STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF WATER RESOURCES
William R. Snodgrass - Tennessee Tower
312 Rosa L. Parks Avenue, 11th Floor
Nashville, Tennessee 37243-1102

April 18, 2018

Mr. Mike Abba
Terminal Manager
e-copy: mabba@citgo.com
CITGO Petroleum Corporation
2409 Knott Rd.
Knoxville, TN 37921

Subject: **NPDES Permit No. TN0022411**
CITGO Petroleum Corporation
Knoxville, Knox County, Tennessee

Dear Mr. Abba:

In accordance with the provisions of the Tennessee Water Quality Control Act, Tennessee Code Annotated (T.C.A.), Sections 69-3-101 through 69-3-120, the Division of Water Resources hereby issues the enclosed NPDES Permit. The continuance and/or reissuance of this NPDES Permit is contingent upon your meeting the conditions and requirements as stated therein.

Please be advised that a petition for permit appeal may be filed, pursuant to T.C.A. Section 69-3-105, subsection (i), by the permit applicant or by any aggrieved person who participated in the public comment period or gave testimony at a formal public hearing whose appeal is based upon any of the issues that were provided to the commissioner in writing during the public comment period or in testimony at a formal public hearing on the permit application. Additionally, for those permits for which the department gives public notice of a draft permit, any permit applicant or aggrieved person may base a permit appeal on any material change to conditions in the final permit from those in the draft, unless the material change has been subject to additional opportunity for public comment. Any petition for permit appeal under this subsection (i) shall be filed with the Technical Secretary of the Water Quality, Oil and Gas Board within thirty (30) days after public notice of the commissioner's decision to issue or deny the permit. A copy of the filing should also be sent to TDEC's Office of General Counsel.

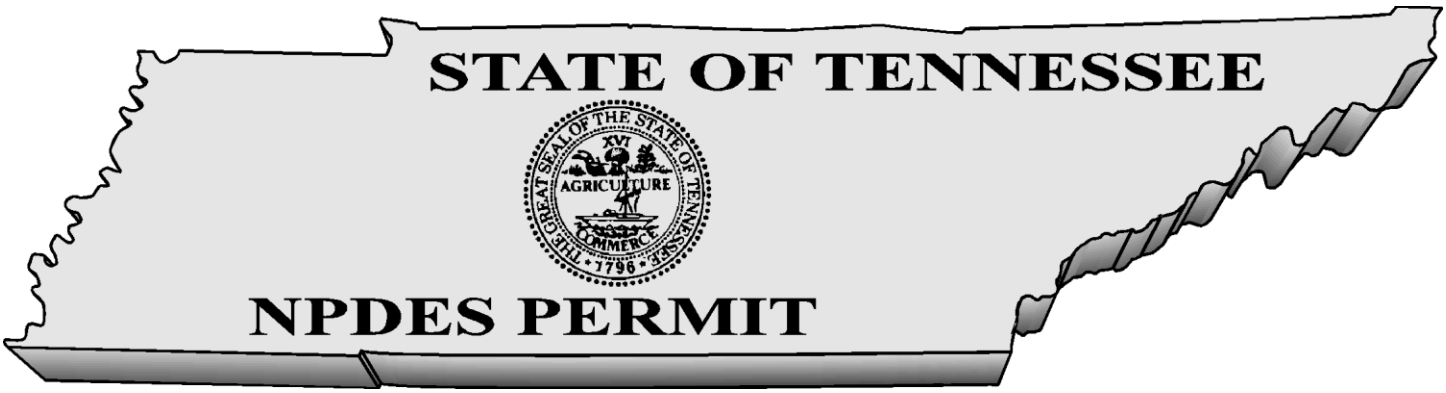
If you have questions, please contact the Knoxville Environmental Field Office at 1-888-891-TDEC; or, at this office, please contact Mr. Jack Beach at (615) 532-0623 or by E-mail at *Jack.Beach@tn.gov*.

Sincerely,

Vojin Janjić
Manager, Water-Based Systems

Enclosure

cc: Permit File
Knoxville Environmental Field Office



No. TN0022411

Authorization to discharge under the
National Pollutant Discharge Elimination System (NPDES)

Issued By

STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF WATER RESOURCES
William R. Snodgrass - Tennessee Tower
312 Rosa L. Parks Avenue, 11th Floor
Nashville, Tennessee 37243-1102

Under authority of the Tennessee Water Quality Control Act of 1977 (T.C.A. 69-3-101 et seq.) and the delegation of authority from the United States Environmental Protection Agency under the Federal Water Pollution Control Act, as amended by the Clean Water Act of 1977 (33 U.S.C. 1251, et seq.)

Discharger:	**CITGO Petroleum Corporation** **Knoxville Petroleum Bulk Station and Terminal**
is authorized to discharge:	**treated containment area and loading rack wastewater, storm water runoff and hydrostatic test water from Outfall 001**
from a facility located at:	**2409 Knott Road, Knoxville, Knox County, Tennessee**
to receiving waters named:	**unnamed tributary to Third Creek at mile 5.3 which routes to Fort Loudoun reservoir at Tennessee River mile 645.9**

in accordance with effluent limitations, monitoring requirements and other conditions set forth herein.

This permit shall become effective on: **May 1, 2018**

This permit shall expire on: **April 30, 2022**

Issuance date: **April 18, 2018**

for Tisha Calabrese Benton
Director

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PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

CITGO Petroleum Corporation is authorized to discharge treated containment area and loading rack wastewater, storm water runoff and hydrostatic test water from Outfall 001 to unnamed tributary to Third Creek at mile 5.3.

These discharges shall be limited and monitored by the permittee as specified below:

Description : External Outfall, Number : 001, Monitoring : Effluent Gross, Season : All Year

Code	Parameter	Qualifier	Value	Unit	Sample Type	Monitoring Frequency	Statistical Base
00400	pH	>=	6.0	SU	Grab	Quarterly	Minimum
00400	pH	<=	9.0	SU	Grab	Quarterly	Maximum
00530	Total Suspended Solids (TSS)	<=	45.0	mg/L	Grab	Quarterly	Daily Maximum
00545	Settleable Solids	<=	0.5	mL/L	Grab	Quarterly	Daily Maximum
00556	Oil & Grease	<=	15.0	mg/L	Grab	Quarterly	Daily Maximum
34010	Toluene	<=	1.0	mg/L	Grab	Quarterly	Daily Maximum
34030	Benzene	<=	0.07	mg/L	Grab	Quarterly	Daily Maximum
34371	Ethylbenzene	<=	0.2	mg/L	Grab	Quarterly	Daily Maximum
50050	Flow	Report	-	Mgal/d	Instantaneous	Quarterly	Daily Maximum
81551	Xylene	<=	0.5	mg/L	Grab	Quarterly	Daily Maximum

Additional monitoring requirements and conditions applicable to Outfall 001 include:

There shall be no distinctly visible floating solids, scum, foam, oily slick, or the formation of slimes, bottom deposits or sludge banks of such size or character that may be detrimental to fish and aquatic life.

The wastewater discharge shall not contain pollutants in quantities that will be hazardous or otherwise detrimental to humans, livestock, wildlife, plant life, or fish and aquatic life in the receiving stream.

Sludge or any other material removed by any treatment works must be disposed of in a manner, which prevents its entrance into or pollution of any surface or subsurface waters. Additionally, the disposal of such sludge or other material must be in compliance with the Tennessee Solid Waste Disposal Act, TCA 68-31-101 et seq. and the Tennessee Hazardous Waste Management Act, TCA 68-46-101 et seq.

Nothing in this permit authorizes take for the purposes of a facility's compliance with the Endangered Species Act." (40 C.F.R. 125.98(b)(1))

The construction, transportation and storage of the vessels to be tested shall be done in such a way that prevents debris and materials from being deposited within the vessel where it may later be washed out by hydrostatic test water and released to surface or subsurface water.

The discharger shall use proper engineering practices and Best Management Practices (BMPs) to prevent contamination of hydrostatic test water by fuels, lubricants or waste materials. An example of such a BMP is use of pigging devices to force out liquid and solid materials from the pipe prior to filling the pipe with test water.

Hydrostatic test water shall be discharged in a manner to prevent erosion of soil or other materials into surface or subsurface water. BMPs preventing erosion include, but are not limited to splash pads, straw bales, silt fences, and vegetated buffer zones.

Hydrostatic test water shall be discharged in a manner so that chlorine will be dissipated prior to the discharge entering waters of the state. There shall be no distinctly visible floating scum, oil or other matter contained on or in the wastewater discharge.

If the hydrostatic test water is discharged through an oil/water separator or other wastewater treatment process or device, the hydraulic and contaminant loading shall not exceed the capacity of the oil/water separator or other process or device.

Sludge or any other material removed by any treatment works must be disposed of in a manner which prevents its entrance into or pollution of any surface or subsurface waters. Additionally, the disposal of such sludge or other material must be in compliance with the Tennessee Solid Waste Disposal Act, T.C.A. § 68-211-101 et seq. and the Tennessee Hazardous Waste Management Act, § T.C.A. 68-212-101 et seq.

The wastewater discharge must not cause an objectionable color contrast in the receiving stream.

B. MONITORING PROCEDURES

1. Representative Sampling

Samples and measurements taken in compliance with the monitoring requirements specified herein shall be representative of the volume and nature of the monitored discharge, and shall be taken after treatment and prior to mixing with uncontaminated storm water runoff or the receiving stream. Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to insure the accuracy and reliability of measurements of the volume of monitored discharges. The devices shall be installed, calibrated and maintained to insure that the accuracy of the measurements is consistent with accepted capability of that type of device. Devices selected shall be capable of measuring flows with a maximum deviation of less than plus or minus 10% from the true discharge rates throughout the range of expected discharge volumes.

2. Sampling Frequency

If there is a discharge from a permitted outfall on any given day during the monitoring period, the permittee must sample and report the results of analyses accordingly, and the permittee should not mark the 'No Discharge' box on the Discharge Monitoring Report form.

3. Test Procedures

a. Test procedures for the analysis of pollutants shall conform to regulations published pursuant to Section 304 (h) of the Clean Water Act (the "Act"), as amended, under which such procedures may be required.

b. Unless otherwise noted in the permit, all pollutant parameters shall be determined according to methods prescribed in Title 40, CFR Part 136, as amended, promulgated pursuant to Section 304 (h) of the Act.

In instances where permit limits established through implementation of applicable water criteria are below analytical capabilities, compliance with those limits will be determined using the detection limits described in the TN Rules, Chapter 0400-40-03-.05(8).

The wastewater discharge must be disinfected to the extent that viable coliform organisms are effectively eliminated. The concentration of the E. coli group after disinfection shall not exceed 126 cfu per 100 ml as the geometric mean calculated on the actual number of samples collected and tested for E. coli within the required reporting period. The permittee may collect more samples than specified as the monitoring frequency. Samples may not be collected at intervals of less than 12 hours. For the purpose of determining the geometric mean, individual samples having an E. coli group concentration of less than one (1) per 100 ml shall be considered as having a concentration of one (1) per 100 ml. In addition, the concentration of the E. coli group in any individual sample shall not exceed a specified maximum amount. A maximum daily limit of 487 colonies per 100 ml applies to lakes and exceptional Tennessee waters. A maximum daily limit of 941 colonies per 100 ml applies to all other recreational waters.

4. Recording of Results

For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information:

a. The exact place, date and time of sampling;

b. The exact person(s) collecting samples;

c. The dates and times the analyses were performed;

d. The person(s) or laboratory who performed the analyses;

e. The analytical techniques or methods used, and;

f. The results of all required analyses.

5. Records Retention

All records and information resulting from the monitoring activities required by this permit including all records of analyses performed and calibration and maintenance of instrumentation shall be retained for a minimum of three (3) years, or longer, if requested by the Division of Water Resources.

C. DEFINITIONS

For the purpose of this permit, ***Annually*** is defined as a monitoring frequency of once every twelve (12) months beginning with the date of issuance of this permit so long as the following set of measurements for a given 12 month period are made approximately 12 months subsequent to that time.

A ***bypass*** is defined as the intentional diversion of waste streams from any portion of a treatment facility.

A ***calendar day*** is defined as the 24-hour period from midnight to midnight or any other 24-hour period that reasonably approximates the midnight to midnight time period.

Continuous monitoring*,* for the purposes of this permit, is the measurement of flow, total dissolved solids, and turbidity at a frequency that will accurately characterize the nature of discharges from the site and water in the receiving stream. Samples collected continuously shall be at a frequency of not less than once every fifteen minutes for flow, and not less than once per hour for turbidity and total dissolved solids.

Cooling water means water used for contact or non-contact cooling, including water used for equipment cooling, evaporative cooling tower makeup, and dilution of effluent heat content. The intended use of the cooling water is to absorb waste heat rejected from the process or processes used, or from auxiliary operations on the facility's premises.

Cooling water intake structure means the total physical structure and any associated constructed waterways used to withdraw cooling water from waters of the United States. The cooling water intake structure extends from the point at which water is first withdrawn from waters of the United States up to, and including the intake pumps***.***

Actual Intake Flow (AIF) means the average volume of water withdrawn on an annual basis by the cooling water intake structures over the past three years.

Design intake flow (DIF) means the value assigned during the cooling water intake structure design to the maximum instantaneous rate of flow of water the cooling water intake system is capable of withdrawing from a source waterbody.

Entrainment- means the incorporation of all life stages of fish and shellfish with intake water flow entering and passing through a cooling water intake structure and into a cooling water system.

Impingement- means the entrapment of all life stages of fish and shellfish on the outer part of an intake structure or against a screening device during periods of intake water withdrawal.

The ***Daily Maximum Amount***, is a limitation measured in pounds per day (lb/day), on the total amount of any pollutant in the discharge by weight during any calendar day.

The ***Daily Maximum Concentration*** is a limitation on the average concentration, in milligrams per liter (mg/L), of the discharge during any calendar day. When a proportional-to-flow composite sampling device is used, the daily concentration is the concentration of that 24-hour composite; when other sampling means are used, the daily concentration is the arithmetic mean of the concentrations of equal volume samples collected during any calendar day or sampling period.

"Degradation" means the alteration of the properties of waters by the addition of pollutants, withdrawal of water, or removal of habitat, except those alterations of a short duration.

"***De Minimis***" - Degradation of a small magnitude, as provided in this paragraph.

(a) Discharges and withdrawals

1. Subject to the limitation in part 3 of this subparagraph, a single discharge other than those from new domestic wastewater sources will be considered de minimis if it uses less than five percent of the available assimilative capacity for the substance being discharged.
2. Subject to the limitation in part 3 of this subparagraph, a single water withdrawal will be considered de minimis if it removes less than five percent of the 7Q10 flow of the stream.
3. If more than one activity described in part 1 or 2 of this subparagraph has been authorized in a segment and the total of the authorized and proposed impacts uses no more than 10% of the assimilative capacity, or 7Q10 low flow, they are presumed to be de minimis. Where the total of the authorized and proposed impacts uses 10% of the assimilative capacity, or 7Q10 low flow, additional degradation may only be treated as de minimis if the Division finds on a scientific basis that the additional degradation has an insignificant effect on the resource.

(b) Habitat alterations authorized by an Aquatic Resource Alteration Permit (ARAP) are de minimis if the Division finds that the impacts, individually and cumulatively are offset by impact minimization and/or in-system mitigation, provided however, in ONRWs the mitigation must occur within the ONRW.

Discharge or "discharge of a pollutant" refers to the addition of pollutants to waters from a source.

Dry Weather Flow shall be construed to represent discharges consisting of process and/or non-process wastewater only.

An ***ecoregion*** is a relatively homogeneous area defined by similarity of climate, landform, soil, potential natural vegetation, hydrology, or other ecologically relevant variables.

The ***geometric mean*** of any set of values is the n^{th} root of the product of the individual values where "n" is equal to the number of individual values. The geometric mean is equivalent to the antilog of the arithmetic mean of the logarithms of the individual values. For the purposes of calculating the geometric mean, values of zero (0) shall be considered to be one (1).

A ***Grab Sample***, for the purposes of this permit, is defined as a single effluent sample of at least 100 milliliters (sample volumes <100 milliliters are allowed when specified per standard methods, latest edition) collected at a randomly selected time over a period not exceeding 15 minutes. The sample(s) shall be collected at the period(s) most representative of the total discharge.

The ***Instantaneous Concentration*** is a limitation on the concentration, in milligrams per liter (mg/L), of any pollutant contained in the discharge determined from a grab sample taken at any point in time.

The ***monthly average amount***, shall be determined by the summation of all the measured daily discharges by weight divided by the number of days during the calendar month when the measurements were made.

The ***monthly average concentration***, other than for *E. coli* bacteria, is the arithmetic mean of all the composite or grab samples collected in a one-calendar month period.

A ***one week period*** (or ***calendar-week***) is defined as the period from Sunday through Saturday. For reporting purposes, a calendar week that contains a change of month shall be considered part of the latter month.

Pollutant means sewage, industrial wastes, or other wastes.

A **Qualifying Storm Event** is one which is greater than 0.1 inches and that occurs after a period of at least 72 hours after any previous storm event with rainfall of 0.1 inches or greater.

For the purpose of this permit, a ***Quarter*** is defined as any one of the following three month periods: January 1 through March 31, April 1 through June 30, July 1 through September 30, or October 1 through December 31.

A ***rainfall event*** is defined as any occurrence of rain, preceded by 10 hours without precipitation that results in an accumulation of 0.01 inches or more. Instances of rainfall occurring within 10 hours of each other will be considered a single rainfall event.

A ***rationale*** (or "fact sheet") is a document that is prepared when drafting an NPDES permit or permit action. It provides the technical, regulatory and administrative basis for an agency's permit decision.

A ***reference site*** means least impacted waters within an ecoregion that have been monitored to establish a baseline to which alterations of other waters can be compared.

A ***reference condition*** is a parameter-specific set of data from regional reference sites that establish the statistical range of values for that particular substance at least-impacted streams.

For the purpose of this permit, ***Semi-annually*** means the same as "once every six months." Measurements of the effluent characteristics concentrations may be made anytime during a 6 month period beginning from the issuance date of this permit so long as the second set of measurements for a given 12 month period are made approximately 6 months subsequent to that time, if feasible.

A ***subecoregion*** is a smaller, more homogenous area that has been delineated within an ecoregion.

Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

The term, ***washout*** is applicable to activated sludge plants and is defined as loss of mixed liquor suspended solids (MLSS) of 30.00% or more from the aeration basin(s).

Waters means any and all water, public or private, on or beneath the surface of the ground, which are contained within, flow through, or border upon Tennessee or any portion thereof except those bodies of water confined to and retained within the limits of private property in single ownership which do not combine or effect a junction with natural surface or underground waters.

The ***weekly average amount***, shall be determined by the summation of all the measured daily discharges by weight divided by the number of days during the calendar week when the measurements were made.

The ***weekly average concentration***, is the arithmetic mean of all the composite samples collected in a one-week period. The permittee must report the highest weekly average in the one-month period.

Wet Weather Flow shall be construed to represent storm water runoff which, in combination with all process and/or non-process wastewater discharges, as applicable, is discharged during a qualifying storm event.

D. ACRONYMS AND ABBREVIATIONS

1Q10 – 1-day minimum, 10-year recurrence interval
30Q5 – 30-day minimum, 5-year recurrence interval
7Q10 – 7-day minimum, 10-year recurrence interval
BAT – best available technology economically achievable
BCT – best conventional pollutant control technology

BDL – below detection level
BOD_5 – five day biochemical oxygen demand
BPT – best practicable control technology currently available
$CBOD_5$ – five day carbonaceous biochemical oxygen demand
CEI – compliance evaluation inspection
CFR – code of federal regulations
CFS – cubic feet per second
CFU – colony forming units
CIU – categorical industrial user
CSO – combined sewer overflow
DMR – discharge monitoring report
D.O. – dissolved oxygen
E. coli – Escherichia coli
EFO – environmental field office
LB(lb) - pound
IC_{25} – inhibition concentration causing 25% reduction in survival, reproduction and growth of the test organisms
IU – industrial user
IWS – industrial waste survey
LC_{50} – acute test causing 50% lethality
MDL – method detection level
MGD – million gallons per day
MG/L(mg/l) – milligrams per liter
ML – minimum level of quantification
ml – milliliter
MLSS – mixed liquor suspended solids
MOR – monthly operating report
NODI – no discharge
NPDES – national pollutant discharge elimination system
PL – permit limit
POTW – publicly owned treatment works
RDL – required detection limit
SAR – semi-annual [pretreatment program] report
SIU – significant industrial user
SSO – sanitary sewer overflow
STP – sewage treatment plant
TCA – Tennessee code annotated
TDEC – Tennessee Department of Environment and Conservation
TIE/TRE – toxicity identification evaluation/toxicity reduction evaluation
TMDL – total maximum daily load
TRC – total residual chlorine
TSS – total suspended solids
WQBEL – water quality based effluent limit

E. REPORTING

1. Monitoring Results

Monitoring results shall be recorded monthly and submitted monthly using NETDMR. Submittals shall be no later than 15 days after the completion of the reporting period. If NETDMR is not functioning, a completed DMR with an original signature shall be submitted to the following address:

STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF WATER RESOURCES
COMPLIANCE & ENFORCEMENT SECTION
William R. Snodgrass - Tennessee Tower
312 Rosa L. Parks Avenue, 11th Floor
Nashville, Tennessee 37243-1102

If NETDMR is not functioning, a copy of the completed and signed DMR shall be mailed to the Knoxville Environmental Field Office (EFO) at the following address:

STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF WATER RESOURCES
Knoxville Environmental Field Office
3711 Middlebrook Pike
Knoxville, Tennessee 37921

A copy should be retained for the permittee's files. In addition, any communication regarding compliance with the conditions of this permit must be sent to the two offices listed above.

The first DMR is due on the 15th of the month following permit effectiveness.

DMRs and any other information or report must be signed and certified by a responsible corporate officer as defined in 40 CFR 122.22, a general partner or proprietor, or a principal municipal executive officer or ranking elected official, or his duly authorized representative. Such authorization must be submitted in writing and must explain the duties and responsibilities of the authorized representative.

The electronic submission of DMR data will be accepted only if formally approved beforehand by the division. For purposes of determining compliance with this permit, data approved by the division to be submitted electronically is legally equivalent to data submitted on signed and certified DMR forms.

2. Additional Monitoring by Permittee

If the permittee monitors any pollutant specifically limited by this permit more frequently than required at the location(s) designated, using approved analytical methods as specified

herein, the results of such monitoring shall be included in the calculation and reporting of the values required in the DMR form. Such increased frequency shall also be indicated on the form.

3. Falsifying Results and/or Reports

Knowingly making any false statement on any report required by this permit or falsifying any result may result in the imposition of criminal penalties as provided for in Section 309 of the Federal Water Pollution Control Act, as amended, and in Section 69-3-115 of the Tennessee Water Quality Control Act.

4. Outlier Data

Outlier data include analytical results that are probably false. The validity of results is based on operational knowledge and a properly implemented quality assurance program. False results may include laboratory artifacts, potential sample tampering, broken or suspect sample containers, sample contamination or similar demonstrated quality control flaw.

Outlier data are identified through a properly implemented quality assurance program, and according to ASTM standards (e.g. Grubbs Test, ‘h’ and ‘k’ statistics). Furthermore, outliers should be verified, corrected, or removed, based on further inquiries into the matter. If an outlier was verified (through repeated testing and/or analysis), it should remain in the preliminary data set. If an outlier resulted from a transcription or similar clerical error, it should be corrected and subsequently reported.

Therefore, only if an outlier was associated with problems in the collection or analysis of the samples and as such does not conform with the Guidelines Establishing Test Procedures for the Analysis of Pollutants (40 CFR §136), it can be removed from the data set and not reported on the Discharge Monitoring Report forms (DMRs). Otherwise, all results (including monitoring of pollutants more frequently than required at the location(s) designated, using approved analytical methods as specified in the permit) should be included in the calculation and reporting of the values required in the DMR form. You are encouraged to use “comment” section of the DMR form (or attach additional pages), in order to explain any potential outliers or dubious results.

F. SCHEDULE OF COMPLIANCE

Full compliance and operational levels shall be attained from the effective date of this permit.

PART II

A. GENERAL PROVISIONS

1. Duty to Reapply

Permittee is not authorized to discharge after the expiration date of this permit. In order to receive authorization to discharge beyond the expiration date, the permittee shall submit such information and forms as are required to the Director of the Division of Water Resources (the "Director") no later than 180 days prior to the expiration date. Such applications must be properly signed and certified.

2. Right of Entry

The permittee shall allow the Director, the Regional Administrator of the U.S. Environmental Protection Agency, or their authorized representatives, upon the presentation of credentials:

a. To enter upon the permittee's premises where an effluent source is located or where records are required to be kept under the terms and conditions of this permit, and at reasonable times to copy these records;

b. To inspect at reasonable times any monitoring equipment or method or any collection, treatment, pollution management, or discharge facilities required under this permit; and

c. To sample at reasonable times any discharge of pollutants.

3. Availability of Reports

Except for data determined to be confidential under Section 308 of the Federal Water Pollution Control Act, as amended, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Division of Water Resources. As required by the Federal Act, effluent data shall not be considered confidential.

4. Proper Operation and Maintenance

a. The permittee shall at all times properly operate and maintain all facilities and systems (and related appurtenances) for collection and treatment which are installed or used by the permittee to achieve compliance with the terms and conditions of this permit. Proper operation and maintenance also includes adequate laboratory and process controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems, which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit. Backup continuous pH and flow monitoring equipment are not required.

b. Dilution water shall not be added to comply with effluent requirements to achieve BCT, BPT, BAT and/or other technology-based effluent limitations such as those in State of Tennessee Rule 0400-40-05-.09.

5. Treatment Facility Failure

The permittee, in order to maintain compliance with this permit, shall control production, all discharges, or both, upon reduction, loss, or failure of the treatment facility, until the facility is restored or an alternative method of treatment is provided. This requirement applies in such situations as the reduction, loss, or failure of the primary source of power.

6. Property Rights

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State, or local laws or regulations.

7. Severability

The provisions of this permit are severable. If any provision of this permit due to any circumstance, is held invalid, then the application of such provision to other circumstances and to the remainder of this permit shall not be affected thereby.

8. Other Information

If the permittee becomes aware that he failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Director, then he shall promptly submit such facts or information.

B. CHANGES AFFECTING THE PERMIT

1. Planned Changes

The permittee shall give notice to the Director as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when:

a. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR 122.29(b); or

b. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements under 40 CFR 122.42(a)(1).

2. Permit Modification, Revocation, or Termination

a. This permit may be modified, revoked and reissued, or terminated for cause as described in 40 CFR 122.62 and 122.64, Federal Register, Volume 49, No. 188 (Wednesday, September 26, 1984), as amended.

b. The permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the Director, upon request, copies of records required to be kept by this permit.

c. If any applicable effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established for any toxic pollutant under Section 307(a) of the Federal Water Pollution Control Act, as amended, the Director shall modify or revoke and reissue the permit to conform to the prohibition or to the effluent standard, providing that the effluent standard is more stringent than the limitation in the permit on the toxic pollutant. The permittee shall comply with these effluent standards or prohibitions within the time provided in the regulations that establish these standards or prohibitions, even if the permit has not yet been modified or revoked and reissued to incorporate the requirement.

d. The filing of a request by the permittee for a modification, revocation, reissuance, termination, or notification of planned changes or anticipated noncompliance does not halt any permit condition.

3. Change of Ownership

This permit may be transferred to another party (provided there are neither modifications to the facility or its operations, nor any other changes which might affect the permit limits and conditions contained in the permit) by the permittee if:

a. The permittee notifies the Director of the proposed transfer at least 30 days in advance of the proposed transfer date;

b. The notice includes a written agreement between the existing and new permittees containing a specified date for transfer of permit responsibility, coverage, and liability between them; and

c. The Director, within 30 days, does not notify the current permittee and the new permittee of his intent to modify, revoke or reissue, or terminate the permit and to require that a new application be filed rather than agreeing to the transfer of the permit.

Pursuant to the requirements of 40 CFR 122.61, concerning transfer of ownership, the permittee must provide the following information to the division in their formal notice of intent to transfer ownership: 1) the NPDES permit number of the subject permit; 2) the effective date of the proposed transfer; 3) the name and address of the transferor; 4) the name and address of

the transferee; 5) the names of the responsible parties for both the transferor and transferee; 6) a statement that the transferee assumes responsibility for the subject NPDES permit; 7) a statement that the transferor relinquishes responsibility for the subject NPDES permit; 8) the signatures of the responsible parties for both the transferor and transferee pursuant to the requirements of 40 CFR 122.22(a), “Signatories to permit applications”; and, 9) a statement regarding any proposed modifications to the facility, its operations, or any other changes which might affect the permit limits and conditions contained in the permit.

4. Change of Mailing Address

The permittee shall promptly provide to the Director written notice of any change of mailing address. In the absence of such notice the original address of the permittee will be assumed to be correct.

C. NONCOMPLIANCE

1. Effect of Noncompliance

All discharges shall be consistent with the terms and conditions of this permit. Any permit noncompliance constitutes a violation of applicable State and Federal laws and is grounds for enforcement action, permit termination, permit modification, or denial of permit reissuance.

2. Reporting of Noncompliance

a. 24-Hour Reporting

In the case of any noncompliance which could cause a threat to public drinking supplies, or any other discharge which could constitute a threat to human health or the environment, the required notice of non-compliance shall be provided to the Division of Water Resources in the appropriate regional Field Office within 24-hours from the time the permittee becomes aware of the circumstances. (The regional Field Office should be contacted for names and phone numbers of environmental response personnel).

A written submission must be provided within five calendar days of the time the permittee becomes aware of the circumstances, unless this requirement is waived by the Director on a case-by-case basis. The permittee shall provide the Director with the following information:

i. A description of the discharge and cause of noncompliance;

ii. The period of noncompliance, including exact dates and times or, if not corrected, the anticipated time the noncompliance is expected to continue; and

iii. The steps being taken to reduce, eliminate, and prevent recurrence of the noncomplying discharge.

b. Scheduled Reporting

For instances of noncompliance which are not reported under subparagraph 2.a. above, the permittee shall report the noncompliance on the Discharge Monitoring Report. The report shall contain all information concerning the steps taken, or planned, to reduce, eliminate, and prevent recurrence of the violation and the anticipated time the violation is expected to continue.

3. Sanitary Sewer Overflow

a. "***Sanitary Sewer Overflow***" means the discharge to land or water of wastes from any portion of the collection, transmission, or treatment system other than through permitted outfalls.

b. Sanitary Sewer Overflows are prohibited.

c. The permittee shall operate the collection system so as to avoid sanitary sewer overflows. No new or additional flows shall be added upstream of any point in the collection system, which experiences chronic sanitary sewer overflows (greater than 5 events per year) or would otherwise overload any portion of the system.

d. Unless there is specific enforcement action to the contrary, the permittee is relieved of this requirement after: 1) an authorized representative of the Commissioner of the Department of Environment and Conservation has approved an engineering report and construction plans and specifications prepared in accordance with accepted engineering practices for correction of the problem; 2) the correction work is underway; and 3) the cumulative, peak-design, flows potentially added from new connections and line extensions upstream of any chronic overflow point are less than or proportional to the amount of inflow and infiltration removal documented upstream of that point. The inflow and infiltration reduction must be measured by the permittee using practices that are customary in the environmental engineering field and reported in an attachment to a Monthly Operating Report submitted to the regional TDEC Field Office. The data measurement period shall be sufficient to account for seasonal rainfall patterns and seasonal groundwater table elevations.

e. In the event that more than five (5) sanitary sewer overflows have occurred from a single point in the collection system for reasons that may not warrant the self-imposed moratorium or completion of the actions identified in this paragraph, the permittee may request a meeting with the Division of Water Resources field office staff to petition for a waiver based on mitigating evidence.

4. Upset

a. "***Upset***" means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not

include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

b. An upset shall constitute an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the permittee demonstrates, through properly signed, contemporaneous operating logs, or other relevant evidence that:

i. An upset occurred and that the permittee can identify the cause(s) of the upset;

ii. The permitted facility was at the time being operated in a prudent and workman-like manner and in compliance with proper operation and maintenance procedures;

iii. The permittee submitted information required under "Reporting of Noncompliance" within 24-hours of becoming aware of the upset (if this information is provided orally, a written submission must be provided within five days); and

iv. The permittee complied with any remedial measures required under "Adverse Impact."

5. Adverse Impact

The permittee shall take all reasonable steps to minimize any adverse impact to the waters of Tennessee resulting from noncompliance with this permit, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge. It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

6. Bypass

a. "***Bypass***" is the intentional diversion of wastewater away from any portion of a treatment facility. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities, which would cause them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

b. Bypasses are prohibited unless the following 3 conditions are met:

i. The bypass is unavoidable to prevent loss of life, personal injury, or severe property damage;

ii. There are not feasible alternatives to bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during

normal periods of equipment down-time. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass, which occurred during normal periods of equipment down-time or preventative maintenance;

iii. The permittee submits notice of an unanticipated bypass to the Division of Water Resources in the appropriate environmental assistance center within 24-hours of becoming aware of the bypass (if this information is provided orally, a written submission must be provided within five days). When the need for the bypass is foreseeable, prior notification shall be submitted to the Director, if possible, at least 10 days before the date of the bypass.

c. Bypasses not exceeding limitations are allowed **only** if the bypass is necessary for essential maintenance to assure efficient operation. All other bypasses are prohibited. Allowable bypasses not exceeding limitations are not subject to the reporting requirements of 6.b.iii, above.

7. Washout

a. For domestic wastewater plants only, a "washout" shall be defined as loss of Mixed Liquor Suspended Solids (MLSS) of 30.00% or more. This refers to the MLSS in the aeration basin(s) only. This does not include MLSS decrease due to solids wasting to the sludge disposal system. A washout can be caused by improper operation or from peak flows due to infiltration and inflow.

b. A washout is prohibited. If a washout occurs the permittee must report the incident to the Division of Water Resources in the appropriate regional Field Office within 24-hours by telephone. A written submission must be provided within 5 days. The washout must be noted on the discharge monitoring report. Each day of a washout is a separate violation.

D. LIABILITIES

1. Civil and Criminal Liability

Except as provided in permit conditions for "**Bypass,**" "**Overflow,**" and "**Upset,**" nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance. Notwithstanding this permit, the permittee shall remain liable for any damages sustained by the State of Tennessee, including but not limited to fish kills and losses of aquatic life and/or wildlife, as a result of the discharge of wastewater to any surface or subsurface waters. Additionally, notwithstanding this Permit, it shall be the responsibility of the permittee to conduct its wastewater treatment and/or discharge activities in a manner such that public or private nuisances or health hazards will not be created.

2. Liability Under State Law

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable State law or the Federal Water Pollution Control Act, as amended.

PART III

OTHER REQUIREMENTS

A. TOXIC POLLUTANTS

The permittee shall notify the Division of Water Resources as soon as it knows or has reason to believe:

1. That any activity has occurred or will occur which would result in the discharge on a routine or frequent basis, of any toxic substance(s) (listed at 40 CFR 122, Appendix D, Table II and III) which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

    a. One hundred micrograms per liter (100 ug/l);

    b. Two hundred micrograms per liter (200 ug/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 ug/l) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/L) for antimony;

    c. Five (5) times the maximum concentration value reported for that pollutant(s) in the permit application in accordance with 122.21(g)(7); or

    d. The level established by the Director in accordance with 122.44(f).

2. That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

    a. Five hundred micrograms per liter (500 ug/l);

    b. One milligram per liter (1 mg/L) for antimony;

    c. Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with 122.21(g)(7); or

    d. The level established by the Director in accordance with 122.44(f).

B. REOPENER CLAUSE

If an applicable standard or limitation is promulgated under Sections 301(b)(2)(C) and (D), 304(B)(2), and 307(a)(2) and that effluent standard or limitation is more stringent than any effluent limitation in the permit or controls a pollutant not limited in the permit, the permit shall be promptly modified or revoked and reissued to conform to that effluent standard or limitation.

C. PLACEMENT OF SIGNS

Within sixty (60) days of the effective date of this permit, the permittee shall place and maintain a sign(s) at each outfall and any bypass/overflow point in the collection system. For the purposes of this requirement, any bypass/overflow point that has discharged five (5) or more times in the last year must be so posted. The sign(s) should be clearly visible to the public from the bank and the receiving stream or from the nearest public property/right-of-way, if applicable. The minimum sign size should be two feet by two feet (2' x 2') with one inch (1") letters. The sign should be made of durable material and have a white background with black letters.

The sign(s) are to provide notice to the public as to the nature of the discharge and, in the case of the permitted outfalls, that the discharge is regulated by the Tennessee Department of Environment and Conservation, Division of Water Resources. The following is given as an example of the minimal amount of information that must be included on the sign:

TREATED INDUSTRIAL WASTEWATER
CITGO Petroleum Corporation

(865)588-1437
NPDES Permit NO. TN0022411
TENNESSEE DIVISION OF WATER RESOURCES
1-888-891-8332 ENVIRONMENTAL FIELD OFFICE - Knoxville

INDUSTRIAL STORM WATER RUNOFF
CITGO Petroleum Corporation

(865)588-1437
NPDES Permit NO. TN0022411
TENNESSEE DIVISION OF WATER RESOURCES
1-888-891-8332 ENVIRONMENTAL FIELD OFFICE - Knoxville

D. ANTIDEGRADATION

Pursuant to the Rules of the Tennessee Department of Environment and Conservation, Chapter 0400-40-03-.06, titled “Tennessee Antidegradation

Statement," which prohibits the degradation of exceptional Tennessee waters and the increased discharges of substances that cause or contribute to impairment, the permittee shall further be required, pursuant to the terms and conditions of this permit, to comply with the effluent limitations and schedules of compliance required to implement applicable water quality standards, to comply with a State Water Quality Plan or other state or federal laws or regulations, or where practicable, to comply with a standard permitting no discharge of pollutants.

PART IV

STORM WATER POLLUTION PREVENTION PLAN

The discharger will develop, document and maintain a storm water pollution prevention plan (SWPPP) pursuant to the requirements set forth in EPA guidance manuals titled "Storm Water Management for Industrial Activities, Developing Pollution Prevention Plans and Best Management Practices", (EPA 832-R-92-006), September, 1992, and the "Summary Guidance", (EPA 833-R-92-002), October, 1992. The plan shall be signed by either a principal executive officer of a corporation, the owner or proprietor of a sole proprietorship, or a partner or general partner of a partnership. The SWPPP developed and implemented shall be site specific to the permitted facility with regard to the general terms and conditions outlined in the guidance manuals cited herein, and, at a minimum, shall contain the following items:

A. POLLUTANT SOURCES AND PATHWAYS

1. A site map outlining the individual storm water drainage areas, existing structural control measures, surface water bodies, and sinkholes

2. A narrative description of significant materials (40 CFR 122.26) that are currently or in the past have been treated, stored, or disposed outside; materials management practices; existing structural and non-structural control measures to reduce pollutants; and a description of any storm water treatment

3. A list of significant spills and leaks of toxic or hazardous pollutants at the facility that have taken place after the effective date of the permit

4. A prediction of direction of flow and the possible pollutants associated with each area of the plant that generates storm water

5. A record of available sampling data describing pollutants in storm water discharges

B. STORM WATER MANAGEMENT CONTROLS

1. Formulate a pollution prevention team with named individuals who will develop the storm water pollution prevention plan and assist plant manager in its implementation.

2. Inventory types of materials handled and associated potential of release to storm water. Evaluate the following for potential pollutant contribution: loading and unloading operations, outdoor storage and manufacturing activities, dust or particulate generating processes, and on-site waste disposal practices. Consider toxicity of chemicals, quantity of chemicals, and history of leaks or spills of toxic or hazardous pollutants.

3. Design a preventive maintenance program including inspection and maintenance of storm water management devices and testing plant equipment and systems to uncover conditions, which could cause failures.

4. Maintain a clean, orderly facility.

5. Establish prevention and response procedures. Identify potential spill areas and drainage points. Specify material handling procedures and storage requirements. Identify spill cleanup procedures and provide to responsible personnel. Make available to responsible personnel the necessary equipment to implement cleanup at all times when the facility is in operation.

6. Include in the plan a narrative of traditional storm water management practices, i.e., other than those that control the source of pollutants.

7. Identify areas of potentially high soil erosion and measures to limit erosion.

8. Train employees at all levels of responsibility in the components of the storm water pollution prevention plan.

9. Identify qualified personnel to inspect equipment, plant areas, and material handling areas. Develop a tracking system to ensure corrective action and maintain records of inspections.

10. Designate a person in the plan who will keep records of spills or other discharges, inspections and maintenance activities, and information describing the quality and quantity of storm water discharges.

11. Identify any non-storm water discharges, and their source(s), associated with the storm water outfalls. In the event non-storm water discharges are discovered in combination with the storm water discharges, the permittee must submit the appropriate EPA form(s) for the characterization of these non-storm water discharges as warranted.

C. FACILITY INSPECTION

Responsible person(s) named in the plan will inspect the facility at least semi-annually for the accuracy of the plan and maps, adequate measures to reduce pollutants in storm water runoff, and the need for additional controls. Records of these inspections will be maintained for a period of three years.

D. SPILL PREVENTION CONTROL AND COUNTERMEASURES

Storm water management programs may reflect requirements for spill prevention control and countermeasures (SPCC) plans under section 311 of the CWA.

E. PLAN REVIEW AND UPDATE

The plan will be reviewed and updated, if necessary, by the facility at least annually. The plan and all records will be retained for at least three years after expiration of this permit.

F. PLAN IMPLEMENTATION

The plan should be developed and available for review within 30 days after permit coverage. Facilities should implement the management practices as soon as possible, but not later than one year after permit coverage. Where new construction is necessary to implement the management plan, a construction schedule should be included. Construction should be completed as soon as possible.

G. PLAN AVAILABILITY

The plan will be maintained by the discharger, on the site, or at a nearby office. Copies of the plan will be submitted to the Division of Water Resources within ten business days of any request.

H. PLAN MODIFICATION

The plan will be modified as required by the director of the Division of Water Resources.

I. MONITORING PLAN

The storm water discharges will be monitored as required in Part I. Section A., Effluent Limits and Monitoring Requirements, applicable to storm water outfalls. For each outfall monitored, the surface area and type of cover, for example, roof, pavement, grassy areas, gravel, will be identified.

J. SARA TITLE III, SECTION 313 PRIORITY CHEMICALS

The SWPPP shall include the following for those facilities subject to reporting requirements under SARA Title III, Section 313 for chemicals that are classified as Section 313 water priority chemicals:

1. In areas where Section 313 priority chemicals are stored, processed or otherwise handled, appropriate containment, drainage control and/or diversionary structures will be provided. At a minimum, one of the following preventive systems or its equivalent will be used:

    a. Curbing, culverting, gutters, sewers or other forms of drainage control

    b. Roofs, covers or other forms or protection to prevent storage piles from exposure to storm water and wind

2. The plan will include a discussion of measures taken to conform with the following applicable guidelines:

    a. In liquid storage areas where storm water comes into contact with any equipment, tank container, or other vessel used for Section 313 water priority chemicals,

        i. the tank or container must be compatible with Section 313 water priority chemical which it stores and

        ii. the liquid storage areas shall be operated to minimize discharge of Section 313 chemicals.

    b. Material storage areas for Section 313 water priority chemicals, other than liquids, will incorporate features that will minimize the discharge of Section 313 chemicals by reducing storm water contact.

    c. Truck and rail car loading and unloading areas for Section 313 liquid chemicals will be operated to minimize discharges of chemicals. Appropriate measures may include placement and maintenance of drip pans for use when making and breaking hose connections; a spill contingency plan; and/or other equivalent measures.

d. In plant areas where Section 313 chemicals are transferred, processed or handled, piping, processing equipment, and materials handling equipment will be operated so as to minimize discharges of chemicals. Piping and equipment must be compatible with chemicals handled. Additional protection, including covers and guards to prevent exposure to wind, pressure relief vents, and overhangs or door skirts to enclose trailer ends at truck loading docks, will be implemented. Visual inspections or leak tests will be conducted on overhead piping that conveys Section 313 chemicals.

e. For discharges from areas covered by parts 2a, 2b, 2c, or 2d,

   i. the drainage should be restrained by manually-operated valves or other positive means to prevent the discharge of a spill or excessive leakage,

   ii. a flapper-type drain valves can not be used for drainage of containment units,

   iii. the final discharge of in-facility storm sewers should be equipped with a diversion system that could, in the event of an uncontrolled spill of a Section 313 chemical, return the spilled material to the facility, and

   iv. the records of the frequency and estimated volume (in gallons) of discharges from containment areas will be maintained.

f. Facility site runoff other than from areas covered by parts 2a, 2b, 2c, and 2d from which runoff could contain Section 313 chemicals will incorporate the necessary drainage or other control features to prevent discharge of spilled or improperly disposed material and to ensure the reduction of pollutants in runoff or leachate.

g. All areas of the facility will be inspected at specific intervals for leaks or conditions that could lead to discharges of Section 313 water priority chemicals or direct contact of storm water with raw materials, intermediate materials, waste materials or products. Inspection intervals shall be specified in the plan and shall be based on design and operations experience. Corrective action will be taken promptly when a leak or condition, which could cause significant releases of a chemical is discovered. If corrective action can't be taken immediately, the unit or process will be shut down until the situation is corrected. When a leak or spill has occurred, the contaminated material(s) must be promptly removed and disposed in accordance with Federal, State, and local requirements and as described in the plan.

h. Facilities will have the necessary security systems to prevent accidental or intentionally entry, which could cause a discharge.

i. Facility employees and contract personnel that work in areas where SARA title III, Section 313 water priority chemicals are used or stored will be trained in and informed of preventive measures at the facility. Employee training shall be conducted at least once per year in the pollution control laws and regulations

and in the storm water pollution prevention plan. The plan shall designate a person who is accountable for spill prevention at the facility and who will set up the necessary spill emergency procedures and reporting requirements.

j. The SWPPP for a facility subject to SARA Title III, Section 313 requirements will be reviewed and certified by a responsible corporate officer in accordance to Part I.D.1 (Monitoring Results) of this permit. The corporate officer will certify the plan every three years thereafter, or as soon as practical, after significant modifications are made to the facility. Certification will in no way relieve the owner or operator of a facility covered by the plan of their duty to prepare and fully implement such plan.

3. "Section 313 water priority chemicals" means the following chemicals or chemical categories:

a. listed at 40 CFR 372.65 pursuant to Section 313 of Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986, also titled the Emergency Planning and Community Right-to-Know Act of 1986;

b. present at or above threshold levels at a facility subject to SARA Title III, Section 313 reporting requirements; and

c. meeting at least one of the following criteria:

i. listed in Appendix D of 40 CFR 122 on either Table II (organic priority pollutants), Table III (certain metals, cyanides, and phenols) or Table V (certain toxic pollutants and hazardous substances);

ii. listed as a hazardous substance pursuant to section 311(b)(2)(A) of the CWA at 40 CFR 116.4; or

iii. designated as pollutants for which EPA has published acute or chronic toxicity criteria.

RATIONALE

CITGO Petroleum Corporation

NPDES PERMIT NO. TN0022411
Knoxville, Knox County, Tennessee

Permit Writer: Mr. Jack Beach

I. DISCHARGER

CITGO Petroleum Corporation
Knoxville Petroleum Bulk Station and Terminal
2409 Knott Road
Knoxville, Knox County, Tennessee
Site Longitude: -84.001399 Site Latitude: 35.961968

Official Contact Person:
Mr. Mike Abba
Terminal Manager
(865) 588-3555

Nature of Business:
treatment of stormwater from truck loading rack at Petroleum Bulk Station and Terminal

SIC Code(s): 5171
Industrial Classification: Secondary, w/ELG
Discharger Rating: Minor

II. PERMIT STATUS

Issued October 31, 2012
Expired November 30, 2017
Application for renewal received May 30, 2017

Watershed Scheduling

Environmental Field Office: Knoxville
Primary Outfall Longitude: 35.961808 Primary Outfall Latitude: -84.002645
Hydrocode: 6010201 Watershed Group: 2
Watershed Identification: Ft. Loudoun/Little River
Target Reissuance Year: 2022

III. FACILITY DISCHARGES AND RECEIVING WATERS

CITGO Petroleum Corporation discharges treated containment area and loading rack wastewater, storm water runoff and hydrostatic test water from Outfall 001 to unnamed tributary to Third Creek at mile 5.3. Appendix 1 summarizes facility discharges and the receiving stream information for Outfall 001. This facility uses an oil/water separator to treat its contaminated loading rack and containment area water. This treated process and stormwater is discharged into an unnamed tributary at mile 0.5 that is not assessed for drinking water supply. However, as the tributary flows into Third Creek, which is assessed for drinking water supply and Industrial Water Supply, the division requires the permittee meet the standards for these designated uses.

CITGO Petroleum Corporation requested deletion of the Internal Monitoring Point 01A which formerly was used to address releases of water from hydrostatic testing of aboveground storage tanks. As indicated to TDEC during the onsite meeting of 6 Sept 2012, no testing was performed during the previous term and none is anticipated in the near future.

IV. APPLICABLE EFFLUENT LIMITATIONS GUIDELINES

There are no EPA effluent guidelines for the discharges from this facility. Standards of performance are therefore established in accordance with existing state regulations using available treatability information.

V. PREVIOUS PERMIT LIMITS AND MONITORING REQUIREMENTS

Appendix 3 lists the permit limitations and monitoring requirements as defined in the previous permit.

VI. HISTORICAL MONITORING AND INSPECTION

During the previous permit term, the division performed two compliance evaluations: June 4, 2014, and September 27, 2016. In both instances, CITGO Petroleum Corporation was found to be in compliance. Inspection reports and related documentation are available on the DataViewer. No violations were reported on the DMRs during the previous permit cycle.

VII. NEW PERMIT LIMITS AND MONITORING REQUIREMENTS

The proposed new permit limits have been selected by determining a technology-based limit and evaluating if that limit protects the water quality of the receiving stream. If the technology-based limit would cause violations of water quality, the water quality-based limit is chosen. The technology-based limit is determined from EPA effluent limitations guidelines if applicable (see Part IV); or from State of Tennessee maximum effluent limits for effluent limited segments per Rule 0400-40-05-.08. Note that in general, the term “anti-backsliding” refers to a

statutory provision that prohibits the renewal, reissuance, or modification of an existing NPDES permit that contains effluents limits, permit conditions, or standards that are less stringent than those established in the previous permit.

Flow

Monitoring of flow quantifies the load of pollutants to the stream. Flow shall be reported in Million Gallons per Day (MGD) and monitored at the time of sample collection.

Oil and Grease

The division has determined that an oil and grease limitation is needed for this facility because of the potential of contamination from spills, leaks and other industrial activities present at the site. The technology-based limit for oil and grease is 15 mg/l as a daily maximum concentration. This level can be accomplished where oil/water separators are maintained, kept clean and are not overloaded. There should be less reliance upon the oil/water separator as a solution and a greater reliance upon good management, operation and housekeeping practices to restrict pollution.

According to the State of Tennessee Water Quality Standards for the protection of Fish & Aquatic Life [Chapter 0400-40-03-.03(3) (c)], there shall be no distinctly visible solids, scum, foam, oily slick, or the formation of slimes, bottom deposits or sludge banks of such size or character that may be detrimental to fish and aquatic life in the receiving stream.

Considering a sample measurement frequency (once per month) and a definition of the Monthly Average Concentration (see Part I, Section C: *Definitions*), only the Daily Maximum Concentration for Oil and Grease of 15 mg/L will be retained.

Total Suspended Solids (TSS)

Total Suspended Solids is a general indicator of the quality of a wastewater and will be limited in this permit. The permit writer's technology-based limit for TSS of 40 mg/l, taken from Tennessee Rule 0400-40-05-.09(1)(a) 1., "Conventional Secondary Treatment Plants."

The State of Tennessee Water Quality Standards for the protection of Fish & Aquatic Life [Chapter 0400-40-03-.03(3) (c)] state there shall be no distinctly visible solids, scum, foam, oily slick, or the formation of slimes, bottom deposits or sludge banks of such size or character that may be detrimental to fish and aquatic life in the receiving stream.

The permit writer believes the limit of 40 mg/L daily maximum concentration will provide protection of water quality in the receiving stream. Considering the nature of wastewater collection and discharge system, the sample type will be grab.

pH

According to the State of Tennessee Water Quality Standards [Chapter 0400-40-03-.03(3) (b)], the pH for the protection of Fish and Aquatic Life shall lie within the range of 6.0 to 9.0 and shall not fluctuate more than 1.0 unit in this range over a period of 24-hours.

Considering that the receiving stream will provide some buffering capacity, effluent limitation for pH will be retained in a range 6.0 to 9.0. The sample type will be grab.

Benzene, EthylBenzene, Xylenes and Toluene

The daily maximum concentrations for Benzene, EthylBenzene, Xylenes and Toluene were based upon odor threshold values. These odor threshold values were taken from *handbook of Environmental Data on Organic Chemicals,* Second Edition, by Karel Vershueren (Van Nostrand Reinhold Company, New York, 1982). The previous permit limits were the most restrictive for each effluent characteristic when compared with the Water Quality criteria values, and were retained in the new permit. Monitoring frequencies from the previous permit were also retained in the new permit.

According to the State of Tennessee Water Quality Standards [Chapter 0400-40-03-.03(1)(j)], the limit for Benzene for domestic water supply shall be no more than 0.005 mg/l. The previous limit for Benzene is 0.5 mg/l, which does not meet this requirement. As this facility discharges to an unnamed tributary that flows into Third Creek, which is assessed for drinking water supply, the permittee must meet a limit that will not inhibit this designated use in Third Creek. In order to calculate the limit for Benzene the permit writer used modeling software known as StreamStats 4.0 by the United States Geological Survey to calculate a delineated basin from below the confluence of the unnamed tributary and Third Creek. The software calculated a 30Q5 flow of 1.363 MGD for the basin as shown in Appendix 6. The division's mass balance, water-quality based effluent calculation for Benzene, shown in Appendix 3, indicates 0.07 mg/l per permittee will be protective of the drinking water supply limit of 0.005 mg/l at low-flow conditions. There are a total of four facilities discharging effluent with Benzene in this basin. The division used cumulative average flow rates in the calculation as well in determining loading rates to Third Creek for Benzene in the basin. As a result, the new permit limit for Benzene for this facility will be 0.07 mg/l.

The previous limit for EthylBenzene is 0.2 mg/l. Though the Water Quality Standard for EthylBenzene is 0.7 mg/l, in order to meet regulations for Anti-backsliding, the limit will remain at 0.2 mg/l.

The previous limit for Toluene is 1.0 mg/L. Though the Water Quality Standard for Toluene is 10 mg/l, in order to meet regulations for Anti-backsliding, the limit will remain at 1.0 mg/l.

The previous limit for Xylene is 0.5 mg/L. Though the Water Quality Standard for Xylene is 10 mg/l, in order to meet regulations for Anti-backsliding, the limit will remain at 0.2 mg/l.

IX. ANTIDEGRADATION

Tennessee's Antidegradation Statement is found in the Rules of the Tennessee Department of Environment and Conservation, Chapter 0400-40-03-.06. It is the purpose of Tennessee's standards to fully protect existing uses of all surface waters as established under the Act.

Stream determinations for this permit action are associated with the waterbody segment identified by the division as segment ID# TN06010201067_1000.

The division has made a water quality assessment of the receiving waters associated with the subject discharge(s) and has found the receiving stream to be neither an exceptional nor outstanding national resource water.

The table below shoes uses and assessment for water body segment ID# TN06010201067_1000.

ID305b (GIS Link) : TN06010201067_1000, Use Desc : Domestic Water Supply

Water Name	Cause Name	Source Name	Attainment Desc	Assmnt Date	User Flag	Current cycle
Third Creek	-	-	Not Assessed	-	-	2017

ID305b (GIS Link) : TN06010201067_1000, Use Desc : Fish and Aquatic Life

Water Name	Cause Name	Source Name	Attainment Desc	Assmnt Date	User Flag	Current cycle
Third Creek	Sedimentation/Siltation	Site Clearance (Land Development or Redevelopment)	Not Supporting	25-FEB-15	-	2017
Third Creek	Nitrate/Nitrite (Nitrite + Nitrate as N)	Discharges from Municipal Separate Storm Sewer Systems (MS4)	Not Supporting	25-FEB-15	-	2017
Third Creek	Sedimentation/Siltation	Discharges from Municipal Separate Storm Sewer Systems (MS4)	Not Supporting	25-FEB-15	-	2017
Third Creek	Other anthropogenic substrate alterations	Discharges from Municipal Separate Storm Sewer Systems (MS4)	Not Supporting	25-FEB-15	-	2017

ID305b (GIS Link) : TN06010201067_1000, Use Desc : Industrial Water Supply

Water Name	Cause Name	Source Name	Attainment Desc	Assmnt Date	User Flag	Current cycle
Third Creek	-	-	Fully Supporting	25-FEB-15	-	2017

ID305b (GIS Link) : TN06010201067_1000, Use Desc : Irrigation

Water Name	Cause Name	Source Name	Attainment Desc	Assmnt Date	User Flag	Current cycle
Third Creek	-	-	Fully Supporting	25-FEB-15	-	2017

ID305b (GIS Link) : TN06010201067_1000, Use Desc : Livestock Watering and Wildlife

Water Name	Cause Name	Source Name	Attainment Desc	Assmnt Date	User Flag	Current cycle
Third	-	-	Fully	25-	-	2017

Creek			Supporting	FEB-15		

ID305b (GIS Link) : TN06010201067_1000, Use Desc : Recreation

Water Name	Cause Name	Source Name	Attainment Desc	Assmnt Date	User Flag	Current cycle
Third Creek	Escherichia coli	Sanitary Sewer Overflows (Collection System Failures)	Not Supporting	25-FEB-15	-	2017
Third Creek	Escherichia coli	Discharges from Municipal Separate Storm Sewer Systems (MS4)	Not Supporting	25-FEB-15	-	2017

DWR Station ID	Characteristic	Average	Maximum
THIRD001.0KN	Ammonia-nitrogen	0.02	0.08
THIRD001.0KN	Conductivity	444.49	484.70
THIRD001.0KN	Dissolved oxygen (DO)	9.63	12.79
THIRD001.0KN	Escherichia coli	471.65	2,420.00
THIRD001.0KN	Inorganic nitrogen (nitrate and nitrite)	1.17	1.48
THIRD001.0KN	Kjeldahl nitrogen	0.13	0.37
THIRD001.0KN	Organic carbon	0.83	1.06
THIRD001.0KN	Phosphorus	0.03	0.05
THIRD001.0KN	Temperature, water	18.12	22.50
THIRD001.0KN	Total suspended solids	1.88	4.80
THIRD001.0KN	Turbidity	1.60	2.14
THIRD001.0KN	pH	8.08	8.31
THIRD001.5KN	Ammonia-nitrogen	0.02	0.02
THIRD001.5KN	Escherichia coli	230.00	921.00
THIRD001.5KN	Inorganic nitrogen (nitrate and nitrite)	0.77	0.79
THIRD001.5KN	Kjeldahl nitrogen	0.08	0.08
THIRD001.5KN	Phosphorus	0.02	0.03

The discharge from Outfall 001 does not contain significant amounts of these effluent characteristics. The division, therefore, considers the potential for degradation to the receiving stream from this discharge to be negligible.

TMDLs have been developed and approved for this waterbody segment on the following parameters and dates:

TMDL Document Name	TMDL Date	TMDL Pollutant Description	TMDL Pollutant Source Type	Cause(s) of Impairment Addressed
Final Tmdl For E. Coli Fort Loudoun Lake Watershed (Huc 06010201)	Jan-12-2017	Escherichia Coli (E. Coli)	Point/Nonpoint Source	Pathogens; Escherichia Coli (E. Coli)
Tmdl For Siltation And Habitat Alteration In The Ft. Loudoun Lake Watershed (Huc 06010201)	Jan-27-2006	Siltation	Point/Nonpoint Source	Other Habitat Alteration(s); Other Anthropogenic Substrate Alterations; Siltation

The proposed terms and conditions of this permit comply with the wasteload allocations of these TMDLs.

X. ELECTRONIC REPORTING

Starting on December 21, 2016, all Individual NPDES Permit holders will be required to submit Discharge Monitoring Reports (DMRs) electronically through NetDMR. Prior to 21 December 2016, the permittee may elect to electronically submit DMRs instead of mailing paper DMRs.

EPA published the National Pollutant Discharge Elimination System (NPDES) Electronic Reporting Rule, which will modernize Clean Water Act reporting for municipalities, industries and other facilities. The rule was published in the Federal Register on October 22, 2015 and became effective on December 22, 2015. The rule replaces most paper-based NPDES reporting requirements with electronic reporting.

More information is available at http://www.tn.gov/environment/topic/wr-netdmr-and-electronic-reporting:

- Getting Started on NetDMR,
- Electronic reporting schedule,
- Training Opportunities,
- NetDMR User Guide and other supporting information

XI. PERMIT DURATION

The proposed limitations meet the requirements of Section 301(b)(2)(A), (C), (D), (E), and (F) of the Clean Water Act as amended. It is the intent of the division to organize the future issuance and expiration of this particular permit such that other permits located in the same watershed and group within the State of Tennessee will be set for issuance and expiration at the same time. In order to meet the target reissuance date for the Ft. Loudoun/Little River watershed and following the directives for the Watershed Management Program initiated in January, 1996, the permit will be issued to expire in 2022.

APPENDIX 1

FACILITY DISCHARGES AND RECEIVING WATERS

FACILITY DISCHARGES AND RECEIVING WATERS

OUTFALL 001	
LONGITUDE	LATITUDE
84-00-15	35-57-44

FLOW (MGD)	DISCHARGE SOURCE
0.042	Outfall 001 - rack wash water and rack storm water
0.042	TOTAL DISCHARGE

RECEIVING STREAM DISCHARGE ROUTE			
unnamed tributary at mile 0.5 to Third Creek at mile 5.3 which routes to Fort Loudon reservoir at Tennessee River mile 645.9			
STREAM LOW FLOW (CFS)	7Q10	1Q10	30Q5
	1.490	NA	1.910
(MGD)	0.963	NA	1.234

STREAM USE CLASSIFICATIONS (WATER QUALITY)				
FISH	RECREATION	IRRIGATION	LW&W	DOMESTIC
X	X	X	X	X
INDUSTRIAL	NAVIGATION			
X				

Treatment: Oil/Water separation

APPENDIX 2

PREVIOUS PERMIT LIMITS AND MONITORING REQUIREMENTS

PERMIT LIMITS

OUTFALL 001 - Treated and Untreated Storm Water Runoff and Treated Rack Wash Water (1)

	EFFLUENT LIMITATIONS				MONITORING REQUIREMENTS
	MONTHLY		DAILY		
EFFLUENT CHARACTERISTIC	AVG. CONC. (mg/l)	AVG. AMNT. (lb/day)	MAX. CONC. (mg/l)	MAX. AMNT. (lb/day)	MSRMNT. FRQNCY.
FLOW	Report the daily maximum flow in Million Gallons per Day (MGD)				1/Quarter
Oil and Grease	--	--	15.0	--	1/Quarter
Settleable Solids	--	--	0.5 ml/l	--	1/Quarter
Total Suspended Solids	--	--	40.0	--	1/Quarter
Benzene	--	--	0.50	--	1/Quarter
Toluene	--	--	1.0	--	1/Quarter
Ethylbenzene	--	--	0.20	--	1/Quarter
Xylenes	--	--	0.50	--	1/Quarter
pH (2)	within the range of 6.0 - 9.0 standard units				1/Quarter

(1) During large storm events that exceed the holding capacity for the facility's storm water treatment system, the collected storm water shall pass a visual oil sheen inspection before being discharged (bypassing treatment). If bypassing occurs during the sampling period, samples (and the resulting data) shall be representative of the discharged combination of treated and untreated storm water.

(2) This sample must be analyzed for pH within fifteen (15) minutes of collection.

APPENDIX 3

WATER QUALITY BASED EFFLUENT CALCULATIONS

WATER QUALITY BASED EFFLUENT CALCULATIONS
OUTFALL 001

Stream (7Q10) [MGD]	Stream (30Q5) [MGD]	Waste Flow [MGD]	TSS [mg/l]	Hardness (as CaCO3) [mg/l]	Margin of Safety [%]
5.7	1.3630	0.090	10	25	90

	1	2	3	5	6	7	8	9	10	11	12	13	14	15
	Stream Background Conc.	Detection Levels		F & AL- instream allowable ambient conditions (Tot)		Calc. Effluent Concentration based on F & AL, Ca		Human Health Water Quality Criteria (30Q2)						avg. daily effluent (<,=), Cw
		Scan	WQC RDL					In-Stream Criteria			Calc. Effluent Concentration, Ca			
		MDL	*EPA MDL	Chronic	Acute	Chronic	Acute	Organisms	Water/Organisms	DWS	Organisms	Water/Organisms	DWS	
PARAMETER	[ug/l]	[ug/l]	[ug/l]	[ug/l]	[ug/l]	[ug/l]	[ug/l]	[ug/l]	[ug/l]	[ug/l]	[ug/l]	[ug/l]	mg/l	ug/l
BENZENE	**0.0**	**1.0**	**1.0**					**710.0**	**12.0**	**5.0**	**10316.3**	**174.4**	**0.07**	

a. Columns 7-8, and 12-14 are the effluent concentrations allowable to prevent exceedence of water quality criteria.
b. Potential to exceed criteria exists if the measured quantity in column 15 exceeds, or could exceed, the calculated allowable concentrations in columns 7-8, and 12-14.
c. Additional testing is required if the detection level used in the scan is higher than the state RDL and/or the MDL of the approved EPA scan method and industry is known to have that pollutant.
d. All background concentrations for these volatile organic, acid-extractable, and base-neutral compounds are assumed zero in the absence of supporting monitoring data.
e. Other metals for which data were provided on the application are evaluated on the Metals & Toxics spreadsheet.
f. Reasonable potential does not exist for the following reason(s):
The required MDL has been used and resulted in non-detection (BDL) or the contributing industrial processes are NOT likely to contain them.

APPENDIX 4

HISTORICAL MONITORING AND INSPECTION

Outfall 001										
Limit	**Flow**	**pH**		**TSS**	**Settleable Solids**	**O&G**	**Toluene**	**Benzene**	**Ethyl Benzene**	**Xylene**
Limit Unit Desc	MGD	Standard Units	Standard Units	Mg/l	Ml/l	Mg/l	Mg/l	Mg/l	Mg/l	Mg/l
Statistical Base	DAILY MX	MINIMUM	MAXIMUM	DAILY MX	DAILY MX	DAILY MX	DAILY MX	DAILY MX	DAILY MX	DAILY MX
Limit Value	REPORT	6	9	45	0.5	15	1	0.5	0.2	0.5
06/30/2013	0.02	8.30	8.30	14.00	< .1	< 5.3	0.02	0.00	0.00	0.06
09/30/2013	0.02	8.40	8.40	4.30	BDL	BDL	BDL	BDL	BDL	BDL
12/31/2013	0.02	8.10	8.10	16.00	BDL	BDL	BDL	0.00	BDL	0.01
03/31/2014	0.02	8.10	8.10	5.60	BDL	BDL	0.01	0.00	BDL	0.02
06/30/2014	0.02	7.50	7.50	9.30	< .1	< 6.2	< .005	< .001	< .001	< .005
09/30/2014	0.02	7.40	7.40	3.60	BDL	BDL	BDL	BDL	BDL	BDL
12/31/2014	0.02	7.30	7.30	4.60	BDL	BDL	0.01	0.00	0.00	0.02
03/31/2015	0.02	7.20	7.20	8.00	BDL	BDL	BDL	BDL	BDL	BDL
06/30/2015	0.02	7.10	7.10	19.00	BDL	BDL	BDL	BDL	BDL	BDL
09/30/2015	0.02	7.10	7.10	5.00	BDL	BDL	BDL	BDL	BDL	0.01
12/31/2015	0.02	7.20	7.20	9.09	BDL	BDL	BDL	BDL	BDL	BDL
03/31/2016	0.02	7.20	7.20	2.86	< .1	< 5.26	< .005	< .001	< .001	< .005
06/30/2016	0.02	7.40	7.40	7.60	< .1	< 5.26	< .005	< .001	< .001	< .005
09/30/2016	0.02	7.70	7.70	6.00	< .1	< 5.26	< .005	< .001	< .001	< .005
12/31/2016	0.02	7.30	7.30	5.00	< .1	< 5.26	0.00	< .001	< .001	< .005
03/31/2017	0.02	7.80	7.80	7.00	< .1	< 5.1	< .001	< .001	< .001	< .003
06/30/2017	0.02	7.80	7.80	10.30	< .1	< 5.1	< .001	< .001	< .001	< .005
09/30/2017	0.02	8.00	8.00	5.00	< .1	< 5.43	< .001	< .001	< .001	< .005
12/31/2017	0.02	7.60	7.60	5.00	< .1	< 5	< .001	< .001	< .001	< .005
AVERAGE	**0.02**	**7.44**	**7.61**	**7.75**	**< .1**	**< 5.26**	**0.01**	**0.00**	**0.00**	**0.02**

BDL = Below Detection Limit
ND = No Discharge

APPENDIX 5

NEW PERMIT LIMITS

Description : External Outfall, Number : 001, Monitoring : Effluent Gross, Season : All Year

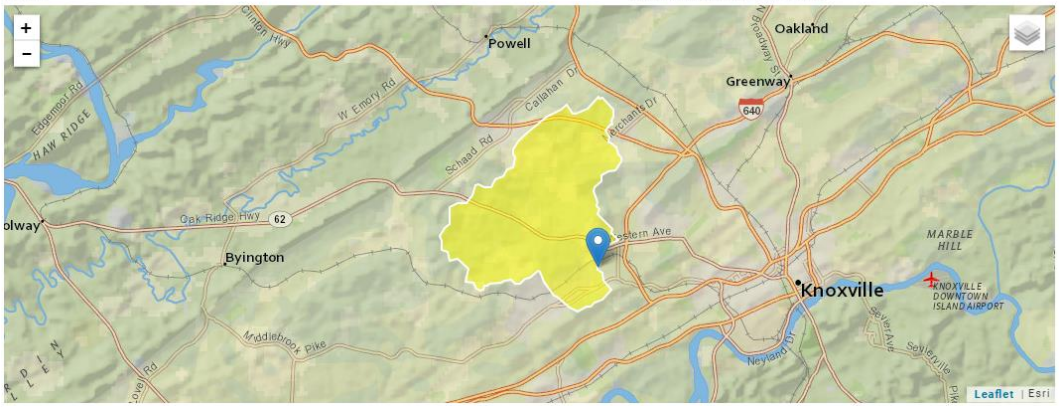
Code	Parameter	Qualifier	Value	Unit	Sample Type	Monitoring Frequency	Statistical Base
00400	pH	>=	6.0	SU	Grab	Quarterly	Minimum
00400	pH	<=	9.0	SU	Grab	Quarterly	Maximum
00530	Total Suspended Solids (TSS)	<=	45.0	mg/L	Grab	Quarterly	Daily Maximum
00545	Settleable Solids	<=	0.5	mL/L	Grab	Quarterly	Daily Maximum
00556	Oil & Grease	<=	15.0	mg/L	Grab	Quarterly	Daily Maximum
34010	Toluene	<=	1.0	mg/L	Grab	Quarterly	Daily Maximum
34030	Benzene	<=	0.07	mg/L	Grab	Quarterly	Daily Maximum
34371	Ethylbenzene	<=	0.2	mg/L	Grab	Quarterly	Daily Maximum
50050	Flow	Report	-	Mgal/d	Instantaneous	Quarterly	Daily Maximum
81551	Xylene	<=	0.5	mg/L	Grab	Quarterly	Daily Maximum

APPENDIX 6

MODELING SOFTWARE RESULTS

StreamStats Report

Region ID:	TN
Workspace ID:	TN20180313134146632000
Clicked Point (Latitude, Longitude):	35.96722, -83.98947
Time:	2018-03-13 08:42:00 -0500



Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	8.39	square miles
RECESS	Number of days required for streamflow to recede one order of magnitude when hydrograph is plotted on logarithmic scale	121	days per log cycle
CLIMFAC2YR	Two-year climate factor from Lichy and Karlinger (1990)	2.241	dimensionless
SOILPERM	Average Soil Permeability	1.73	inches per hour
PERMGTE2IN	Percent of area underlain by soils with permeability greater than or equal to 2 inches per hour	94.045	percent

Low-Flow Statistics Parameters [Low Flow Central and East Regions 2009 5159]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	8.39	square miles	1.3	14441
RECESS	Recession Index	121	days per log cycle	32	175
CLIMFAC2YR	Tennessee Climate Factor 2 Year	2.241	dimensionless	2.056	2.46
SOILPERM	Average Soil Permeability	1.73	inches per hour	0.45	9.72
PERMGTE2IN	Percent permeability gte 2 in per hr	94.045	percent	2	100

Low-Flow Statistics Flow Report [Low Flow Central and East Regions 2009 5159]

PII: Prediction Interval-Lower, PIu: Prediction Interval-Upper, SEp: Standard Error of Prediction, SE: Standard Error (other -- see report)

Statistic	Value	Unit	SEp
7 Day 10 Year Low Flow	1.65	ft^3/s	89
30 Day 5 Year Low Flow	2.11	ft^3/s	70.2

Low-Flow Statistics Citations

Law, G.S., Tasker, G.D., and Ladd, D.E.,2009, Streamflow-characteristic estimation methods for unregulated streams of Tennessee: U.S. Geological Survey Scientific Investigations Report 2009–5159, 212 p., 1 pl.

* A conversion factor of 0.646 was used to take ft^3/s to MGD.
** Source: https://streamstats.usgs.gov/ss/