | 59.30 | 33.98 | 49.95 | 105.67 |
| Dieldrin | 2.5 | 2.50 | 1.43 | 2.11 | 4.46 |
| Diuron | 210 | 210.00 | 120.33 | 176.89 | 374.23 |
| Endosulfan I (alpha) | 0.22 | 0.22 | 0.13 | 0.19 | 0.39 |
| Endosulfan II (beta) | 0.22 | 0.22 | 0.13 | 0.19 | 0.39 |
| Endosulfan sulfate | 0.22 | 0.22 | 0.13 | 0.19 | 0.39 |
| Endrin | 0.18 | 0.18 | 0.10 | 0.15 | 0.32 |
| Guthion | N/A | N/A | N/A | N/A | N/A |
| Heptachlor | 0.52 | 0.52 | 0.30 | 0.44 | 0.93 |
| Hexachlorocyclohexane (Lindane) | 2 | 2.00 | 1.15 | 1.68 | 3.56 |
| Lead(d) | 85.825 | 419.56 | 240.41 | 353.40 | 747.68 |
| Malathion | N/A | N/A | N/A | N/A | N/A |
| Mercury | 2.4 | 2.40 | 1.38 | 2.02 | 4.28 |
| Methoxychlor | N/A | N/A | N/A | N/A | N/A |
| Mirex | N/A | N/A | N/A | N/A | N/A |
| Nickel(d) | 1466.091 | 2900.65 | 1662.07 | 2443.24 | 5169.04 |
| Parathion (ethyl) | 0.065 | 0.07 | 0.04 | 0.05 | 0.12 |
| Pentachlorophenol | 14.99175 | 14.99 | 8.59 | 12.63 | 26.72 |
| Phenanthrene | 30 | 30.00 | 17.19 | 25.27 | 53.46 |
| Polychlorinated Biphenyls (PCBs) | 2 | 2.00 | 1.15 | 1.68 | 3.56 |
| Selenium | 20 | 20.00 | 11.46 | 16.85 | 35.64 |
| Silver, (free ion) | 0.92 | 33.66 | 19.29 | 28.35 | 59.98 |
| Toxaphene | 0.78 | 0.78 | 0.45 | 0.66 | 1.39 |
| Tributlytin (TBT) | 0.13 | 0.13 | 0.07 | 0.11 | 0.23 |
| 2,4,5 Trichlorophenol | 136 | 136.00 | 77.93 | 114.55 | 242.36 |
| Zinc(d) | 120.976 | 367.80 | 210.75 | 309.80 | 655.43 |