section of the Conduct of Operations Manual.

Facilitation, Evaluation, and Certification

The Drill Coordinator as designated by the Operations Manager (OM) will facilitate the drills and perform post drill critiques with participants to determine the effectiveness of an Emergency Operating Procedure (EOP) that has been activated during a drill. The OM will evaluate and certify the exercises.

Documentation

The EOP exercise evaluation form contained in Section 7.02 is recommended for use
Documentation will be retained electronically in the Spill and Drill Repository for three years.
The OM ensures the records are sent to the EC or are entered directly into the Spill and Drill Repository.

DISTRICT SPILL MANAGEMENT TEAM TABLETOP EXERCISES

Objectives

District Spill Management Team members demonstrate their ability to organize, communicate, and make strategic decisions to protect human health and the environment, particularly during the initial stages of a response.
Demonstrate the ability to organize team members to effectively interface with a unified command.

Requirements

At least one tabletop exercise will be conducted by the District Spill Management Team each year.
The exercise should involve personnel for the positions identified in the district response team incident command structure (see Section 4.02).

Facilitation, Evaluation, and Certification

The District Environmental Manager (DEM) facilitates the exercise.
The response team conducts a post-exercise evaluation of the exercise to identify lessons learned and needed corrective actions.
The DEM ensures that corrective actions are entered into OPIS.
The Director of Operations (DO) certifies the exercise.

Documentation

ICS forms will be used during the exercise.
The exercise summary, evaluation, certification, and other relevant documentation generated will be retained electronically in the Spill and Drill Repository for three years.
The exercise is recorded on the Triennial Cycle Documentation Form (ERP 7.02.01).
The DO ensures the records are sent to the EC or are entered directly into the Spill and Drill Repository.
Corrective Actions are entered and tracked in OPIS.

Objectives

Strike Team members demonstrate their knowledge of the contents of the ERP and the Planning Cycle process and their ability to apply them in a manner that would protect human health and the environment.

Demonstrate the ability to organize team members to effectively interface with a unified command.

Requirements

A tabletop exercise will be conducted by the Strike Team each year on a worst case type discharge scenario.
The scenario location will rotate each year such that the scenario is within each district once every three years.

Facilitation, Evaluation, and Certification

The Director HSSE facilitates the tabletop exercise.
The response team conducts a post-exercise evaluation of the exercise to identify lessons learned and needed corrective actions.
The Emergency Response Program Specialist ensures that corrective actions are entered into OPIS.
The Director HSSE certifies the exercises that engage both district and Strike Team responders.

Documentation

ICS forms will be used during the exercise.
The exercise summary, evaluation, certification, and other relevant documentation generated will be retained electronically in the Spill and Drill Repository for three years.
The exercise is recorded on the Triennial Cycle Documentation Form (ERP 7.02.01).
The Director HSSE ensures the records are entered into the Spill and Drill Repository.
Corrective Actions are entered and tracked in OPIS.

EQUIPMENT DEPLOYMENT EXERCISES – COLONIAL EQUIPMENT

Colonial equipment is not used for responding to a worst-case discharge scenario. The equipment is intended to be used only for maintenance activities or to supplement OSRO equipment if needed.

EQUIPMENT DEPLOYMENT EXERCISES – OSRO EQUIPMENT

Objectives

To validate that the OSRO-owned equipment is appropriate for the operating environment in which it is intended to be used.
Operating personnel are trained and capable of its deployment and operation.

Requirements

A representative amount of OSRO equipment must be deployed annually. The OSRO must demonstrate its ability to deploy and operate the equipment. OSROs that have completed the required equipment deployment elsewhere do not need to be exercised by Colonial if we have adequate documentation of the completed exercises.

Facilitation, Evaluation, and Certification

The DEM facilitates the conduct of OSRO exercises at Colonial facilities, evaluation of the exercises for

lessons learned/corrective actions, and certifies such exercises.
The DEM ensures that corrective actions are entered into OPIS.
Where OSROs have fulfilled the equipment deployment elsewhere, either the relevant records from such exercises or a PREP-compliance certification from the OSRO shall be obtained by the Procurement Administrator.

Documentation

If an OSRO performs equipment deployment during a Colonial exercise, an electronic copy of the exercise summary, evaluation, certification, and other relevant documentation generated shall be entered into the Spill and Drill Repository for three years. The DEM ensures the records are sent to the EC or are entered directly into the Spill and Drill Repository.
OSRO PREP-compliance certifications or records from OSRO deployments elsewhere will be maintained for three years in the OSRO section of the Procurement SharePoint site.
Corrective Actions are entered and tracked in OPIS.

DISTRICT UNANNOUNCED EXERCISES

At least one tabletop or equipment deployment exercise in each district must be unannounced each year. This is not an additional exercise to the above described tabletop and equipment deployment exercises. An unannounced exercise is where the exercise participants do not have prior knowledge of the exercise, as would be the situation in an actual spill event.
Credit for an unannounced exercise can be taken for an actual spill that has been properly evaluated.

Facilitation, Evaluation, and Certification

The DEM facilitates the conduct of the exercise and its evaluation for lessons learned and corrective actions.
The DEM ensures that corrective actions are entered into OPIS.
The DEM certifies the exercise.

Documentation

The exercise summary, evaluation, certification, and other relevant documentation generated will be retained electronically in the Spill and Drill Repository for three years.
The exercise is recorded on the Triennial Cycle Documentation Form (ERP 7.02.01).
The DEM ensures the records are sent to the EC or are entered directly into the Spill and Drill Repository.
Corrective Actions are entered and tracked in OPIS.

UNANNOUNCED, FULL SCALE, EQUIPMENT DEPLOYMENT DRILLS

Colonial may elect to periodically conduct an unannounced, full scale drill that includes equipment deployment with the purpose of testing the ability to exercise the entire emergency response plan using an as near to real life scenario as possible. These drills include actual notification, mobilization, and deployment of appropriate Colonial and OSRO equipment and resources necessary to respond to the scenario in question. Additionally, the Atlanta Control Center may conduct a mock shut down of the affected pipeline segment. These drills would be designed to meet the criteria of both "Unannounced"

and "Triennial" drill requirements exercising all fifteen elements of the PREP guidelines.

Facilitation, Evaluation, and Certification

The Emergency Response Program Specialist facilitates the conduct of the exercise and its evaluation for lessons learned and corrective actions.
The Emergency Response Program Specialist ensures that corrective actions are entered into OPIS.
The Director HSSE certifies the exercise.

Documentation

The exercise summary, evaluation, certification, and other relevant documentation generated will be retained electronically in the Spill and Drill Repository for 3 years.
The exercise is recorded on the Triennial Cycle Documentation Form (ERP 7.02.01).
The Emergency Response Program Specialist ensures the records are sent to the EC or are entered directly into the Spill and Drill Repository.
Corrective Actions are entered and tracked in OPIS.

AREA EXERCISES/UNANNOUNCED PHMSA EXERCISES

Colonial will participate in Area Exercises as requested by the "Initiating Authorities" (Federal, State, and Local Government, and Industry). These will be managed by the Director of Operations or Director HSSE.

CREDIT FOR ACTUAL SPILL RESPONSES

Credit may be taken for actual responses to satisfy the requirements of the District Spill Management Team tabletop exercise, Strike Team tabletop exercise, or an equipment deployment exercise if the following conditions are met:

District Spill Management Team tabletop exercise
An ICS structure is established with the relevant positions filled.
An Incident Action Plan is prepared.
A post response evaluation is conducted and documented.

Strike Team tabletop exercise
A significant volume of oil is spilled and/or there is a significant environmental threat.
An ICS structure is established.
The Strike Team is mobilized.
An Incident Action Plan is prepared.
A post response evaluation is conducted and documented.

Equipment Deployment
The minimum amount of Colonial or OSRO equipment is deployed.
A post response evaluation is conducted and documented.

Certification

The Incident Commander for the actual response must certify that the response meets the credit requirements for the identified exercises and plan components.E

Documentation

The Post Emergency Response Review – Significant Spill or Exercise form contained in Section 4.04.1 or equivalent must be completed.
For equipment deployment credit, the Equipment Deployment Exercise Evaluation form contained in Section 7.02 must be completed.
An electronic copy of the exercise summary, evaluation, certification, and other relevant documentation generated shall be entered into the Spill and Drill Repository and retained for three years.
The exercise is recorded on the Triennial Cycle Documentation Form (ERP 7.02.01).
The Incident Commander ensures the records are sent to the EC or are entered directly into the Spill and Drill Repository. Corrective Actions are entered and tracked in OPIS.

TRIENNIAL CYCLE

The above defined frequency of exercises will meet the PREP triennial cycle requirements. Each of the following 15 components of the response plan must be exercised at least once during the rolling three year cycle:

Notification.
Staff mobilization.
Ability to operate within the response management system of the ERP.
Discharge control.
Assessment of discharge.
Containment of discharge.
Recovery of spilled material.
Protection of sensitive areas.
Disposal of recovered material and contaminated debris.
Communications.
Transportation.
Personnel support.
Equipment maintenance and support.
Procurement.
Documentation.

The Triennial Cycle Documentation Form that is to be completed for each district is contained in Section 7.02.

CERTIFICATION REQUIREMENTS

Proper documentation for self-certification for each exercise should include the:

Type of exercise.
Date of exercise.
Description of the exercise.
Objectives met in the exercise.
Components of the response plan exercised.
Components of the fifteen PREP components exercised.
Lessons learned.

The document must be “signed” by the individual authorized above for each type of exercise. Documentation forms are contained in Section 7.02. Signing can consist of the authorized person entering his/her name and positioning it on the electronic document.

Colonial Pipeline Company
EXERCISE DOCUMENTATION

All notification, tabletop, and equipment deployment exercises must be documented, evaluated, and self-certified to ensure all objectives have been met. The documentation is to be maintained in the Drill and Spill Repository located in the Emergency Response SharePoint site for three years. Hard copy documentation should be retained at least until it is verified that all information has been stored in the Drill and Spill Repository. Contained in this section are copies of the following forms that are to be used in order to provide adequate documentation to meet the regulatory requirements:

Internal Notification Exercises
Emergency Operating Procedure Exercise Evaluation
Post Tabletop Exercise Evaluation
Equipment Deployment Exercise
Triennial Cycle Documentation

The electronic version of each of these forms can be accessed via the link on the Emergency Response Plan SharePoint site. The Triennial Cycle Documentation spreadsheet for each Response Zone should be completed appropriately for each exercise during the three year cycle.

Colonial Pipeline Company
TRIENNIAL CYCLE DOCUMENTATION

Triennial Cycle Documentation Form

_____ Response Zone

Compliance Cycle: 2016 - 2018

	Exercise Category						Core Components													
	QI Notification	Emergency Procedures	SMT Tabletop	Equipment Deployment	Gov't Unannounced	Full Scale	Notification	Staff Mobilization	Operate in RMS	Discharge Containment	Assessment	Containment	Recovery	Protection	Disposal	Communications	Transportation	Personnel Support	Equipment Maintenance	Procurement	Documentation
2016																					
1st Qtr.																					
2nd Qtr.																					
3rd Qtr.																					
4th Qtr.																					
2017																					
1st Qtr.																					
2nd Qtr.																					
3rd Qtr.																					
4th Qtr.																					
2018																					
1st Qtr.																					
2nd Qtr.																					
3rd Qtr.																					
4th Qtr.																					

For each quarter in which an exercise was completed, mark the exercise category with an "x", then mark each core component(s) tested during the exercise with an "x".

All information related to a given exercise should be stored in the Drill and Spill Repository located on the Emergency Response SharePoint site in accordance with the documentation plan (See ERP Section 7.01).

Colonial Pipeline Company

INTERNAL NOTIFICATION EXERCISE DOCUMENTATION – GROUP 4

Internal Notification Exercise - Group 4					
Date/time notification initiated:					
Learnings/corrective actions required:					
Strike Team					
Name	**Respond w/in 15 minutes**	**Respond to 15 minute follow up**	**Back up called**	**Back up respond**	**Notes**
Non Primary					
Name	**Respond w/in 15 minutes**	**Respond to 15 minute follow up**	**Back up called**	**Back up respond**	**Notes**
Certification that the objectives of internal notification exercise have been met.					
Name:					
Date:					

Colonial Pipeline Company
POST TABLETOP EXERCISE EVALUATION

(Provide an explanation for answers that are not affirmative)

Date:
Location:
Attach listing of participants
Description of scenario:

Significant difficulties encountered during this response? (If yes, briefly describe)

Lessons learned:

Areas for improvement:

Corrective actions to be taken (also enter corrective actions into OPIS):

CORE RESPONSE COMPONENTS EVALUATION
(Provide an explanation for answers that are not affirmative.)

Notifications
Test the notifications procedures identified in the ERP.

Were required federal, state, and local agency notifications completed in a timely manner?
Were spill management team call-out procedures effectively executed?
Were notifications and responses properly documented?
Were shippers notified as appropriate?
Any changes need to be made to current procedures being used or the ERP?
Are personnel adequately trained to successfully execute notification procedures?

2) Staff Mobilization
Demonstrate the ability to assemble the spill response organization identified in the ERP.

Was an initial Strike Team conference call effectively initiated within an hour?
Was there adequate coverage in key positions by Colonial and contractor to mount an acceptable initial response?
Did we utilize pre-determined command center and staging locations?
Was the command center adequately equipped?
Were adequate directions provided for those unfamiliar with the area to find the command center and staging area?
Did personnel initially report through Staging if not members of the IC?
Were there effective transitions when initial responders were relieved by pre-assigned personnel?
Any changes need to be made to current procedures being used or the ERP?

3) Ability to Operate Within the Response Management System Described in the ERP
Demonstrate the ability of the Spill Management Team work within the Incident Command System as defined in the response plan to effectively address the event.

<u>Initial Response Management</u>

Were appropriate emergency shutdown actions taken by the control center and/or local operations in a timely manner?
Did initial responders perform a thorough initial assessment and size-up of the incident (e.g., spill volume, product type and hazards, including consideration of environmental conditions.)?
Was an acceptable Site Safety & Health Plan quickly developed and implemented in the field?
Were Initial Strategic Objectives quickly identified and implemented?
Was an effective Unified Command established?
Were initial responders familiar with their responsibilities?
Comments/Lessons Learned/Recommendations.

Incident Command Staff

Was staff familiar with the ICS Planning Cycle and able to effectively apply it?
Did the staff develop and prioritize overall incident objectives and assess if current and planned actions were consistent with those objectives?
Did the staff establish operational periods, meeting schedules, and approve an IAP?
Did the Incident Commander establish a link with CMT/Situation Room in Alpharetta office, complete the Spill Situation Status Summary and Crisis Management Assumed Consequences forms, and set up a communication cycle to keep appropriate information flow between IC and CMT?
Did the incident commander effectively delegate duties?
Was there good information flow within and between sections?
Was there adequate administrative support?
Were there enough adequately trained (HAZWOPER and functionally proficient) internal and contractor personnel to fill the required positions for two shifts for a sustained response?
Was a shift change schedule established and was there an effective plan for making the transitions?
Were effective briefing meetings held at appropriate intervals?
Comments/Lessons Learned/Recommendations.

Safety
Demonstrate the ability to monitor all field operations and ensure compliance with safety standards.

Were field operations adequately monitored to ensure compliance with safety standards, especially with respect to proximity of pipeline repair and recovery activities to water?
Was a Site Safety & Health Plan prepared and updated?
Were pre-work safety briefings held at all work sites?
Were safety zones established?
Were safety and health hazards adequately assessed to plan for effective protection?
Comments/Lessons Learned/Recommendations.

Operations
Demonstrate the ability to coordinate or direct operations related to the implementation of action plans.

Were tactical assignments appropriate to the overall incident objectives and strategies?
Was there effective coordination with Planning, Staging, and Logistics Sections to develop resource status tracking and documentation?
Was a communications schedule established at all recovery sites to report on progress and issues encountered that need attention?
Were sufficient personnel available to effectively manage all field operations?

Comments/Lessons Learned/Recommendations.

Planning
Demonstrate the ability to develop short-range tactical plans for the operations section and specific long-range strategic plans.

Was an incident action plan effectively developed using the IAP forms?
Was an appropriate meeting schedule established to prepare the action plan?
Was the Command Post Situation Display prepared and maintained?
Was a master list of all resources checked in at incident including check-in, status, current location, estimated time of deployment, etc. maintained?
Were the spill response activities (i.e., utilizing a historian, use of proper forms, etc.) adequately documented?
Comments/Lessons Learned/Recommendations.

Logistics
Demonstrate the ability to provide the necessary support of both short-term and long-term action plans.

Was there effective integration of Logistics, Staging, and the Resource Unit sections?
If Logistics did not immediately mobilize to the command center was there a smooth transition planned for when the move was made to join the command center?
Comments/Lessons Learned/Recommendations.

Finance
Demonstrate the ability to document the daily expenditures of the organization and provide cost estimates for continuing operations.

Was a claims phone number posted and processing system established?
Were daily committed cost estimates documented and provided to IC?
Was it confirmed that all contractors responding had valid contracts with CPC?
Were contracts promptly established/adjusted for contractors without valid contracts?
Was it quickly determined if a third party cost monitoring contractor was needed?
Comments/Lessons Learned/Recommendations.

Public Information/Liaison
Demonstrate the ability to form a joint information center and provide the necessary interface between unified command and the media.

Was an initial press release issued within an appropriate time frame?
Was a protocol established for authorizing release of information to media?
Was a schedule prepared for regular progress reports on the spill cleanup efforts to be distributed to local officials, citizens, and the media?
Were email updates on response progress prepared for employees?
Comments/Lessons Learned/Recommendations.

4) Source Control
Demonstrate the ability of the spill response organization to control and stop the discharge at the source.

Was the spill location confirmed in a timely manner?
Were control measures effectively executed to stop/minimize the discharge at the source (effective

station shut-down and valve closures)?
Any changes need to be made to current procedures being used or the ERP?
Are personnel adequately trained to successfully execute source control procedures?

5) Assessment
Demonstrate the ability of the response organization to provide an initial assessment of the discharge and provide continuing assessments of the effectiveness of tactical operations.

Were weather and trajectory information obtained/determined?
Were estimates of initial spill volume and potential drain down determined?
Were recon teams (ground and air) dispatched in a timely fashion and did they provide needed information to Planning to identify effective recovery locations?
Were NRDA implications considered and acted upon to collect time sensitive information?
Any changes need to be made to current procedures being used or the ERP?
Are personnel adequately trained to successfully execute assessment procedures?

6) Containment
Demonstrate the ability of the spill response organization to contain the discharge at the source or in various locations for recovery operations.

Were timely/effective actions taken to minimize product from entering creek?
Was the “last stand” recovery point identified and boom deployed in advance of the product leading edge?
Was there sufficient equipment available for all containment sites?
Did contractors demonstrate adequate expertise in booming strategy and timely deployment?
Any changes need to be made to current procedures being used or the ERP?
Are personnel adequately trained to successfully execute containment procedures?

7) Recovery
Demonstrate the ability of the response organization to recover, mitigate, and remove the discharged product.

Were skimmers adequately deployed and operational?
Was there adequate on-site storage capacity available (vac trucks, tank trucks, frac tanks) to accommodate recovered volumes?
Were arrangements made to provide adequate offloading capabilities and off-site storage capacity to hold recovered product?
Were there appropriate means to track volume of recovered product and distinguish between volume discharged from the environment and volume collected from the pipe?
Any changes need to be made to current procedures being used or the ERP?
Are personnel adequately trained to successfully execute recovery procedures?

8) Protection
Demonstrate the ability of the response organization to protect the environmentally and economically sensitive areas identified in the ACP and ERP.

Were sensitive areas identified and prioritized?
Did action plan adequately address protective booming strategies?
Were potentially affected water intakes quickly identified and were measures taken to provide appropriate

protection?
Were wildlife protection areas at risk identified and were effective protective measures included in the action plan?
Any changes need to be made to current procedures being used or the ERP?
Are personnel adequately trained to successfully execute protection procedures?

9) Disposal
Demonstrate the ability of the spill response organization to dispose of the recovered material and contaminated debris.

Was an adequate waste minimization plan (i.e. segregation of contaminated soil/debris) prepared?
Was an adequate waste disposal plan prepared?
Any changes need to be made to current procedures being used or the ERP?
Are personnel adequately trained to successfully execute waste management procedures?

10) Communications
Demonstrate the ability to establish an effective communications system for the spill response organization.

Were there adequate communications capabilities available between the incident command center, recon, staging, logistics (if off-site), containment/recovery sites, and Alpharetta situation room?
Did the command center have adequate internet access?
Did command center and staging make arrangements to acquire hard-wired phones?
Were satellite phones brought to the site and were they ready for use?
Any changes need to be made to current procedures being used or the ERP?
Are personnel adequately trained to successfully execute communication procedures?

11) Transportation
Demonstrate the ability to provide effective transportation to facilitate response activities.

Was thought given to traffic flow and how to integrate support from local authorities?
Was the acquisition of required road permits for heavy equipment and supplies adequately addressed?
Comments/Lessons Learned/Recommendation.

12) Personnel Support
Demonstrate the ability to provide the necessary support of all personnel with the response.

Was there adequate overnight accommodations provided for on a continuing basis for a sustained response?
Were suitable feeding arrangements made for response personnel?
Were emergency services for response personnel made available?
Were adequate portable toilets facilities mobilized?
Any changes need to be made to current procedures being used or the ERP?
Are personnel adequately trained to successfully execute support procedures?

13) Equipment Maintenance & Support
Demonstrate the ability to maintain and support all equipment associated with the response.

Were there adequate capabilities provided to maintain response equipment?
Are personnel adequately trained to successfully execute maintenance procedures?
Comments/Lessons Learned/Recommendations

14) Procurement
Demonstrate the ability to establish an effective procurement system to obtain the necessary personnel, equipment, and supplies for a sustained response.

Were needed equipment and supplies secured in a timely manner?
Was a linkage established with corporate Procurement to provide assistance for difficult to obtain items?
Any changes need to be made to current procedures being used or the ERP?
Are personnel adequately trained to successfully execute procurement procedures?

15) Documentation
Demonstrate the ability of the spill response organization to document all operational and support aspects of the response and provide detailed records of decisions and actions taken.

Did we record the salient information?
Were the appropriate ICS forms completed?
Any changes need to be made to current procedures being used or the ERP?
Are personnel adequately trained to successfully execute documentation procedures?

Certification
I certify that the objectives of this exercise were met.

_____	_____	_____
Name	Signature	Date

2/23/10

Colonial Pipeline Company

EQUIPMENT DEPLOYMENT EXERCISE EVALUATION

Date:

Location:

Type of event (exercise or actual response):

Announced or unannounced:

Description of scenario:

Deployment location(s):

Attach listing of participating OSRO/contractor and Colonial personnel.

Attach listing of equipment deployed.

Was at least the minimum amount of required deployed?

Was equipment in good operating condition?

Overall execution performance of personnel deploying and managing the equipment deployment:

Significant difficulties encountered during the exercise? (if yes, briefly describe)

Lessons learned:

Areas for improvement:

Corrective actions to be taken (also enter corrective actions into OPIS):

Exercise Objectives Met? (yes/no)

Certifying individual and date:

This record is to be maintained in the Emergency Response SharePoint site.

Colonial Pipeline Company

EQUIPMENT DEPLOYMENT EXERCISE – PARTICIPANTS

Date:		
Location:		
Name	**Company**	**Emergency Response Position**

Colonial Pipeline Company

EQUIPMENT DEPLOYMENT EXERCISE – EQUIPMENT LISTING

Date:		
Location:		
Equipment Description	**Amount**	**Owner (Name of OSRO, Contractor, or Colonial)**

Colonial Pipeline Company

EMERGENCY OPERATING PROCEDURE (EOP) EXERCISE EVALUATION

Date:

Location:

Description of scenario:

EOP(s) activated:

K01 – Leak K02 -Tank Overflow K20 -Evacuation K30 – Complete Loss of Communication K40 – Natural Disasters K50 – Fire or Explosion K60 – Security Threat

Were all immediate and subsequent actions identified in the EOP performed (yes or no)?

Overall effectiveness of the EOP:

Overall execution of personnel performing the EOP:

Significant difficulties encountered during the response? (if yes, briefly describe):

Lessons learned:

Areas for improvement:

Corrective actions to be taken (also enter corrective actions into OPIS):

Exercise Objectives Met? (Yes/No)

Certifying individual and date:

Colonial Pipeline Company

PLAN REVIEW, UPDATE PROCEDURES, AND ACCOUNTABILITY

The Emergency Response Plan for each Response Zone will be reviewed and updated as necessary, at a minimum of once every **five years** to reflect any changes in operations that would affect Colonial's response organization. These revisions will be submitted to PHMSA for approval within thirty (30) days from the date of the revision.

Additionally, the plan will be revised if any of the following should occur:

Extension of an existing pipeline, construction of a new pipeline, or purchase of pipeline in an area not covered under the existing Response Plan.
Relocation or replacement of a pipeline segment that would affect the information contained in the Response Plan.
Changes in the type of product transported, if it would affect the type of response efforts described in the existing plan.
Changes in either Colonial or contract resources that would adversely affect response efforts
Changes in emergency response procedures or organization.
Changes in either the National Contingency Plans or applicable Area Contingency Plans.
Changes to the job title or position of the Director of Operations, which is by definition a "Qualified Individual".
Ownership change.
Change in worst case discharge scenarios.

These response plans have been developed for use in the three Colonial Pipeline Company Response Zones and much of the information included is facility or Response Zone specific. The distribution and control procedures of the Plan are described in detail in *Section 8.02, Document Control Procedures*. It is the responsibility of the Director of Operations to ensure that all emergency contact telephone numbers and ICS organization charts are accurate. In addition, the District Project Leader, or his designee, will ensure that the oil spill response organization's (OSROs) data are accurate.

It is expected that the plan will be reviewed and updated annually due to personnel changes and continuous improvements in communication processes. At a minimum, the appropriate personnel will review the Plan for accuracy and completeness. Upon such review, the appropriate personnel will certify that he/she reviewed the plan and submitted the necessary changes and/or noted no changes need to be made. The form to be used for the review certification follows the updating responsibility chart below.

Changes in a Director of Operations requires immediate notification to the Director Health, Safety, Security, and Environmental. PHMSA will be notified within thirty days of changes in a Director of Operations since they are identified in the Plan as a Qualified Individual.

The District Environmental Manager, Operations Manager, District Project Leader, or Director of Operations, must immediately notify the Director Health, Safety, Security, and Environmental if their contact information changes.

In addition, the District Administrative Assistants will update the following Sections of the Plan and notify response personnel within thirty days of a change in an Operations Manager, a District Project Leader, a District Environmental Manager, or a Director of Operations, (including contact information).

Section 2.03 Emergency Notification Flowchart
Section 4.02 Incident Command System and Structure (if applicable)

Oil Spill Notification and Air Pollution Control Device Malfunctions are to be updated each year by the

Environmental Coordinator. This documentation is located in Corporate Procedure 30.

The review and update of the OPA 90 portions of this ERP is the responsibility of the Environmental personnel assigned to the task of emergency preparedness coordination, which may vary depending on Response Zones. Post-drill and post-incident evaluations will be conducted to identify the need to incorporate changes into Colonial's response procedures.

This Plan is the guidebook for all of Colonial's spill response actions. It will be amended as needed based on the learnings gained from exercises and/or actual responses to spills. Consequently, reviewing and critiquing Colonial's field response activities can also improve the Plan.

PLAN ACCOUNTABILITIES

Individual Responders

Understand your assigned emergency response roles and responsibilities and obtain necessary training to be able to proficiently perform these duties.
Ensure access to an updated Emergency Response Plan.
Actively participate in annual HAZWOPER refresher training.
Participate in tabletop drills and other exercises, as required.
Update the People Soft database if there are changes in your contact information.
Obtain response equipment required for pre-assigned position(s), maintain it in good working order (e.g. LEL meter, flashlight, etc.), and have it readily available for use.

Director of Operations/Qualified Individuals

Keep Response Zone Incident Command System organizational structure up to date.
Ensure Response Zone spill management and response teams are adequately trained to respond to an emergency.
Ensures the Group 8 Notification List is maintained and approves any additions or deletions to Group 8 Notification List.
Conduct periodic notification tests, tabletops exercises, and/or equipment deployment drills to ensure district response team is prepared to promptly and effectively respond to emergencies (coordinate activities with the Environmental Coordinator for documentation and compliance tracking).
Ensure the district has an adequate cadre of approved spill response contractors under contract and vendors to supply the needed personnel and equipment resources to effectively manage a worst case discharge for the district (coordinate OSRO verification and approval with the District Project Leader).
Develop and maintain a positive working relationship with key response contractors.
Ensure all employees within the district with emergency response duties attend annual HAZWOPER refresher training.
Ensure Response Zone Emergency Response Plan is kept up to date.
Ensure post exercise and actual response critiques are promptly conducted and that all action items assigned to district personnel are completed.

District Project Leaders

Ensure all Colonial spill response equipment, including communications equipment, is maintained in good working condition and that appropriate supplies are adequately stocked.
Ensure direct reports with assigned emergency response duties attend annual HAZWOPER refresher training and that they have received adequate training to perform their assigned duties.

Ensure all direct reports are trained in, and capable of, executing the emergency notification procedures.
Develop and maintain a positive working relationship with response contractors.
Ensure latest versions of maps (alignment sheets, USGS quadrangles) are readily available.
Maintain PHMSA required documentation for non-USCG approved oil spill response contractors (OSROs) included in our Emergency Response Plan Section 5.05 (coordinate with the Environmental Coordinator).

Operations Managers

Ensure direct reports with assigned emergency response duties attend annual HAZWOPER refresher training and are adequately trained to respond to an emergency.
Make certain that all direct reports are trained and capable of executing the emergency notification procedures.
Participate in periodic notification tests, tabletops exercises, and/or equipment deployment drills to ensure local responders are prepared to promptly and effectively respond to emergencies (coordinate with the Director of Operations and the Environmental Coordinator.
Make sure that local information contained in the Emergency Response Plan is kept up to date.
Develop and maintain a positive working relationships with oil spill response contractors and local emergency response agencies.

District Environmental Managers

Provide guidance on state spill notification requirements (coordinate with the Environmental Coordinator).
Ensure direct reports with assigned emergency response duties attend annual HAZWOPER refresher training and that they have received adequate training to competently perform their assigned duties.
Ensure all direct reports are trained in, and are capable of, executing the emergency notification procedures.

Director of Health, Safety, Security, and Environmental

Keep track of any relevant changes to spill response regulations, communicate changes to affected personnel, and ensure appropriate amendments are made to Emergency Response Plan to maintain regulatory compliance.
Ensures the Group 4 Notification List is maintained and approves any additions or deletions to Group 4 Notification List.
Maintain positive working relationship with PHMSA representatives who administer regulatory compliance program for pipelines.
Ensure PHMSA required corporate notification and spill drills are conducted.
Ensure appropriate auditing is conducted to identify and correct compliance gaps.
Ensure direct reports with emergency response duties attend annual HAZWOPER refresher training as required and that they have received adequate training to competently perform their assigned duties.

Environmental Coordinator

Ensure proper maintenance of the electronic version of the Emergency Response Plans.
Coordinates with the Director Health, Safety, Security, and Environmental to ensure the Group 4 Notification List is revised and updated as necessary.
Coordinate with each Response Zone to track compliance activities and associated documentation (Coordinate with Director of Operations and Operations Managers).
Coordinate with the Director Health, Safety, Security, and Environmental to ensure that compliance

requirements are met and that the response plans are revised and updated as necessary.

All Supervisors

Ensure direct reports with emergency response duties receive training needed for them to competently perform their assigned roles and that appropriate personnel attend annual HAZWOPER refresher training.
Ensure direct reports who have emergency response responsibilities have access to an updated Emergency Response Plan.
Ensure prompt consideration of emergency response and notification duties for new reports and that necessary training is provided.

Administrative Staff Assigned ERP Update Responsibilities

Coordinate as necessary with the Environmental Coordinator to ensure updates are communicated and implemented properly.

Spill Management Team Members

Ensure access to an updated Emergency Response Plan.
Actively participate in annual HAZWOPER refresher training, Spill Management Team training, and attend other training as needed to maintain competency in assigned duties.

UPDATING TABLE

Please refer to this table to identify your areas of responsibility for updates to this document.

ERP Update Responsibilities

Owner	Section	District/Generic	Contents
Director of Operations	1.05	District	Certification
Director of Operations	1.06.01,2,3	District	Worst case discharge
Director of Operations	4.02	District	ICS structure
District Administrative Coordinator	1.02	District	Information summary
District Administrative Coordinator	1.03	District	Response zone maps & line segments
District Administrative Coordinator	5.03	District	District employee phone list
District Administrative Coordinator	5.04	District	Other federal, state, & local agencies
District Corrosion Project Manager	9.04	District	Rectifier locations
District Environmental Manager	5.07	District	Environmental contractors
District Environmental Manager	5.08	District	Aerial recon contractors
District Environmental Manager	9.02	District	Release response strategies
District Environmental Manager	9.06	District	Water intake locations
District Logistic Section Chiefs	5.13	District	Local Emergency Care Facilities
District Logistics Section Chiefs	5.09	District	Other response equipment suppliers
District Logistics Section Chiefs	5.10	District	Vendor support supplies
District Logistics Section Chiefs	5.11	District	Airports & FBOs
District Project Leader	1.06.04	District	Minimum response resources
District Project Leader	4.03.04	District	Responsibility checklist – Operations
District Project Leader	5.05	District	OSROs
District Project Leader	5.06	District	Pipeline repair contractors
Emergency Response Program Spec	9.05	District	Environmentally sensitive areas
Environmental Coordinator	1.00	Generic	Table of Contents
Environmental Coordinator	1.01	Generic	Purpose & consistency with other cont plans
Environmental Coordinator	1.04	Generic	Significant & substantial harm determination
Environmental Coordinator	1.06	Generic	Worst Case Discharge - Introduction
Environmental Coordinator	1.06.01	Generic	Worst Case Discharge - Tankage
Environmental Coordinator	2.01	Generic	Notification and Mobilization Procedures
Environmental Coordinator	2.02	Generic	Communication Methods and Equipment
Environmental Coordinator	2.04	Generic	Crisis Management Communication
Environmental Coordinator	3.01	Generic	Leak detection & emergency procedures
Environmental Coordinator	4.01	Generic	Initial roles & responsibilities

Colonial Pipeline Company

PLAN REVIEW, UPDATE PROCEDURES, AND ACCOUNTABILITY

Owner	Section	District/Generic	Contents
Environmental Coordinator	4.03.01	Generic	Responsibility checklist – Common ICS Responsibilities
Environmental Coordinator	4.03.02	Generic	Responsibility checklist - Command
Environmental Coordinator	4.03.03	Generic	Responsibility checklist - Finance
Environmental Coordinator	4.03.04	Generic	Responsibility checklist - Operations
Environmental Coordinator	4.03.05	Generic	Responsibility checklist - Planning
Environmental Coordinator	4.03.06	Generic	Responsibility checklist - Logistics
Environmental Coordinator	4.04.00	Generic	Post Emergency Response Reviews
Environmental Coordinator	4.04.01	Generic	Post Emergency Response Reviews – Significant Spill
Environmental Coordinator	5.01	Generic	Spill Management Team contact phone list
Environmental Coordinator	5.02	Generic	HAZWOPER trained personnel
Environmental Coordinator	5.14	Generic	USCG Captain of the Ports contacts
Environmental Coordinator	6.01	Generic	Training courses & requirements
Environmental Coordinator	7.01	Generic	Exercise program
Environmental Coordinator	7.02	Generic	Exercise documentation
Environmental Coordinator	7.02.01	Generic	Triennial cycle documentation spreadsheet
Environmental Coordinator	7.02.02	Generic	Internal notification exercise documentation - Group 4
Environmental Coordinator	7.02.03	Generic	Post tabletop exercise evaluation
Environmental Coordinator	7.02.04	Generic	Equipment deployment exercise evaluation
Environmental Coordinator	7.02.05	Generic	Equipment deployment exercise - Participants
Environmental Coordinator	7.02.06	Generic	Equipment deployment exercise - Equipment
Environmental Coordinator	7.02.07	Generic	Emergency operating procedures exercise evaluation
Environmental Coordinator	8.01	Generic	Response plan review, update procedures accountability
Environmental Coordinator	8.02	Generic	On-line usage & document control procedures
Environmental Coordinator	9.02	Generic	Response strategies
Operation Managers	2.03	District	Emergency notification flow charts
Operation Managers	5.12	District	Local terminal mgrs & adjacent pipelines
Technical Services/GIS	9.03	Generic	Block valve locations
Safety & Security Leader	9.01	Generic	Product characteristics & SDS Sheets

Colonial Pipeline Company

PLAN REVIEW, UPDATE PROCEDURES, AND ACCOUNTABILITY

Emergency Response Plan
Annual Review Acknowledgement Form

This form or equivalent must be completed and returned to the District Administrative Coordinator along with any applicable updates. This form will be maintained by the District Administrative Coordinator until the next update. The District Administrative Coordinator will have the responsibility of recording the date of receipt in the appropriate at the bottom of this form.

The Environmental Coordinator shall complete this form or equivalent for the generic section of the Emergency Response Plan.

I hereby acknowledge that I have reviewed the sections of Colonial Pipeline's Emergency Response Plan for which I am held accountable for updating as identified in ERP Section 8.01.

Effective ERP Update Date (month/year):_____

Section Number	Changes Submitted	No Changes Necessary

(Please list each section for which you are held accountable for updating in the "Section Number Column." For each section, you are held accountable, place a check mark in either the "Changes Submitted" column or the "No Changes Necessary" column.

Name:_____

Title:_____

Date:_____

For District Office Use Only *(to be completed by the District AA)*
Date Received

Colonial Pipeline Company
DOCUMENT CONTROL PROCEDURES

The Emergency Response Plans contained within the ERP SharePoint site are the official manuals for each Response Zone and supersede any printed copy.

The Environmental Team maintains the Emergency Response Plans for all Response Zones. Any questions or concerns regarding any document contained within this SharePoint site should be directed to the Environmental Team.

All original documents are archived in the ERP SharePoint Site. Editing these documents will require them to be checked out. Please note that these documents are only accessible by the Director of Health, Safety, Security, and Environmental, the Environmental Coordinator, or his/her designee. The documents displayed in this SharePoint site are Adobe Acrobat files created from these original documents.

In the event that all or part of an ERP has been revised the following events shall occur:

Upon completing a revision to an original ERP document an Adobe file will be created to replace the one posted on the ERP SharePoint site. Note that revision data appears in the footer of all documents declaring the month and year of the latest revision. The Environmental Coordinator is the web-master for this site and will coordinate replacing documents.
The original ERP document will be checked back into the Environmental SharePoint site immediately upon completion of the above step.

If significant revisions are made to the ERP (as described in *Section 8.01, Response Plan Review, Update Procedures, and Accountability*) the following events shall occur in addition to the above-mentioned actions:

If warranted, an updated copy of the complete ERP shall be submitted to the Pipeline and Hazardous Materials Safety Administration (PHMSA) for approval within thirty days of the revisions.
After the SharePoint site has been properly updated an e-mail will be sent to all employees stating the following:
Section No. and document name affected.
A summary of the revisions made.
A revision history will be maintained and made available on the SharePoint site. This document will begin with the date the ERP was introduced on-line and will continue forward.

Hardcopy updates will no longer be disseminated from the Environmental Team. Therefore it is the responsibility of the individual employee to maintain and update any hardcopies of the ERP in his/her possession. Any hardcopies not properly maintained should be discarded to avoid inadvertent use of misleading or outdated information during an emergency response.

To ensure regulatory compliance as stipulated under 49 CFR 194.111 each Operations Manager must make certain that the ERP is available at each facility. This can be accomplished by performing one or more of the following:

Downloading to at least one station computer your Response Zone's ERP. This will ensure that the information is accessible even if the network is not.
Printing a copy of your Response Zone's ERP and placing it in an easily accessible location.

Store an electronic copy of the ERP on a media that can be read from the facilities computer (i.e. CD-ROM, ZIP Disk, External hard drive, etc.). This media must be stored in a conspicuous location and labeled as:

Emergency Response Plan
(District Name) Response Zone
(date of last revision)

Select employees must have a copy of the ERP in their custody. Others are strongly encouraged to maintain a copy (hardcopy or electronic) of the ERP in the event of a drill or actual incident. Those required to maintain a copy of the ERP are:

Director of Operations
Operations Managers (e.g. Tank Farms, Stations and Facilities that are under your supervision)
Director of Health, Safety, Security, and Environmental

Those recommended to maintain a copy of the ERP are:

Operations Managers and Associate OM's
Project Leaders
Project Managers and Associate PM's
ROW Team
Safety Team
Corrosion Team
Environmental Team
Sr. Controller (Atlanta Office)

When significant changes are made to the ERP those listed above will be asked to reply to an e-mail notification acknowledging that the changes to the documents have been received and confirming that copies within their custody have been updated.

Colonial Pipeline Company

OIL AND GASOLINE SPILL BEHAVIOR ON LAND, WATER

The ability to predict how a product spill behaves on land or water can increase efficiency of control, containment, and recovery action. An understanding of the characteristics of petroleum products is essential for these purposes. Three major types of refined petroleum products are shipped in the Colonial Pipeline system. These include gasoline, kerosene, and No. 2 fuel oil.

The possibility of fire is one of the first concerns in a spill situation. The flash point of a product is the minimum temperature at which the product will ignite when it comes in contact with an open flame or spark.

FLASH POINT OF REFINED PRODUCTS

Product	Minimum Flash Point Range, F
Gasoline	Ambient Temperature
Kerosene	113-123
No. 2 Fuel Oil	125-140
JP-8	100-200

Kerosene and No. 2 fuel oil are comparatively safer to handle than gasoline. HOWEVER, STRINGENT SAFETY MEASURES SHOULD BE OBSERVED WITH ANY SPILL.

Contamination of water is also a prime consideration. Refined products contain fractions that are soluble in water. These fractions are offensive to taste and smell and make water undesirable for domestic use. Long before oil contaminated water reaches toxic levels, people will usually refuse to drink it due to its bad taste and odor. However, livestock may continue to drink it.

IMMEDIATE MEASURES

Contain the escaping product and accomplish the line repairs as quickly as possible, with safety foremost in mind. This concern for safety is not only for those at work in the area but also for anyone who may be in the area for other reasons. Where there is danger of third party ignition sources, the following should be enforced:

Refined product vapors are heavier than air. Vapor testers are required on site and should be used until the area is safe and free of vapors. Never approach a hazardous area from a lower level or from the downwind side. If the wind changes, cease all work and shut down equipment until the area is free of vapors.

Keep equipment with internal combustion engines on the windward side of leak site or containment area and at a safe distance.

Fire extinguishers and first aid equipment should be readily available.

Take necessary steps to warn or stop all traffic (foot, motor, or rail) in the hazardous area. Residents in the hazardous area should be warned or evacuated. If necessary, contact local or state law enforcement officials and fire departments to seal off the area and ensure that pilot lights and any other hazardous appliances or equipment are turned off and rendered non-operable.

Colonial Pipeline Company

OIL AND GASOLINE SPILL BEHAVIOR ON LAND, WATER

PRODUCT MOVEMENT ON LAND

When a product spill occurs on land, immediate action is required to prevent the petroleum product from harming ground or surface water, human life, wildlife, and highly sensitive environmental areas. Product behaves similarly to water. The relative velocities across the soil surface depend on the slope of the terrain, the dimensions of a channel, the soil permeability, the depth of flow, and viscosity and weight of the fluid. Water generally moves with a velocity of two feet per second in well-defined channels with moderate slopes. Petroleum products behave in the same way.

VERTICAL MOVEMENT THROUGH SOIL

On undisturbed soil, product will move downward under the force of gravity, while spreading laterally. The rate of movement depends on the viscosity of the product and the permeability of the soil. Downward movement eventually will be interrupted by one of three events: Flow of the product is stopped, the product reaches an impervious soil stratum, or the product reaches the local water table. As the product moves downward, small amounts will attach to soil particles and remain behind the main body.

HORIZONTAL MOVEMENT OF PRODUCT ON LAND

If a petroleum product is not immediately contained, it will tend to flow into existing drainage ditches, storm sewers, and surface water.

Advance knowledge of existing locations of storm sewers, sanitary sewers, water intakes, and their destinations should be obtained. These structures should be immediately protected when there is a product spill.

PRODUCT MOVEMENT ON WATER

Product on water moves as a result of wind or current velocity; a useful approximation is that a product slick moves with the wind at about 3 to 4% of the wind velocity.

PROPERTIES OF REFINED PETROLEUM PRODUCTS THAT AFFECT RECOVERY

Of the different ways product may interact with the environment, the rate of spreading is one of the most important. One factor that controls the product spread rate is the viscosity of the product (the degree to which a fluid resists flow under an applied force). The less viscous products will spread faster than the more viscous oils. Viscosity increases as temperatures drop. When the temperature is very low, fuel oil spilled on the ground will not penetrate the soil as quickly or spread as rapidly over the surface as it would in the summer. Winter temperatures do not drop low enough to significantly affect the penetration or spread of gasoline or kerosene.

Volatility is another important characteristic because it governs the rate of evaporation of spilled product. Distillation ranges for the various refined products are as follows:

Colonial Pipeline Company

OIL AND GASOLINE SPILL BEHAVIOR ON LAND, WATER

DISTILLATION RANGES OF REFINED PRODUCTS

Product	Distillation Range, F
Gasoline	90-430
JP-5	220-572
Kerosene	220-572
No. 2 Fuel Oil	350-670

Gasoline has a lower distillation range and will evaporate more readily than kerosene or No. 2 fuel oil. The amount of evaporation depends upon exposed surface area, wind conditions, humidity, temperature, wave action on water, and soil permeability on land.

Evaporation can result in the loss of a significant portion of the spilled product.

All refined petroleum products shipped by Colonial's system are less dense than water and will float on the surface.

DENSITY OF REFINED PRODUCTS

Product	API Gravity	Specific Gravity	Density lbs/gal
Gasoline	62.0	0.73	6.08
Kerosene	42.5	0.813	6.77
Fuel Oil	33.0	0.860	7.16
Water	10.0	1.0	8.33

A small amount of product will dissolve or emulsify into water and is non-recoverable. Studies have shown that water under an oil slick may contain five to ten parts per million (ppm) of dissolved product, but as soon as the spill breaks up the level drops to about one ppm or less. Less than one percent of spilled product is lost by dissolving or emulsifying into the water.

WEATHERING AND DEGRADATION

Weathering (evaporation) and biodegradation are two natural processes that affect the behavior of a product spill on a long term basis. When exposed to air or water, petroleum products begin to evaporate, and/or dissolve, with the lighter distillates evaporating first. The heavier components are the least biodegradable products and form the most stable water/oil emulsions.

Weathering decreases when a product is absorbed or covered by snow, or when the surface area exposed to wind is otherwise reduced. Burning or sorbent effectiveness also decrease with weathering.

Biodegradation results in the breakdown of oil by microorganisms. This process is active in terrestrial and aquatic environments. It usually progresses more rapidly in terrestrial than in aquatic habitats. As with weathering, the lighter products biodegrade quickly, the heavier components take more time. The rate of biodegradation decreases with lowering temperatures and virtually stops in freezing temperatures. However, it has been shown that careful application of fertilizer and the use of tilling can speed up biodegradation.

Colonial Pipeline Company

OIL AND GASOLINE SPILL BEHAVIOR ON LAND, WATER

SAFETY DATA SHEETS

Generic Safety Data Sheets (SDS) for the product shipped through Colonial's system, including transmix, are contained in the following pages. Safety Data Sheets for products that may be used or stored in a particular facility are contained in the SDS Binder at the facility.

SAFETY DATA SHEET

Gasoline (All Grades)

Conforms to HazCom 2012/United States

SAFETY DATA SHEET

Gasoline (all grades)

Section 1. Identification

Product identifier used on the label

Gasoline (all grades).

Other means of identification

Regular Unleaded Gasoline, Midgrade Unleaded Gasoline, Premium Unleaded Gasoline, Pre-certified Gasoline.

Product Type

Liquid.

Recommended use and restrictions

Identified Uses

Fuel.

Supplier/Manufacturer

Colonial Pipeline Company
1185 Sanctuary Parkway
Suite 100
Alpharetta, GA 30009
Tel.: 678-762-2200
Toll Free: 800-275-3004
Fax: 678-762-2466
Email: info@colpipe.com
Web site: http://www.colpipe.com/

Emergency telephone number (with hours of operation)

CHEMTREC, U.S. : 1-800-424-9300
International: +1-703-527-3887
Hours of operation: 24 hours/day, 7 days/week

Section 2. Hazards Identification

Classification of the substance or mixture

FLAMMABLE LIQUIDS - Category 1
SKIN CORROSION/IRRITATION - Category 2
GERM CELL MUTAGENICITY - Category 1B CARCINOGENICITY - Category 1A
TOXIC TO REPRODUCTION [Fertility] - Category 2
TOXIC TO REPRODUCTION [Unborn child] - Category 2
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE): INHALATION [central nervous system (CNS)] - Category 2
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
ASPIRATION HAZARD - Category 1
AQUATIC TOXICITY (ACUTE) - Category 3
AQUATIC TOXICITY (CHRONIC) - Category 2

Ingredients of unknown toxicity

Not applicable.

Ingredients of unknown ecotoxicity

Not applicable.

GHS Label Elements

Hazard Pictograms

Signal Word

Danger.

Hazard Statements

Extremely flammable liquid and vapor.
Causes skin irritation.
May cause genetic defects.
May cause cancer.
Suspected of damaging fertility or the unborn child.
May be fatal if swallowed and enters airways.
May cause damage to organs if inhaled. (central nervous system (CNS)).
May cause damage to organs through prolonged or repeated exposure.
Toxic to aquatic life with long lasting effects.

Precautionary Statements

General

Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.

Prevention

Obtain special instructions before use. Wear protective gloves. Wear eye or face protection. Keep away from heat, sparks, open flames and hot surfaces. No smoking. Use explosion-proof electrical, ventilating, lighting and all material handling equipment. Avoid release to the environment. Do not breathe vapor.

Response

IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.

Storage

Keep cool.

Disposal

Dispose of contents and container in accordance with all local, regional, national and international regulations.

Other hazards which do not result in classification

Not available.

Section 3. Composition/information on ingredients

Substance/Mixture	Mixture.
Other Means of Identification	Regular Unleaded Gasoline, Midgrade Unleaded Gasoline, Premium Unleaded Gasoline, Pre-certified Gasoline.

CAS Number/Other Identifiers

CAS Number	Not applicable.
EC Number	Mixture.
Product Code	Not available.

Ingredient name	%	CAS number
Gasoline, natural	100	8006-61-9
Contains:		
Xylene	10 - 30	1330-20-7
Toluene	10 - 30	108-88-3
n-Hexane	1 - 5	110-54-3
Benzene	1 - 5	71-43-2
1,2,4-Trimethylbenzene	1 - 5	95-63-6
Ethylbenzene	1 - 5	100-41-4
Naphthalene	1 - 5	91-20-3

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye Contact

Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 20 minutes. Get medical attention. If necessary, call a poison center or physician.

Inhalation

Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin Contact

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 20

minutes. Get medical attention. If necessary, call a poison center or physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion

Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute, and delayed

Potential acute health effects

Eye Contact

Causes serious eye irritation.

Inhalation

May cause damage to organs following a single exposure if inhaled.

Skin Contact

Causes skin irritation.

Ingestion

May be fatal if swallowed and enters airways. Irritating to mouth, throat, and stomach.

Over-exposure signs/symptoms

Eye Contact

Adverse symptoms may include the following:
Pain or irritation
Watering
Redness

Inhalation

Adverse symptoms may include the following:
Reduced fetal weight
Increase in fetal deaths
Skeletal malformations

Skin Contact

Adverse symptoms may include the following:
Irritation
Redness
Reduced fetal weight
Increase in fetal deaths
Skeletal malformations

Ingestion	Adverse symptoms may include the following: Nausea or vomiting Reduced fetal weight Increase in fetal deaths Skeletal malformations

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific Treatments	No specific treatment.
Protection of first-aiders	No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing Media

Suitable extinguishing media	Use dry chemical, CO2, water spray (fog) or foam
Unsuitable extinguishing media	Do not use water jet.
Specific hazards arising from the chemical	Extremely flammable liquid and vapor. The vapor/gas is heavier than air and will spread along the ground. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Runoff to sewer may create fire or explosion hazard. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous thermal decomposition products

Decomposition products may include the following materials:
carbon dioxide
carbon monoxide

Special protective actions for fire-fighters

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment, and emergency procedures

For non-emergency personnel

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders

If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

Methods and materials for containment and cleaning up

Small spill

Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Use spark-proof tools and explosion-proof equipment. Dispose via a licensed waste disposal contractor.

Large spill

Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or

diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Use spark-proof tools and explosion-proof equipment. Dispose via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not swallow. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.

Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protections

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Gasoline, natural	**OSHA PEL 1989 (United States, 3/1989).** STEL: 1500 mg/m³ 15 minute(s). STEL: 500 ppm 15 minute(s). TWA: 900 mg/m³ 8 hour(s). TWA: 300 ppm 8 hour(s).
Xylene	**ACGIH TLV (United States, 1/2011).** STEL: 651 mg/m³ 15 minute(s). STEL: 150 ppm 15 minute(s). TWA: 434 mg/m³ 8 hour(s). TWA: 100 ppm 8 hour(s). **OSHA PEL (United States, 6/2010).** TWA: 100 ppm 8 hour(s). TWA: 435 mg/m³ 8 hour(s).
Toluene	**NIOSH REL (United States, 6/2009).** STEL: 560 mg/m³ 15 minute(s). STEL: 150 ppm 15 minute(s). TWA: 375 mg/m³ 10 hour(s). TWA: 100 ppm 10 hour(s). **OSHA PEL Z2 (United States, 11/2006).** AMP: 500 ppm 10 minute(s). CEIL: 300 ppm TWA: 200 ppm 8 hour(s). **ACGIH TLV (United States, 1/2011).** TWA: 20 ppm 8 hour(s).
n-Hexane	**ACGIH TLV (United States, 2/2010). Absorbed through skin.** TWA: 50 ppm 8 hour(s). **NIOSH REL (United States, 6/2009).** TWA: 180 mg/m³ 10 hour(s). TWA: 50 ppm 10 hour(s). **OSHA PEL (United States, 6/2010).** TWA: 1800 mg/m³ 8 hour(s). TWA: 500 ppm 8 hour(s).
Benzene	**ACGIH TLV (United States, 2/2010). Absorbed through skin.** STEL: 8 mg/m³ 15 minute(s). STEL: 2.5 ppm 15 minute(s).

	TWA: 1.6 mg/m³ 8 hour(s).
	TWA: 0.5 ppm 8 hour(s).
	NIOSH REL (United States, 6/2009).
	STEL: 1 ppm 15 minute(s).
	TWA: 0.1 ppm 10 hour(s).
	OSHA PEL (United States, 6/2010).
	STEL: 5 ppm 15 minute(s).
	TWA: 1 ppm 8 hour(s).
	OSHA PEL Z2 (United States, 11/2006).
	AMP: 50 ppm 10 minute(s).
	CEIL: 25 ppm
	TWA: 10 ppm 8 hour(s).
1,2,4-Trimethylbenzene	**ACGIH TLV (United States, 1/2011).**
	TWA: 123 mg/m³ 8 hour(s).
	TWA: 25 ppm 8 hour(s).
	NIOSH REL (United States, 6/2009).
	TWA: 125 mg/m³ 10 hour(s).
	TWA: 25 ppm 10 hour(s).
	OSHA PEL 1989 (United States, 3/1989).
	TWA: 25 ppm 8 hour(s).
	TWA: 125 mg/m³ 8 hour(s).
Ethylbenzene	**ACGIH TLV (United States, 1/2011).**
	TWA: 20 ppm 8 hour(s).
	NIOSH REL (United States, 6/2009).
	STEL: 545 mg/m³ 15 minute(s).
	STEL: 125 ppm 15 minute(s).
	TWA: 435 mg/m³ 10 hour(s).
	TWA: 100 ppm 10 hour(s).
	OSHA PEL (United States, 6/2010).
	TWA: 435 mg/m³ 8 hour(s).
	TWA: 100 ppm 8 hour(s).
Naphthalene	**ACGIH TLV (United States, 1/2011).**
	STEL: 79 mg/m³ 15 minute(s).
	STEL: 15 ppm 15 minute(s).
	TWA: 52 mg/m³ 8 hour(s).
	TWA: 10 ppm 8 hour(s).
	NIOSH REL (United States, 6/2009).
	STEL: 75 mg/m³ 15 minute(s).
	STEL: 15 ppm 15 minute(s).
	TWA: 50 mg/m³ 10 hour(s).
	TWA: 10 ppm 10 hour(s).
	OSHA PEL (United States, 6/2010).

	TWA: 50 mg/m³ 8 hour(s). TWA: 10 ppm 8 hour(s).

Recommended monitoring procedures

If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.

Appropriate engineering controls

Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts.

Skin protection

Hand protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Body protection

Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection

Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection	Use a properly fitted, air-purifying or supplied air respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

Appearance	
Physical state	Liquid.
Color	Colorless.
Odor	Gasoline.
Odor threshold	0.06 to 0.08 ppm
pH	Not applicable.
Melting point/freezing point	Not available.
Boiling point/boiling range	26.667 to 225°C (80 to 437°F)
Flash point	Closed cup: -42.778°C (-45°F)
Evaporation rate	<1 (Ethyl Ether = 1)
Flammability (solid, gas)	Not available.
Lower and upper explosive (flammable) limits	Lower: 1.4% Upper: 7.6%
Vapor pressure	26.7 to 93.3 kPa (200 to 700 mm Hg) [20°C]
Vapor density	3 to 4 [Air = 1]
Relative density	0.7 to 0.77
Solubility	Very slightly soluble in the following materials: cold water and hot water.
Partition coefficient: n-octanol/water	Not available.
Auto-ignition temperature	257.22°C (495°F)
Decomposition temperature	Not available.
SADT	Not available.
Viscosity	Kinematic (37.8°C (100°F)): 0.00216 cm^2/s (0.216 cSt)

Section 10. Stability and reactivity

Reactivity	No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	The product is stable.
Possibility of hazardous reactions	Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid

Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Do not allow vapor to accumulate in low or confined areas.

Incompatible materials

Reactive or incompatible with the following materials: oxidizing materials, acids and alkalis.

Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Xylene	LC50 Inhalation Gas LD50	Rat	5000 ppm	4 hours
	Oral	Rat	4300 mg/kg	-
Toluene	LC50 Inhalation Vapor	Rat	49 g/m3	4 hours
	LD50 Oral	Rat	636 mg/kg	-
n-Hexane	LC50 Inhalation Gas LD50	Rat	48000 ppm	4 hours
	Oral	Rat	15840 mg/kg	-
Benzene	LD50 Oral	Rat	930 mg/kg	-
1,2,4-Trimethylbenzene	LC50 Inhalation Vapor	Rat	18000 mg/m3	4 hours
	LD50 Oral	Rat	5 g/kg	-
Ethylbenzene	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Oral	Rat	3500 mg/kg	-
Naphthalene	LD50 Dermal	Rabbit	>20 g/kg	-
	LD50 Oral	Rat	490 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Gasoline, natural	Eyes - Mild irritant	Human	-	8 hours 140 ppm	-
	Eyes - Moderate irritant	Man	-	1 hours 500 ppm	-
Xylene	Eyes - Mild irritant	Rabbit	-	87 mg	-
	Eyes - Severe irritant	Rabbit	-	24 hours 5 mg	-
	Skin - Mild irritant	Rat		8 hours 60 µL	-
	Skin - Moderate irritant	Rabbit		24 hours 500 mg	-
	Skin - Moderate irritant	Rabbit		100%	-
Toluene	Eyes - Mild irritant	Rabbit	-	0.5 minutes 100 mg	-
	Skin - Moderate irritant	Rabbit	-	24 hours 20 mg	-
	Eyes - Mild irritant	Rabbit		870 µg	-
	Eyes - Severe irritant	Rabbit		24 hours 2 mg	-
	Skin - Mild irritant	Pig		24 hours 250 µL	-
	Skin - Mild irritant	Rabbit		435 mg	-
	Skin - Moderate irritant	Rabbit		500 mg	-
n-Hexane	Eyes - Mild irritant	Rabbit	-	10 mg	-
Benzene	Eyes - Moderate irritant	Rabbit	-	88 mg	-

	Skin - Moderate irritant	Rabbit	-	24 hours 20 mg	-
	Eyes - Severe irritant	Rabbit	-	24 hours 2 mg	-
	Skin - Mild irritant	Rat	-	8 hours 60 µL	-
	Skin - Mild irritant	Rabbit	-	24 hours 15 mg	-
Ethylbenzene	Eyes - Severe irritant	Rabbit	-	500 mg	-
	Skin - Mild irritant	Rabbit	-	24 hours 15 mg	-
Naphthalene	Skin - Mild irritant Skin -	Rabbit	-	495 mg	-
	Severe irritant	Rabbit	-	24 hours 0.05 mL	-

Sensitization

Skin There is no data available.

Respiratory There is no data available.

Mutagenicity

There is no data available.

Carcinogenicity

There is no data available.

Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
Gasoline, natural	-	2B	-	+	-	-
Xylene	A4	3	-	-	-	-
Toluene	A4	3	-	-	-	-
Benzene	A1	1	-	+	Proven.	+
Ethylbenzene	A3	2B	-	None.	-	-
Naphthalene	A4	2B	-	None.	Possible.	-

Reproductive toxicity

There is no data available.

Teratogenicity

There is no data available.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Toluene	Category 2	Inhalation	Central nervous system (CNS)
	Category 3	Not determined	Respiratory tract irritation
		Inhalation	Narcotic effects
n-Hexane	Category 3	Not determined	Narcotic effects
1,2,4-Trimethylbenzene	Category 3	Not determined	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
n-Hexane	Category 2	Not determined	Not determined
Benzene	Category 1	Not determined	Not determined

Aspiration hazard

Name	Result
Gasoline, natural	ASPIRATION HAZARD – Category 1
Toluene	ASPIRATION HAZARD – Category 1
n-Hexane	ASPIRATION HAZARD – Category 1
Benzene	ASPIRATION HAZARD – Category 1

Information on the likely routes of exposure Routes of entry anticipated: Oral, Dermal, Inhalation.

Potential acute health effects

Eye contact Causes serious eye irritation.

Inhalation May cause damage to organs following a single exposure if inhaled.

Skin contact Causes skin irritation.

Ingestion May be fatal if swallowed and enters airways. Irritating to mouth, throat, and stomach.

Symptoms related to the physical, chemical, and toxicological characteristics

Eye contact: Adverse symptoms may include the following:
Pain or irritation
Watering
Redness

Inhalation Adverse symptoms may include the following:
Irritation

Skin Contact

Ingestion Adverse symptoms may include the following:
Nausea or vomiting
Reduced fetal weight
Increase in fetal deaths
Skeletal malformations

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects No known significant effects or critical hazards.

Potential delayed effects No known significant effects or critical hazards.

Long term exposure
Potential immediate effects No known significant effects or critical hazards.

Potential delayed effects No known significant effects or critical hazards.

Potential chronic health effects
General May cause damage to organs through prolonged or repeated exposure.

Carcinogenicity May cause cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity May cause genetic defects.

Teratogenicity Suspected of damaging the unborn child.

Developmental effects No known significant effects or critical hazards.

Fertility effects Suspected of damaging fertility.

Numerical measures of toxicity
Acute toxicity estimates

Route	ATE Value
Oral	24747.5mg/kg
Dermal	7407.4 mg/kg
Inhalation (gases)	30303 ppm
Inhalation (vapors)	204.1 mg/l

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Gasoline, natural	Acute EC50 17.5 mg/L Marine water	Crustaceans - Artemia sp. - Nauplii - es7:k56s:7pt	48 hours
	Acute EC50 1.5 mg/L Marine water	Daphnia - Daphnia magna - Neonate - <24 hours	48 hours
Xylene	Acute IC50 10 mg/L	Algae	72 hours
	Acute LC50 8500 ug/L Marine water	Crustaceans - Palaemonetes pugio	48 hours
	Acute LC50 3300 to 4093 ug/L Fresh water	Fish - Oncorhynchus mykiss - 0.6 g	96 hours
Toluene	Acute EC50 12500 ug/L Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 11600 ug/L Fresh water	Crustaceans - Gammarus pseudolimnaeus - Adult - 9 mm - 0.017 g	48 hours
	Acute EC50 6000 ug/L Fresh water	Daphnia - Daphnia magna - Juvenile (Fledgling, Hatchling,	48 hours

		Weanling)	
	Acute LC50 5500 ug/L Fresh water	Fish - Oncorhynchus kisutch - Fry - 1 g	96 hours
	Chronic NOEC mg/L Fresh water	Daphnia - Daphnia magna	21 days
n-Hexane	Acute LC50 2500 to 2980 ug/L Fresh water	Fish - Pimephales promelas - 31 days - 20.4 mm - 0.123 g	96 hours
Benzene	Acute EC50 29000 ug/L Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 1600000 ug/L Fresh water	Algae - Selenastrum sp.	96 hours
	Acute EC50 9230 ug/L Fresh water	Daphnia - Daphnia magna - Neonate - <=24 hours	48 hours
	Acute LC50 21000 ug/L Marine water	Crustaceans - Artemia salina – Nauplii	48 hours
	Acute LC50 5.28 ul/L Fresh water	Fish - Oncorhynchus gorbuscha - Fry	96 hours
	Chronic NOEC 1.5 to 5.4 ul/L Marine water	Fish - Morone saxatilis - Juvenile (Fledgling, Hatchling, Weanling) - 18.1 cm - 3.39 g	4 weeks
1,2,4-Trimethylbenzene	Acute LC50 4910 ug/L Marine water	Crustaceans - Elasmopus pectinicrus – Adult	48 hours
	Acute LC50 7720 to 8280 ug/L Fresh water	Fish - Pimephales promelas - 34 days	96 hours
Ethylbenzene	Acute EC50 4600 ug/L Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 3600 ug/L Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours
	Acute EC50 6530 ug/L Fresh water	Crustaceans - Artemia sp. - Nauplii - es7:k56s:7pt	48 hours
	Acute EC50 2970 ug/L Fresh water	Daphnia - Daphnia magna - Neonate - <=24 hours	48 hours
	Acute LC50 4200 ug/L Fresh water	Fish - Oncorhynchus mykiss	96 hours
Naphthalene	Acute EC50 1600 ug/L Fresh water	Daphnia - Daphnia magna - Neonate - <=24 hours	48 hours
	Acute LC50 2350 ug/L Marine water	Crustaceans - Palaemonetes pugio	48 hours
	Acute LC50 213 ug/L Fresh water	Fish - Melanotaenia fluviatilis - Larvae - 1 days	96 hours

Persistence and degradability

There is no data available.

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Xylene	3.16	-	Low
Toluene	2.69	8.317637711	Low
n-Hexane	3.9	-	Low
Benzene	2.13	4.265795188	low
1,2,4-Trimethylbenzene	3.8	120.226443461	Low
Ethylbenzene	3.1	-	Low
Naphthalene	3.3	85.11380382	Low

Mobility in soil

Soil/water partition coefficient (KOC) There is no data available.

Other adverse effects No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods The generation of waste should be avoided or minimized wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling empty containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport Information

	DOT	IMDG	IATA
UN number	UN1203	UN1203	UN1203
UN proper shipping name	GASOLINE. Marine pollutant (Gasoline, natural)	GASOLINE. Marine pollutant (Gasoline, natural)	GASOLINE. Marine pollutant (Gasoline, natural)
Transport hazard class(es)	3 	3 	3 
Packing group	II	II	II

Environmental hazards	Yes.	Yes.	Yes.
Special precautions for user	Not available.	Not available.	Not available.
Additional information	**Limited quantity** Yes. **Packaging instruction** **Passenger aircraft** Quantity limitation: 5 L **Cargo aircraft** Quantity limitation: 60 L **Special provisions** 139, B33, B1, T8	-	**Passenger and Cargo Aircraft** Quantity limitation: 5 L **Cargo Aircraft Only** Quantity limitation: 60 L **Limited Quantities – Passenger Aircraft** Quantity limitation: 1 L

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not available.

Section 15. Regulatory information

Safety, health, and environmental regulations specific for the product

No known specific national and/or regional regulations applicable to this product (including its ingredients).

U.S. Federal regulations

TSCA 8(a) PAIR: Naphthalene

TSCA 8(a) IUR Exempt/Partial exemption: Not determined

United States inventory (TSCA 8b): All components are listed or exempted.

SARA 302/304/311/312 extremely hazardous substances: No products were found.

SARA 302/304 emergency planning and notification: No products were found.

SARA 302/304/311/312 hazardous chemicals: Gasoline, natural; Xylene; Toluene; n-Hexane; Naphthalene; 1,2,4-Trimethylbenzene; Ethylbenzene; Benzene

SARA 311/312 MSDS distribution - chemical inventory - hazard identification: Gasoline, natural: Fire hazard, Immediate (acute) health hazard, Delayed (chronic) health hazard; Xylene: Fire hazard, Immediate (acute) health hazard, Delayed (chronic) health hazard; Toluene: Fire hazard, Immediate (acute) health hazard, Delayed (chronic) health hazard; n-Hexane: Fire hazard, Immediate (acute) health hazard, Delayed (chronic) health hazard; Naphthalene: Fire hazard, Immediate (acute) health hazard, Delayed (chronic) health hazard; 1,2,4-Trimethylbenzene: Fire hazard, Delayed (chronic) health hazard; Ethylbenzene: Fire hazard, Immediate (acute) health hazard, Delayed (chronic) health hazard; Benzene: Fire hazard, Immediate (acute) health hazard, Delayed (chronic) health hazard

Clean Water Act (CWA) 307: Toluene; Benzene; Ethylbenzene; Naphthalene

Clean Water Act (CWA) 311: Xylene; Toluene; Benzene; Ethylbenzene; Naphthalene

Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs) — Listed.

Clean Air Act Section 602 Class I Substances — Not listed.

Clean Air Act Section 602 Class II Substances — Not listed.

DEA List I Chemicals (Precursor Chemicals) — Not listed.

DEA List II Chemicals (Essential Chemicals) — Listed.

SARA 313

	Product name	CAS number	Concentration
Form R – Reporting requirements	Xylene	1330-20-7	10 - 30
	Toluene	108-88-3	10 - 30
	n-Hexane	110-54-3	1 - 5
	Benzene	71-43-2	1 - 5
	1,2,4-Trimethylbenzene	95-63-6	1 - 5
	Ethylbenzene	100-41-4	1 - 5
	Naphthalene	91-20-3	1 - 5
Supplier notification	Xylene	1330-20-7	10 - 30
	Toluene	108-88-3	10 - 30
	n-Hexane	110-54-3	1 - 5
	Benzene	71-43-2	1 - 5
	1,2,4-Trimethylbenzene	95-63-6	1 - 5
	Ethylbenzene	100-41-4	1 - 5
	Naphthalene	91-20-3	1 - 5

SARA 313 notifications must not be detached from the MSDS and any copying and redistribution of the MSDS shall include copying and redistribution of the notice attached to copies of the MSDS subsequently redistributed.

State regulations

Massachusetts — The following components are listed: Gasoline, natural; Xylene; Toluene; n-Hexane; Benzene; Ethylbenzene; 1,2,4-Trimethylbenzene; Naphthalene

New York — The following components are listed: Xylene; Toluene; n-Hexane;

Benzene; Ethylbenzene; Naphthalene

New Jersey

The following components are listed: Gasoline, natural; Xylene; Toluene; n-Hexane; Benzene; Ethylbenzene; 1,2,4-Trimethylbenzene; Naphthalene

Pennsylvania

The following components are listed: Xylene; Toluene; n-Hexane; Benzene; Ethylbenzene; 1,2,4-Trimethylbenzene; Naphthalene

California Prop. 65

WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.

Ingredient name	Cancer	Reproductive	No significant risk level	Maximum acceptable dosage level
Toluene	No.	Yes.	No.	7000 µg/day (ingestion) 13000 µg/day (inhalation)
Benzene	Yes.	Yes.	6.4 µg/day (ingestion) 13 µg/day (inhalation)	24 µg/day (ingestion) 49 µg/day (inhalation)
Ethylbenzene	Yes.	No.	41 µg/day (ingestion) 54 µg/day (inhalation)	No.
Naphthalene	Yes.	No.	Yes.	No.

Section 16. Other Information

History

Date of issue mm/dd/yyyy 07/15/2012

Version 1

Prepared by KMK Regulatory Services Inc.

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution) UN = United Nations

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

SAFETY DATA SHEET

Diesel Fuel (All Grades)

Conforms to HazCom 2012/United States

SAFETY DATA SHEET

Diesel fuel (All Grades)

Section 1. Identification

Product identifier used on the label

Diesel fuel (all grades).

Other means of identification

Ultra Low Sulfur Diesel (ULSD), Low Sulfur Diesel, Motor Vehicle Diesel Fuel, Diesel Fuel #2, Dyed Diesel Fuel, Off-road Diesel, Locomotive and Marine Diesel Fuel, Tax- exempt Diesel Fuel, Fuel Oil.

Product type

Liquid.

Recommended use and restrictions

Identified uses

Fuel.

Supplier/Manufacturer

Colonial Pipeline Company
1185 Sanctuary Parkway
Suite 100
Alpharetta, GA 30009
Tel.: 678-762-2200
Toll Free: 800-275-3004
Fax: 678-762-2466
Email: info@colpipe.com
Web site: http://www.colpipe.com/

Emergency telephone number (with hours of operation)

CHEMTREC, U.S. : 1-800-424-9300
International: +1-703-527-3887
Hours of operation: 24 hours/day, 7 days/week

Section 2. Hazards Identification

Classification of the substance or mixture

FLAMMABLE LIQUIDS - Category 3
CARCINOGENICITY - Category 2

Ingredients of unknown toxicity

Not applicable.

Ingredients of unknown ecotoxicity

Not applicable.

GHS label elements

Hazard pictograms

Signal word Warning.

Hazard statements Flammable liquid and vapor.
Suspected of causing cancer.

Precautionary statements

General Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.

Prevention Obtain special instructions before use. Wear protective gloves. Wear eye or face protection. Keep away from heat, sparks, open flames and hot surfaces. No smoking. Use explosion-proof electrical, ventilating, lighting and all material handling equipment.

Response IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.

Storage Keep cool.

Disposal Dispose of contents and container in accordance with all local, regional, national and international regulations.

Other hazards which do not result in classification Not available.

Section 3. Composition/information on ingredients

Substance/mixture Substance

Other means of identification Ultra Low Sulfur Diesel (ULSD), Low Sulfur Diesel, Motor Vehicle Diesel Fuel, Diesel Fuel #2, Dyed Diesel Fuel, Off-road Diesel, Locomotive and Marine Diesel Fuel, Tax- exempt Diesel Fuel, Fuel Oil.

CAS number/other identifiers

CAS number 68476-30-2

EC number Not available.

Product code Not available.

Ingredient name	%	CAS number
Fuel oil no. 2	60 - 100	68476-30-2

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.
Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact

Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 20 minutes. Get medical attention.

Inhalation

Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 20 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion

Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute, and delayed

Potential acute health effects

Eye contact

No known significant effects or critical hazards.

Inhalation

No known significant effects or critical hazards.

Skin contact

No known significant effects or critical hazards.

Ingestion No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact No known significant effects or critical hazards.

Inhalation No known significant effects or critical hazards.

Skin contact No known significant effects or critical hazards.

Ingestion No known significant effects or critical hazards.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments No specific treatment.

Protection of first-aiders No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media Use dry chemical, CO_2, water spray (fog) or foam.

Unsuitable extinguishing media Do not use water jet.

Specific hazards arising from the chemical Flammable liquid and vapor. The vapor/gas is heavier than air and will spread along the ground. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Runoff to sewer may create fire or explosion hazard.

Hazardous thermal decomposition products No specific data.

Special protective actions for fire-fighters Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment, and emergency procedures

For non-emergency personnel

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders

If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill

Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Use spark-proof tools and explosion-proof equipment. Dispose via a licensed waste disposal contractor.

Large spill

Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Use spark-proof tools and explosion-proof equipment. Dispose via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove

contaminated clothing and protective equipment before entering eating areas. Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.

Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protections

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Fuel oil no. 2	**ACGIH TLV (United States, 2/2010). Absorbed through skin.** TWA: 100 mg/m³, (measured as total hydrocarbons) 8 hour(s). Form: Total hydrocarbons

Recommended monitoring procedures

If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.

Appropriate engineering controls

Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts.

Skin protection

Hand protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Body protection

Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection

Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection

Use a properly fitted, air-purifying or supplied air respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe

working limits of the selected respirator.

Section 9. Physical and chemical properties

Appearance	
Physical state	Liquid.
Color	Straw.
Odor	Petroleum-like.
Odor threshold	Not available.
pH	Not applicable.
Melting point/freezing point	Not available.
Boiling point/boiling range	320 to 670°C (608 to 1238°F)
Flash point	Closed cup: 43.33°C (110°F)
Evaporation rate	<1 (Ethyl Ether = 1)
Flammability (solid, gas)	Not available.
Lower and upper explosive (flammable) limits	Lower: 0.6% Upper: 7.5%
Vapor pressure	6.9 kPa (51.6 mm Hg) [20°C]
Vapor density	8[Air = 1]
Relative density	0.87
Solubility	Very slightly soluble in the following materials: cold water and hot water.
Partition coefficient: n-octanol/water	Not available.
Auto-ignition temperature	260°C (500°F)
Decomposition temperature	Not available.
SADT	Not available.
Viscosity	Kinematic (40°C (104°F)): 0.019 to 0.041 cm^2/s (1.9 to 4.1 cSt)

Section 10. Stability and reactivity

Reactivity	No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	The product is stable.
Possibility of hazardous reactions	Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Do not allow vapor to accumulate in low or confined areas.

Incompatible materials Reactive or incompatible with the following materials: oxidizing materials.

Hazardous decomposition products Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Fuel oil no. 2	LD50 Oral	Rat	12 g/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Fuel oil no. 2	Eyes - Mild irritant Eyes - Moderate irritant	Rabbit Rabbit	- -	0.5 minutes 100 mg 24 hours 500 mg	- -

Sensitization

Skin There is no data available.

Respiratory There is no data available.

Mutagenicity

There is no data available.

Carcinogenicity

There is no data available.

Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
Fuel oil no. 2	A3	3	-	-	-	-

Reproductive toxicity

There is no data available.

Teratogenicity

There is no data available.

Specific target organ toxicity (single exposure)

There is no data available.

Specific target organ toxicity (repeated exposure)

There is no data available.

Aspiration hazard

There is no data available.

Information on the likely routes of exposure Routes of entry anticipated: Oral, Dermal, Inhalation.

Potential acute health effects

Eye contact No known significant effects or critical hazards.

Inhalation No known significant effects or critical hazards.

Skin contact No known significant effects or critical hazards.

Ingestion No known significant effects or critical hazards.

Symptoms related to the physical, chemical, and toxicological characteristics

Eye contact No known significant effects or critical hazards.

Inhalation No known significant effects or critical hazards.

Skin Contact No known significant effects or critical hazards.

Ingestion No known significant effects or critical hazards.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects No known significant effects or critical hazards.

Potential delayed effects No known significant effects or critical hazards.

Long term exposure

Potential immediate effects No known significant effects or critical hazards.

Potential delayed effects No known significant effects or critical hazards.

Potential chronic health effects

General No known significant effects or critical hazards.

Carcinogenicity Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity No known significant effects or critical hazards.

Teratogenicity No known significant effects or critical hazards.

Developmental effects No known significant effects or critical hazards.

Fertility effects No known significant effects or critical hazards.

Numerical measures of toxicity
Acute toxicity estimates
There is no data available.

Section 12. Ecological information

Toxicity
There is no data available.

Persistence and degradability
There is no data available.

Bioaccumulative potential
There is no data available.

Mobility in soil
Soil/water partition coefficient (K_{OC}) There is no data available.

Other adverse effects No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods

The generation of waste should be avoided or minimized wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling empty containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport Information

	DOT	IMDG	IATA
UN number	NA1993	NA1993	NA1993
UN proper shipping name	Fuel oil no. 2	Fuel oil no. 2	Fuel oil no. 2
Transport hazard class(es)	3	3	3

			
Packing group	III	III	III
Environmental hazards	No.	No.	No.
Special precautions for user	Not available.	Not available.	Not available.
Additional information	-	-	-

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not available.

Section 15. Regulatory information

Safety, health, and environmental regulations specific for the product

No known specific national and/or regional regulations applicable to this product (including its ingredients).

U.S. Federal regulations

TSCA 8(a) IUR Exempt/Partial exemption: All components are listed or exempted.
United States inventory (TSCA 8b): All components are listed or exempted.
SARA 302/304/311/312 extremely hazardous substances: No products were found.
SARA 302/304 emergency planning and notification: No products were found.
SARA 302/304/311/312 hazardous chemicals: Fuel oil no. 2
SARA 311/312 MSDS distribution - chemical inventory - hazard identification: Fuel oil no. 2: Fire hazard, Immediate (acute) health hazard

Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs)

Not listed.

Clean Air Act Section 602 Class I Substances

Not listed.

Clean Air Act Section 602 Class II Substances	Not listed.
DEA List I Chemicals (Precursor Chemicals)	Not listed.
DEA List II Chemicals (Essential Chemicals)	Not listed.

State regulations

Massachusetts	None of the components are listed.
New York	None of the components are listed.
New Jersey	None of the components are listed.
Pennsylvania	The following components are listed: Fuel oil no. 2

California Prop. 65

No products were found.

Section 16. Other Information

History

Date of issue mm/dd/yyyy	07/15/2012
Version	1
Prepared by	KMK Regulatory Services Inc.

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution) UN = United Nations

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

SAFETY DATA SHEET

Kerosene (All Grades)

Conforms to HazCom 2012/United States

SAFETY DATA SHEET

Kerosene (All Grades)

Section 1. Identification

Product identifier used on the label

Kerosene (all grades).

Other means of identification

Kerosene, Jet Fuel, Aviation Jet Fuel, AvJet, Kero, Military Jet Fuel.

Product type

Liquid.

Recommended use and restrictions

Identified uses

Fuel.

Supplier/Manufacturer

Colonial Pipeline Company
1185 Sanctuary Parkway
Suite 100
Alpharetta, GA 30009
Tel.: 678-762-2200
Toll Free: 800-275-3004
Fax: 678-762-2466
Email: info@colpipe.com
Web site: http://www.colpipe.com/

Emergency telephone number (with hours of operation)

CHEMTREC, U.S. : 1-800-424-9300
International: +1-703-527-3887
Hours of operation: 24 hours/day, 7 days/week

Section 2. Hazards Identification

Classification of the substance or mixture

FLAMMABLE LIQUIDS - Category 3
ASPIRATION HAZARD – Category 1

Ingredients of unknown toxicity

Not applicable.

Ingredients of unknown ecotoxicity

Not applicable.

GHS label elements

Hazard pictograms

Signal word

Danger.

Hazard statements

Flammable liquid and vapor.
May be fatal if swallowed and enters airways.

Precautionary statements

Prevention

Wear protective gloves. Wear eye or face protection. Keep away from heat, sparks, open flames and hot surfaces. - No smoking. Use explosion-proof electrical, ventilating, lighting and all material-handling equipment.

Response

IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.

Storage

Keep cool.

Disposal

Not applicable.

Other hazards which do not result in classification

Not available.

Section 3. Composition/information on ingredients

Substance/mixture

Mixture.

Other means of identification

Kerosine, Jet Fuel, Aviation Jet Fuel, AvJet, Kero, Military Jet Fuel.

CAS number/other identifiers

CAS number

Not applicable.

EC number

Mixture.

Product code

Not available.

Ingredient name	%	CAS number
Kerosene	60 – 100	8008-20-6
Contains:		
Naphthalene	0-0.04	91-20-3
A complex combination of hydrocarbons including naphthenes, paraffins, and aromatics	-	-

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.
Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact

Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 20 minutes. Get medical attention if irritation occurs.

Inhalation

Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 20 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion

Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway.

Most important symptoms/effects, acute, and delayed

Potential acute health effects

Eye contact

No known significant effects or critical hazards.

Inhalation

No known significant effects or critical hazards.

Skin contact

No known significant effects or critical hazards.

Ingestion

May be fatal if swallowed and enters airways.

Over-exposure signs/symptoms

Eye contact

No known significant effects or critical hazards.

Inhalation	No known significant effects or critical hazards.
Skin contact	No known significant effects or critical hazards.
Ingestion	Adverse symptoms may include the following: Nausea or vomiting

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments	No specific treatment.
Protection of first-aiders	No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11).

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media	Use dry chemical, CO2, water spray (fog) or foam.
Unsuitable extinguishing media	Do not use water jet.
Specific hazards arising from the chemical	Flammable liquid and vapor. The vapor/gas is heavier than air and will spread along the ground. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Runoff to sewer may create fire or explosion hazard.
Hazardous thermal decomposition products	No specific data.
Special protective actions for fire-fighters	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
Special protective equipment for fire-fighters	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment, and emergency procedures

For non-emergency personnel

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders

If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill

Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Use spark-proof tools and explosion-proof equipment. Dispose via a licensed waste disposal contractor.

Large spill

Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Use spark-proof tools and explosion-proof equipment. Dispose via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing

vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.

Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protections

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Kerosene	**NIOSH REL (United States, 6/2009).** TWA: 100 mg/m³ 10 hour(s). **ACGIH TLV (United States, 2/2010). Absorbed through skin.** TWA: 200 mg/m³, (as total hydrocarbon vapor) 8 hour(s).

Recommended monitoring procedures

If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.

Appropriate engineering controls

Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts.

Skin protection

Hand protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Body protection

Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection

Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection

Use a properly fitted, air-purifying or supplied air respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

Appearance

Physical state	Liquid [Clear].
Color	Straw.
Odor	Kerosene-like.
Odor threshold	100 ppm
pH	Not applicable.
Melting point/freezing point	-18°C (-0.4°F)
Boiling point/boiling range	151 to 301°C (304 to 574°F)
Flash point	Closed cup: 43.33°C (110°F) [Pensky-Martens.]
Evaporation rate	Slow; varies with conditions

Flammability (solid, gas)	Not available.
Lower and upper explosive (flammable) limits	Lower: 0.7% Upper: 5%
Vapor pressure	0.053 kPa (0.4 mm Hg) [20°C]
Vapor density	4.5[Air = 1]
Relative density	0.82
Solubility	Very slightly soluble in the following materials: cold water and hot water.
Partition coefficient: n-octanol/water	Not available.
Auto-ignition temperature	210°C (410°F)
Decomposition temperature	Not available.
SADT	Not available.
Viscosity	Kinematic (40°C (104°F)): >0.013 cm^2/s (>1.3 cSt)

Section 10. Stability and reactivity

Reactivity	No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	The product is stable.
Possibility of hazardous reactions	Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Do not allow vapor to accumulate in low or confined areas.
Incompatible materials	Reactive or incompatible with the following materials: oxidizing materials.
Hazardous decomposition products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Kerosene	LD50 Oral	Rat	>5000 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Kerosene	Skin - Severe irritant Skin - Moderate irritant Skin - Moderate irritant	Rabbit Rabbit Rabbit	- - -	500 mg 24 hours 100% 0.5 mL	- - -

Sensitization

Skin There is no data available.

Respiratory There is no data available.

Mutagenicity

There is no data available.

Carcinogenicity

There is no data available.

Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
Kerosene	A3	-	-	-	-	-

Reproductive toxicity

There is no data available.

Teratogenicity

There is no data available.

Specific target organ toxicity (single exposure)

There is no data available.

Specific target organ toxicity (repeated exposure)

There is no data available.

Aspiration hazard

Name	Result
Kerosene	ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure Routes of entry anticipated: Oral, Dermal, Inhalation.

Potential acute health effects

Eye contact No known significant effects or critical hazards.

Inhalation	No known significant effects or critical hazards.
Skin contact	No known significant effects or critical hazards.
Ingestion	May be fatal if swallowed and enters airways.

Symptoms related to the physical, chemical, and toxicological characteristics

Eye contact	No known significant effects or critical hazards.
Inhalation	No known significant effects or critical hazards.
Skin Contact	No known significant effects or critical hazards.
Ingestion	Adverse symptoms may include the following: Nausea or vomiting

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects	No known significant effects or critical hazards.
Potential delayed effects	No known significant effects or critical hazards.

Long term exposure

Potential immediate effects	No known significant effects or critical hazards.
Potential delayed effects	No known significant effects or critical hazards.

Potential chronic health effects

General	No known significant effects or critical hazards.
Carcinogenicity	No known significant effects or critical hazards.
Mutagenicity	No known significant effects or critical hazards.
Teratogenicity	No known significant effects or critical hazards.
Developmental effects	No known significant effects or critical hazards.
Fertility effects	No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

There is no data available.

Section 12. Ecological information

Toxicity

There is no data available.

Persistence and degradability

There is no data available.

Bioaccumulative potential

There is no data available.

Mobility in soil

Soil/water partition coefficient (K_{OC}) There is no data available.

Other adverse effects No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods

The generation of waste should be avoided or minimized wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling empty containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains, and sewers.

Section 14. Transport Information

	DOT	IMDG	IATA
UN number	UN1223	UN1223	UN1223
UN proper shipping name	Kerosene	Kerosene	Kerosene
Transport hazard class(es)	3 	3 	3 
Packing group	III	III	III
Environmental hazards	No.	No.	No.
Special precautions for user	Not available.	Not available.	Not available.
Additional information	-	-	-

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not available.

Section 15. Regulatory information

Safety, health, and environmental regulations specific for the product	No known specific national and/or regional regulations applicable to this product (including its ingredients).
U.S. Federal regulations	**TSCA 8(a) PAIR**: Naphthalene. **TSCA 8(a) IUR Exempt/Partial exemption**: Not determined. **United States inventory (TSCA 8b)**: Not determined. **SARA 302/304/311/312 extremely hazardous substances**: No products were found. **SARA 302/304 emergency planning and notification**: No products were found. **SARA 302/304/311/312 hazardous chemicals**: Kerosene. **SARA 311/312 MSDS distribution - chemical inventory - hazard identification**: Kerosene: Fire hazard, Immediate (acute) health hazard, Delayed (chronic) health hazard. **Clean Water Act (CWA) 307**: Naphthalene. **Clean Water Act (CWA) 311**: Naphthalene.
Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs)	Not listed.
Clean Air Act Section 602 Class I Substances	Not listed.
Clean Air Act Section 602 Class II Substances	Not listed.
DEA List I Chemicals (Precursor Chemicals)	Not listed.
DEA List II Chemicals (Essential Chemicals)	Not listed.
State regulations	
Massachusetts	The following components are listed: Kerosene.
New York	None of the components are listed.
New Jersey	The following components are listed: Kerosene.

Pennsylvania The following components are listed: Kerosene.

California Prop. 65

No products were found.

Ingredient name	Cancer	Reproductive	No significant risk level	Maximum acceptable dosage level
Naphthalene	Yes.	No.	Yes.	No.

Section 16. Other Information

History

Date of issue mm/dd/yyyy 07/15/2012

Version 1

Prepared by KMK Regulatory Services Inc.

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution) UN = United Nations

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

SAFETY DATA SHEET

Transmix

Prevention

Obtain special instructions before use. Wear protective gloves. Wear eye or face protection. Keep away from heat, sparks, open flames and hot surfaces. No smoking. Use explosion-proof electrical, ventilating, lighting and all material handling equipment. Avoid release to the environment. Do not breathe vapor.

Response

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.

Storage

Keep cool.

Disposal

Dispose of contents and container in accordance with all local, regional, national and international regulations.

Other hazards which do not result in classification

Not available.

Section 3. Composition/information on ingredients

Substance/mixture

Mixture.

Other means of identification

This Safety Data Sheet represents the composite characteristics and properties of fungible petroleum hydrocarbons and other related substances transported by Colonial Pipeline Company. Transmix is the trade/industry name for mixtures of refined petroleum products in unknown concentrations.

CAS number/other identifiers

CAS number

Not applicable.

EC number

Mixture.

Product code

Not available.

Ingredient name	%	CAS number
Distillates (petroleum), full-range straight-run middle	60 - 100	68814-87-9
Fuel oil no. 2	60 - 100	68476-30-2
Kerosene	60 - 100	8008-20-6
Distillates (petroleum), light catalytic cracked	30 - 60	64741-59-9
Xylene	10 - 30	1330-20-7
Toluene	10 - 30	108-88-3
n-Hexane	1 - 5	110-54-3
Benzene	1 - 5	71-43-2

1,2,4-Trimethylbenzene	1 - 5	95-63-6
Ethylbenzene	1 - 5	100-41-4
Naphthalene	1 - 5	91-20-3

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.
Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact

Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 20 minutes. Get medical attention. If necessary, call a poison center or physician.

Inhalation

Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 20 minutes. Get medical attention. If necessary, call a poison center or physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion

Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute, and delayed

Potential acute health effects

Eye contact Causes serious eye irritation.

Inhalation Harmful if inhaled. May cause damage to organs following a single exposure if inhaled.

Skin contact Causes skin irritation.

Ingestion May be fatal if swallowed and enters airways. Irritating to mouth, Throat and stomach.

Over-exposure signs/symptoms

Eye contact

Adverse symptoms may include the following:
Pain or irritation
Watering
Redness

Inhalation

Adverse symptoms may include the following:
Reduced fetal weight
Increase in fetal deaths
Skeletal malformations

Skin contact

Adverse symptoms may include the following:
Irritation
Redness
Reduced fetal weight
Increase in fetal deaths
Skeletal malformations

Ingestion

Adverse symptoms may include the following:
Nausea or vomiting
Reduced fetal weight
Increase in fetal deaths
Skeletal malformations

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments No specific treatment.

Protection of first-aiders No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11).

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

Use dry chemical, CO2, water spray (fog) or foam.

Unsuitable extinguishing media

Do not use water jet.

Specific hazards arising from the chemical

Flammable liquid and vapor. The vapor/gas is heavier than air and will spread along the ground. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Runoff to sewer may create fire or explosion hazard.

Hazardous thermal decomposition products

Decomposition products may include the following materials:
Carbon dioxide
Carbon monoxide

Special protective actions for fire-fighters

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment, and emergency procedures

For non-emergency personnel

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders

If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if

released in large quantities. Collect spillage.

Methods and materials for containment and cleaning up

Small spill

Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Use spark-proof tools and explosion-proof equipment. Dispose via a licensed waste disposal contractor.

Large spill

Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Use spark-proof tools and explosion-proof equipment. Dispose via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not swallow. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.

Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage.

Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protections

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Gasoline	**ACGIH TLV (United States, 2/2010).** TWA: 300 ppm 8 hour(s). TWA: 890 mg/m³ 8 hour(s). STEL: 500 ppm 15 minute(s). STEL: 1480 mg/m³ 15 minute(s).
Fuel oil no. 2	**ACGIH TLV (United States, 2/2010). Absorbed through skin.** TWA: 100 mg/m³, (measured as total hydrocarbons) 8 hour(s). Form: Total hydrocarbons
Kerosene	**NIOSH REL (United States, 6/2009).** TWA: 100 mg/m³ 10 hour(s).
Xylene	**ACGIH TLV (United States, 1/2011).** STEL: 651 mg/m³ 15 minute(s). STEL: 150 ppm 15 minute(s). TWA: 434 mg/m³ 8 hour(s). TWA: 100 ppm 8 hour(s). **OSHA PEL (United States, 6/2010).** TWA: 100 ppm 8 hour(s). TWA: 435 mg/m³ 8 hour(s).
Toluene	**NIOSH REL (United States, 6/2009).** STEL: 560 mg/m³ 15 minute(s). STEL: 150 ppm 15 minute(s). TWA: 375 mg/m³ 10 hour(s). TWA: 100 ppm 10 hour(s). **OSHA PEL Z2 (United States, 11/2006).** AMP: 500 ppm 10 minute(s). CEIL: 300 ppm TWA: 200 ppm 8 hour(s). **ACGIH TLV (United States, 1/2011).** TWA: 20 ppm 8 hour(s).
n-Hexane	**ACGIH TLV (United States, 2/2010). Absorbed through skin.** TWA: 50 ppm 8 hour(s). **NIOSH REL (United States, 6/2009).** TWA: 180 mg/m³ 10 hour(s). TWA: 50 ppm 10 hour(s). **OSHA PEL (United States, 6/2010).** TWA: 1800 mg/m³ 8 hour(s). TWA: 500 ppm 8 hour(s).
Benzene	**ACGIH TLV (United States, 2/2010). Absorbed through skin.** STEL: 8 mg/m³ 15 minute(s). STEL: 2.5 ppm 15 minute(s). TWA: 1.6 mg/m³ 8 hour(s). TWA: 0.5 ppm 8 hour(s). **NIOSH REL (United States, 6/2009).**

	STEL: 1 ppm 15 minute(s). TWA: 0.1 ppm 10 hour(s). **OSHA PEL (United States, 6/2010).** STEL: 5 ppm 15 minute(s). TWA: 1 ppm 8 hour(s). **OSHA PEL Z2 (United States, 11/2006).** AMP: 50 ppm 10 minute(s). CEIL: 25 ppm TWA: 10 ppm 8 hour(s).
1,2,4-Trimethylbenzene	**ACGIH TLV (United States, 1/2011).** TWA: 123 mg/m³ 8 hour(s). TWA: 25 ppm 8 hour(s). **NIOSH REL (United States, 6/2009).** TWA: 125 mg/m³ 10 hour(s). TWA: 25 ppm 10 hour(s). **OSHA PEL 1989 (United States, 3/1989).** TWA: 25 ppm 8 hour(s). TWA: 125 mg/m³ 8 hour(s).
Ethylbenzene	**ACGIH TLV (United States, 1/2011).** TWA: 20 ppm 8 hour(s). **NIOSH REL (United States, 6/2009).** STEL: 545 mg/m³ 15 minute(s). STEL: 125 ppm 15 minute(s). TWA: 435 mg/m³ 10 hour(s). TWA: 100 ppm 10 hour(s). **OSHA PEL (United States, 6/2010).** TWA: 435 mg/m³ 8 hour(s). TWA: 100 ppm 8 hour(s).
Naphthalene	**ACGIH TLV (United States, 1/2011).** STEL: 79 mg/m³ 15 minute(s). STEL: 15 ppm 15 minute(s). TWA: 52 mg/m³ 8 hour(s). TWA: 10 ppm 8 hour(s). **NIOSH REL (United States, 6/2009).** STEL: 75 mg/m³ 15 minute(s). STEL: 15 ppm 15 minute(s). TWA: 50 mg/m³ 10 hour(s). TWA: 10 ppm 10 hour(s). **OSHA PEL (United States, 6/2010).** TWA: 50 mg/m³ 8 hour(s). TWA: 10 ppm 8 hour(s).

Recommended monitoring procedures

If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.

Appropriate engineering controls	Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.
Environmental exposure controls	Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.
Individual protection measures	
Hygiene measures	Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
Eye/face protection	Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts.
Skin protection	
Hand protection	Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
Body protection	Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Other skin protection	Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Respiratory protection	Use a properly fitted, air-purifying or supplied air respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

Appearance	
Physical state	Liquid.
Color	Bronzed to Pink.
Odor	Petroleum.
Odor threshold	Not available.
pH	Not applicable.
Melting point/freezing point	Not available.
Boiling point/boiling range	80 to 680°C (176 to 1256°F)
Flash point	Closed cup: -34.44 to 43.33°C (-30 to 110°F)
Evaporation rate	<1 (Ethyl Ether = 1)
Flammability (solid, gas)	Not available.
Lower and upper explosive (flammable) limits	Lower: 1.4% Upper: 7.4%
Vapor pressure	26.7 to 93.3 kPa (200 to 700 mm Hg) [20°C]
Vapor density	3 to 8[Air = 1]
Relative density	0.87
Solubility	Very slightly soluble in the following materials: cold water and hot water.
Partition coefficient: n-octanol/water	Not available.
Auto-ignition temperature	257.22 to 260°C (495 to 500°F)
Decomposition temperature	Not available.
SADT	Not available.
Viscosity	Not available.

Section 10. Stability and reactivity

Reactivity	No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	The product is stable.
Possibility of hazardous reactions	Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Do not allow vapor to accumulate in low or confined areas.

Incompatible materials

Reactive or incompatible with the following materials: oxidizing materials, acids, and alkalis.

Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Fuel oil no. 2	LD50 Oral	Rat	12 g/kg	-
Kerosene	LD50 Oral	Rat	>5000 mg/kg	-
Distillates (petroleum), light catalytic cracked	LC50 Inhalation Vapor	Rat	3400 mg/m3	4 hours
	LD50 Oral	Rat	3200 mg/kg	-
Xylene	LC50 Inhalation Gas	Rat	5000 ppm	4 hours
	LD50 Oral	Rat	4300 mg/kg	-
Toluene	LC50 Inhalation Vapor	Rat	49 g/m3	4 hours
	LD50 Oral	Rat	636 mg/kg	-
n-Hexane	LC50 Inhalation Gas	Rat	48000 ppm	4 hours
	LD50 Oral	Rat	15840 mg/kg	-
Benzene	LD50 Oral	Rat	930 mg/kg	-
1,2,4-Trimethylbenzene	LC50 Inhalation Vapor	Rat	18000 mg/m3	4 hours
	LD50 Oral	Rat	5 g/kg	-
Ethylbenzene	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Oral	Rat	3500 mg/kg	-
Naphthalene	LD50 Dermal	Rabbit	>20 g/kg	-
	LD50 Oral	Rat	490 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Fuel oil no. 2	Eyes - Mild irritant	Rabbit	-	0.5 minutes 100 mg	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 mg	-
Kerosene	Skin - Severe irritant	Rabbit	-	500 mg	-
	Skin - Moderate irritant	Rabbit	-	24 hours 100%	-
	Skin - Moderate irritant	Rabbit	-	0.5 mL	-
Distillates (petroleum), light catalytic cracked	Skin - Severe irritant	Rabbit	-	500 mg	-
Xylene	Eyes - Mild irritant	Rabbit	-	87 mg	-
	Eyes - Severe irritant	Rabbit	-	24 hours 5 mg	-
	Skin - Mild irritant	Rat	-	8 hours 60 µL	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 mg	-
	Skin - Moderate irritant	Rabbit	-	100%	-
Toluene	Eyes - Mild irritant	Rabbit	-	0.5 minutes 100 mg	-
	Skin - Moderate irritant	Rabbit	-	24 hours 20 mg	-
	Eyes - Mild irritant	Rabbit	-	870 µg	-

	Eyes - Severe irritant	Rabbit	-	24 hours 2 mg	-
	Skin - Mild irritant	Pig	-	24 hours 250 µL	-
	Skin - Mild irritant	Rabbit	-	435 mg	-
n-Hexane	Skin - Moderate irritant	Rabbit	-	500 mg	-
Benzene	Eyes - Mild irritant	Rabbit	-	10 mg	-
	Eyes - Moderate irritant	Rabbit	-	88 mg	-
	Skin - Moderate irritant	Rabbit	-	24 hours 20 mg	-
	Eyes - Severe irritant	Rabbit	-	24 hours 2 mg	-
	Skin - Mild irritant	Rat	-	8 hours 60 µL	-
Ethylbenzene	Skin - Mild irritant	Rabbit	-	24 hours 15 mg	-
	Eyes - Severe irritant	Rabbit	-	500 mg	-
Naphthalene	Skin - Mild irritant	Rabbit	-	24 hours 15 mg	-
	Skin - Mild irritant	Rabbit	-	495 mg	-
	Skin - Severe irritant	Rabbit	-	24 hours 0.05 mL	-

Sensitization

Skin There is no data available.

Respiratory There is no data available.

Mutagenicity

There is no data available.

Carcinogenicity

There is no data available.

Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
Gasoline	A3	2B	-	+	-	-
Fuel oil no. 2	A3	3	-	-	-	-
Kerosene	A3	-	-	-	-	-
Distillates (petroleum), light catalytic cracked	-	2A	-	-	-	-
Xylene	A4	3	-	-	-	-
Toluene	A4	3	-	-	-	-
Benzene	A1	1	-	+	Proven.	+
Ethylbenzene	A3	2B	-	None.	-	-
Naphthalene	A4	2B	-	None.	Possible.	-

Reproductive toxicity

There is no data available.

Teratogenicity

There is no data available.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Toluene	Category 2	Inhalation	Central nervous system (CNS)
	Category 3	Not determined	Respiratory tract irritation
		Inhalation	Narcotic effects
n-Hexane	Category 3	Not determined	Narcotic effects
1,2,4-Trimethylbenzene	Category 3	Not determined	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
Distillates (petroleum), full-range straight-run middle	Category 2	Not determined	Not determined
n-Hexane	Category 2	Not determined	Not determined
Benzene	Category 1	Not determined	Not determined

Aspiration hazard

Name	Result
Distillates (petroleum), full-range straight-run middle	ASPIRATION HAZARD - Category 1
Kerosene	ASPIRATION HAZARD - Category 1
Toluene	ASPIRATION HAZARD - Category 1
n-Hexane	ASPIRATION HAZARD - Category 1
Benzene	ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure Routes of entry anticipated: Oral, Dermal, Inhalation.

Potential acute health effects

Eye contact Causes serious eye irritation.

Inhalation Harmful if inhaled. May cause damage to organs following a single exposure if inhaled.

Skin contact Causes skin irritation.

Ingestion May be fatal if swallowed and enters airways. Irritating to mouth, throat and stomach.

Symptoms related to the physical, chemical, and toxicological characteristics

Eye contact: Adverse symptoms may include the following:
Pain or irritation
Watering

	Redness
Inhalation	Adverse symptoms may include the following: Reduced fetal weight Increase in fetal deaths Skeletal malformations
Skin Contact	Adverse symptoms may include the following: Irritation Redness Reduced fetal weight Increase in fetal deaths Skeletal malformations
Ingestion	Adverse symptoms may include the following: Nausea or vomiting Reduced fetal weight Increase in fetal deaths Skeletal malformations

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects	No known significant effects or critical hazards.
Potential delayed effects	No known significant effects or critical hazards.

Long term exposure

Potential immediate effects	No known significant effects or critical hazards.
Potential delayed effects	No known significant effects or critical hazards.

Potential chronic health effects

General	May cause damage to organs through prolonged or repeated exposure.
Carcinogenicity	May cause cancer. Risk of cancer depends on duration and level of exposure.
Mutagenicity	May cause genetic defects.
Teratogenicity	Suspected of damaging the unborn child.
Developmental effects	No known significant effects or critical hazards.
Fertility effects	Suspected of damaging fertility.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral	24747.5 mg/kg
Dermal	7407.4 mg/kg

Inhalation (gases) Inhalation (vapors)	30303 ppm 10.54 mg/l

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Xylene	Acute IC50 10 mg/L	Algae	72 hours
	Acute LC50 8500 ug/L Marine water	Crustaceans - Palaemonetes pugio	48 hours
	Acute LC50 3300 to 4093 ug/L Fresh water	Fish - Oncorhynchus mykiss - 0.6 g	96 hours
Toluene	Acute EC50 12500 ug/L Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 11600 ug/L Fresh water	Crustaceans - Gammarus pseudolimnaeus - Adult - 9 mm - 0.017 g	48 hours
	Acute EC50 6000 ug/L Fresh water	Daphnia - Daphnia magna - Juvenile (Fledgling, Hatchling, Weanling)	48 hours
	Acute LC50 5500 ug/L Fresh water	Fish - Oncorhynchus kisutch - Fry - 1 g	96 hours
	Chronic NOEC mg/L Fresh water	Daphnia - Daphnia magna	21 days
n-Hexane	Acute LC50 2500 to 2980 ug/L Fresh water	Fish - Pimephales promelas - 31 days - 20.4 mm - 0.123 g	96 hours
Benzene	Acute EC50 29000 ug/L Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 1600000 ug/L Fresh water	Algae - Selenastrum sp.	96 hours
	Acute EC50 9230 ug/L Fresh water	Daphnia - Daphnia magna - Neonate - <=24 hours	48 hours
	Acute LC50 21000 ug/L Marine water	Crustaceans - Artemia salina - Nauplii	48 hours
	Acute LC50 5.28 ul/L Fresh water	Fish - Oncorhynchus gorbuscha - Fry	96 hours
1,2,4-Trimethylbenzene	Chronic NOEC 1.5 to 5.4 ul/L Marine water	Fish - Morone saxatilis - Juvenile (Fledgling, Hatchling, Weanling) - 18.1 cm - 3.39 g	4 weeks
	Acute LC50 4910 ug/L Marine water	Crustaceans - Elasmopus pectinicrus - Adult	48 hours
Ethylbenzene	Acute LC50 7720 to 8280 ug/L Fresh water	Fish - Pimephales promelas - 34 days	96 hours
	Acute EC50 4600 ug/L Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 3600 ug/L Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours
	Acute EC50 6530 ug/L Fresh water	Crustaceans - Artemia sp. - Nauplii - es7:k56s:7pt	48 hours
	Acute EC50 2970 ug/L Fresh water	Daphnia - Daphnia magna - Neonate - <=24 hours	48 hours
	Acute LC50 4200 ug/L Fresh water	Fish - Oncorhynchus mykiss	96 hours
Naphthalene	Acute EC50 1600 ug/L Fresh water	Daphnia - Daphnia magna -	48 hours

	Acute LC50 2350 ug/L Marine water Acute LC50 213 ug/L Fresh water	Neonate - <=24 hours Crustaceans - Palaemonetes pugio Fish - Melanotaenia fluviatilis - Larvae - 1 days	48 hours 96 hours

Persistence and degradability

There is no data available.

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Xylene	3.16	-	low
Toluene	2.69	8.317637711	low
n-Hexane	3.9	-	low
Benzene	2.13	4.265795188	low
1,2,4-Trimethylbenzene	3.8	120.226443461	low
Ethylbenzene	3.1	-	low
Naphthalene	3.3	85.11380382	low

Mobility in soil

Soil/water partition coefficient (KOC) There is no data available.

Other adverse effects No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods

The generation of waste should be avoided or minimized wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling empty containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport Information

	DOT	IMDG	IATA
UN number	UN1993	UN1993	UN1993
UN proper shipping name	FLAMMABLE LIQUIDS, N.O.S. (Xylene, Toluene). Marine pollutant (Gasoline)	FLAMMABLE LIQUIDS, N.O.S. (Xylene, Toluene). Marine pollutant (Gasoline)	FLAMMABLE LIQUIDS, N.O.S. (Xylene, Toluene). Marine pollutant (Gasoline)
Transport hazard class(es)	3 	3 	3 
Packing group	II	II	II
Environmental hazards	Yes.	Yes.	Yes.
Special precautions for user	Not available.	Not available.	Not available.
Additional information	-	-	-

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not available.

Section 15. Regulatory information

Safety, health, and environmental regulations specific for the product

No known specific national and/or regional regulations applicable to this product (including its ingredients).

U.S. Federal regulations

TSCA 8(a) PAIR: Naphthalene.

TSCA 8(a) IUR Exempt/Partial exemption: Not determined.

United States inventory (TSCA 8b): Not determined.

SARA 302/304/311/312 extremely hazardous substances: No products were found.

SARA 302/304 emergency planning and notification: No products were found.

SARA 302/304/311/312 hazardous chemicals: Gasoline; Xylene; Toluene; n- Hexane; Naphthalene; 1,2,4-Trimethylbenzene; Ethylbenzene; Benzene; Distillates (petroleum), light catalytic cracked; Fuel oil no. 2; Kerosene **SARA 311/312 MSDS distribution - chemical inventory - hazard identification**: Gasoline: Fire hazard, Immediate (acute) health hazard, Delayed (chronic) health hazard; Xylene: Fire hazard, Immediate (acute) health hazard, Delayed (chronic) health hazard; Toluene: Fire hazard, Immediate (acute) health hazard, Delayed (chronic) health hazard; n-Hexane: Fire hazard, Immediate (acute) health hazard, Delayed (chronic) health hazard; Naphthalene: Fire hazard, Immediate (acute) health hazard, Delayed (chronic) health hazard; 1,2,4-Trimethylbenzene: Fire hazard, Delayed (chronic) health hazard; Ethylbenzene: Fire hazard, Immediate (acute) health hazard, Delayed (chronic) health hazard; Benzene: Fire hazard, Immediate (acute) health hazard, Delayed (chronic) health hazard; Distillates (petroleum), light catalytic cracked: Delayed (chronic) health hazard; Fuel oil no. 2: Fire hazard, Immediate (acute) health hazard; Kerosene:

Fire hazard, Immediate (acute) health hazard, Delayed (chronic) health hazard.

Clean Water Act (CWA) 307: Toluene; Benzene; Ethylbenzene; Naphthalene.

Clean Water Act (CWA) 311: Xylene; Toluene; Benzene; Ethylbenzene; Naphthalene.

Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs)

Listed.

Clean Air Act Section 602 Class I Substances

Not listed.

Clean Air Act Section 602 Class II Substances

Not listed.

DEA List I Chemicals (Precursor Chemicals)

Not listed.

DEA List II Chemicals (Essential Chemicals)

Listed.

SARA 313

	Product name	CAS number	Concentration
Form R – Reporting requirements	Xylene	1330-20-7	10 - 30
	Toluene	108-88-3	10 - 30
	n-Hexane	110-54-3	1 - 5
	Benzene	71-43-2	1 - 5
	1,2,4-Trimethylbenzene	95-63-6	1 - 5
	Ethylbenzene	100-41-4	1 - 5
	Naphthalene	91-20-3	1 - 5
Supplier notification	Xylene	1330-20-7	10 - 30
	Toluene	108-88-3	10 - 30
	n-Hexane	110-54-3	1 - 5
	Benzene	71-43-2	1 - 5
	1,2,4-Trimethylbenzene	95-63-6	1 - 5
	Ethylbenzene	100-41-4	1 - 5
	Naphthalene	91-20-3	1 - 5

SARA 313 notifications must not be detached from the MSDS and any copying and redistribution of the MSDS shall include copying and redistribution of the notice attached to copies of the MSDS subsequently redistributed.

State regulations

Massachusetts

The following components are listed: Kerosene; Xylene; Toluene; n-Hexane; Benzene; Ethylbenzene; 1,2,4-Trimethylbenzene;

Naphthalene.

New York The following components are listed: Xylene; Toluene; n-Hexane; Benzene; Ethylbenzene; Naphthalene.

New Jersey The following components are listed: Kerosene; Xylene; Toluene; n-Hexane; Benzene; Ethylbenzene; 1,2,4-Trimethylbenzene; Naphthalene.

Pennsylvania The following components are listed: Gasoline; Kerosene; Fuel oil no. 2; Xylene; Toluene; n-Hexane; Benzene; Ethylbenzene; 1,2,4-Trimethylbenzene; Naphthalene

California Prop. 65

WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.

Ingredient name	Cancer	Reproductive	No significant risk level	Maximum acceptable dosage level
Toluene	No.	Yes.	No.	7000 µg/day (ingestion) 13000 µg/day (inhalation)
Benzene	Yes.	Yes.	6.4 µg/day (ingestion) 13 µg/day (inhalation)	24 µg/day (ingestion) 49 µg/day (inhalation)
Ethybenzene	Yes.	No.	41 µg/day (ingestion) 54 µg/day (inhalation)	No.
Naphthalene	Yes.	No.	Yes.	No.

Section 16. Other Information

History

Date of issue mm/dd/yyyy 07/15/2012

Version 1

Prepared by KMK Regulatory Services Inc.

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution) UN = United Nations

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

SAFETY DATA SHEET

Biodiesel (All Grades)

Section 1. Identification

Product identifier used on the label

Biodiesel (all grades).

Other means of identification

Bio-Fuel Oil #2, Bio-Fuel Oil, B100 Biodiesel.

Product type

Liquid.

Recommended use and restrictions

Identified uses

Fuel.

Supplier/Manufacturer

Colonial Pipeline Company
1185 Sanctuary Parkway
Suite 100
Alpharetta, GA 30009
Tel.: 678-762-2200
Toll Free: 800-275-3004
Fax: 678-762-2466
Email: info@colpipe.com
Web site: http://www.colpipe.com/

Emergency telephone number (with hours of operation)

CHEMTREC, U.S. : 1-800-424-9300
International: +1-703-527-3887
Hours of operation: 24 hours/day, 7 days/week

Section 2. Hazards Identification

Classification of the substance or mixture

FLAMMABLE LIQUIDS - Category 3
ACUTE TOXICITY: INHALATION - Category 4
GERM CELL MUTAGENICITY - Category 1B CARCINOGENICITY - Category 1A
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
ASPIRATION HAZARD - Category 1
AQUATIC TOXICITY (CHRONIC) - Category 2

Ingredients of unknown toxicity

Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 5%

Ingredients of unknown ecotoxicity

Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 5%

GHS label elements

Hazard pictograms

Signal word

Danger.

Hazard statements

Flammable liquid and vapor.
Harmful if inhaled.
May cause genetic defects.
May cause cancer.
May be fatal if swallowed and enters airways.
May cause damage to organs through prolonged or repeated exposure.
Toxic to aquatic life with long lasting effects.

Precautionary statements

General

Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.

Prevention

Obtain special instructions before use. Wear protective gloves. Wear eye or face protection. Keep away from heat, sparks, open flames and hot surfaces. No smoking. Use explosion-proof electrical, ventilating, lighting, and all material handling equipment. Avoid release to the environment. Do not breathe vapor.

Response

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.

Storage

Keep cool.

Disposal

Dispose of contents and container in accordance with all local, regional, national and international regulations.

Other hazards which do not result in classification

Not available.

Section 3. Composition/information on ingredients

Substance/mixture

Mixture.

Other means of identification

Bio-Fuel Oil #2, Bio-Fuel Oil, B100 Biodiesel.

CAS number/other identifiers

CAS number

Not applicable.

EC number Mixture.

Product code 28070

Ingredient name	%	CAS number
Distillates (petroleum), full-range straight-run middle	60 – 100	68814-87-9
Distillates (petroleum), light catalytic cracked	30 - 60	64741-59-9
Benzene	0.1 - 1	71-43-2

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.
Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 20 minutes. Get medical attention.

Inhalation Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 20 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention

immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute, and delayed

Potential acute health effects

Eye contact No known significant effects or critical hazards.

Inhalation Harmful if inhaled.

Skin contact No known significant effects or critical hazards.

Ingestion May be fatal if swallowed and enters airways.

Over-exposure signs/symptoms

Eye contact No known significant effects or critical hazards.

Inhalation No known significant effects or critical hazards.

Skin contact No known significant effects or critical hazards.

Ingestion Adverse symptoms may include the following:
Nausea or vomiting

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments No specific treatment.

Protection of first-aiders No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11).

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media Use dry chemical, CO_2, water spray (fog) or foam.

Unsuitable extinguishing media Do not use water jet.

Specific hazards arising from the chemical Flammable liquid and vapor. Runoff to sewer may create fire or explosion hazard.

Hazardous thermal decomposition products Decomposition products may include the following materials:
Carbon dioxide
Carbon monoxide

Special protective actions for fire-fighters Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment, and emergency procedures

For non-emergency personnel No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

Methods and materials for containment and cleaning up

Small spill

Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Use spark-proof tools and explosion-proof equipment. Dispose via a licensed waste disposal contractor.

Large spill

Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Use spark-proof tools and explosion-proof equipment. Dispose via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not swallow. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion- proof electrical (ventilating, lighting and material handling) equipment. Use only non- sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.

Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protections

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Benzene	**ACGIH TLV (United States, 2/2010). Absorbed through skin.** STEL: 8 mg/m³ 15 minute(s). STEL: 2.5 ppm 15 minute(s). TWA: 1.6 mg/m³ 8 hour(s). TWA: 0.5 ppm 8 hour(s). **NIOSH REL (United States, 6/2009).** STEL: 1 ppm 15 minute(s). TWA: 0.1 ppm 10 hour(s). **OSHA PEL (United States, 6/2010).** STEL: 5 ppm 15 minute(s). TWA: 1 ppm 8 hour(s). **OSHA PEL Z2 (United States, 11/2006).** AMP: 50 ppm 10 minute(s). CEIL: 25 ppm TWA: 10 ppm 8 hour(s).

Recommended monitoring procedures

If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.

Appropriate engineering controls

Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts.

Skin protection

Hand protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Body protection

Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection

Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection

Use a properly fitted, air-purifying or supplied air respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

Appearance

Physical state	Liquid.
Color	Bright & clear.
Odor	Petroleum.
Odor threshold	Not available.
pH	Not applicable.
Melting point/freezing point	Not available.
Boiling point/boiling range	148°C (298.4°F)
Flash point	Closed cup: >51.67°C (>125°F)
Evaporation rate	Slow; varies with conditions

Flammability (solid, gas)	Not available.
Lower and upper explosive (flammable) limits	Lower: 0.5% Upper: 4.4%
Vapor pressure	0.0027 kPa (0.02 mm Hg) [20°C]
Vapor density	Not available.
Relative density	0.85
Solubility	Negligible.
Partition coefficient: n-octanol/water	Not available.
Auto-ignition temperature	260°C (500°F)
Decomposition temperature	Not available.
SADT	Not available.
Viscosity	Kinematic (40°C (104°F)): 0.019 to 0.041 cm^2/s (1.9 to 4.1 cSt)

Section 10. Stability and reactivity

Reactivity	No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	The product is stable.
Possibility of hazardous reactions	Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.
Incompatible materials	Reactive or incompatible with the following materials: oxidizing materials.
Hazardous decomposition products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Distillates (petroleum), light catalytic cracked	LC50 Inhalation Vapor	Rat	3400 mg/m3	4 hours
	LD50 Oral	Rat	3200 mg/kg	-

Benzene	LD50 Oral	Rat	930 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Distillates (petroleum), light catalytic cracked	Skin - Severe irritant	Rabbit	-	500 mg	-
Benzene	Eyes - Moderate irritant	Rabbit	-	88 mg	-
	Skin - Moderate irritant	Rabbit	-	24 hours 20 mg	-
	Eyes - Severe irritant	Rabbit	-	24 hours 2 mg	-
	Skin - Mild irritant	Rat	-	8 hours 60 µL	-
	Skin - Mild irritant	Rabbit	-	24 hours 15 mg	-

Sensitization

Skin There is no data available.

Respiratory There is no data available.

Mutagenicity

There is no data available.

Carcinogenicity

There is no data available.

Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
Distillates (petroleum), light catalytic cracked	-	2A	-	-	-	-
Benzene	A1	1	-	+	Proven.	+

Reproductive toxicity

There is no data available.

Teratogenicity

There is no data available.

Specific target organ toxicity (single exposure)

There is no data available.

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
Distillates (petroleum), full-range straight-run middle	Category 2	Not determined	Not determined
Benzene	Category 1	Not determined	Not determined

Aspiration hazard

Name	Result
Distillates (petroleum), full-range straight-run middle	ASPIRATION HAZARD - Category 1
Benzene	ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure Routes of entry anticipated: Oral, Dermal, Inhalation.

Potential acute health effects

Eye contact No known significant effects or critical hazards.

Inhalation Harmful if inhaled.

Skin contact No known significant effects or critical hazards.

Ingestion May be fatal if swallowed and enters airways.

Symptoms related to the physical, chemical, and toxicological characteristics

Eye contact No known significant effects or critical hazards.

Inhalation No known significant effects or critical hazards.

Skin Contact No known significant effects or critical hazards.

Ingestion Adverse symptoms may include the following:
Nausea or vomiting

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects No known significant effects or critical hazards.

Potential delayed effects No known significant effects or critical hazards.

Long term exposure

Potential immediate effects No known significant effects or critical hazards.

Potential delayed effects No known significant effects or critical hazards.

Potential chronic health effects

General May cause damage to organs through prolonged or repeated exposure.

Carcinogenicity May cause cancer. Risk of cancer depends on duration and level of

exposure.

Mutagenicity May cause genetic defects.

Teratogenicity No known significant effects or critical hazards.

Developmental effects No known significant effects or critical hazards.

Fertility effects No known significant effects or critical hazards.

Numerical measures of toxicity
Acute toxicity estimates

Route	ATE value
Inhalation (vapors)	11 mg/l

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Benzene	Acute EC50 29000 ug/L Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 1600000 ug/L Fresh water	Algae - Selenastrum sp.	96 hours
	Acute EC50 9230 ug/L Fresh water	Daphnia - Daphnia magna - Neonate - <=24 hours	48 hours
	Acute LC50 21000 ug/L Marine water	Crustaceans - Artemia salina - Nauplii	48 hours
	Acute LC50 5.28 ul/L Fresh water	Fish - Oncorhynchus gorbuscha - Fry	96 hours
	Chronic NOEC 1.5 to 5.4 ul/L Marine water	Fish - Morone saxatilis - Juvenile (Fledgling, Hatchling, Weanling) - 18.1 cm - 3.39 g	4 weeks

Persistence and degradability
There is no data available.

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Benzene	2.13	4.265795188	low

Mobility in soil
Soil/water partition coefficient (KOC) There is no data available.
Other adverse effects No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods

The generation of waste should be avoided or minimized wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling empty containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport Information

	DOT	IMDG	IATA
UN number	UN1268	UN1268	UN1268
UN proper shipping name	PETROLEUM DISTILLATES, N.O.S.	PETROLEUM DISTILLATES, N.O.S.. Marine pollutant (Distillates (petroleum), full-range straight-run middle)	PETROLEUM DISTILLATES, N.O.S.
Transport hazard class(es)	3 	3 	3 
Packing group	III	III	III
Environmental hazards	No.	Yes.	Yes.
Special precautions for user	Not available.	Not available.	Not available.
Additional information	-	-	-

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not available.

Section 15. Regulatory information

Safety, health, and environmental regulations

No known specific national and/or regional regulations applicable to this product (including its ingredients).

specific for the product

U.S. Federal regulations

TSCA 8(a) IUR Exempt/Partial exemption: Not determined.

United States inventory (TSCA 8b): All components are listed or exempted.

SARA 302/304/311/312 extremely hazardous substances: No products were found.

SARA 302/304 emergency planning and notification: No products were found.

SARA 302/304/311/312 hazardous chemicals: Distillates (petroleum), light catalytic cracked.

SARA 311/312 MSDS distribution - chemical inventory - hazard identification: Distillates (petroleum), light catalytic cracked: Delayed (chronic) health hazard.

Clean Water Act (CWA) 307: Benzene.

Clean Water Act (CWA) 311: Benzene.

Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs)

Not listed.

Clean Air Act Section 602 Class I Substances

Not listed.

Clean Air Act Section 602 Class II Substances

Not listed.

DEA List I Chemicals (Precursor Chemicals)

Not listed.

DEA List II Chemicals (Essential Chemicals)

Not listed.

SARA 313

	Product name	CAS number	Concentration
Form R – Reporting requirements	Benzene	71-43-2	0.1 - 1
Supplier notification	Benzene	71-43-2	0.1 - 1

SARA 313 notifications must not be detached from the MSDS and any copying and redistribution of the MSDS shall include copying and redistribution of the notice attached to copies of the MSDS subsequently redistributed.

State regulations

Massachusetts

None of the components are listed.

New York The following components are listed: Benzene.

New Jersey The following components are listed: Benzene.

Pennsylvania The following components are listed: Benzene.

California Prop. 65

WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.

Ingredient name	Cancer	Reproductive	No significant risk level	Maximum acceptable dosage level
Benzene	Yes.	Yes.	6.4 µg/day (ingestion) 13 µg/day (inhalation)	24 µg/day (ingestion) 49 µg/day (inhalation)

Section 16. Other Information

History

Date of issue mm/dd/yyyy 07/15/2012

Version 1

Prepared by KMK Regulatory Services Inc.

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution) UN = United Nations

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Section 1. Identification

GHS product identifier : Naphtha

Other means of identification : Straight run naphtha, Sour naphtha, Crude topping unit naphtha, Petroleum Distillates (naphtha)

Product type : Liquid.

Identified uses

Gasoline blending.

Supplier's details : Colonial Pipeline Company
1185 Sanctuary Parkway
Suite 100
Alpharetta, GA 30009
Tel.: 678-762-2200
Toll Free: 800-275-3004
Fax: 678-762-2466
Email: info@colpipe.com
Web site: http://www.colpipe.com/

Emergency telephone number (with hours of operation) : CHEMTREC, U.S. : 1-800-424-9300 International: +1-703-527-3887
Hours of operation: 24 hours/day, 7 days/week

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : FLAMMABLE LIQUIDS - Category 2
GERM CELL MUTAGENICITY - Category 1B
CARCINOGENICITY - Category 1A
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 1
AQUATIC HAZARD (ACUTE) - Category 1
AQUATIC HAZARD (LONG-TERM) - Category 3

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements : Highly flammable liquid and vapor.
May cause genetic defects. May cause cancer.
Causes damage to organs through prolonged or repeated exposure. Very toxic to aquatic life.
Harmful to aquatic life with long lasting effects.

Precautionary statements

General : Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.

Prevention : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Wear protective gloves. Wear eye or face protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use explosion-proof electrical, ventilating, lighting and all material-handling equipment. Use only non- sparking tools. Take precautionary measures against static discharge. Keep container tightly closed. Avoid release to the environment. Do not breathe vapor. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling.

Response : Collect spillage. Get medical attention if you feel unwell. IF exposed or concerned: Get medical attention. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.

Storage : Store locked up. Store in a well-ventilated place. Keep cool.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazards not otherwise classified : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Other means of identification : Straight run naphtha, Sour naphtha, Crude topping unit naphtha, Petroleum Distillates (naphtha)

CAS number/other identifiers

CAS number : Not applicable.

Product code : Not available.

Ingredient name	%	CAS number
Naphtha Benzene	94 - 100	8030-30-6
Naphthalene	0.1 - 3	71-43-2
Hydrogen sulphide	0.1 - 2	91-20-3
	0.1 - 1	7783-06-4

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 20 minutes. Get medical attention.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway.

Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact : Flush contaminated skin with plenty of water. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 20 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use dry chemical, CO_2, water spray (fog) or foam.

Unsuitable extinguishing media : Do not use water jet or water-based fire extinguishers.

Specific hazards arising from the chemical : Highly flammable liquid and vapor. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. The vapor/gas is heavier than air and will spread along the ground. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Runoff to sewer may create fire or explosion hazard. This material is very toxic to aquatic life. This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide

Special protective actions for fire-fighters : Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non- emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. See also Section 8 for additional information on hygiene measures. Remove contaminated clothing and protective equipment before entering eating areas.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Naphtha	**NIOSH REL (United States, 6/2009).** TWA: 400 mg/m³ 10 hours. TWA: 100 ppm 10 hours. **OSHA PEL (United States, 6/2010).** TWA: 400 mg/m³ 8 hours. TWA: 100 ppm 8 hours. **OSHA PEL 1989 (United States, 3/1989).** TWA: 100 ppm 8 hours. TWA: 400 mg/m³ 8 hours.
Benzene	**ACGIH TLV (United States, 6/2013). Absorbed through skin.** STEL: 8 mg/m³ 15 minutes. STEL: 2.5 ppm 15 minutes. TWA: 1.6 mg/m³ 8 hours. TWA: 0.5 ppm 8 hours. **NIOSH REL (United States, 4/2013).** STEL: 1 ppm 15 minutes. TWA: 0.1 ppm 10 hours. **OSHA PEL (United States, 2/2013).** STEL: 5 ppm 15 minutes. TWA: 1 ppm 8 hours. **OSHA PEL Z2 (United States, 2/2013).** AMP: 50 ppm 10 minutes. CEIL: 25 ppm TWA: 10 ppm 8 hours.
Naphthalene	**ACGIH TLV (United States, 6/2013). Absorbed through skin.** STEL: 79 mg/m³ 15 minutes. STEL: 15 ppm 15 minutes.

Section 8. Exposure controls/personal protection

Hydrogen sulphide	TWA: 52 mg/m³ 8 hours. TWA: 10 ppm 8 hours. **NIOSH REL (United States, 4/2013).** STEL: 75 mg/m³ 15 minutes. STEL: 15 ppm 15 minutes. TWA: 50 mg/m³ 10 hours. TWA: 10 ppm 10 hours. **OSHA PEL (United States, 2/2013).** TWA: 50 mg/m³ 8 hours. TWA: 10 ppm 8 hours. **ACGIH TLV (United States, 2/2010).** STEL: 5 ppm 15 minutes. TWA: 1 ppm 8 hours. **NIOSH REL (United States, 6/2009).** CEIL: 15 mg/m³ 10 minutes. CEIL: 10 ppm 10 minutes. **OSHA PEL Z2 (United States, 11/2006).** AMP: 50 ppm 10 minutes. CEIL: 20 ppm

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti- static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

Naphtha

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Section 8. Exposure controls/personal protection

Respiratory protection : Use a properly fitted, air-purifying or supplied air respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid. [Clear to amber.]

Color : Colorless to amber.

Odor : Gasoline; Rotten eggs. / Sulfurous.

Odor threshold : Not available.

pH : Not available.

Melting point : Not available.

Boiling point : 38°C (100.4°F)

Flash point : Closed cup: -7°C (19.4°F) [Pensky-Martens.]

Evaporation rate : Not available.

Flammability (solid, gas) : Not available.

Lower and upper explosive (flammable) limits : Not available.

Vapor pressure : 2-10 psia (Reid VP) @ 37.8°C

Vapor density : >1 [Air = 1]

Relative density : 0.70-0.85 @15.6°C

Solubility : Not available.

Partition coefficient: n-octanol/water : Not available.

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Viscosity : Not available.

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Do not allow vapor to accumulate in low or confined areas.

Incompatible materials : Reactive or incompatible with the following materials: oxidizing materials, reducing materials, acids and alkalis.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Naphtha	LD50 Oral	Rat Rat	>5 g/kg	-
Benzene	LD50 Oral	Rabbit	930 mg/kg	-
Naphthalene	LD50 Dermal	Rat Rat	>20 g/kg	-
	LD50 Oral	Rat	490 mg/kg	-
Hydrogen sulphide	LC50 Inhalation Gas.		444 ppm	4 hours
	LC50 Inhalation Vapor		700 mg/m³	4 hours

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Naphtha	Eyes - Mild irritant	Rabbit	-	100 µL	-
	Skin - Moderate irritant	Rabbit	-	500 µL	-
Benzene	Eyes - Moderate irritant	Rabbit	-	88 mg	-
	Skin - Moderate irritant	Rabbit	-	24 hours 20 mg	-
	Eyes - Severe irritant	Rabbit	-	24 hours 2 mg	-
	Skin - Mild irritant	Rat	-	8 hours 60 µL	-
	Skin - Mild irritant	Rabbit	-	24 hours 15 mg	-
Naphthalene	Skin - Mild irritant	Rabbit	-	495 mg	-
	Skin - Severe irritant	Rabbit	-	24 hours 0.05 mL	-

Sensitization

There is no data available.

Carcinogenicity

Classification

Product/ingredient name	OSHA	IARC	NTP	ACGIH	EPA	NIOSH
Benzene	+	1	Known to be a human carcinogen.	A1	-	+
Naphthalene	-	2B	Reasonably anticipated to be a human carcinogen.	A4	-	None.

Specific target organ toxicity (single exposure)

There is no data available.

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
Benzene	Category 1	Not determined	Not determined

Aspiration hazard

Name	Result
Naphtha	ASPIRATION HAZARD - Category 1
Benzene	ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : No known significant effects or critical hazards.

Potential delayed effects : No known significant effects or critical hazards.

Long term exposure

Potential immediate effects : No known significant effects or critical hazards.

Potential delayed effects : No known significant effects or critical hazards.

Potential chronic health effects

General : **Carcinogenicity** : Causes damage to organs through prolonged or repeated exposure.

Mutagenicity : May cause cancer. Risk of cancer depends on duration and level of exposure.

Teratogenicity : May cause genetic defects.

No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral	46666.7 mg/kg

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure

Naphtha	Acute EC50 3700 to 5100 µg/l Fresh water	Daphnia - Daphnia pulex - Larvae	48 hours
	Acute LC50 3600 µg/l Fresh water	Crustaceans - Gammarus lacustris	48 hours
Benzene	Acute EC50 29000 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 1360000 µg/l Fresh water	Algae - Scenedesmus abundans	96 hours
	Acute EC50 9230 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 21000 µg/l Marine water	Crustaceans - Artemia salina - Nauplii	48 hours
	Acute LC50 5.28 ul/L Fresh water	Fish - Oncorhynchus gorbuscha - Fry	96 hours
	Chronic NOEC 1.5 to 5.4 ul/L Marine water	Fish - Morone saxatilis - Juvenile (Fledgling, Hatchling, Weanling)	4 weeks
Naphthalene	Acute EC50 1600 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 2350 µg/l Marine water	Crustaceans - Palaemonetes pugio	48 hours
	Acute LC50 213 µg/l Fresh water	Fish - Melanotaenia fluviatilis - Larvae	96 hours
	Chronic NOEC 0.67 ppm Fresh water	Fish - Oncorhynchus kisutch	40 days
Hydrogen sulphide	Acute EC50 62 µg/l Fresh water	Crustaceans - Gammarus pseudolimnaeus	2 days
	Acute LC50 2 µg/l Fresh water	Fish - Coregonus clupeaformis - Yolk-sac fry	96 hours

Persistence and degradability

There is no data available.

Bioaccumulative potential

Section 12. Ecological information

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Naphtha	-	10 to 2500	high
Benzene	2.13	11	low
Naphthalene	3.4	36.5 to 168	low

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling empty containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

United States - RCRA Toxic hazardous waste "U" List

Ingredient number	CAS #	Status	Reference
Benzene	71-43-2	Listed	U019
Naphthalene	91-20-3	Listed	U165

Section 14. Transport information

	DOT Classification	IMDG	IATA
UN number	UN1268	UN1268	UN1268
UN proper shipping name	PETROLEUM DISTILLATES, N.O.S. (Naphtha, Benzene)	PETROLEUM DISTILLATES, N.O.S. (Naphtha, Benzene)	PETROLEUM DISTILLATES, N.O.S. (Naphtha, Benzene)
Transport hazard class(es)	3 	3 	3 
Packing group	II	II	II
Environmental hazards	No.	Yes.	No.

Naphtha

Section 14. Transport information

Additional information

Reportable quantity
645.16 lbs / 292.9 kg [99.841 gal / 377.94 L]
Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.

The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.

The environmentally hazardous substance mark may appear if required by other transportation regulations.

AERG : 128

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code : Not available.

Section 15. Regulatory information

U.S. Federal regulations :
TSCA 8(a) PAIR: Naphthalene
TSCA 8(a) CDR Exempt/Partial exemption: Not determined
United States inventory (TSCA 8b): All components are listed or exempted.
Clean Water Act (CWA) 307: Benzene; Naphthalene
Clean Water Act (CWA) 311: Benzene; Naphthalene; Hydrogen sulphide

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304

Composition/information on ingredients

Name	%	EHS	SARA 302 TPQ		SARA 304 RQ	
			(lbs)	(gallons)	(lbs)	(gallons)

Hydrogen sulphide	0.1 - 1	Yes.	500	-	100	-

SARA 304 RQ : 18181.8 lbs / 8254.5 kg [2813.7 gal / 10651 L]

SARA 311/312

Classification : Fire hazard

Delayed (chronic) health hazard

Composition/information on ingredients

Section 15. Regulatory information

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
Naphtha Benzene	94 - 100	No.	No.	No.	No.	Yes.
Naphthalene	0.1 - 3	Yes.	No.	No.	Yes.	Yes.
Hydrogen sulphide	0.1 - 2	No.	No.	No.	Yes.	Yes.
	0.1 - 1	Yes.	Yes.	No.	Yes.	No.

SARA 313

	Product name	CAS number	%
Form R - Reporting requirements	Benzene Naphthalene	71-43-2 91-20-3	0.1 - 3 0.1 - 2
Supplier notification	Benzene Naphthalene	71-43-2 91-20-3	0.1 - 3 0.1 - 2

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

State regulations

Massachusetts : The following components are listed: Naphtha; Benzene; Naphthalene

New York : The following components are listed: Benzene; Naphthalene

New Jersey : The following components are listed: Naphtha; Benzene; Naphthalene

Pennsylvania : The following components are listed: Naphtha; Benzene; Naphthalene

California Prop 65

WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.

Ingredient name	Cancer	Reproductive	No significant risk level	Maximum acceptable dosage evel
Naphtha	Yes.	No.	No.	No.
Benzene	Yes.	Yes.	6.4 µg/day (ingestion) 13 µg/day (inhalation)	24 µg/day (ingestion) 49 µg/day (inhalation)
Naphthalene	Yes.	No.	Yes.	No.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol (Annexes A, B, C, E)

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Inform Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Ingredient name	List name	Status
PAHs	POPs - Annex 3	Listed

International lists

National inventory

Section 15. Regulatory information

Australia : All components are listed or exempted.
Canada : All components are listed or exempted.
China : All components are listed or exempted.
Europe : All components are listed or exempted.
Japan : Not determined.
Malaysia : Not determined.
New Zealand : All components are listed or exempted.
Philippines : All components are listed or exempted.
Republic of Korea : All components are listed or exempted.
Taiwan : Not determined.

Section 16. Other information

History

Date of issue mm/dd/yyyy : 02/15/2014

Version : 1
Revised Section(s) : Not applicable.
Prepared by : KMK Regulatory Services Inc.

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution) UN = United Nations

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Section 1. Identification

GHS product identifier : Butane

Other means of identification : Commercial butane, Liquefied petroleum gas, Normal butane, N-butane

Product type : Liquefied gas.

Identified uses

Liquefied petroleum gas

Supplier's details : Colonial Pipeline Company
1185 Sanctuary Parkway
Suite 100
Alpharetta, GA 30009
Tel.: 678-762-2200
Toll Free: 800-275-3004
Fax: 678-762-2466
Email: info@colpipe.com
Web site: http://www.colpipe.com/

Emergency telephone number (with hours of operation) : CHEMTREC, U.S. : 1-800-424-9300 International: +1-703-527-3887
Hours of operation: 24 hours/day, 7 days/week

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : FLAMMABLE GASES - Category 1
GASES UNDER PRESSURE - Liquefied gas
GERM CELL MUTAGENICITY - Category 1B
CARCINOGENICITY - Category 1A

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements : Extremely flammable gas.
Contains gas under pressure; may explode if heated. May cause genetic defects.
May cause cancer.

Precautionary statements

General : Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.

Prevention : Obtain special instructions before use. Do not handle until all safety precautions have

been read and understood. Use personal protective equipment as required. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Response : IF exposed or concerned: Get medical attention. Leaking gas fire: Do not extinguish, unless leak can be stopped safely. Eliminate all ignition sources if safe to do so.

Storage : Store locked up. Protect from sunlight. Store in a well-ventilated place.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazards not otherwise classified : Liquid can cause burns similar to frostbite.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Other means of identification : Commercial butane, Liquefied petroleum gas, Normal butane, N-butane

CAS number/other identifiers

CAS number : Not applicable.

Product code : Not available.

Ingredient name	%	CAS number
Butane (containing >= 0.1% butadiene (203-450-8))	95 - 100	106-97-8
Isobutane (Containing >= 0.1% butadiene (203-450-8))	0.1 - 4	75-28-5
Pentane	0.1 - 2	109-66-0
Propane	0.1 - 1	74-98-6

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 20 minutes. Get medical attention.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact : Flush contaminated skin with plenty of water. To avoid the risk of static discharges and gas ignition, soak contaminated clothing thoroughly with water before removing it. Continue to rinse for at least 20 minutes. Get medical attention. In case of contact with liquid, warm frozen tissues slowly with lukewarm water and get medical attention. Do not rub affected area. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention. Ingestion of liquid can cause burns similar to frostbite. If frostbite occurs, get medical attention. Never give anything by mouth to an unconscious person.

If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. As this product rapidly becomes a gas when released, refer to the inhalation section.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : Liquid can cause burns similar to frostbite.

Inhalation : No known significant effects or critical hazards.

Skin contact : Dermal contact with rapidly evaporating liquid could result in freezing of the tissues or frostbite.

Ingestion : Ingestion of liquid can cause burns similar to frostbite.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:
frostbite

Inhalation : No known significant effects or critical hazards.

Skin contact : Adverse symptoms may include the following:
frostbite

Ingestion : Adverse symptoms may include the following:
frostbite

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : Contains gas under pressure. Extremely flammable gas. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. The vapor/gas is heavier than air and will spread along the ground. Gas may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back, causing fire or explosion.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide

Special protective actions for fire-fighters : Contact supplier immediately for specialist advice. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool. If involved in fire, shut off flow immediately if it can be done without risk. If this is impossible,

withdraw from area and allow fire to burn. Fight fire from protected location or maximum possible distance. Eliminate all ignition sources if safe to do so.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. For incidents involving large quantities, thermally insulated undergarments and thick textile or leather gloves should be worn.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : Accidental releases pose a serious fire or explosion hazard. No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing gas. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non- emergency personnel".

Environmental precautions : Ensure emergency procedures to deal with accidental gas releases are in place to avoid contamination of the environment. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Immediately contact emergency personnel. Stop leak if without risk. Use spark-proof tools and explosion-proof equipment.

Large spill : Immediately contact emergency personnel. Stop leak if without risk. Use spark-proof tools and explosion-proof equipment. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Contains gas under pressure. Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Avoid breathing gas. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Empty containers retain product residue and can be hazardous. Do not puncture or incinerate container.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. See also Section 8 for additional information on hygiene measures. Remove contaminated clothing and protective equipment before entering eating areas.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in a segregated and approved area. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Store locked up. Eliminate all ignition sources. Keep container tightly closed and sealed until ready for use.

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Butane (containing >= 0.1% butadiene (203-450-8))	**ACGIH TLV (United States, 3/2012).** TWA: 1000 ppm 8 hours. **NIOSH REL (United States, 6/2009).** TWA: 1900 mg/m³ 10 hours. TWA: 800 ppm 10 hours.
Isobutane (Containing >= 0.1% butadiene (203-450-8))	**ACGIH TLV (United States, 2/2010).** TWA: 1000 ppm 8 hours. **NIOSH REL (United States, 6/2009).** TWA: 1900 mg/m³ 10 hours. TWA: 800 ppm 10 hours.
Pentane	**ACGIH TLV (United States, 2/2010).** TWA: 600 ppm 8 hours. **NIOSH REL (United States, 6/2009).** CEIL: 1800 mg/m³ 15 minutes. CEIL: 610 ppm 15 minutes. TWA: 350 mg/m³ 10 hours. TWA: 120 ppm 10 hours. **OSHA PEL (United States, 6/2010).** TWA: 2950 mg/m³ 8 hours. TWA: 1000 ppm 8 hours.
Propane	**ACGIH TLV (United States, 3/2012).** TWA: 1000 ppm 8 hours. **NIOSH REL (United States, 1/2013).** TWA: 1800 mg/m³ 10 hours. TWA: 1000 ppm 10 hours. **OSHA PEL (United States, 6/2010).** TWA: 1800 mg/m³ 8 hours. TWA: 1000 ppm 8 hours.

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. If contact with the liquid is possible, insulated gloves suitable for low temperatures should be worn. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti- static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Use a properly fitted, air-purifying or supplied air respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquefied gas. [Clear.]

Color : Colorless.

Odor : Petroleum.

Odor threshold : Not available.

pH : Not available.

Melting point : Not available.

Boiling point : -1°C (30.2°F)

Flash point : Closed cup: -73°C (-99.4°F) [Pensky-Martens.]

Evaporation rate : >1 (Butyl acetate = 1)

Flammability (solid, gas) : Not available.

Lower and upper explosive (flammable) limits : Not available.

Vapor pressure : 2-10 psia (Reid VP) @ 37.8°C

Vapor density : 2 [Air = 1]

Relative density : 0.70-0.85 @ 15.6°C

Solubility : Not available.

Partition coefficient: n-octanol/water : Not available.

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Viscosity : Not available.

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Do not allow gas to accumulate in low or confined areas.

Incompatible materials : Reactive or incompatible with the following materials: oxidizing materials and acids.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Butane (containing >= 0.1% butadiene (203-450-8))	LC50 Inhalation Vapor	Rat	658000 mg/m³	4 hours
Isobutane (Containing >= 0.1% butadiene (203-450-8))	LC50 Inhalation Vapor	Rat	658000 mg/m³	4 hours
Pentane	LC50 Inhalation Vapor	Rat	364 g/m³	4 hours

Irritation/Corrosion

There is no data available.

Sensitization

There is no data available.

Carcinogenicity

Classification

Product/ingredient name	OSHA	IARC	NTP	ACGIH	EPA	NIOSH
Isobutane (Containing >= 0.1% butadiene (203-450-8))	-	-	-	-	-	None.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Pentane	Category 3	Not applicable.	Narcotic effects

Specific target organ toxicity (repeated exposure)

There is no data available.

Aspiration hazard

Name	Result
Pentane	ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure : Not available.

Section 11. Toxicological information

Potential acute health effects

Eye contact : Liquid can cause burns similar to frostbite.

Inhalation : No known significant effects or critical hazards.

Skin contact : Dermal contact with rapidly evaporating liquid could result in freezing of the tissues or frostbite.

Ingestion : Ingestion of liquid can cause burns similar to frostbite.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:
frostbite

Inhalation : No known significant effects or critical hazards.

Skin contact : Adverse symptoms may include the following:
frostbite

Ingestion : Adverse symptoms may include the following:
frostbite

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : No known significant effects or critical hazards.

Potential delayed effects : No known significant effects or critical hazards.

Long term exposure

Potential immediate effects : No known significant effects or critical hazards.

Potential delayed effects : No known significant effects or critical hazards.

Potential chronic health effects

General : **Carcinogenicity** : No known significant effects or critical hazards.

Mutagenicity : **Teratogenicity** : May cause cancer. Risk of cancer depends on duration and level of exposure.

May cause genetic defects.

No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

There is no data available.

Section 12. Ecological information

Toxicity

There is no data available.

Persistence and degradability

There is no data available.

Bioaccumulative potential

Section 12. Ecological information

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Butane (containing >= 0.1% butadiene (203-450-8))	2.89	-	low
Isobutane (Containing >= 0.1% butadiene (203-450-8))	2.8	-	low
Pentane	3.45	171	low
Propane	1.09	-	low

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Empty pressure vessels should be returned to the supplier. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

Section 14. Transport information

	DOT Classification	IMDG	IATA
UN number	UN1011	UN1011	UN1011
UN proper shipping name	BUTANE (Butane (containing >= 0.1% butadiene (203-450-8)), Isobutane (Containing >= 0.1% butadiene (203-450-8)))	BUTANE (Butane (containing >= 0.1% butadiene (203-450-8)), Isobutane (Containing >= 0.1% butadiene (203-450-8)))	BUTANE (Butane (containing >= 0.1% butadiene (203-450-8)), Isobutane (Containing >= 0.1% butadiene (203-450-8)))
Transport hazard class(es)	2.1 	2.1 	2.1 
Packing group	-	-	-

			Butane
Environmental hazards	No.	No.	No.
Additional information	-	-	-

: **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

AERG : 115

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

: Not available.

Special precautions for user

Section 15. Regulatory information

U.S. Federal regulations

: **TSCA 8(a) PAIR**: Pentane

TSCA 8(a) CDR Exempt/Partial exemption: Not determined

United States inventory (TSCA 8b): All components are listed or exempted.

Clean Air Act (CAA) 112 regulated flammable substances: Butane (containing >= 0.1% butadiene (203-450-8)); Isobutane (Containing >= 0.1% butadiene (203-450-8)); Pentane

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Not listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : Fire hazard

Sudden release of pressure
Delayed (chronic) health hazard

Composition/information on ingredients

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard

Butane (containing >= 0.1% butadiene (203-450-8))	95 - 100	Yes.	Yes.	No.	No.	Yes.
Isobutane (Containing >= 0.1% butadiene (203-450-8))	0.1 - 4	Yes.	Yes.	No.	No.	Yes.
Pentane	0.1 - 2	Yes.	No.	No.	Yes.	No.
Propane	0.1 - 1	Yes.	Yes.	No.	No.	No.

: The following components are listed: Butane (containing >= 0.1% butadiene (203-450-8)); Isobutane (Containing >= 0.1% butadiene (203-450-8)); Pentane

State regulations

Massachusetts

New York : None of the components are listed.

New Jersey : The following components are listed: Butane (containing >= 0.1% butadiene (203-450-8)); Isobutane (Containing >= 0.1% butadiene (203-450-8)); Pentane

Pennsylvania : The following components are listed: Butane (containing >= 0.1% butadiene (203-450-8)); Isobutane (Containing >= 0.1% butadiene (203-450-8)); Pentane

California Prop 65

No products were found. **International regulations Chemical Weapon Convention List Schedules I, II & III Chemicals**

Not listed.

Montreal Protocol (Annexes A, B, C, E)

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Inform Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

International lists

National inventory

Australia	:	All components are listed or exempted.
Canada	:	All components are listed or exempted.
China	:	All components are listed or exempted.
Europe	:	All components are listed or exempted.
Japan	:	All components are listed or exempted.
Malaysia	:	Not determined.
New Zealand	:	All components are listed or exempted.
Philippines	:	All components are listed or exempted.
Republic of Korea	:	All components are listed or exempted.
Taiwan	:	Not determined.

Section 16. Other information

History

Date of issue mm/dd/yyyy	:	02/15/2014
Version	:	1
Revised Section(s)	:	Not applicable.
Prepared by	:	KMK Regulatory Services Inc.
Key to abbreviations	:	ATE = Acute Toxicity Estimate

BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution) UN = United Nations

Notjce to reader
To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Colonial Pipeline Company
RELEASE RESPONSE STRATEGIES

INTRODUCTION

Colonial Pipeline Company transports gasoline, kerosene, diesel fuel, aviation kerosene, and transmix. All of these refined petroleum products have a specific gravity of less than one (float on water) and are biodegradable. The U.S. Coast Guard considers these products as Class "A" oils, having a low viscosity and high volatility. This results in the oil rapidly spreading on the water surface and subsequent increases in evaporation rates.

This section addresses release preparedness and response strategies associated with the types of products transported by Colonial Pipeline. This information, used in conjunction with the MSDS information in Section 9.01, should be used to affect safe and effective responses to release material.

RECONNAISSANCE

One of the most important functions during the initial stages of release response is reconnaissance of the affected line segment and area of impact. As with any aspect of the response effort, **safety and the protection of human life are the primary concerns**. This is true for both persons located in the area of the release and responders performing recon operations. In addition to safety issues, recon personnel should be aware of measures to mitigate the consequences of the release.

Reconnaissance strategies and techniques are dependent on the weather and time of day. These factors largely dictate the use of aerial support in any response effort. Aerial support enhances the response effort by helping to obtain an overall picture of the extent of the release quickly so that adjustments to the response effort can be made as soon as possible. Ground level recon activities should be conducted immediately regardless of the weather or time of day. While aerial recon gives you the big picture, ground recon provides the important details.

The following is some general guidance on recon strategies and checklists on information to collect and useful equipment/supplies for conducting recon activities:

Preplanning

Preplanning is essential to an effective recon operation due to the diverse geographical nature of the pipeline. The following preplanning items should be taken into consideration:

- Preplanning should be performed/coordinated by personnel most familiar with the line segment for which the plan is being developed.
- All personnel likely to be involved with the planning and actual recon activities should be familiar with available reference maps and information, especially the USGS maps and associated data tables for predetermined oil containment/recovery locations.
- Recon personnel should be trained in the use of communications equipment that may be used.
- A tracking method to monitor the efforts of recon personnel to provide effective coverage when trying to locate the origin and down gradient extent of released product should be developed.
- Recon personnel should be trained in relevant safety aspects associated with recon activities. These include knowledge of the product that may be released and necessary monitoring for those

products, as well as the precautions that must be considered with respect to geographical features, weather, wildlife, and other dangers that may be present in a particular area.

- Available trained recon personnel should be identified.

- Natural and man-made barriers that may interfere with recon of a particular line segment (e.g. fences, secured properties, waterways, wetlands, cliffs, etc.) should be identified.

Reconnaissance Operations - General Guidance

Below is some general guidance that should be considered during recon activities:

- Make safety the priority.

- Develop a buddy-system for responders performing recon activities.

- Establish and maintain communication with the Atlanta Control Center. This communication will in most cases significantly reduce the search area and help locate the release more quickly.

- Establish a clear communications network prior to dispatching personnel to recon areas.

- Designate personnel to establish a mechanism for tracking personnel performing recon (e.g. recon personnel to contact command center hourly to give progress report).

- Secure proper supplies for documentation purposes. As a recon area is entered, record geographical features that may have an impact on upcoming containment, recovery, and cleanup operations.

- Personnel performing the recon should monitor the air with appropriate devices (e.g. combustible gas meter, oxygen content meter, and Sensidyne colorimetric indicator tubes). This is especially important if the release is suspected to include gasoline.

Initial Reconnaissance Strategies - No Aerial Support

Aerial recon provides the most efficient method of locating the release site and extent of affected areas. Aerial recon, however, may not be immediately available due to variety of reasons (e.g. weather conditions, darkness, availability of planes/helicopters/pilots). Regardless of the availability of aerial patrol, ground recon operations are an essential element. The tactics and magnitude of the initial recon efforts will depend on available manpower and site conditions. Below is guidance for conducting ground recon activities:

- Typically, the Atlanta Control Center will initially be able to identify between which two pump stations the release occurred, or a third party will call in with a more precise location. After Control Center personnel have analyzed pressure charts they can generally locate the site to within approximately five miles.

- If the release location has been tentatively identified, recon personnel should be dispatched to both the suspected leak location and to down gradient water access points.

- Two recon personnel should be sent to the suspected location of the leak site. If the leak is not found at this location then one should proceed downstream and the other upstream towards the closest pump station. If a pump station or other facility is nearby, recon personnel should first check the facility unless otherwise instructed. If the terrain is too hazardous or difficult for a foot recon effort, these conditions should be relayed to the Incident Command Center, and a search of nearby pipeline road crossings should be initiated. As recon personnel reach the suspected leak site or pump station, they should report their findings to the Incident Command Center.

- Water access points are those locations that are adjacent to or spanned by a road. The predetermined containment and recovery sites marked on the USGS maps should be visited. The order in which waterways are visited should be based on sensitivity of the waterway and when product would be expected to reach a given location. The expected time of arrival is based on the time elapsed from when the leak occurred and the estimated flow rate of the waterway. Recon personnel should report in to the Incident Command Center as soon as they have completed their inspection of each water access location. The water access points may need to be visited more than once. Product may be in the waterway, but still upstream of the access point when it is visited.

- If the release location is only known to be between two pump stations, more focus should be given to visiting water access points.

- The number of recon personnel needed to adequately cover the down gradient water access points will depend on the number of locations, but at least four people should be used. If possible the recon personnel should work in teams of two so that if product is encountered at a crossing, one of the responders can stay at the crossing to protect the public and assist additional responders find the site. The other person should continue to try to get ahead of the product and then work back toward the other site. If recon cannot be performed in pairs, then as product is found at crossings, the decision must be made whether to leave this site and continue recon activities, or stay at this site. The decision should be based on the potential danger to the public if the site is left unmanned until additional responders arrive. This will have to be determined on a case-by-case basis.

- Once the release site has been confirmed, it is imperative that the Incident Command Center be immediately notified so other recon personnel can be sent to potential containment/recovery locations.

Initial Reconnaissance Strategies - With Aerial Support

Initial aerial reconnaissance support techniques are used in conjunction with all ground level recon efforts.

- Helicopters and fixed wing aircraft should be used to assist in recon activities. Helicopters provide the best recon capabilities due to their design and should be utilized whenever possible.

- At least one helicopter should be secured for recon duties as soon as possible and the pilot given specific directions where to report to pick up Colonial recon personnel. The nearest Colonial patrol pilot should also be immediately contacted and dispatched, if possible, to the suspected release site.

- Appropriate communications should be established between the helicopter, Colonial patrol plane, and the Incident Command Center.

- Two people, if possible, should go on the initial helicopter flight so that if the leak site is found, one person can be dropped off at the site to protect the public, begin collecting and relaying important information to the Incident Command Center, and help additional responders locate the site. After the person is dropped off at the leak site, the helicopter and other recon person should follow the plume of product down gradient relaying important information back to the Incident Command Center. The recon person in the helicopter should help the ground recon teams by directing them to containment and recovery points. After the farthest point of the plume of product is reached, the helicopter should continue to recon downstream to select the last containment and recovery site (the Last Stand).

- It is important to remember that the total number of recovery sites will greatly impact the staffing of the individual sites. Although the number of recovery sites will depend on the size of the release and conditions in the water body, identification of 3-4 sites is a good starting point. The helicopter recon person should be able to determine the locations of the most effective sites. More sites can be added as needed as resources arrive at Staging.

- After the initial recon, at least one helicopter should be retained for continuing recon duties throughout the emergency response.

- The initial duty of the Colonial patrol pilot is to fly towards the suspected leak site to locate the site. Once the leak site has been found the patrol plane should fly the right-of-way on both sides of the leak site to a predetermined point. This is to ensure the integrity of the remaining segment of line (i.e. make sure there is only one leak site). After this is done, the company pilot should report to the Incident Command Center for further instructions on how to supplement and coordinate the response's aerial support efforts.

Important Information to Collect

Listed below is pertinent information that should be collected during recon activities:

- Location of release site, type of product, site characteristics (woods, wetlands, open field, etc), and access (nearest roads).
- Location of leading edge of product.
- Extent of impact (e.g. area of coverage, product thickness).
- Stream/river velocities of each segment.
- Approximate depth and width of stream/river segments and identify pertinent characteristics such as pools, swamps, swift currents, etc.
- Wind speed and direction.
- Natural (e.g. log jams, ice) and manmade structures (e.g. dams) that are in the path that will retard or block the flow of product.
- Potential containment/recovery locations.
- Site access to potential containment/recovery locations.
    - Will the pathways to the site support fully loaded tank trucks or will roads need to be built or mats installed?
    - Is there room for several trucks/frac tanks to be staged?
    - Is there room for trucks to turn around?

  - Will a large quantity of pipe or hose be needed to transport the recovered product to the loading area?
  - What is the elevation difference between the water and the loading area?
- Potential hazard areas (e.g. sources of ignition in path of product).
- Areas that may require evacuation.
- Threatened sensitive areas that will need protective booming (e.g. wetlands, boat docks, coves).
- Approximate length of boom required at each potential containment site and what type of equipment is necessary to deploy it.
- Potential underflow dam locations and how much of what diameter flume pipe is needed.
- Locations of visible wildlife/livestock.
- Effectiveness of presently deployed booms and necessary adjustments.
- Estimated volume of product pooled behind each containment site.
- Location of pockets of product that are stranded beyond the river banks.
- Information on manpower or equipment shortages at recovery sites.

Recommended Recon Equipment/Supplies

The following equipment and supplies may be useful for performing recon duties:

- Cameras (Smartphone, Polaroid, camera that inscribes date/time on photos, video camera)
- USGS topographic maps (several photocopies on which to mark pertinent information) and accompanying data sheets for preplanned containment/recovery sites
- Pipeline alignment sheets
- Local road maps (command center should have an atlas/mapping software (e.g. DeLorme's Map Expert)
- Compass
- GPS unit
- Minerva (instrument to measure lengths of curved lines on maps)
- Tape measure and product/water gauge paste
- Water velocity meter or stop watch
- Communications equipment (Satellite phone, hand held radio, cellular phone)
- Binoculars
- First aid kit
- Tyvec suits, gloves, goggles
- Ear plugs, eye wash, insect repellent
- Flashlight
- Weather proof log books, pens, and permanent markers
- Machete, utility knife

General Inspection Procedures for the Detection of Petroleum Hydrocarbons

The following inspection procedures can be used to determine if a subsurface release of petroleum hydrocarbons which is impacting a surface water has occurred. Colonial Pipeline transports gasoline, kerosene, and fuel oils. These materials have a specific gravity less than one, and therefore will float on water. Petroleum hydrocarbons released into the subsurface can be discharged into surface waters which are recharged by groundwater or be transported above grade following heavy rains. The primary indications that petroleum hydrocarbons are present are the following: 1) odors, 2) biological growth (algae blooms), or 3) hydrocarbon sheens.

In general, the type of odor detected from a hydrocarbon release will vary depending on how long ago the leak occurred. As expected, a recent release would have an odor similar to that of “fresh” product. A petroleum product that has aged and is discharging to surface water can develop an odor similar to that of paint thinner or a “skunk” type odor. Typically, the strongest hydrocarbon odors can be detected in low areas. This is because the petroleum vapors are heavier than air and will migrate to the lowest elevation. It should be noted that other environmental factors have an effect on the ability to detect petroleum hydrocarbon odors (i.e. wind and temperature).

Surface water that is being impacted by petroleum hydrocarbons will often have an unusually large amount of biological growth associated with it. The most common indication of this is an algae bloom. Generally, the algae are filamentous, and are usually orange/red/rust in color. It should be noted that after a heavy rainfall the algae can often be washed away by swift flowing waters.

A third indication that surface water is being impacted by petroleum hydrocarbons is the presence of hydrocarbon sheens. A true hydrocarbon sheen will show a rainbow if stirred or swirled. Following agitation, the sheen will reform a layer of uniform thickness. If oil absorbent materials are available, they can be used to help confirm if the material is actually an oil product. Hydrocarbon sheens are easily confused with biological iron sheens upon first impression. Biological sheens typically occur in stagnate or slow moving water. Unlike hydrocarbon sheen, a biological sheen will break up into angular fragments if stirred and not reform.

It should be noted that the causes of the above indications are not limited to subsurface discharges of petroleum hydrocarbons. Other processes can result in similar observations. These can include urban storm water runoff and naturally occurring biological processes. Therefore, if any of the above indications are observed, additional assessment will be warranted to determine the source.

RELEASE CONTAINMENT SITES

Whenever possible, access to containment sites and the location of oil and gasoline releases should be via existing pipeline facilities such as pipeline right of way, haul road, pipeline facility, access roads, river or stream access, or by state, federal, and private roadways. While these facilities should be utilized to their fullest potential, off-road operations of varying degrees may be required. The impact of off-road operations can be limited by identifying and using old survey trails, fire breaks, and other potential access routes. Because these disturbed areas can be sensitive to erosion, care should be exercised when using these off-road routes.

Each site should be staffed with a minimum of five Colonial representatives (a site commander, safety monitor, technician, runner/communications assistant, and accountant).

ACCESS TO RELEASE SITES

Access to release sites via other than right-of-way or public roads is to be cleared with the affected property owner or the owner's representative. Also, if the release site is on property adjacent to navigable waters, it may be necessary to obtain a work permit from the United States Coast Guard before clean-up and repair operations begin.

Delineation of Boundaries

Selected sensitive areas are delineated on USGS topographic maps showing contributory drainage ditches or dry washes, contributory creeks, main river courses, lakes, ponds, marshlands, any city or community water intakes or commercial cooling water intakes. These areas are sensitive year round. Access to these sites may also be determined by referencing the USGS maps.

Encroachment

Every reasonable effort should be taken to notify property owners or tenants before entering property.

The areas sensitive to surface disturbance are likely to create severe problems of erosion and re-vegetation. It is recommended that these areas be avoided. However, it is understood that certain situations may develop that dictate encroachment within sensitive areas. A gravel access road or combination earth and wooden plank access road should be constructed across large wetland or marsh areas. At a minimum, approval should be sought from the Incident Command Center prior to moving into wet or marshy areas.

If encroachment on a surface sensitive area is required, protective measures should be taken so disturbance is minimized. Measures should include the following actions:

- Only trees and shrubs that physically impede surface travel should be cut.
- Trees and shrubs that are removed should be cut flush with ground and not pushed over.
- When access routes follow drainage ditches, a buffer zone should be established along the ditch.
- When access is required to cross drainage ditches, incised banks should be completely restored and vegetation established.

Criteria For Selecting Release Containment Sites

Pre-planned containment sites are an essential component of control actions. While most of these pre-planned sites have been located on small drainages and points of confluence, containment sites can be constructed on suitable terrain away from drainages. This would be particularly useful in intercepting product near the pipeline or between pre-planned containment sites. The criteria established for selecting additional product containment sites are:

- River and stream characteristics
- Man-made structures
- Topography
- Access to site and proximity to sensitive areas
- Potential release volume
- Time of response

River and Stream Characteristics

The selection of containment sites within rivers and streams must be accomplished with consideration given to flow characteristics.

Important characteristics to be considered are:

- Level of hazard and training of responders
- Environmental impact
- Velocity of stream or river
- Discharge and flow characteristics
- Channel conformation (width, depth, pool riffle ratio)
- Man-made structures (culverts, spur dikes, bridges, canals, low water crossings)
- Side channels and backwater areas
- Presence of ponds adjacent to stream
- Bank vegetation
- Storage areas for recovery

Man-made Structures

Bridges, culverts, spur dikes, and low water crossings provide ideal access points where dikes, berms, or other diversions can be installed to slow water velocities and facilitate containment procedures.

Site Security

(b) (3), (b) (7)(F)

Potential Release Volume

The volume of the release must be considered in selecting containment sites. This volume may be used in conjunction with local topographical data and river/stream characteristics to evaluate suitability of sites.

Time of Response and Selection of Containment Sites

Response time is a consideration in the selection of containment sites. Factors to consider include the size of release, time necessary for product to reach a watercourse, and flow velocity. In all instances, containment of product is more critical than trying to intercept the leading edge. When weather or transportation problems delay response time or in the event of a release directly into flowing water, duplicate sites may be required.

Knowledge of local topography aids containment site selections. Topographic maps can indicate natural terrain features, such as depressions, ravines, and dry washes that could lend themselves to constructing containment sites. Topography must be considered when estimating the storage capacity of a potential site, planning access routes for operations (containment, clean-up, disposal), and assessing the speed at which product could reach a containment site.

INITIAL RESPONSE PROCEDURES AND CONTAINMENT AND EXCLUSION STRATEGIES

Initial Procedures

Upon confirmation of a release, Colonial must make an initial assessment to determine the material and volume of the release. This assessment is usually completed by the Atlanta Control Room Shift Supervisor. As part of this initial assessment, it is necessary for Colonial field personnel to determine the geographical and environmental factors of the area surrounding the release in order to plan the proper protective and remedial measures. Guidelines for determining whether an environment is sensitive are presented in the next section. The steps for the ascertaining the environmental impact of the release are as follows:

Release site: Investigate the release location and the natural areas already impacted to determine the extent of damage. Determine if any immediate actions at the scene can minimize further damage. At the release site, Colonial Personnel should determine the direction and rate of the flow. Steps should be taken to control the source of material and to contain the release if possible.

Areas of immediate danger: Following the assessment of the release site, Colonial representatives should examine the areas immediately downstream or adjacent to the release. Although these areas may not have been affected by the release, they are in immediate danger of contact with the release. (***Immediate danger can be defined as impact occurring in a matter of hours.)*** If sensitive areas are located, then preemptive measures should be taken to minimize the impact of the release prior to contact. This includes, but is not limited to, deployment of boom, and/or construction of dams or other diversion measures to lessen the impact prior to contact with the released material.

Areas of potential danger: While steps are being taken to control the spread of the release, Colonial shall conduct a reconnaissance to determine what other sensitive areas might be affected if the release continues downstream. If sensitive areas are located, provisions shall be made to protect these areas. Preparation should be made for the deployment of additional cleanup resources as necessary.

Secondary Procedures

Once a sensitive area has been identified and protective measures have been taken, the Colonial On-Scene Coordinator (OSC) shall monitor the integrity and effectiveness of these measures. A minimum daily inspection will be carried out to ensure that the protective measures are holding and that no additional measures are required. The Colonial OSC will also monitor the ecological health of the threatened area.

GENERIC CRITERIA

The following is a partial listing of potentially sensitive environmental and/or economic areas:

Environmental

A. **Wetlands:** Marshes, swamps, and other areas where water flow is usually slow and has a high occurrence of vegetation. These areas support a large amount of species diversity and are often used as breeding grounds.

B. **Endangered species:** Areas that contain endangered species, both flora and fauna, exist throughout the Colonial pipeline system. These species are often found in well-defined preserves, but they may also exist in small remote populations. For example, in the state of Georgia, a species of river lily exists in only one location, a sand bar in the middle of a particular river.

C. **Critical habitat:** These areas support communities of animals and plants that may not come into direct contact with the released material, but nonetheless rely on the waterway for food, habitat, or breeding grounds. If a river becomes contaminated sources of drinking water and food for upland species may be affected.

D. **Natural areas:** These are areas which possess value as a whole ecosystem. They may not contain endangered species, but are representative of the ecosystem in its most natural state. Examples of these areas are outlined in the Outstanding Rivers List and the List of Wild and Scenic Rivers. Information on environmentally sensitive areas, including natural areas, can be found by querying the Colonial GIS accessible through the Colonial Pipeline intranet homepage.

A Job Aid that provides links to Environmentally Sensitive Area information is available at the following link:

http://colonialhome.colpipe.com/environmental/ERP/ICS/ERP%20Resources%20and%20References.xls

Although some information in this Job Aid is only available in GIS/metadata formats, other information can be displayed through interactive maps useful for responders having internet access during a response.

CHARACTERISTICS TO DETERMINE AND IDENTIFY SENSITIVITY

The following factors are to be utilized in determining sensitivity of an area. These factors are not the only criteria for determining sensitivity, but are presented here to provide a general formula.

Environmental Factors

A. **Geography**: Examine the position of the river or waterway. River and lake characteristics differ whether they are positioned in crystalline rock (e.g., Piedmont) of the eastern U.S. and the carbonates of Tennessee, or the Coastal Zone. The crystalline rock lies above the fall line and the associated waterways are distinguished by shallow, fast-flowing rivers which usually have many changes in direction. The forest surrounding a crystalline rock river consists predominately of hardwood trees and the land slopes sharply to the river. Below the fall line, in the Coastal Zone, the rivers straighten and widen with a steady flow. The land around the river has a more gradual slope.

   Many of the larger lakes along the pipeline have been developed by the construction of dams along rivers. These areas are widely used by communities for water supply and/or recreation and a release can significantly affect these activities. Conditions vary whether a waterway is a tributary stream or major river. Tributaries are usually not as fast-flowing as major rivers and are often used as breeding grounds for aquatic wildlife. Also, tributaries do not “flush out” as fast as major rivers and release material may collect in pools or eddies.

B. **Season**: Water flow, and the dispersion of flora and fauna, varies widely with the season. Responders should determine what species and habitats are more susceptible based on the time of the year. In the winter time, vegetation is dormant and less vulnerable than in the summer growth

seasons. The animal communities found in and around a waterway also differ in members and numbers throughout the year.

C. **Habitat**: The types of habitat that may support endangered species are not uniformly distributed on rivers, even those rivers which are similar. The potential for sensitive habitats can be evaluated by determining the amount of development present on the river, the impact of past releases, or whether the location could be considered pristine.

D. **List /Maps:** Consult the Colonial Pipeline Company Spill Response Maps, Environmentally Sensitive Areas, and Areas of Concern information available through the Colonial GIS. The Release Response Maps and associated GIS information provides areas of rivers, state and federal forests and parks, and State and National Wildlife areas. Consult state and federal historic preservationists and wildlife authorities for detailed information for site that could be affected immediately by a release or as the response progresses.

E. **Local Resources**: Determine what local sources of information are available for the area of the release. Consult State Heritage Programs or local conservation groups for detailed information concerning impacts a release might have on the areas biological systems.

F. **On-Scene Conditions**: Use ones' own observation and the information gathered by advance teams to determine areas of potential impact. Conduct reconnaissance of waterways to determine what areas are likely to be sensitive. All releases have different components, as do all ecosystems and natural habitats. Use all information available to determine the best method for determining the most effective strategy for protecting sensitive environments.

Economic

Economically sensitive areas determined by the *Oil Pollution Act of 1990* include public drinking water intakes which are listed in Section 9.06. These facilities are located on the shores of streams or rivers used as a municipal water source. These intake points can be located by consulting the Colonial Spill Response maps, or by contacting the agencies concerned with local water supply (See Section 2.04 and 5.03).

These agencies should be notified of the release as soon as possible and advised to prepare for the protection of the municipal water intakes. Additional protection measures may have to be undertaken to prevent the contamination of the local drinking water supply.

A Job Aid that provides links to Economically Sensitive Area information is available at the following link:
http://colonialhome.colpipe.com/environmental/ERP/ICS/ERP%20Resources%20and%20References.xls

Although some information in this Job Aid is only available in GIS/metadata formats, other information can be displayed through interactive maps useful for responders having internet access during a response.

GENERAL RESPONSE STRATEGIES

Methods of exclusion and containment may be used in the following situations:
(More than one method may be used in each situation.)

- Pipeline right of way and access roads
- Small creeks, ponds, and swamp area
- Highways
- Large rivers and floodplains
- Large lakes

Pipeline Right of Way and Access Roads

Workspace constructed parallel to the pipeline and existing access roads can be utilized to block the flow of product in areas down gradient from the pipeline. Exercise caution not to damage the pipeline, coating, or other nearby utilities. Drainage structures through the roads will need to be blocked with earth and polyethylene sheathing, and/or plywood and sandbags.

At some locations, interception trenches can be excavated to divert or contain product. These may have to be lined with an impermeable material. Trenches can be dug and barriers placed in the vegetative mat to limit subsurface product migration, possibly in conjunction with sorbent material and impermeable liners.

Small Creeks, Ponds and Swamp Areas

Small creeks can be entirely blocked by damming if there is sufficient area upstream. However, a means of stopping the product and letting the water continue downstream will generally be required. Underflow dams and overflow berms or a dam in conjunction with a pump or siphon, may be used for this. These barriers should be located so that a pond will form upstream from the barrier, allowing the use of sorbents, booms, and skimmers. In addition, pools may exist behind log and debris jams where containment could be achieved. On fast flowing creeks, a series of containment barriers such as filter fences using hardware cloth or chicken wire structures (with sorbents) should be used. It may be necessary to remove logs and other debris in creeks and streams to allow effective deployment and maintenance of booms or to allow product to flow freely. It may also be necessary to install steel nets, chicken wire, or similar devices upstream of containment devices in order to protect both equipment and personnel. To facilitate cleanup and removal, the product should be diverted to an area with adequate storage.

On ponds, the outlet should be boomed to let the product collect on the surface of the pond. Additional booms should be deployed around the slick to prevent it from contaminating the shoreline. Sorbent booms and conventional booms deployed in tandem can be effective, with both booms deployed across the pond outlet. Sorbent booms should be farther downstream to collect portions of the product that may have passed the conventional boom. Sensitive areas along creek banks and shorelines can be protected by the appropriate booming strategy.

Containment in wet and swampy areas will be limited to interception with barriers and sorbent materials. Swamp areas will not generally support mechanized equipment. Action in these areas will be limited and usually have to be accomplished by hand and/or with the use of boats.

Highways

Highways and roads can serve as important containment barriers if the culverts passing beneath them are blocked. Most culverts are two feet or less in diameter and can be blocked with sand bags, sheets of plywood, or earthen material. Larger culverts and some smaller ones transporting large volumes of water will require an underflow device. Where a large volume of product is involved and/or inadequate storage capacity exists on the side of the highway, it may be advantageous to allow all or part of the release to pass beneath the highway or roadway to a down gradient area with sufficient storage capacity. Dams should be constructed across the bar ditch to provide containment.

Where there is no bar ditch, or where the highway is not elevated, product may pass over the highway if it is not blocked. Material present on the road shoulder will usually contribute to blocking product flow.

Floodplains

Product approaching a floodplain should be blocked at the point of entry (contained within the drainage course). It is particularly important to have berms constructed between the release and the main river channel or water course. Underflow devices should be used if there is flowing water. Diversion berms can be built using booms to direct the product to a floodplain (side channel, abandoned meander or channel, or an excavated diversion pit). Floodplain debris can be used as containment barriers. Logs on sand or gravel bars and side channels create pools where product can be contained. Berms should be constructed downstream from the debris to act as a backup containment barrier.

Large Rivers

Releases on a main river channel will be difficult to contain but can be addressed in several ways. During periods of high stream flow and velocity, a series of diversion berms and booms should be used to divert the product to a containment pit or floodplain. On smaller creeks or rivers, digging a trench to create eddies and calm water can create a recovery area. This technique is more effective when used in conjunction with an overflow dam directly downstream. The pit should be located where rapid removal of the product is possible. The usefulness of booms on fast flowing large rivers is limited. However, they can be deployed in containment pits upstream from natural or created pools and near sandbars. Product should be removed from behind the boom as rapidly as possible to prevent bypassing. Product entering the river can be partially controlled by deploying booms parallel to the river bank downstream from the point of entry. Under some circumstances, side channels could be converted to containment ponds utilizing the following procedures:

- Berm or dike the downstream end of the side channel.
- Construct a suitable channel for a diversion skimmer in conjunction with an overflow berm that diverts the product into the mouth of the side channel and allows the majority of water to flow down the main channel.
- Under most circumstances, containment barriers will have to be continually maintained. Their resistance to erosive forces can be increased if the upstream portion of the earth barrier is covered with large pieces of heavy material such as rock rip rap or polyethylene sheathing.

Large Lakes

Booms are the most useful means of containment on large lakes. The most effective technique is to encircle the product with booms and direct, or herd, it to a recovery site with slow moving boats. During high water periods, debris moving into the lake area should be removed from behind the boom. Constant monitoring is essential to maintain booms and ensure product containment.

If product is flowing into the lake, a boom should be secured to the shore on one side of the point of entry and deployed around the perimeters of the slick by boat until the product is encircled. Conventional booms and sorbent booms deployed in tandem may be effective. Deploy both across the lake outlet with the sorbent boom downstream or behind the conventional boom. Sorbent pads can be distributed between the two booms. This technique will pick up product that passes the primary boom.

METHODS OF CONTAINMENT AND EXCLUSIONS

The following are methods that can help limit the spread of released product or to exclude it from sensitive areas. These can be implemented individually or in combination.

- Dams
- Berms (Dikes)
- Culvert blocking
- Interception barriers
- Sorbent and Trash Fences
- Booming

Since some of these techniques involve removal or disturbance of vegetative cover, it must be taken into account that many of the soils along pipeline routes are extremely sensitive and that such disturbance can cause hydraulic erosion. The Contingency Plan recommends precautions to prevent erosion and to completely restore soil and vegetation in disturbed areas, or the use of sound rip rap such as stone, hay or timber where applicable.

A second factor to consider when evaluating containment techniques at a specific site is the availability of on-site storage for contained or diverted product. In order for any containment technique to be effective, it is essential that the product be stored or removed from behind the containment or diversion device. The area where product is being diverted must be capable of storing all the material in a location where it may later be recovered. The same precaution holds true for product being stored up gradient from a containment device or structure.

Dams

There are two types of dam construction appropriate for product containment: The complete blocking of an actual or potential drainage course (a blocking dam) and the blocking of the product flow while letting water continue down-slope (an underflow dam).

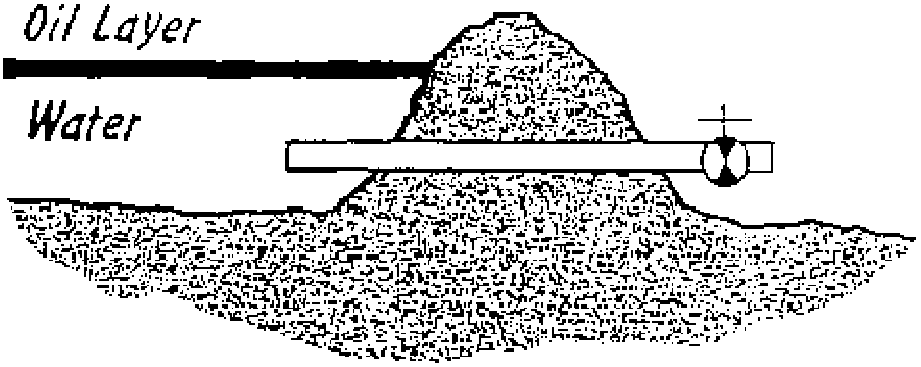
Blocking Dams: Blocking dams should be constructed only across drainage courses which have little or no water flow. The dam should be situated at an accessible point where there are high banks on the upstream side. It must be well keyed into the banks and buttressed to support the back pressure. It can be constructed from several types of materials - earth, sand or earth bags, sheets of metal or wood, or any material that blocks flow. Approval should be obtained for use of off-site material for control actions.

Other materials can be improvised from portions of the right of way.

The dam can be built across the drainage course to form a holding pond or reservoir to contain the released product and water. Water trapped behind the dam can be pumped out by placing a suction (intake) hose at the base of the dam on the upstream side, leaving product trapped behind the dam for subsequent removal. The discharge (outlet) hose should be placed on the downstream side. Trapped water can also be removed across the dam with one or more siphons.

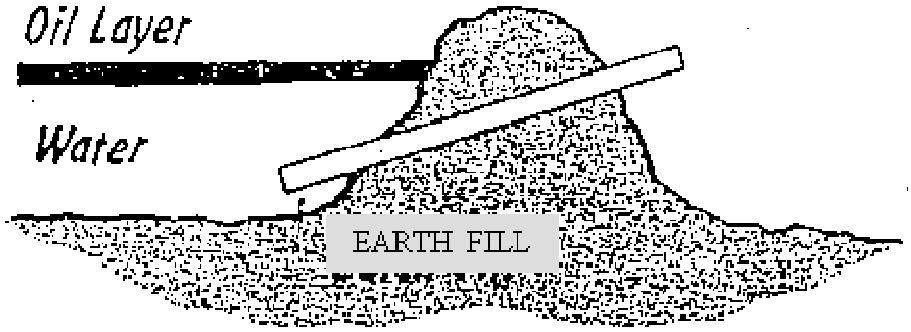
Underflow Dams: An underflow dam may be used for waterways with higher flow rates. If the dam is to be effective, the product/water interface must be above the top of the underflow opening. To maintain the proper level, it is necessary to remove some of the water through horizontal or inclined pipes, preferably with valves.

The underflow dam can be constructed by placing pipes of appropriate size on the stream bed and building an earthen or sandbag dam over the pipe across the waterway. The diameter of the pipe will depend on the flow rate of the stream and the depth of the water behind the dam. For example, 24" to 30" diameter pipe will have sufficient capacity for a flow rate of up to thirty cubic feet per second. A pair or series of dams may be required downstream if sufficient underflow cannot be maintained.



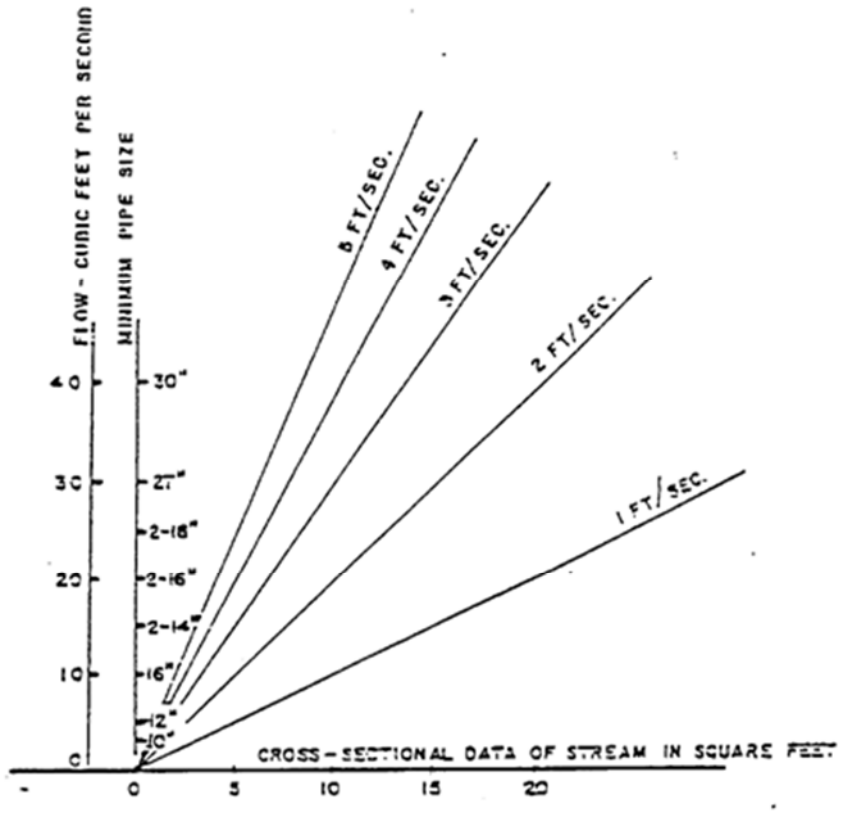
CREST OF DAM SHOULD BE OF SUFFICIENT WIDTH TO ACCOMMODATE COMPACTION VEHICLE. HEIGHT OF FILL IS 2 TO 3 FEET ABOVE FLUID LEVEL. NORMAL FALL ANGLE OF FILL WILL SUFFICE FOR SLOPING.

WATER BY-PASS DAM (VALVED PIPE)



WATER FLOW OF STREAM IS BY-PASSED TO MAINTAIN RESERVOIR LEVEL. ELEVATE DISCHARGE END OF TUBE(S) TO DESIRED RESERVOIR LEVEL.

WATER BY-PASS DAM (INCLINED TUBE)



PIPE SIZES	EQUIVALENT NUMBER OF PIPES													
IN INCHES	4	6	8	10	12	14	15	16	18	21	24	27	30	36
36	81	36	20	13	9	7	6	6	4	3	2	2	2	1
30	60	30	15	9	7	5	4	4	3	2	2	2	1	
24	40	16	9	6	4	3	3	3	2	2	1			
18	21	9	6	4	3	2	2	2	1					
16	16	8	4	3	2	2	2	1						
14	13	6	4	2	2	1								
12	9	4	3	2	1									
10	7	3	2	1										
AREA IN SQ. FEET	.078	.196	.349	.545	.785	1.07	1.23	1.396	1.77	2.41	3.14	3.98	4.91	7.07

NESTED PIPE AREA 4" + 8" + 12" + 16" = 2.631 Sq. Ft.
6" + 10" + 14" + 18" = 3.538 Sq. Ft.

WATER BY-PASS DAM (PIPE SIZE CHART)

Berms

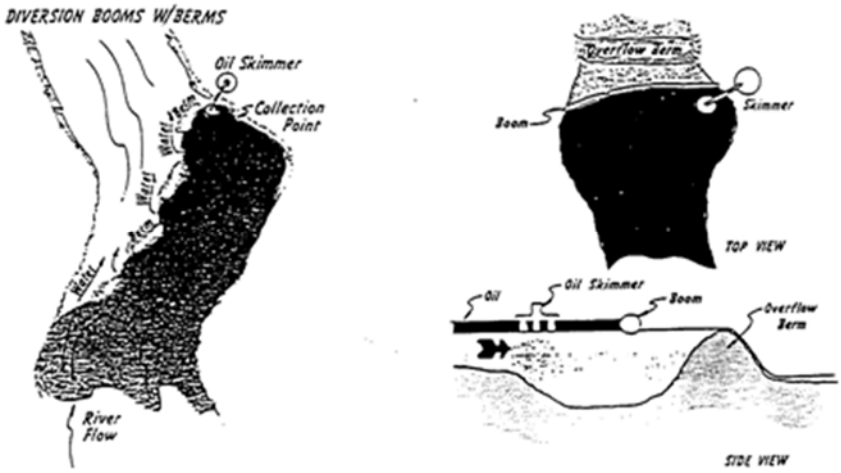
Berms are constructed to control flow by diversion or overflow. For creeks and rivers, overflow berms (weirs) or diversion berms can be constructed from materials in the floodplains. On land, earth berms can be built to divert or impede flow. In fast moving streams, berms may have to be continually maintained.

Multiple berms should be utilized and maintained on a 24 hour basis to prevent channelization and product bypassing the berm. Sorbents should be used to collect any residual product remaining behind the containment structures after initial recovery operations have been completed.

Diversion Berms: Diversion berms may be constructed from floodplain materials on large rivers. In most situations they should be constructed in a series, connected with short pieces of boom in a pattern that forces product to flow into a containment pit, side channel, or similar features for temporary storage. The spacing between each berm should allow water to flow under the connecting booms while forcing product to the side. The size and angle of the berms will be dictated by stream velocity, channel size, and product volume. As these factors increase, the required size of the berms will increase, and the angle between the upstream side of the berms and the stream bank will decrease.

Overflow Berms (Weirs): The purpose of overflow berms or weirs is to reduce water velocity by widening and deepening the stream. They can be constructed in small streams or in the side channels of larger rivers. Overflow berms must be constructed across the entire channel. Materials should be excavated from the upstream side of the berm, creating a pool where stream flow will be retarded permitting boom deployment and product removal upstream from the berm. The required height and width of the berm will increase with stream depth and water velocity.

Berms Built on Land: In most cases, berms constructed on land will act as barriers to product flow. They may also be used to divert the flow of product in a different direction so as to protect a sensitive area. A windrow of material along pipeline right of way, a highway, or road can prevent a release from crossing the right of way or road and divert it into a storage area. Berms can serve as protective barriers near sensitive areas.



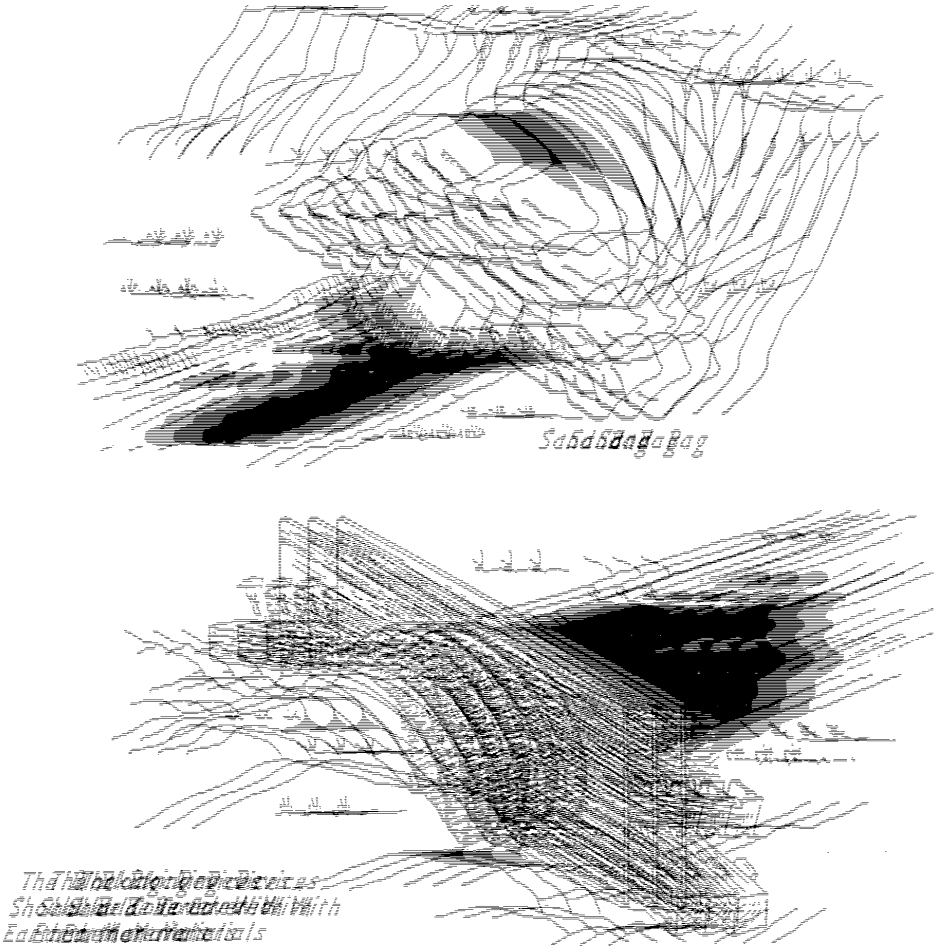
Culvert Blocking

There are several ways to block culverts. Perhaps the most effective method is to block them with earthen material - to pile dirt, sand, or a similar material over the end of the culvert. Placing sandbags or sheets of plywood over the end will also stop or retard flow.

Culverts that contain flowing water, and are to be blocked, may require the installation of an underflow device, or a pump or siphon to remove impounded water. Small volumes of water can be passed through a flume pipe covered with sandbags or dirt. Larger culverts that transport entire streams, tributaries,

creeks, or small rivers will require a more sophisticated underflow device. This can be constructed from large timbers, steel pipe, and plating.

Two pieces of pipe can be welded to a steel plate (dimensions of the pipe and plate will depend upon the size of the culvert). Large timbers with holes drilled in each end can be slipped over the pipes to act as a dam. Small blocks (chocks) can be inserted between the bottom timber and the steel plate to provide space for water to flow; the size of the chocks will vary with the volume of water that has to be removed from behind the dam.

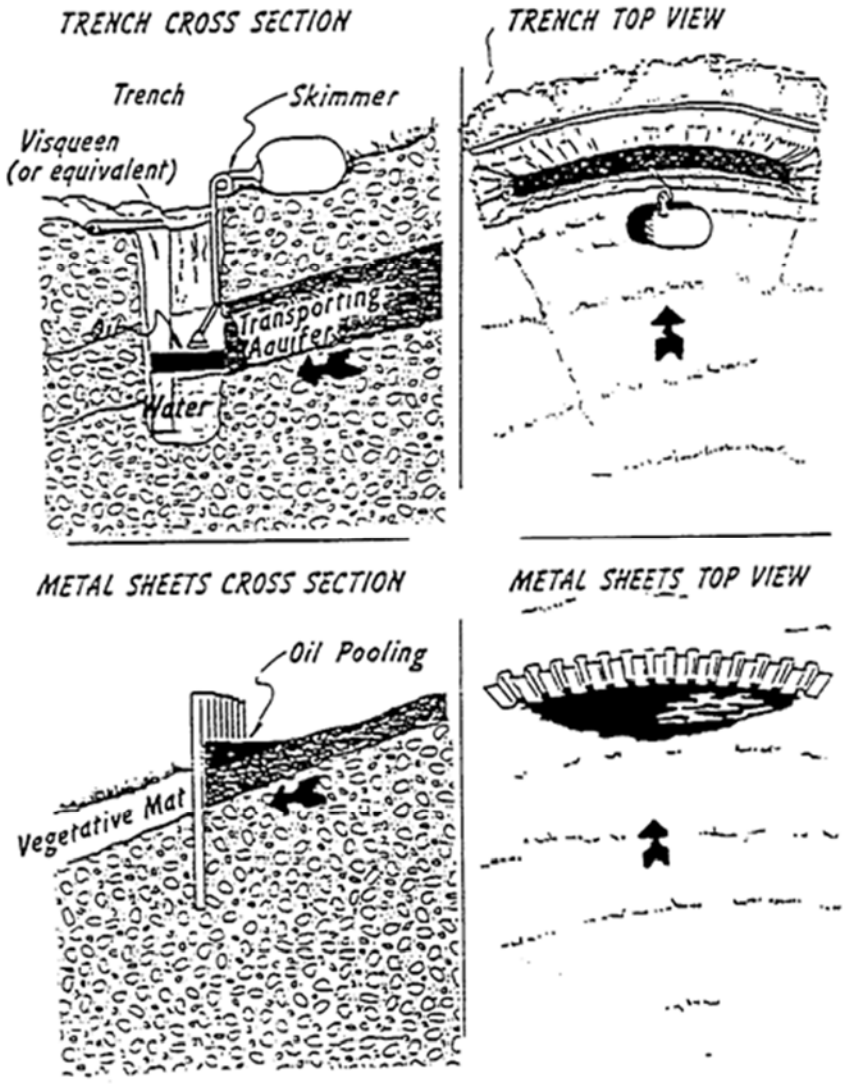


Interception Barriers

Interception barriers consist of trenches, ditches, and sheets of metal or plywood that intercept the subsurface flow of oil. Subsurface flow may be through a permeable layer that may or may not be transporting groundwater. It may also be between the vegetative mat and the ground surface. Trenches and sheet barriers may be used separately or together.

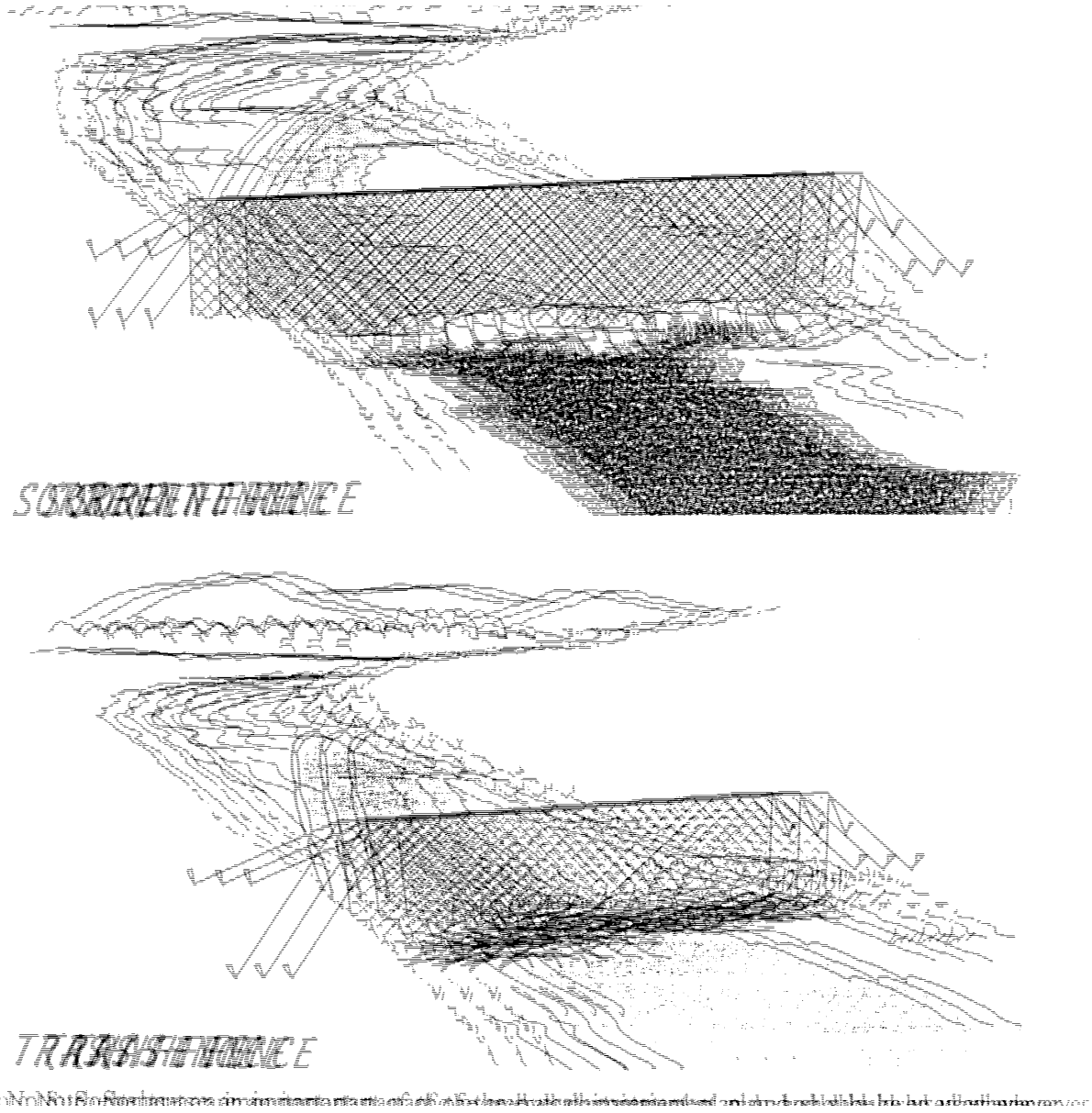
The direction of subsurface flow must be determined before a barrier is installed. First, surface reconnaissance of the area should be made. Good indications of flow are pools of product on the ground, dying or dead vegetation or an odor of product. If there are ditches that provide exposed banks, the

banks should be examined closely for seeping product. The entire area of suspected subsurface product flow should be checked. Probe rods and hydrocarbon detectors can be used. The boundaries of subsurface contamination can often be located by "poke and sniff" methods. Subsurface geology may permit product to flow in directions that do not coincide with surface gradients.



Sorbent and Trash Fences

Sorbent and trash fences may be used wherever stream depth or configuration render dams, berms, or booms impractical. Fences can be constructed quickly with stakes and wire mesh. Sorbent booms, pads, sheets, chips, straw, and small bushes may be used effectively. The mesh will hold the sorbent material while allowing the passage of water. This technique will require 24 hour maintenance to remove the product saturated sorbents and to replace them with fresh material.



Note: Sorbents are an important part of the overall containment plan and should be used whenever mechanical devices are not practical. However sorbents should never be used when there is not a reasonable way to recover them.

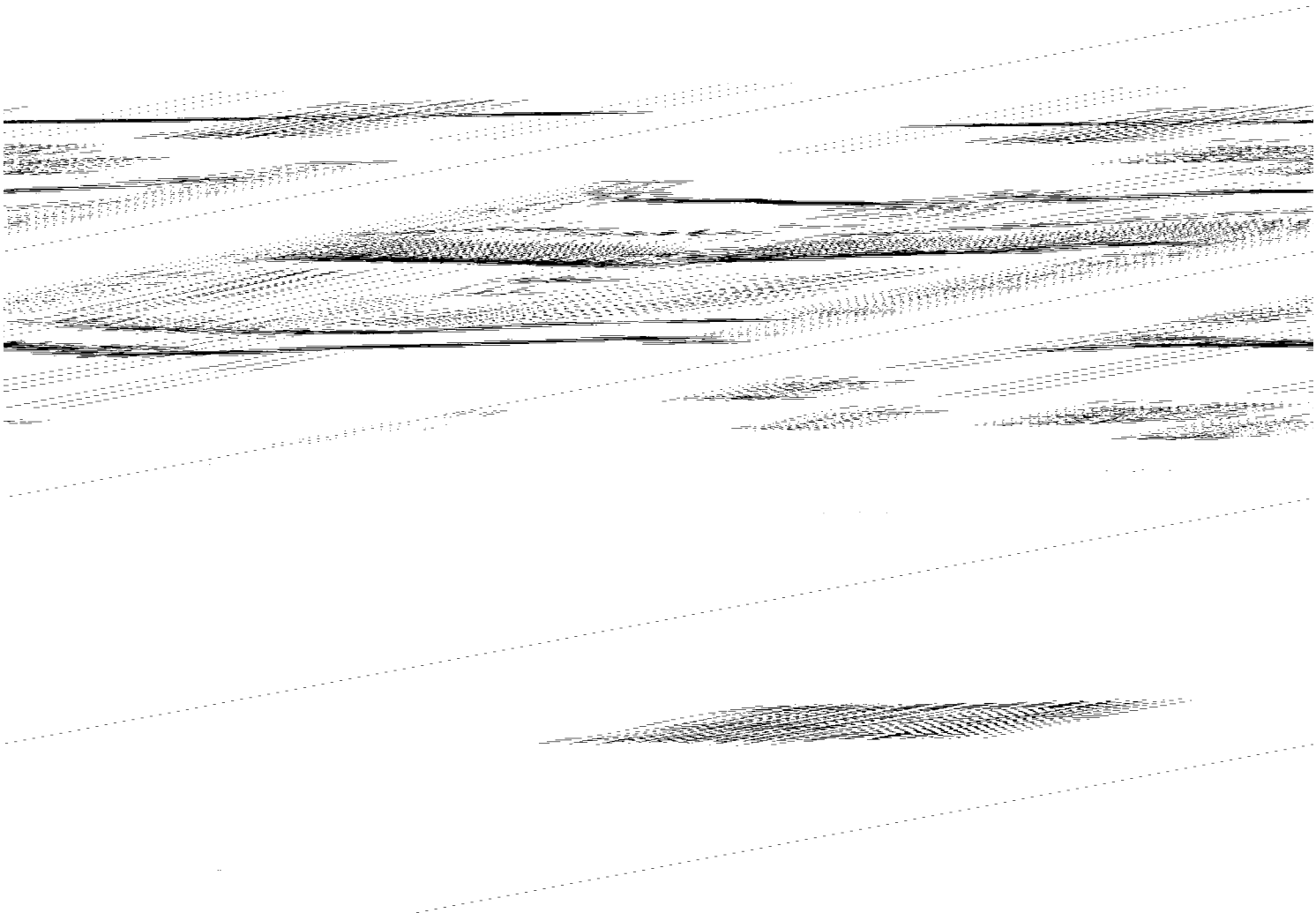
Booming

The diagram below depicts the typical boom used in rivers, lakes, and larger bodies of water. The size of the boom (skirt width, ballast, etc.) varies and is dependent on the purpose for which the boom is designed (open sea, harbor, river, etc.).

Booms may be deployed for two distinct purposes:

- To block and contain the flow of product at recovery location.
- To divert the product to a collection point.

In order for any of the methods to be effective, boom must be deployed at a minimum angle of thirty degrees. During high water periods, booms will require 24 hour maintenance. Debris must be continually removed to prevent damage to the boom material and potential release of captured product.



Booms to Block the Flow of Product: Booms used in a stream to block product flow and divert product into a collection point are deployed from bank to bank or from shore to shore. This technique is not likely to be useful on larger rivers. Current velocities over one knot will make it difficult to block the flow of product, and the product will have to be removed rapidly from the upstream side of the boom.

Booms deployed across the inlet stream to a lake may prevent product from reaching the lake itself. Boom the inlet and deploy preventive booms farther into the lake if necessary. Use containment booming along the shore to minimize the impact. However, booming the outlet to a lake is generally more practical because the surface of the lake provides a large storage area, and the decrease in current velocity aids in product recovery. To prevent a release from spreading once it has reached a lake, two boats towing

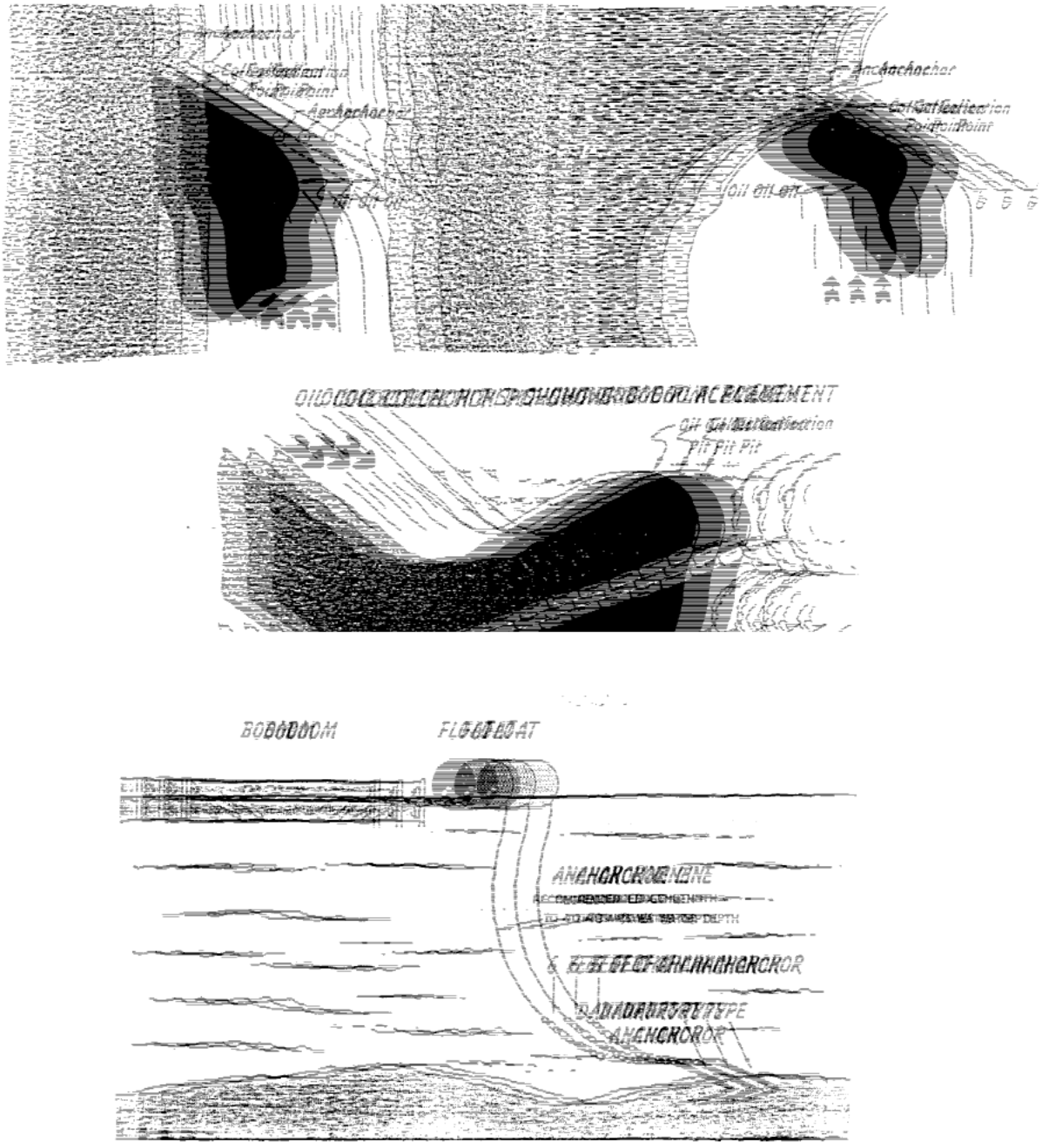
a long boom can encircle the slick and herd the product to a recovery site for removal.

Booms deployed across a river or stream will usually contain the flow of product if current velocity is less than about one knot (1.7 fps). Surface velocity of product is affected by a factor of approximately 3% of wind speed. This should be taken into consideration regardless of the wind direction.

If product is flowing into a lake or stream and then onto the bank, or if the product is leaking from the ground into a water body, booms can be placed parallel to the bank. This creates a surface area from which the product may be skimmed and recovered. Booms can also be placed parallel to shore lines and banks to prevent contamination of sensitive areas.

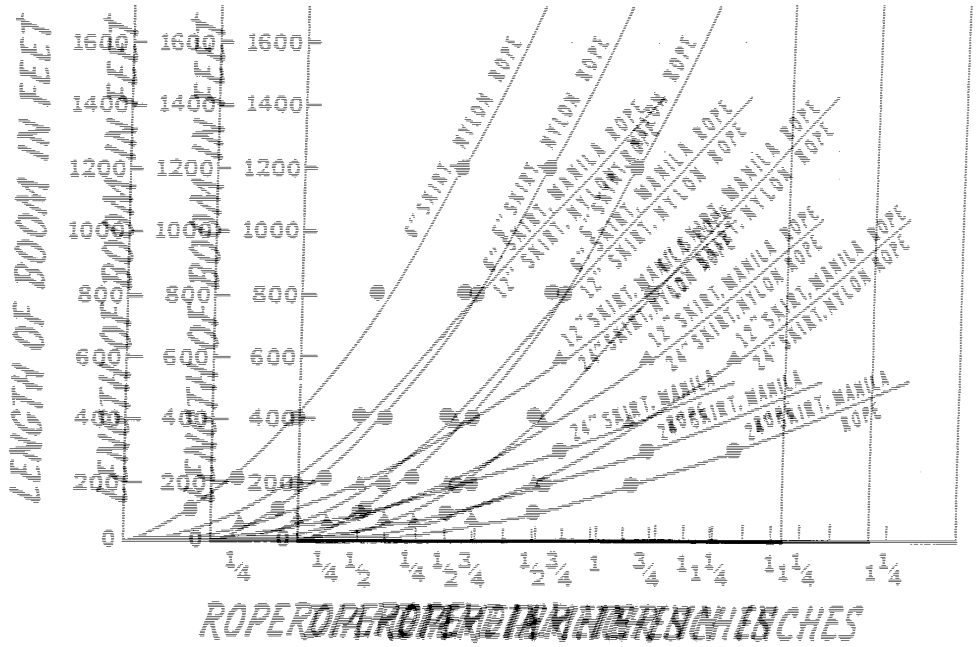
Diversion booming should be used if current velocity does not permit blocking and containment of product.

Deflection Booming: Diversion booms are deployed to direct product toward a containment pit or other collection area or to divert product away from environmentally sensitive areas. They can be deployed as single or multiple sections. Multiple booms may be staggered across main or side channels, or used in conjunction with berms and river bars. The specific technique used depends on river characteristics and size. When using deflection booms to divert product toward a containment pit/collection area, the downstream end at the collection area should be anchored by natural features (rocks and trees). The choice of upstream anchors depends on river size, system characteristics (incised or braided) and whether or not the boom angle needs to be adjusted in response to water velocity and product volume. Vehicles or boats may be used for upstream anchoring. Diversion booms deployed to protect environmentally sensitive areas will generally be fixed between boats, natural features, or berms.



In some instances it may not be possible or desirable to boom from shore to shore. The diagram above illustrates the proper technique for anchoring boom in mid-stream. This method may be used for one or both ends of the boom.

When anchoring boom either from shore to shore, shore to anchor, or anchor to anchor, consideration should be given to the size of rope necessary to secure the boom. The chart below depicts the correct rope diameter for various lengths and sizes of boom.



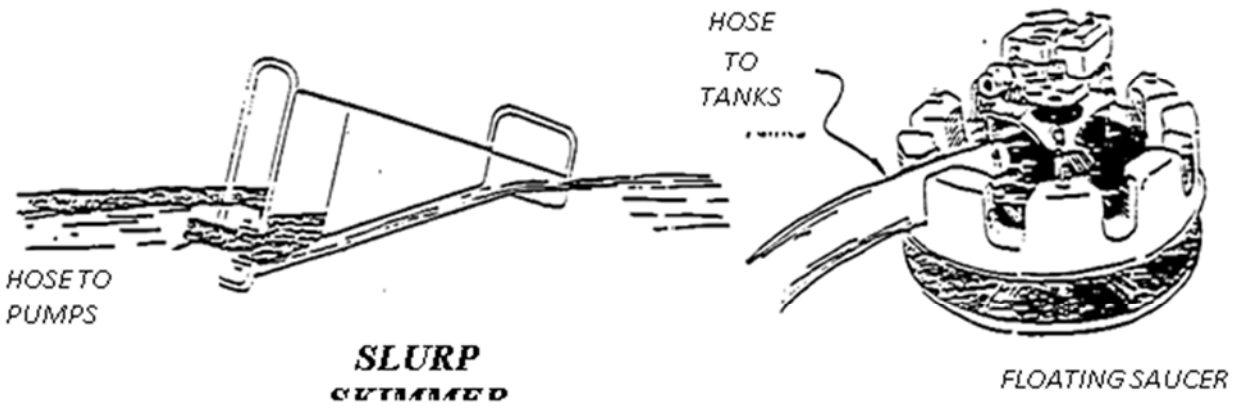
SKIMMERS

Skimming devices may be used where limited access would be a problem for larger vehicles and clean-up equipment. However, in order to be used in areas of limited access, the skimmer of choice should have the following characteristics:

- Portability – The skimmer should be small and lightweight to allow manual deployment by two or three men.
- Shallow Draft – The skimmer should be able to operate in shallow water close to the banks of streams and lake.
- Maneuverability – The skimmer should be able to move around obstructions such as fallen trees and rocks and work up against a boom.

Skimmers with the above specifications can be used along the shore lines of streams or banks in conjunction with diversion boom. The skimmers can also be used aboard a workboat inside of containment boom. In all cases, on-shore storage for collected product will have to be provided.

Two of the most common types of skimmers are shown below:



CLEAN UP AND RECOVERY TECHNIQUES

Early cleanup and disposal actions may be required to reduce or eliminate a threat to the public. If a threat to the public or environmentally sensitive area does not exist, cleanup and disposal can normally wait until after containment is accomplished and the pipeline is repaired. The following systems and materials can facilitate the removal of product and product contaminated materials:

- Heavy equipment
- Pressurized equipment
- Manual methods
- Skimmers
- Pumps
- Sorbents
- Pumping and flotation

It should be noted that the use of dispersants and other chemicals on releases is not an approved process on inland waters by any of the USEPA Regions.

Heavy Equipment

Bulldozers, front-end loaders, and backhoes can be used to remove product-contaminated soils from beaches, pipeline rights of way, river deltas, and floodplains. The same basic technique can be applied to cleaning up product along a highway or road.

Pressurized Equipment

There are four types of pressurized systems that are useful in removing product from rocks and man-made structures: hydro-blasting, air blasting, sandblasting, and steam cleaning. If one of these procedures is used, the Environmental Team must be consulted to determine if approval of these techniques by the appropriate state and federal agencies is necessary.

Pressurized equipment will remove a film of product from man-made structures. Care should be taken to ensure that the cleaning techniques do not cause more harm to the surface than the product. Hydro-blasting and steam cleaning will create pools of product around the surface being cleaned, and should always be used in conjunction with sorbents. Pressurized equipment should only be used with prior approval of state and federal agencies.

Safety should also be consulted to determine safe measures required when using pressure devices.

Manual Methods

The final stages of product clean-up will probably involve the hand cleaning of many surfaces, particularly areas that might be damaged by heavy equipment. Areas that are inaccessible to equipment or have only a small surface area should be cleaned by hand. Hand scrapers and wire brushes may be used to remove product impounded on rocks and man-made structures. A solvent such as acetone or a ketone that will remove this substance may be useful and will evaporate quickly, reducing the likelihood of further contamination. However, solvents are toxic and should not be used on surfaces having life forms. Approval by regulatory authorities must be obtained before using such methods.

Small pools of oil can be removed with sorbents. Product soaked debris may be cleaned up with shovels and rakes. If they must be left on site for periods of time, contaminated materials should be placed in impermeable storage containers such as polyethylene trash bags, polyethylene lined pits or approved steel drums. Small quantities of product contaminated debris can be placed in bags or piled up for removal. It may be necessary to remove contaminated vegetation and small rocks and debris by hand.

Skimmers

Skimmers are the simplest and most effective tools for removing product from the surface of water. Skimmers are normally used in conjunction with booms or diversion barriers. The three types of skimmers most commonly used are:

- Floating suction skimmer
- Floating weir skimming
- Hydraulically balanced floating weir skimmer

The three basic types of skimmers work in conjunction with booms for contained product. The principles are as follows: Floating suction units are constructed so the area of the mouth of the skimmer is large enough to permit wide coverage. In a floating suction head, a self-priming pump is needed to draw the product into the head, and the suction head is balanced to float at the product/water interface. Hoses float on top of the surface with the use of flotation collars. The advantages of suction-type skimmers are that they are simple to operate and can be used in most situations.

Floating weir skimmers are designed to allow product to flow over the top edge of a weir and into a collecting vessel where the product is removed through a flexible hose. The edge of the weir can be

adjusted so that it is set near the product/water interface to maintain good product recovery efficiency. The weir skimmer has buoyancy from floating cylinders. Hydraulically balanced floating weir skimmers automatically adjust according to preset internal liquid or air level. A flexible suction hose is connected to the bottom of the unit to remove the product as it collects inside the skimmer. Weir devices are used in many places because they are relatively inexpensive and can be constructed quickly. Support equipment, such as hoses, pumps, and storage tanks or transport tankers, is required. The weir-type skimmer operates on the principle of gravity. The top of the weir is positioned as close to the product/water interface as possible. The skimmer moves through the slick or is positioned in the current to intercept the product. The product and water flows across the weir into a sump or enclosed area. A suction pump transfers the mixture to storage tankers for transportation to permanent storage. Like most skimmers, this device works best in calm waters with a thick product slick. By carefully adjusting the weir, the maximum amount of product can be skimmed while minimizing the volume of water collected. Properly deployed boom can serve to concentrate the product and increase recovery rates.

Pumps

Vacuum trucks, diaphragm, and other types of pumps are essential in cleaning up a product release. Vacuum trucks may be positioned to directly remove product from the boom or hoses and temporary pipelines may be utilized. To increase the pumping efficiency, position transport tankers close by to off-load into them. This gives vacuum trucks quick turnaround time to continue pumping. After obtaining approval from the presiding regulatory authority, trucks should be decanted of water on site.

Diaphragm pumps may be useful in cleaning up large terrestrial releases. Because of their pumping characteristics, they are most efficient when the intake head is entirely submerged in the product. The discharge hose can lead into a truck or containment pit.

Sorbents

There are two classes of sorbents available for oil:

- Commercially available sorbents – packaged as rolls, pads, and booms.
- Naturally occurring materials – straw, hay, ground-corn cobs, peat, sawdust, and wood chips provide adequate sorption in the absence of commercial sorbents.

Additional commercial sorbents in the form of unconsolidated or bulk materials are also available but are difficult to retrieve and should be used only when necessary.

Commercial sorbents must be moved frequently to be effective. Rolls and pads are most efficient if they are turned over when the bottom side is saturated with product. Sorbent booms should be frequently rolled so that they are thoroughly exposed to the product. Booms may have to be weighted to ensure that they come in contact with the product. Sorbent booms can be used to remove light and/or small slicks from streams, ponds and lakes. The boom may be deployed between two boats or held by hand and dragged slowly through the slick or placed immediately downstream of primary boom to catch any product that bypasses the booms.

Sorbent pads and rolls are used to clean up residual slicks on bodies of water, shorelines, small pools of product on land, and small seeps. Pads can be distributed throughout boggy, marshy, and vegetated areas to remove small pools of product. They are particularly useful in areas that are sensitive to vehicular traffic as well as in remote areas.

Sorbents should be distributed during containment operations to absorb small amounts of product escaping from between the booms. This will reduce the area of contamination.

One disadvantage of the natural organic sorbents is their tendency to absorb water as well as product. Once applied, they should be recovered quickly. The natural organics retain from three to six times their weight in product, which is slightly less than that of mineral products.

Baled fibrous materials such as straw and peat moss can be distributed by a commercial mulching machine, or by hand. After use, materials are usually collected manually. Straw and peat are relatively inexpensive and readily available. However, they tend to pose difficultly with recovery and disposal operations.

Fine particulate sorbents such as ground corn cobs and sawdust are easier to spread than the fibrous materials. If used, they should be distributed from the up-wind side of a slick with a fan or blower or by hand. A boom should be placed downwind to collect both product and sorbent for easier recovery. Organic sorbents should be collected shortly after application.

Pumping and Flotation

In addition to skimming, there are two techniques involving pumping that apply to cleanup:

- Water flooding (flotation).
- Pumping subsurface product contaminated water to the surface.

Water flooding is a means of floating released product to the surface where it can be cleaned up with sorbents, skimmers, and booms.

In areas such as bogs as well as sand and gravel areas, product that has migrated downward can be forced to the surface by water flooding. A dam or other method of interception barrier can be installed down gradient or downstream from the contaminated area. Water can be impounded or backed up over contaminated soil in the dammed area and used to float product to the surface. The product can be removed using booms, skimmers, and sorbents. In areas where the contaminated material is more consolidated, the water may have to be pumped into the ground through one or more holes drilled down to the groundwater table.

When the oil has migrated to a depth of more than six feet, drilling and pumping techniques will have to be employed. Drilling and subsequent pumping of contaminated groundwater requires some knowledge of the subsurface hydrology of the affected areas. The following should be determined before implementing this process:

- Flow rates within the contaminated aquifer.
- Depth of the subsurface flow.
- Amount of water being supplied to the aquifer.
- Extent of the contamination.

The depth of the groundwater table (GWT) can be determined by forcing a tube into the soil layers. Pumping will lower the GWT, forming a depression that will trap the product so it can be pumped out. The size of pumps and rates of pumping are dictated by the rate of groundwater flow, the amount of water replenishing the GWT, and the amount of product released. The product in the water pumped from the

hole may be emulsified. The discharge hose of the pump should be connected directly to at least two large storage containers. Hoses and/or temporary pipelines may be used to provide this connection in cases where pumping units and storage containers are some distance apart.

While one storage receptacle is being filled, the other should be discharged into an oil/water separator. If pumping is discontinued before the entire volume of product is removed, the GWT will return to its former position, allowing the product to migrate farther into the aquifer.

Water used for the purposes of flooding and pumping should be properly treated before being discharged. It may be necessary to consult with the Environmental Team before using local streams, lakes, or rivers as a source of water. In some cases, a permit may be required from the appropriate state or federal department of Fish and Game Commission. If a portable oil/water separator is available, treated water may be re-circulated.

TRANSPORT AND STORAGE OF RECOVERED PRODUCT

Work order contracts are maintained with tank truck companies system-wide. Additionally, a listing of contacts with other tank truck contractors is maintained in each response zone. Adequate transportation to handle the recovered product will be arranged.

Recovered product may be transported to the nearest Colonial facility downstream of the affected line section and either placed in tankage or injected into the pipeline. Colonial's facilities are located approximately every thirty five miles along the pipeline.

If the recovered product volume is greater than the tank capacity at a Colonial facility, the product will be injected into the pipeline. Product may be pulled away from the injection location, thereby creating "storage" adequate for worst case volumes.

DISPERSING AGENTS

Dispersing agents, also called dispersants, are chemicals that contain surfactants and/or solvent compounds that act to break petroleum oil into small droplets. In an oil release, these droplets disperse into the water column where they are subjected to natural processes, such as waves and currents that help to further break them down. This helps to clear oil from the water's surface, making it less likely that the oil slick will reach the shoreline.

Environmental factors, including water salinity, temperature, and conditions at sea influence the effectiveness of dispersants. Studies have shown that most dispersants work best at salinities close to that of normal seawater. **EPA and/or State policies do not allow the use of dispersants unless authorized by an On-Scene Coordinator or the Regional Response Team.**

TYPES OF ENVIRONMENTS IMPACTED

Freshwater Marshes/Swamps

Description:

- Marshes characterized by soft-bodied, non-persistent, herbaceous vegetation, such as grasses. Swamps also have dense stands of water tolerant shrubs and trees.
- High degree of species diversity. May harbor sensitive or endangered species.
- Breeding and nursery areas for many species.
- Sediments usually consist of organic soils with a soupy consistency.
- Foot travel tends to be difficult.

Predicted Impact:

- Minimal flushing and organic soils allow oil to remain in environment.
- Season is important – dormant vegetation least sensitive; blooming and budding plants most sensitive.
- High mortality rate – especially for reptiles, amphibians, and crustaceans.
- Trace contamination can impact water supplies.

Suggested Actions:

- High-priority areas require the use of release protection devices to minimize impact (i.e. deflection booms, skimmers).
- Allow lightly covered areas to recover naturally.
- Avoid activities that mix oil into organic soils and sediments.
- Conduct manual pickup from boats and floating platforms.
- Use the least intrusive cleanup methods. A no-action alternative may be appropriate to minimize the environmental impact.
- Quick flushing and removal of oil while still fresh can reduce long-term impacts.

Vegetated Bank

Description:

- Low banks with grasses or steeper banks with trees.
- Located in fresh or brackish water.
- Contain a variety of plant species.

Predicted Impact:

- Heavy oil concentrations penetrate areas and coat plant and ground surfaces. Impact can be severe.
- Oil can persist for months.
- Water supplies can be impacted through trace contamination.

Suggested Actions:

- Use caution when cleaning. Supervise and minimize plant cutting, if conducted.
- A no-action alternative may be appropriate to minimize environmental impact.
- Cleanup usually unnecessary for light coatings; heavier accumulations may require sediment removal to allow new growth.
- Low-pressure spraying may aid removal.

Sand Beaches

Description:

- Fine/coarse sand and gravel beaches. Typically found along coastal areas and along sandbars in inland rivers.
- Sloping profiles vary from gentle to steep.
- Species density and diversity low along coarse sand or gravel beaches.

Predicted Impact:

- Heavy accumulations of oil can cover entire beach surface.
- Oil can penetrate from 15 cm to 60 cm deep.
- Organisms living along beach killed through smothering or by oil in the water column. Reduces food sources for birds and other animals.
- Birds and animals may become oil coated.

Suggested Actions:

- Fine sand beaches are easier to clean.
- Minimize sand removal to prevent erosion. Manual cleanup more efficient. Heavy equipment may remove excess sand.
- Prevent grinding of oil deeper into beach by limiting activity in heavily contaminated areas.

Riprap Structures

Description:

- Cobble to boulder-sized rocks used for shoreline protection.
- Organisms and plant life can be plentiful and varied.

Predicted Impact:

- Deep penetration of oil between boulders. If left, oil can become asphaltic.
- Fauna and flora may be killed by oil.

Suggested Actions:

- Remove all oiled debris.
- Use sorbents to remove oil in crevices.

- May remove and replace heavily oiled riprap to prevent chronic appearance of sheen.

Bluffs

Description:

- Usually found along eroding riverbanks.
- Composed of mixed grain sizes (from silt to gravel).
- Biological activities usually low.

Predicted Impact:

- Oil forms band along top of water line. Can penetrate into sandy sediments.
- Wave or current action can flush off oil within days or weeks.

Suggested Actions:

- Cleanup usually not necessary due to short residence time.
- Manual labor can be used to scrap oil from surfaces.
- Avoid removing sediments.
- Avoid mechanical cleanup (limited access and steep slopes).

Wall, Piers, and Docks

Description:

- Common in developed areas to protect or facilitate access in residential and industrial locations.
- Constructed of concrete, stone, wood, or metal.
- Mussels, shellfish, and algae often found attached to structure.

Predicted Impact:

- Oil percolates between joints and coats surfaces.
- Biota damaged or killed under heavy accumulations.

Suggested Actions:

- High-pressure spraying may remove oil, prepare substrate for recolonization of fauna/flora, and minimize aesthetic damage and chronic leaching of oil from structure.

CLEAN UP TECHNOLOGIES

The following table presents a number of alternatives for cleaning up oil in the environment, primarily along shorelines.

ACTION	DESCRIPTION	WHEN TO USE	BIOLOGICAL CONSTRAINTS	ENVIRONMENTAL EFFECTS
No Action	No action is taken.	When shoreline extremely remote, inaccessible, or cleanup will do more damage or an effective method is not available.	Not for areas with high number of mobile animals.	Same impact as oil.
Manual Removal	Remove surface oil by manual means and placed in containers for disposal. No mechanized equipment is used.	For areas where oil can be easily removed.	None.	Minimal if surface disturbance and work force movement is limited.
Passive Collection Sorbents	Sorbent material placed on oil surface.	When oil is viscous and thick enough to be absorbed.	None. Method can be slow allowing oil to remain in critical habitats.	No major effects except if soaked sorbent materials are left in environment.
Debris Removal	Manual or mechanical removal of debris, including cutting and removal of oiled logs.	Use on any accessible area. Especially important when contaminated debris could contaminate other organisms.	None.	None.
Trenching	Dig wells or trenches to the depth of oil and pump oil out of well. Best with lighter oils.	Fine grain sand beaches, coarse sand, and gravel beaches where oil has seeped in and cannot be removed by manual cleaning.	None.	None.

Colonial Pipeline Company
RELEASE RESPONSE STRATEGIES

ACTION	DESCRIPTION	WHEN TO USE	BIOLOGICAL CONSTRAINTS	ENVIRONMENTAL EFFECTS
Sediment Removal	Mechanical or manual removal of sediments. Material disposed of off-site.	Used on sand, pebble, and cobble beaches where limited amounts of oiled material have to be removed. Do not use in areas with erosion potential. Do not remove sediments past the depth of oil penetration.	Mechanized equipment should not be used in areas adjacent to endangered or sensitive species.	Maybe detrimental if too much sediment removed without replacement.
Cold Water Flooding	Wash oil from surfaces and crevices to water's edge for collection.	Boulder, cobble, gravel, and coarse sand mixed with sediment and rock. Not applicable to mud, vegetated upland, or steep rocky shorelines. Frequently used with low or high pressure washing.	Not appropriate at creek mouths.	Habitats may be physically disturbed as sand and gravel are mixed. Organisms may be flushed away.
Cold Water/Low Pressure Washing	Remove oil that has adhered to rocks or man-made structures. Oil floated to shoreline for pickup by a skimmer.	Boulder, cobble, and rock/seawall shorelines heavily oiled. Not appropriate for sedimentary habitats. Best where adhered oil must be removed to prevent continuous release into environment.	Not appropriate for sand, gravel, mud beaches, marshes, or shorelines where destruction of biological communities must be avoided.	May flush contamination into other areas. Increases turbidity in water.
Cold Water/High Pressure Washing	Better for removing adhered oil. Water pressure up to 100 psi.	Riprap, rock, and seawalls. Can be used to float oil out of crevices.	Not appropriate for sand, gravel, mud beaches, marshes, or shorelines where destruction of biological communities must be avoided.	Removes many organisms on surface. May drive oil deeper or flush into other environments. Increases turbidity.
Warn Water/Moderate to High Pressure Washing	Mobilize thick and weathered oil adhered to rock surfaces prior to flushing it down shore for pickup.	Boulder, cobble, and rock/seawall shorelines that are heavily oiled. Not appropriate for sedimentary habitats. Good for weathered or difficult to remove oil.	Tradeoff between damage to the biological community versus damage from leaving oil in place.	Can kill or remove most organisms. May flush oil into other environments. Increases turbidity.

ACTION	DESCRIPTION	WHEN TO USE	BIOLOGICAL CONSTRAINTS	ENVIRONMENTAL EFFECTS
Hot Water Pressure Washing	Dislodge trapped oil from inaccessible locations and surfaces not amenable to mechanical removal. Requires extensive equipment (water heat – 170°F). Vacuuming necessary to remove oil flowing from rocks and soil.	Not applicable to sandy beaches, marshes, or where difficult to place equipment.	Must be careful not to remove all attached organisms from surfaces. Decreases biodegradation potential.	Has a highly negative impact on most environments. Possibility of driving oil further into substrate.
Slurry Sand Blasting	Use sandblasting equipment to remove heavy residual oil from solid substrates.	Seawalls and riprap. Equipment can be operated from boat or land.	Not to be used in areas with high biological abundance on the shoreline.	Possible destruction or smothering of organisms.
Vacuum	Use suction head, hose, and pump and storage tank to recover free oil from the water surface.	Use for large volumes of free oil. Can be used on any shoreline if accessible.	Do not use in areas where foot traffic and equipment may harm organisms.	Minimal impact if done correctly.
Shoreline Removal, Cleansing and Replacement	Remove and clean oiled substrata before returning it to the excavated area. Cleansing includes hot water wash or physical agitation with a cleansing solution.	Sand, pebble, gravel, etc. Applicable where permanent removal of sediment is undesired. Equipment must be close to excavation area to reduce transport problems. Cleaning solutions must be properly disposed.	Typically unacceptable in spawning areas. Almost all life will be removed from area. Replaced material must be free of oil and toxic substances.	May be detrimental if excessive substrate is not replaced. Very large equipment causes environmental disruption. Could be negative impact if cleaning solution not properly disposed.
Cutting Vegetation	Manual cutting of oiled vegetation using weed eaters and removal of cut material with rakes. Cut vegetation is immediately bagged for disposal.	When risk of oiled vegetation contaminating wildlife is greater than the value of the vegetation that is to be cut, and there isn't a less destructive method.	Prevent forcing of oil into sediments and contaminating the root structures.	Can be a total loss of habitat for some animals. Erosion may occur if vegetation does not grow back.

DISPOSAL

Proposed disposal methods and sites must be submitted for review and approval by the appropriate regulatory agencies. Contract disposal services should be investigated to determine if the firms are financially responsible, licensed, protected by insurance, and reputable. Local air or water pollution control officers may be able to recommend contractors that meet state requirements.

Disposal methods include oil and water separation, burning, burial, and natural degradation. The specific disposal method selected depends on the nature of the material and the availability of existing disposal sites.

All disposal activities should be coordinated through the Environmental Team.

Contaminated Product

The Environmental Team should supervise disposal. Recovered product may be transported to existing pump stations and placed in the sump tank or utility tank and stored there until the water has dropped out or drained off. The remaining product can either injected back into the pipeline or sold to a third party. Quality control procedures must be followed before product is injected into the line.

Oil/Water Separation

In addition to oil/water separators at Colonial facilities, portable separators are available or can be constructed to suit the needs at the site. Recovered material can be stored in an available tank and treated with chemicals to hasten the water drop out. The water can be removed or drained off, leaving only product.

Contaminated Materials

Product contaminated materials such as sorbent pads, leaves, twigs, and driftwood materials can be collected, put into bags, and accumulated for transportation to appropriate disposal sites.

Transportation

Product contaminated materials and debris collected must be transported in approved vehicles. Licensed haulers of hazardous materials must obtain state or federal permits for their equipment. Truck beds must be sealed to prevent leakage of material and beds must be covered. A special waste manifest must be obtained from state authorities. The manifest provides a method of verification that both the cleanup contractor and the waste hauler have taken the waste to an approved disposal facility. It is the responsibility of the generator (Colonial) to ensure that applicable requirements for packaging, transportation, and disposal are met.

Disposal Sites

In most cases the state or local authorities will designate an approved public hazardous material disposal site. There are occasions where either a public disposal site is not located within a reasonable distance of the collection points, or due to the topography or the necessity to expedite removal of material from the area, a collection may be constructed and used as a disposal site. In this instance, approval must be obtained from the proper state and local authorities.

Burning

All recovered product should be removed from the disposal pit prior to requesting a permit from air pollution authorities to burn the contaminated materials and debris. A burning permit will contain restrictions as to the volume of material that can be burned at one time, weather conditions, and times of day, in addition to the density of smoke produced by the burning process. Air quality authorities must be notified each time material is to be burned.

Burial

If burning is not allowed, burial is an alternative disposal method. Land burial can be a safe and proper method of disposal if a suitable site can be found and correct procedures are followed.

Topography, geology, and hydrology are important in selecting disposal sites. Flat upland areas, gullies, ravines, and gentle sloping hills are suitable. Unfavorable sites include depressions where water accumulates, lower reaches of streams, floodplains or other sites near surface water areas. Leaching could occur at any of these latter sites if not properly controlled. Any area with saturated soil and pooled water on the surface is undesirable.

An adequate quantity of good cover material should be available close to the site. Sandy-silty material that is workable but relatively impervious (if properly compacted) makes the best cover material.

COMMUNICATIONS

Effective communications are imperative during an emergency situation. An effective communications network needs to be established as quickly as possible utilizing any and all types of available equipment and personnel that the situation requires.

Strategies

Overall: There are three major communication needs during an emergency response:

1. The Incident Command Center must be equipped with a variety of options to use to communicate with the outside world. These options include phone lines via a hotel switchboard (or other Incident Command Center provider), various radio systems and satellite phones.

2. The various emergency response sites (pickup sites, Staging, etc) must be able to communicate with the Incident Command Center. Specific methods are listed in the following sections.

3. An emergency response site (recovery site, Staging) will require communications between workers at that site so that information can be exchanged both within the site and relayed back to the Incident Command Center. Cell phones or hand held radios are the preferred method to communicate within the site. Satellite phones are also an option.

Incident Command Center

- Insure phone communications are available via landline and/or cell phone.
- Insure inbound/outbound Fax is available.
- Install internet access is available for computers.
- Utilize a satellite phone if other means of communications are not functional.
- Test different modes of communication to determine which ones are most reliable.
- Establish a schedule for periodic progress reports from section leaders and recovery sites.
- Meetings of section leaders should be held twice daily prior to shift changes to review the status of the clean-up and the upcoming 12 hour plan.

- Prepare and maintain personnel lists with pertinent information (landline phone #, shift, hotel/room #, cellular phone #, email address, texting address, satellite phone #, etc.).
- Prepare maps with directions to the Incident Command Center, Staging, each containment/recovery site, product off-loading sites, and hotels.
- Have runners available should all other means of communications fail or become disabled.

Staging/Logistics

- Insure phone communications are available via landline and/or cell phone.
- Insure inbound/outbound fax is available.
- Insure internet access is available for computers.
- Test different modes of communication to determine which ones are most reliable.
- Utilize a satellite phone if other means of communications are not functional.
- Have runners available to set up a remote communications point if no means of communication are functional at the Staging location.

Oil Containment/Recovery Sites

- Test different modes of communication to determine which ones are most reliable.
- Utilize a satellite phone if other means of communications are not functional.
- Have runners available if normal communications are inadequate at the work site. Personnel may need to be positioned at locations where there is good reception (e.g.: at a higher elevation). Runners can be used to convey information between the work site and the relay points.

Ground Recon

- Utilize portable radio and/or cellular phone if there is adequate reception.
- Utilize a satellite phone if other means of communications are not functional.

Aerial Recon

- In the event that air-to-ground radio communications are not functional and something is observed that warrants urgent notification, land the helicopter at a location where communications can be established via cellular, radio, or satellite phone.

Public Affairs/ROW Claims

- Establish an office separate from Incident Command Center.
- Insure phone communications are available via landline and/or cell phone.
- Insure inbound/outbound fax is available.
- Establish internet connectivity via hotel, cellular air card, a local wifi provider, and/or a satellite internet data connection.
- Advertise 1-800 claims notification phone number for those affected by the incident per regulatory requirements.
- P.R. and claims to each have at least one representative available around the clock.

Types of Communication Equipment
(See IT ER Suggested Supplies for detailed list)

Voice:

- Hardwired Telephones
- Cellular and Smart Phones
- Satellite Phones
- Internet phone services such as Skype

Data:

- Local wired connection such as hotel or local service provider
- Local wifi connection such as hotel, coffee shop, etc.
- Cellular air cards and/or hotspots
- Cell phone hotspots and/or tethering
- Satellite data services

Other:

- Switches and/or Routers with wifi capability
- Faxing capability via fax machines or PC
- Printers
- Scanners
- Cameras
- Cables as needed to connect equipment
- Extension cords and surge protectors
- Equipment chargers including mobile chargers

Hardwired telephones are the most reliable form of communication and should be used if available. This mode of communication must (if at all possible) be used for discussion of sensitive topics or information. The incident command center will normally be located at a facility with several hardwired phones.

Cellular Telephones

Cellular telephones are used extensively unless reception is poor. Caution must be observed as these instruments are not intrinsically safe.

Satellite Telephones

Portable satellite telephones are quite versatile and can overcome the remote area reception problems that have been encountered with portable radios and cellular phones. The latest models are lightweight. The primary disadvantage is one-half second time delays between each transmission (e.g. phone-to-satellite-phone travel time).

Portable Radios

Portable radios are useful if towers can be accessed or if line of sight can be established. Operation can be erratic. Smaller hand-held radios may be used without a tower for up to five miles depending on

terrain. Some Nextel push-to-talk cell phones may also be used for up to five miles even if cellular services are not available.

E-mail

During an emergency, Colonial's Email System or any internet connected Email system can be used to send messages to the Incident Commander and/or the Situation Room in Atlanta. Colonials' email system includes mailboxes for "Incident Commander" (email address incident@colpipe.com) and "Atlanta Support Team" (email address response@colpipe.com).

Fax

Fax machines can be used to distribute maps, correspondence, verify permits, press releases, etc.

Colonial Pipeline Company

AIR MONITORING PROTOCOLS DURING EMERGENCY RESPONSE

AIR MONITORING DURING RECON AND INITIAL RESPONSE

Air monitoring equipment must be zeroed, bump-tested, and (as-necessary) calibrated prior to performing recon and initial response activities. Initial air monitoring results must be used to establish and delineate a perimeter where air contaminant or combustible vapors are at or below safe working levels (defined in the table below). The support (cold) zone must be established outside of this perimeter. Recon personnel should approach spill sites (and suspected spill sites) from upwind directions. Colonial personnel must suspend activities and withdraw to safe positions if conditions encountered exceed safe working levels.

Note: Low-lying areas (trenches, depressions, etc.) and enclosed spaces that need to be entered have an increased risk of containing hazardous levels of airborne contaminants.

Safe Working Levels during Recon and Initial Response

CHEMICAL/HAZARD	SAFE WORKING LEVELS	RATIONALE
LEL	<10%	Safe vapor concentration level
Oxygen	19.5% - 23.5%	OSHA acceptable breathing air range
H2S	<1ppm	ACGIH TLV-TWA for H2S
Benzene	<0.5ppm	OSHA PEL Action Level for benzene
Gasoline	<300ppm	ACGIH TLV-TWA for gasoline
Diesel	<12 ppm	ACGIH TLV-TWA for diesel fuel
Kerosene/Jet Fuel	<28 ppm	ACGIH TLV-TWA for kerosene

- OSHA PEL-TWA = The permissible concentration in air of a substance that shall not be exceeded in an 8 hour work shift or a 40 hour work week (OSHA 29 CFR: 1910.1000).
- Action Level = ½ of PEL.
- ACGIH TLV-TWA = The Threshold Limit Value-TWA is the concentration for a normal 8 hour work day and a 40 hour work week, to which nearly all workers may be repeatedly exposed, day after day, without adverse effect (ACGIH, 2011c).

AIR SAMPLING STRATEGIES DURING RECON AND INITIAL RESPONSE

Employees shall utilize real-time air monitoring devices to determine exposure levels and implement protective perimeters.

Sampling strategy

- WARNING: Personnel must not enter contamination reduction (hot) zones without proper PPE.
- Approach the release site from upwind. Identify alternate routes of escape and any potential ignition sources such as motor vehicles.
- Upon confirmation of the presence of product or product vapors through sight or smell, begin sampling for all hazards of concern listed above. Approaching the source, resample at least every hundred feet until detections reach or exceed any of the values listed above.

- If detection levels reach or exceed any of the values listed above, move at least 100 feet upwind and establish a protective perimeter. Establish perimeter boundaries in all directions using monitoring results taken in all cardinal directions or conservative decision-making.
- Once the boundary is established, conduct the following activities:
  - Evacuate any personnel within the hot zone that are without proper PPE.
  - Clearly mark boundaries with physical barrier – e.g. barrier tape, snow fence, signs, ropes, etc.
  - Keep unauthorized personnel away from the area.
  - Continue air monitoring at the perimeter at least every fifteen minutes.
  - Evacuate occupied buildings within or near the perimeter.
- If detection readings sustain (or drop) during any one hour period, monitoring frequency can be reduced to once per hour.
- Monitor weather conditions (wind direction, wind speed, humidity, etc.) to determine the areas of downwind impact.
- If detection levels are at or above any of the values above in areas near roadways or nearby communities (residential, commercial, or retail), discuss readings with local emergency responders to determine if evacuations, road closures, or other actions are appropriate.

Recommended Sampling Equipment and Frequency

Instrument	Sensor/Tube	Analyte	Detection Limits	Frequency
MSA® Altair 5 or 5X[1]	4-gas monitor	LEL	1 - 100%	Initial + continuous
Rae® Detection Tube	Benzene (w/ LP-1200 pump)	Benzene	0.5 – 10 ppm	Initial + every 15 minutes
Rae® Detection Tube	Gasoline (w/ LP-1200 pump)	Gasoline	30 – 1000 ppm	Initial + every 15 minutes
Rae® Detection Tube	Diesel & Jet Fuel (w/ LP-1200 pump)	Kerosene/Jet Fuel	0.5 – 25 ppm	Initial + every 15 minutes

[1]Equivalent LEL monitors may be used.
The equipment listed above is intended for worker protection strategies. As needed, community air monitoring shall be conducted by third party consultants or local responders using equipment with greater detection limits.

AIR MONITORING CONTRACTORS

As needed, Colonial uses third party consultants to provide primary air monitoring and employee exposure monitoring during emergency response operations. Air monitoring services may also be offered by most OSROs as part of their normal services for the protection of their personnel.

Upon initial notification, and based on initial assessment of the spill, the Safety Officer (SOFR) shall make

an immediate determination regarding mobilization of air monitoring contractors during an emergency response.

BENZENE

Protection thresholds for benzene are far lower than the other volatile organic compounds (VOCs) found in refined petroleum products. While multiple VOCs will likely be present during emergency response, benzene is often the primary hazard of concern during an emergency response when total VOC levels are not sufficient to cause an explosion/flammability hazards.

COMMUNITY EVACUATION AND REOCCUPATION GUIDELINES

Community evacuation and reoccupation guidelines are found below. All recommendations to authorities, however, must be closely coordinated with local response personnel and in accordance with site/event-specific air monitoring plans.

Initial evacuation recommendations should be based on the most recent revision of the Department of Transportation's *Emergency Response Guidebook* (ERG). Products transported by Colonial fall within ERG guide number 128 (Flammable Liquids). The table below contains evacuation guidelines from the ERG.

Initial Evacuation Guidelines from the DOT's *Emergency Response Guidebook*

Large Spill	Consider initial downwind evacuation for at least 300 meters (1000 feet)
Fire	Consider initial evacuation for 800 meters (1/2 mile) in all directions

Air monitoring consultants will produce site/event-specific air monitoring plans during emergency response. As air monitoring data becomes available, evacuation recommendations may be revised. General evacuation criteria are listed in the table below.

Product/Chemical-Specific General Evacuation Criteria

PRODUCT/CHEMICAL	COMMUNITY EVACUATION THRESHOLD
Gasoline (all grades)	≥ 0.2 ppm total VOCs
Benzene	≥ 0.05 ppm
Toluene	≥ 2.5 ppm
Ethyl benzene	≥ 2.3 ppm
Xylene	≥ 0.04 ppm
Diesel fuel (all grades)	≥ 0.2 ppm total VOCs
Kerosene (all grades)	≥ 0.1 ppm total kerosene
Naphthalene	≥ 10 ppm

Note: Evacuation thresholds are lower than the detection limits of sampling equipment utilized by Colonial employees. As needed, community air monitoring shall be conducted by third party consultants or local responders using equipment with greater detection limits.

Community reoccupation criteria are listed in table below. Reoccupation action levels are the inverse of evacuation levels. Reoccupation of residences will be determined based on air monitoring results, and a collaboration of Colonial emergency response personnel, local and/or government emergency response personnel, and air monitoring consultant advisors.

Community Reoccupation Criteria

PRODUCT/CHEMICAL	COMMUNITY EVACUATION THRESHOLD
Gasoline (all grades)	< 0.2 ppm total VOCs
Benzene	< 0.05 ppm
Toluene	< 2.5 ppm
Ethyl benzene	< 2.3 ppm
Xylene	< 0.04 ppm
Diesel fuel (all grades)	< 0.2 ppm total VOCs
Kerosene (all grades)	< 0.1 ppm total kerosene
Naphthalene	< 10 ppm

PRODUCT-SPECIFIC AIR MONITORING AND AIR SAMPLING STRATEGIES

Sampling Strategy:

- Obtain real time air monitoring data as soon as safely possible in the area nearest the spill and downwind of the spill for all hazards of concern listed above. Collect real time downwind data for LEL, benzene, and total VOCs first. *Note date/time, wind direction, GPS coordinates and location description, note odor presence or absence, equipment description, and use of respiratory protection. Communicate this data to first responders.
- Obtain liquid sample of product for percentage composition of hazards of concern. This data will help in establishing the chemicals of concern for this particular spilled product.
- Begin collecting real time data outside of the spill area in areas such as nearby facilities and businesses, nearby residences, schools, community buildings, hospitals, etc. in a 360 degree pattern. *Note date/time, wind direction, GPS coordinates and location description, presence or absence of odor, and equipment description.
- Establish a perimeter around the work area using real time equipment and analytical sampling stations. The perimeter should be established so as to capture all cardinal directions should shifts in wind direction take place during the response.
- Monitor weather conditions (wind direction, wind speed, humidity, etc.) to determine the areas of downwind impact.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

The following are the defined levels of PPE required. These levels may be modified depending on specific site conditions or job tasks as determined by the Safety Officer.

- **Level A** – Fully encapsulated chemical resistant suit, air-supplied respirator, inner/ outer gloves, over boots, two-way communications**.**
- **Level B –** SCBA (or Airline with escape pack), Nomex, Sarnex or coated Tyvex, chemical resistant boots, chemical resistant gloves and hard hat.
- **Level C –** Full/half face air purifying respirator, Nomex or coated Tyvex, chemical resistant (or safety toe) boots, chemical resistant gloves, eye protection and hard hat.

- **Level D –** Hard hat, eye Protection, foot protection, hearing protection. Level D PPE also includes helmet-mounted eye protection goggles.

GASOLINE (ALL GRADES)

Hazards of concern: (listed in SDS for product):
Xylene, toluene, n-hexane, benzene, 1,2,4-trimethylbenzene, ethyl benzene, and naphthalene.

Other hazards not listed specifically in SDS:
LEL (lower explosive limit), VOCs (volatile organic compounds).

Recommended Real-Time Data Collection

Instrument	Sensor/Tube	Analyte	Detection Limit
Multi-gas instrument[1]	PID (photo-ionization detector)	VOCs	0.1 ppm
Multi-gas instrument[2]	LEL sensor	LEL	1%
Ex. UltraRAE®	PID specifically calibrated for benzene	Benzene	0.05 ppm
Colorimetric Tube	Benzene Gastec® 121L	Benzene	0.1 ppm
Colorimetric Tube	Naphthalene Gastec® 60	Naphthalene	0.1 ppm
Colorimetric Tube	Toluene Gastec® 122L	Toluene	0.5 ppm
Colorimetric Tube	Xylene Gastec®123L	Xylene	1 ppm

[1]The multi-gas instrument PID will have a typical lamp size of 10.6. Use the manufacturer's set of technical notes to apply correction factors to obtain concentrations for specific analytes. The detection limit may also differ depending on the brand of instrument. The Multi-RAE plus instrument has a detection limit of 0.1 ppm for total VOCs and has correction factors for kerosene, xylene, toluene, n-hexane, benzene, ethylbenzene, and naphthalene.
[2] Use the manufacturer's guidelines to obtain correction factors for specific analyte monitored. The LEL sensor will have a real time detection based off of the calibration gas used. The RAE Systems LEL sensor has correction factors for jet fuel, xylene, toluene, n-hexane, benzene, ethylbenzene, and naphthalene.

Recommended Analytical Sample Collection

Instrument/Collection Device	Method	Analyte	Sample Period
Minican®/ Summa Canister	EPA-TO15	61 VOCs + library search for tentatively identified compounds (TICs)	24 hours
Passive Diffusion sampling badge (3M® 3520)	NIOSH 1550	Benzene, toluene, ethylbenzene, xylene (BTEX), kerosene	8 to 12 hours
Charcoal tube & sampling pump	NIOSH 1501	Benzene (STEL)/ aromatic hydrocarbons	15min/ 8 to 12 hours

Occupational Exposure Thresholds

CHEMICAL	OSHA			ACGIH		ADDITIONAL
	PEL-TWA	PEL-STEL	PEL-CEIL	TLV-TWA	TLV-STEL (C)	
Benzene (ppm)	1	5	25, 50**	0.5	2.5	A1 carcinogen
Ethyl Benzene (ppm)	100	-	-	20	125	URT irr; kidney; cochlear impair
Toluene (ppm)	200	-	300, 500‡	20	-	Visual impair; reproductive
Xylene (ppm)	100	-	-	100	150	URT irr; eye irr; CNS impair
Trimethylbenzene				25		URT irr; eye irr; CNS impair
Gasoline (ppm)	300 (VOC)	500		300	500	URT irr; eye irr; CNS impair

OSHA PEL-TWA = The permissible concentration in air of a substance that shall not be exceeded in an 8 hour work shift or a 40 hour work week (OSHA 29 CFR: 1910.1000).
OSHA PEL-STEL = The time weighted average exposure that should not be exceeded for any 15 minute period (OSHA 29 CFR: 1910.1000).
OSHA PEL-Ceiling = The exposure limit that shall at no time be exceeded. If instantaneous monitoring is not feasible, then the ceiling shall be assessed as a 15 minute time-weighted average (TWA) exposure, which shall not be exceeded at any time during the working day (OSHA 29 CFR: 1910.1000).
ACGIH TLV-TWA = The Threshold Limit Value-TWA is the concentration for a normal 8 hour work day and a 40 hour work week, to which nearly all workers may be repeatedly exposed, day after day, without adverse effect (ACGIH, 2011c).
ACGIH TLV-Ceiling = The ceiling exposure limit is the concentration to which workers cannot be exposed to for any period of time (ACGIH, 2011c).

Colonial Pipeline Company

AIR MONITORING PROTOCOLS DURING EMERGENCY RESPONSE

ACGIH TLV-STEL = The STEL exposure limit is a 15 minute time weighted exposure that should not be exceeded at any time during a work day. (ACGIH, 2011c).

Actions and PPE for Work Areas

Job Task	Level	Environment[1]	Respirator
Gasoline			
General Air Monitoring	D	< 300 ppm	None
Air Monitoring w/ vapor exposure	B	≥ 300 ppm	SCBA or airline respirator w/ 10 min escape
Benzene			
General Air Monitoring	D	< 0.5 ppm	None
Air Monitoring w/ vapor exposure	C	0.5 – 5 ppm	Half-face APR w/ P100 OVM
Air Monitoring w/ vapor exposure	C	> 5 – < 25 ppm	Full-face APR w/ P100 OVM
Air Monitoring w/ vapor exposure	B	≥ 25 ppm	SCBA or airline respirator w/ 10 min escape
Toluene			
General Air Monitoring	D	< 20 ppm	None
Air Monitoring w/ vapor exposure	C	≥ 20 – < 200 ppm	Half-face APR w/ P100 OVM
Air Monitoring w/vapor exposure	C	≥ 20 – < 500 ppm (IDLH Applied)	Full-face APR w/ P100 OVM
Air Monitoring w/ vapor exposure	B	≥ 500 ppm (IDLH Applied)	SCBA or airline respirator w/ 10 min escape
Ethyl benzene			
General Air Monitoring	D	< 20 ppm	None
Air Monitoring w/ vapor exposure	C	≥ 20 – < 200 ppm	Half-face APR w/ P100 OVM
Air Monitoring w/ vapor exposure	C	≥ 20 – < 800 ppm (IDLH applied)	Full-face APR w/ P100 OVM
Air Monitoring w/ vapor exposure	B	≥ 800 ppm (IDLH applied)	SCBA or airline respirator w/ 10 min escape
Xylene			
General Air Monitoring	D	< 100 ppm	None
Air Monitoring w/ vapor exposure	C	≥ 100 – < 900 ppm (IDLH applied)	Half-face APR w/ P100 OVM
Air Monitoring w/ vapor exposure	C	≥ 100 – < 900 ppm (IDLH applied)	Full-face APR w/ P100 OVM
Air Monitoring w/ vapor exposure	B	≥ 900 ppm (IDLH applied)	SCBA or airline respirator w/ 10 min escape

1= All concentration values represent sustained levels.

Safety Zone Establishment

Exclusion (hot) zone and Contamination Reduction (warm) *zone* work area perimeters should be based on the respiratory protection requirement, APR, and SCBA respectively. During a spill with highly volatile compounds, it will be important to establish an odor response team for community complaints. All odors within the nearby community that are a concern to a resident or neighboring facility should be evaluated.

If average benzene concentrations are found in the work area > 0.5 ppm a sampling plan for workers will need to be implemented based on the OSHA specific standard for benzene (1910.1028).

DIESEL FUEL (ALL GRADES)

Hazards of concern: (listed in SDS for product):
Fuel oil No. 2.

Other hazards not listed specifically in SDS:
LEL (lower explosive limit), benzene, and VOCs (volatile organic compounds).

Recommended Real-Time Data Collection

Instrument	Sensor/Tube	Analyte	Detection Limit
Multi-gas instrument[1]	PID (photo-ionization detector)	VOCs	0.1 ppm
Multi-gas instrument[2]	LEL sensor	LEL	1%
Ex. UltraRAE®	PID specifically calibrated for benzene	Benzene	0.05 ppm
Colorimetric Tube	Benzene Gastec® 121L	Benzene	0.1 ppm

[1] The multi-gas instrument PID will have a typical lamp size of 10.6. Use the manufacturer's set of technical notes to apply correction factors to obtain concentrations for specific analytes. The detection limit may also differ depending on the brand of instrument. The Multi-RAE plus instrument has a detection limit of 0.1 ppm for total VOCs and has a correction factor for benzene and diesel fuel #2.
[2] Use the manufacturer's guidelines to obtain correction factors for specific analyte monitored. The LEL sensor will have a real time detection based off of the calibration gas used. The RAE Systems LEL sensor does not have a specific correction factor for diesel fuel.

Recommended Analytical Sample Collection

Instrument/Collection Device	Method	Analyte	Sample Period
Minican®/ Summa Canister	EPA-TO15	61 VOCs + library search for tentatively identified compounds (TICs)	24 hours
Passive Diffusion sampling badge (3M® 3520)	NIOSH 1550	Benzene, toluene, ethylbenzene, xylene (BTEX), kerosene	8 to 12 hours
Charcoal tube & sampling pump	NIOSH 1501	Benzene (STEL)/ aromatic hydrocarbons	15min/ 8 to 12 hours

Occupational Exposure Thresholds

CHEMICAL	OSHA			ACGIH		ADDITIONAL
	PEL-TWA	PEL-STEL	PEL-CEIL	TLV-TWA	TLV-STEL (C)	
Benzene (ppm)	1	5	25, 50**	0.5	2.5	A1 carcinogen
Diesel				100 mg/m^3		12 ppm VOCs

OSHA PEL-TWA = The permissible concentration in air of a substance that shall not be exceeded in an 8 hour work shift or a 40 hour work week (OSHA 29 CFR: 1910.1000).
OSHA PEL-STEL = The time weighted average exposure that should not be exceeded for any 15 minute period (OSHA 29 CFR: 1910.1000).
OSHA PEL-Ceiling = The exposure limit that shall at no time be exceeded. If instantaneous monitoring is not feasible, then the ceiling shall be assessed as a 15 minute time weighted average (TWA) exposure, which shall not be exceeded at any time during the working day. (OSHA 29 CFR: 1910.1000).
ACGIH TLV-TWA = The Threshold Limit Value-TWA is the concentration for a normal 8 hour workday and a 40 hour work week, to which nearly all workers may be repeatedly exposed, day after day, without adverse effect (ACGIH, 2011c).
ACGIH TLV-Ceiling = The ceiling exposure limit is the concentration to which workers cannot be exposed to for any period of time (ACGIH, 2011c).
ACGIH TLV-STEL = The STEL exposure limit is a 15 minute time weighted exposure that should not be exceeded at any time during a work day (ACGIH, 2011c).

Actions and PPE for Work Areas

Job Task	Level	Environment[1]	Action
Diesel			
General Air Monitoring	D	< 12 ppm total hydrocarbons *if benzene non-detect	None
Air Monitoring w/vapor exposure	C	≥ 12 – 120 ppm total hydrocarbons *if benzene < 5 ppm	Half-face APR w/ P100 OVM
Air Monitoring w/vapor exposure	C	≥ 12 ppm total hydrocarbons *if benzene < 25 ppm	Full-face APR w/ P100 OVM
Benzene			
General Air Monitoring	D	< 0.5 ppm	None
Air Monitoring w/ vapor exposure	C	0.5 – 5 ppm	Half-face APR w/ P100 OVM
Air Monitoring w/ vapor exposure	C	> 5 – < 25 ppm	Full-face APR w/ P100 OVM
Air Monitoring w/ vapor exposure	B	≥ 25 ppm	SCBA or airline respirator w/ 10 min escape

1= All concentration values represent sustained levels.

Safety Zone Establishment

Exclusion (hot) zone and Contamination Reduction (warm) zone work area perimeters should be based on the respiratory protection requirement, APR, and SCBA respectively. For diesel specifically an action level of 0.2 ppm VOCs should be established for further investigation in areas of the community not previously evacuated (This is a corrected value based off of the 8 hour TWA-TLV). During a spill with highly volatile compounds, it will be important to establish an odor response team for community complaints. All odors within the nearby community that are a concern to a resident or neighboring facility should be evaluated.

If benzene concentrations are found in the work area > 0.5 ppm a sampling plan for workers will need to be implemented based on the OSHA specific standard for benzene.

KEROSENE (ALL GRADES)

Hazards of concern: (listed in SDS for product):
Kerosene, naphthalene.

Other hazards not listed specifically in SDS:
LEL (lower explosive limit), benzene, and VOCs (volatile organic compounds).

Recommended Real-Time Data Collection

Instrument	Sensor/Tube	Analyte	Detection Limit
Multi-gas instrument[1]	PID (photo-ionization detector)	VOCs	0.1 ppm
Multi-gas instrument[2]	LEL sensor	LEL	1%
Ex. UltraRAE®	PID specifically calibrated for benzene	Benzene	0.05 ppm
Colorimetric Tube	Benzene Gastec® 121L	Benzene	0.1 ppm
Colorimetric Tube	Naphthalene Gastec® 60	Naphthalene	0.1 ppm

[1] The multi-gas instrument PID will have a typical lamp size of 10.6. Use the manufacturer's set of technical notes to apply correction factors to obtain concentrations for specific analytes. The detection limit may also differ depending on the brand of instrument. The Multi-RAE plus instrument has a detection limit of 0.1 ppm for total VOCs and has correction factors for kerosene, benzene, and naphthalene.

[2] Use the manufacturer's guidelines to obtain correction factors for specific analyte monitored. The LEL sensor will have a real time detection based off of the calibration gas used. The RAE Systems LEL sensor has correction factors for jet fuel, benzene, and naphthalene.

Recommended Analytical Sample Collection

Instrument/Collection Device	Method	Analyte	Sample Period
Minican®/ Summa Canister	EPA-TO15	61 VOCs + library search for tentatively identified compounds (TICs)	24 hours
Passive Diffusion sampling badge (3M® 3500)	NIOSH 1550	Benzene, kerosene	8 to 12 hours
Charcoal tube & sampling pump	NIOSH 1501	Benzene (STEL)/ aromatic hydrocarbons	15min/ 8 to 12 hours
Charcoal tube & sampling pump	NIOSH 1550	Kerosene/naphthalene	8 to 12 hours

Occupational Exposure Thresholds

CHEMICAL	OSHA			ACGIH		ADDITIONAL
	PEL-TWA	PEL-STEL	PEL-CEIL	TLV-TWA	TLV-SETL (C)	
Benzene (ppm)	1	5	25, 50**	0.5	2.5	A1 carcinogen
Kerosene				28.7		
Naphthalene	10			10	15	2B possible carcinogen

OSHA PEL-TWA = The permissible concentration in air of a substance that shall not be exceeded in an 8 hour work shift or a 40 hour work week (OSHA 29 CFR: 1910.1000).

OSHA PEL-STEL = The time weighted average exposure that should not be exceeded for any 15 minute period (OSHA 29 CFR: 1910.1000).
OSHA PEL-Ceiling = The exposure limit that shall at no time be exceeded. If instantaneous monitoring is not feasible, then the ceiling shall be assessed as a 15 minute time-weighted average (TWA) exposure, which shall not be exceeded at any time during the working day. (OSHA 29 CFR: 1910.1000).
ACGIH TLV-TWA = The Threshold Limit Value-TWA is the concentration for a normal 8 hour work day and a 40 hour work week, to which nearly all workers may be repeatedly exposed, day after day, without adverse effect (ACGIH, 2011c).
ACGIH TLV-Ceiling = The ceiling exposure limit is the concentration to which workers cannot be exposed to for any period of time (ACGIH, 2011c).
ACGIH TLV-STEL = The STEL exposure limit is a 15 minute time weighted exposure that should not be exceeded at any time during a work day. (ACGIH, 2011c).

Actions and PPE for Work Areas:

Job Task	Level	Environment[1]	Action
Kerosene			
General Air Monitoring	D	<28 ppm *if benzene non-detect	None
Air Monitoring w/vapor exposure	C	≥ 28 ppm *if benzene < 5 ppm	Half-face APR w/ P100 OVM
Air Monitoring w/vapor exposure	C	≥ 28 ppm *if benzene < 25 ppm	Full-face APR w/ P100 OVM
Benzene			
General Air Monitoring	D	< 0.5 ppm	None
Air Monitoring w/ vapor exposure	C	0.5 – 5 ppm	Half-face APR w/ P100 OVM
Air Monitoring w/ vapor exposure	C	>5 – <25 ppm	Full-face APR w/ P100 OVM
Air Monitoring w/ vapor exposure	B	≥ 25 ppm	SCBA or airline respirator w/ 10 min escape

1= All concentration values represent sustained levels.

Safety Zone Establishment

Exclusion (hot) zone and Contamination Reduction (warm) zone work area perimeters should be based on the respiratory protection requirement, APR, and SCBA respectively. During a spill with highly volatile compounds, it will be important to establish an odor response team for community complaints. All odors within the nearby community that are a concern to a resident or neighboring facility should be evaluated.

If benzene concentrations are found in the work area > 0.5 ppm a sampling plan for workers will need to be implemented based on the OSHA specific standard for benzene.

TRANSMIX

Hazards of concern: (listed in SDS for product):
Petroleum distillates, fuel oil no. 2, kerosene, xylene, toluene, n-hexane, benzene, 1,2,4-trimethylbenzene, ethylbenzene, and naphthalene.

Other hazards not listed specifically in SDS:
LEL (lower explosive limit), VOCs (volatile organic compounds).

Recommended Real-Time Data Collection

Instrument	Sensor/Tube	Analyte	Detection Limit
Multi-gas instrument[1]	PID (photo-ionization detector)	VOCs	0.1 ppm
Multi-gas instrument[2]	LEL sensor	LEL	1%
Ex. UltraRAE®	PID specifically calibrated for benzene	Benzene	0.05 ppm
Colorimetric Tube	Benzene Gastec® 121L	Benzene	0.1 ppm
Colorimetric Tube	Naphthalene Gastec® 60	Naphthalene	0.1 ppm
Colorimetric Tube	Toluene Gastec® 122L	Toluene	0.5 ppm
Colorimetric Tube	Xylene Gastec®123L	Xylene	1 ppm
Colorimetric Tube	Naphtha Gastec®106	Naphtha	0.1 mg/L

[1] The multi-gas instrument PID will have a typical lamp size of 10.6. Use the manufacturer's set of technical notes to apply correction factors to obtain concentrations for specific analytes. The detection limit may also differ depending on the brand of instrument. The Multi-RAE plus instrument has a detection limit of 0.1 ppm for total VOCs and has correction factors for kerosene, naphtha, xylene, toluene, n-hexane, benzene, ethylbenzene and naphthalene.
[2] Use the manufacturer's guidelines to obtain correction factors for specific analyte monitored. The LEL sensor will have a real time detection based off of the calibration gas used. The RAE Systems LEL sensor has correction factors for jet fuel, xylene, toluene, n-hexane, benzene, ethylbenzene, and naphthalene.

Recommended Analytical Sample Collection

Instrument/Collection Device	Method	Analyte	Sample Period
Minican®/ Summa Canister	EPA-TO15	61 VOCs + library search for tentatively identified compounds (TICs)	24 hours
Passive Diffusion sampling badge (3M® 3520)	NIOSH 1550	Benzene, toluene, ethylbenzene, xylene (BTEX), kerosene	8 to 12 hours
Charcoal tube & sampling pump	NIOSH 1501	Benzene (STEL)/ aromatic hydrocarbons	15min/ 8 to 12 hours

Occupational Exposure Thresholds

CHEMICAL	OSHA			ACGIH		ADDITIONAL
	PEL-TWA	PEL-STEL	PEL-CEIL	TLV-TWA	TLV-SETL (C)	
Benzene (ppm)	1	5	25, 50**	0.5	2.5	A1 carcinogen
Ethyl Benzene (ppm)	100	-	-	20	125	URT irr; kidney; cochlear impair
Toluene (ppm)	200	-	300, 500‡	20	-	Visual impair; reproductive
Xylene (ppm)	100	-	-	100	150	URT irr; eye irr; CNS impair
Trimethylbenzene				25		URT irr; eye irr; CNS impair
Naphtha	25					Analogy to kerosene

OSHA PEL-TWA = The permissible concentration in air of a substance that shall not be exceeded in an 8 hour work shift or a 40 hour work week (OSHA 29 CFR: 1910.1000).

OSHA PEL-STEL = The time weighted average exposure that should not be exceeded for any 15 minute period (OSHA 29 CFR: 1910.1000).

OSHA PEL-Ceiling = The exposure limit that shall at no time be exceeded. If instantaneous monitoring is not feasible, then the ceiling shall be assessed as a 15 minute time-weighted average (TWA) exposure, which shall not be exceeded at any time during the working day (OSHA 29 CFR: 1910.1000).

ACGIH TLV-TWA = The Threshold Limit Value-TWA is the concentration for a normal 8 hour workday and a 40 hour work week, to which nearly all workers may be repeatedly exposed, day after day, without adverse effect (ACGIH, 2011c).

ACGIH TLV-Ceiling = The ceiling exposure limit is the concentration to which workers cannot be exposed to for any period of time (ACGIH, 2011c).

ACGIH TLV-STEL = The STEL exposure limit is a 15 minute time weighted exposure that should not be exceeded at any time during a work day. (ACGIH, 2011c).

Colonial Pipeline Company

AIR MONITORING PROTOCOLS DURING EMERGENCY RESPONSE

Actions and PPE for Work Areas

Job Task	Level	Environment[1]	Action
Naphtha			
General Air Monitoring	D	< 20 ppm VOCs *if benzene non-detect	None
Air Monitoring w/vapor exposure	C	≥ 20 – 200 ppm VOC *if benzene < 5 ppm	Half-face APR w/ P100 OVM
Air Monitoring w/vapor exposure	C	≥ 20 ppm VOC *if benzene < 25 ppm	Full-face APR w/ P100 OVM
Air Monitoring w/ vapor exposure	B	≥ 1,100 ppm *10% of the LEL	SCBA or airline respirator w/ 10 min escape
Benzene			
General Air Monitoring	D	< 0.5 ppm	None
Air Monitoring w/ vapor exposure	C	0.5 – 5 ppm	Half-face APR w/ P100 OVM
Air Monitoring w/ vapor exposure	C	> 5 – < 25 ppm	Full-face APR w/ P100 OVM
Air Monitoring w/ vapor exposure	B	≥ 25 ppm	SCBA or airline respirator w/ 10 min escape
Toluene			
General Air Monitoring	D	< 20 ppm	None
Air Monitoring w/ vapor exposure	C	≥ 20 – < 200 ppm	Half-face APR w/ P100 OVM
Air Monitoring w/ vapor exposure	C	≥ 20 – < 500 ppm (IDLH Applied)	Full-face APR w/ P100 OVM
Air Monitoring w/ vapor exposure	B	≥500 ppm (IDLH Applied)	SCBA or airline respirator w/ 10 min escape
Ethyl benzene			
General Air Monitoring	D	< 20 ppm	None
Air Monitoring w/ vapor exposure	C	≥ 20 – < 200 ppm	Half-face APR w/ P100 OVM
Air Monitoring w/ vapor exposure	C	≥ 20 – < 800 ppm (IDLH applied)	Full-face APR w/ P100 OVM
Air Monitoring w/ vapor exposure	B	≥ 800 ppm (IDLH applied)	SCBA or airline respirator w/ 10 min escape
Xylene			
General Air Monitoring	D	< 100 ppm	None
Air Monitoring w/ vapor exposure	C	≥ 100 – < 900 ppm (IDLH applied)	Half-face APR w/ P100 OVM
Air Monitoring w/ vapor exposure	C	≥ 100 – <900 ppm (IDLH applied)	Full-face APR w/ P100 OVM
Air Monitoring w/ vapor exposure	B	≥ 900 ppm (IDLH applied)	SCBA or airline respirator w/ 10 min escape

1= All concentration values represent sustained levels.

Safety Zone Establishment

Exclusion (hot) zone and Contamination Reduction (warm) zone work area perimeters should be based on the respiratory protection requirement, APR, and SCBA respectively. During a spill with highly volatile compounds, it will be important to establish an odor response team for community complaints. All odors within the nearby community that are a concern to a resident or neighboring facility should be evaluated.

If benzene concentrations are found in the work area > 0.5 ppm a sampling plan for workers will need to be implemented based on the OSHA specific standard for benzene.

BIODIESEL (ALL GRADES)

Hazards of concern: (listed in SDS for product):
Petroleum distillates and benzene.

Other hazards not listed specifically in SDS:
LEL (lower explosive limit), naphtha, and VOCs (volatile organic compounds).

Recommended Real-Time Data Collection

Instrument	Sensor/Tube	Analyte	Detection Limit
Multi-gas instrument[1]	PID (photo-ionization detector)	VOCs	0.1 ppm
Multi-gas instrument[2]	LEL sensor	LEL	1%
Ex. UltraRAE®	PID specifically calibrated for benzene	Benzene	0.05 ppm
Colorimetric Tube	Benzene Gastec® 121L	Benzene	0.1 ppm
Colorimetric Tube	Naphtha Gastec®106	Naphtha	0.1 mg/L

[1] The multi-gas instrument PID will have a typical lamp size of 10.6. Use the manufacturer's set of technical notes to apply correction factors to obtain concentrations for specific analytes. The detection limit may also differ depending on the brand of instrument. The Multi-RAE plus instrument has a detection limit of 0.1 ppm for total VOCs and has correction factors for naphtha and benzene.
[2] Use the manufacturer's guidelines to obtain correction factors for specific analyte monitored. The LEL sensor will have a real time detection based off of the calibration gas used. The RAE Systems LEL sensor has correction factors for jet fuel, gasoline, and benzene.

Recommended Analytical Sample Collection

Instrument/Collection Device	Method	Analyte	Sample Period
Minican®/ Summa Canister	EPA-TO15	61 VOCs + library search for tentatively identified compounds (TICs)	24 hours
Passive Diffusion sampling badge (3M® 3520)	NIOSH 1550	Benzene, toluene, ethylbenzene, xylene (BTEX)	8 to 12 hours
Charcoal tube & sampling pump	NIOSH 1501	Benzene (STEL)/ aromatic hydrocarbons	15min/ 8 to 12 hours

Occupational Exposure Thresholds

CHEMICAL	OSHA			ACGIH		ADDITIONAL
	PEL-TWA	PEL-STEL	PEL-CEIL	TLV-TWA	TLV-SETL (C)	
Benzene (ppm)	1	5	25, 50**	0.5	2.5	A1 carcinogen
Naphtha	25					* analogy to kerosene

OSHA PEL-TWA = The permissible concentration in air of a substance that shall not be exceeded in an 8 hour work shift or a 40 hour work week (OSHA 29 CFR: 1910.1000).
OSHA PEL-STEL = The time-weighted average exposure that should not be exceeded for any 15 minute period (OSHA 29 CFR: 1910.1000).
OSHA PEL-Ceiling = The exposure limit that shall at no time be exceeded. If instantaneous monitoring is not feasible, then the ceiling shall be assessed as a 15 minute time-weighted average (TWA) exposure, which shall not be exceeded at any time during the working day (OSHA 29 CFR: 1910.1000).
ACGIH TLV-TWA = The Threshold Limit Value-TWA is the concentration for a normal 8 hour work day and a 40 hour work week, to which nearly all workers may be repeatedly exposed, day after day, without adverse effect (ACGIH, 2011c).
ACGIH TLV-Ceiling = The ceiling exposure limit is the concentration to which workers cannot be exposed to for any period of time (ACGIH, 2011c).
ACGIH TLV-STEL = The STEL exposure limit is a 15 minute time weighted exposure that should not be exceeded at any time during a work day. (ACGIH, 2011c).

Actions and PPE for Work Areas:

Job Task	Level	Environment[1]	Action
Naphtha			
General Air Monitoring	D	< 20 ppm VOCs *if benzene non-detect	None
Air Monitoring w/vapor exposure	C	≥ 20 – 200 ppm VOC *if benzene < 5 ppm	Half-face APR w/ P100 OVM
Air Monitoring w/vapor exposure	C	≥ 20 – 1000 ppm VOC *if benzene < 25 ppm	Full-face APR w/ P100 OVM
Air Monitoring w/ vapor exposure	B	≥ 1,100 ppm *10% of the LEL	SCBA or airline respirator w/ 10 min escape
Benzene			
General Air Monitoring	D	< 0.5 ppm	None
Air Monitoring w/ vapor exposure	C	0.5 – 5 ppm	Half-face APR w/ P100 OVM
Air Monitoring w/ vapor exposure	C	> 5 – < 25 ppm	Full-face APR w/ P100 OVM
Air Monitoring w/ vapor exposure	B	≥ 25 ppm	SCBA or airline respirator w/ 10 min escape

1= All concentration values represent sustained levels.

Safety Zone Establishment

Exclusion (hot) zone and Contamination Reduction (warm) zone work area perimeters should be based on the respiratory protection requirement, APR, and SCBA respectively. During a spill with highly volatile compounds, it will be important to establish an odor response team for community complaints. All odors within the nearby community that are a concern to a resident or neighboring facility should be evaluated.

If benzene concentrations are found in the work area > 0.5 ppm a sampling plan for workers will need to be implemented based on the OSHA specific standard for benzene.

Colonial Pipeline Company
BLOCK VALVE LOCATIONS

District	State	Line_Number	Location_ Code	Valve Name	Remarks	Remote Control Valve	County	Milepost	Engstation	Lat	Long	In_Flood_Zone
SED	Alabama	LINE 46202	0462		Main-line Block Valve	No	Jefferson	(b) (7)(F), (b) (3)				Yes
SED	Alabama	LINE 2	0401	Vance Station	Main-line Block Valve	No	Bibb					No
SED	Alabama	LINE 2	0401	Moundville Station	Main-line Block Valve	No	Hale					No
SED	Alabama	LINE 46208	0462		Main-line Block Valve	No	Jefferson					Yes
SED	Alabama	LINE 46204	0462		Main-line Block Valve	No	Jefferson					Yes
SED	Alabama	LINE 1	0402	East of Coosa Rvr	Main-line Block Valve	No	Shelby					No
SED	Alabama	LINE 44901	0449	Boligee Del. Facility	Block Valve	No	Greene					No
SED	Alabama	LINE 1	0402	Oxford Station	Main-line Block Valve	Yes	Calhoun					Yes
SED	Alabama	LINE 1	0402	Pelham Station	Main-line Block Valve	No	Shelby					No
SED	Alabama	LINE 1	0402	St. Ives Station	Main-line Block Valve	Yes	Talladega					No
SED	Alabama	LINE 1	0401	Moundville Sta. Iso	Main-line Block Valve	No	Hale					No
SED	Alabama	LINE 46213	0462		Main-line Block Valve	No	Jefferson					Yes
SED	Alabama	LINE 46101	0461		Main-line Block Valve	No	Calhoun					Yes
SED	Alabama	LINE 2	0402	Pelham Station	Main-line Block Valve	No	Shelby					No
SED	Alabama	LINE 2	0401	Moundville Station	Main-line Block Valve	Yes	Hale					No

Colonial Pipeline Company
BLOCK VALVE LOCATIONS

SED	Alabama	LINE 2	0401	Vance Station	Main-line Block Valve	Yes	Bibb	(b) (3), (b) (7)(F)	No
SED	Alabama	LINE 46211	0462		Main-line Block Valve	No	Jefferson		Yes
SED	Alabama	LINE 46201	0462		Main-line Block Valve	No	Jefferson		Yes
SED	Alabama	LINE 1	0401	Pelham Station	Main-line Block Valve	No	Shelby		No
SED	Alabama	LINE 44902	0449	Boligee Trap Site	Block Valve	No	Greene		No
SED	Alabama	LINE 46217	0462		Main-line Block Valve	No	Jefferson		Yes
SED	Alabama	LINE 44902	0449	Boligee Del. Facility	Block Valve	No	Greene		No
SED	Alabama	LINE 1	0403	West Tallapoosa Rvr	Main-line Block Valve	No	Cleburne		No
SED	Alabama	LINE 2	0401	Pelham Station	Main-line Block Valve	No	Shelby		No
SED	Alabama	LINE 1	0402	East of Coosa Rvr	Main-line Block Valve	No	Talladega		No
SED	Alabama	LINE 46203	0462		Main-line Block Valve	No	Jefferson		Yes
SED	Alabama	LINE 46201	0462		Main-line Block Valve	No	Jefferson		Yes
SED	Alabama	LINE 1	0401	Vance Station	Main-line Block Valve	Yes	Bibb		No
SED	Alabama	LINE 1	0401	West of Cahaba River	Main-line Block Valve	No	Shelby		No
SED	Alabama	LINE 2	0401	Moundville Station	Main-line Block Valve	No	Hale		No
SED	Alabama	LINE 2	0401	Vance Station Iso	Main-line Block Valve	No	Bibb		No

Colonial Pipeline Company
BLOCK VALVE LOCATIONS

SED	Alabama	LINE 2	0401	W of Cahaba River	Main-line Block Valve	No	Shelby	(b) (3), (b) (7)(F)	No
SED	Alabama	LINE 12	0405	Helena Jct.	Main-line Block Valve	Yes	Shelby		No
SED	Alabama	LINE 46205	0462		Main-line Block Valve	No	Jefferson		Yes
SED	Alabama	LINE 46214	0462		Main-line Block Valve	No	Jefferson		Yes
SED	Alabama	LINE 1	0401	Moundville Sta. Iso	Main-line Block Valve	Yes	Hale		No
SED	Alabama	LINE 1	0403	E of Choccolocco Cr	Main-line Block Valve	No	Calhoun		Yes
SED	Alabama	LINE 46207	0462		Main-line Block Valve	No	Jefferson		Yes
SED	Alabama	LINE 46209	0462		Main-line Block Valve	No	Jefferson		Yes
SED	Alabama	LINE 1	0401	Pelham Station	Main-line Block Valve	No	Shelby		No
SED	Alabama	LINE 1	0403	Heflin Station	Main-line Block Valve	No	Cleburne		No
SED	Alabama	LINE 2	0401	W Black Warrior Rvr	Main-line Block Valve	No	Greene		No
SED	Alabama	LINE 1	0403	Heflin Station	Main-line Block Valve	No	Cleburne		No
SED	Alabama	LINE 1	0403	Heflin Station	Main-line Block Valve	Yes	Cleburne		No
SED	Alabama	LINE 46206	0462		Main-line Block Valve	No	Jefferson		Yes
SED	Alabama	LINE 1	0401	Vance Station	Main-line Block Valve	No	Bibb		No

Colonial Pipeline Company
BLOCK VALVE LOCATIONS

								(b) (3), (b) (7)(F)	
SED	Alabama	LINE 1	0401	Tombigbee River	Main-line Block Valve	No	Greene		No
SED	Alabama	LINE 12	0405	Pelham Jct.	Main-line Block Valve	Yes	Shelby		No
SED	Alabama	LINE 46209	0462		Main-line Block Valve	No	Jefferson		Yes
SED	Alabama	LINE 1	0401	Pelham Station	Main-line Block Valve	No	Shelby		No
SED	Alabama	LINE 2	0401	W of Tom Bigbee Rvr	Main-line Block Valve	No	Sumter		No
SED	Alabama	LINE 1	0402	St. Ives Station	Main-line Block Valve	No	Talladega		No
SED	Alabama	LINE 1	0402	W of Choccolocco Cr	Main-line Block Valve	No	Talladega		No
SED	Alabama	LINE 46218	0462		Main-line Block Valve	No	Jefferson		Yes
SED	Alabama	LINE 2	0401	Pelham Station	Main-line Block Valve	Yes	Shelby		No
SED	Alabama	LINE 1	0401	Vance Station	Main-line Block Valve	No	Bibb		No
SED	Alabama	LINE 1	0402	Oxford Station	Main-line Block Valve	No	Calhoun		Yes
SED	Alabama	LINE 46212	0462		Main-line Block Valve	No	Jefferson		Yes
SED	Alabama	LINE 46210	0462		Main-line Block Valve	No	Jefferson		Yes
SED	Alabama	LINE 46202	0462		Main-line Block Valve	No	Jefferson		Yes
SED	Alabama	LINE 1	0402	St. Ives Station	Main-line Block Valve	No	Talladega		No

Colonial Pipeline Company
BLOCK VALVE LOCATIONS

SED	Alabama	LINE 46001	0460		Main-line Block Valve	No	Shelby	(b) (3), (b) (7)(F)	No
SED	Alabama	LINE 1	0401	Moundville Station	Main-line Block Valve	Yes	Hale		No
SED	Alabama	LINE 1	0401	East of Cahaba River	Main-line Block Valve	No	Shelby		No
SED	Alabama	LINE 44901	0449	Boligee Trap Site	Block Valve	No	Greene		No
SED	Alabama	LINE 46001	0460		Main-line Block Valve	No	Shelby		No
SED	Alabama	LINE 1	0401	Pelham Station	Main-line Block Valve	Yes	Shelby		No
SED	Alabama	LINE 1	0402		Main-line Block Valve	No	Talladega		No
SED	Alabama	LINE 46102	0461		Main-line Block Valve	No	Calhoun		Yes
SED	Alabama	LINE 1	0402	Oxford Station	Main-line Block Valve	No	Calhoun		Yes
SED	Alabama	LINE 2	0403	Tallapoosa River	Main-line Block Valve	No	Cleburne		No
SED	Alabama	LINE 2	0402	Oxford Station	Main-line Block Valve	No	Calhoun		Yes
SED	Alabama	LINE 2	0402	St. Ives Station	Main-line Block Valve	No	Talladega		No
SED	Alabama	LINE 12	0405	Birmingham DF	Main-line Block Valve	No	Jefferson		Yes

Colonial Pipeline Company

BLOCK VALVE LOCATIONS

SED	Alabama	LINE 46216	0462		(b) (3), (b) (7)(F)	Yes	Jefferson	(b) (3), (b) (7)(F)	Yes
SED	Alabama	LINE 2	0402	Oxford Station	Main-line Block Valve	Yes	Calhoun		Yes
SED	Alabama	LINE 2	0402	St. Ives Station	Main-line Block Valve	Yes	Talladega		No
SED	Alabama	LINE 2	0403	Heflin Station	Main-line Block Valve	No	Cleburne		No
SED	Alabama	LINE 2	0403	Heflin Station	Main-line Block Valve	No	Cleburne		No
SED	Alabama	LINE 2	0402	W of Coosa River	Main-line Block Valve	No	Shelby		No
SED	Alabama	LINE 2	0402	St. Ives Station	Main-line Block Valve	No	Talladega		No
SED	Alabama	LINE 2	0402	Oxford Station	Main-line Block Valve	No	Calhoun		Yes
SED	Alabama	LINE 2	0403	Heflin Station	Main-line Block Valve	Yes	Cleburne		No
SED	Alabama	LINE 12	0405	Birmingham DF	Main-line Block Valve	No	Jefferson		Yes

Colonial Pipeline Company

BLOCK VALVE LOCATIONS

SED	Alabama	LINE 46215	0462		(b) (3), (b) (7)(F)	Yes	Jefferson	(b) (3), (b) (7)(F)	Yes
SED	Alabama	LINE 2	0402	West Cheaha Creek	Main-line Block Valve	No	Talladega		No
SED	Alabama	LINE 46215	0462		(b) (3), (b) (7)(F)	Yes	Jefferson		Yes

Colonial Pipeline Company
BLOCK VALVE LOCATIONS

SED	Alabama	LINE 46216	0462		(b) (3), (b) (7)(F) [redacted]	Yes	Jefferson	(b) (3), (b) (7)(F) [redacted]	Yes
SED	Georgia	LINE 56314	0563		Main-line Block Valve	No	DeKalb		Yes
SED	Georgia	LINE 56315	0563		Main-line Block Valve	No	DeKalb		Yes
SED	Georgia	LINE 56317	0563		Main-line Block Valve	No	DeKalb		Yes
SED	Georgia	LINE 18	0505	State Hwy 151	Main-line Block Valve	No	Walker		No
SED	Georgia	LINE 17A	0515	Albany Jct.	Main-line Block Valve	Yes	Dougherty		Yes
SED	Georgia	LINE 56304	0563		Main-line Block Valve	No	DeKalb		Yes
SED	Georgia	LINE 56320	0563		Main-line Block Valve	No	DeKalb		Yes
SED	Georgia	LINE 56316	0563		Main-line Block Valve	No	DeKalb		Yes
SED	Georgia	LINE 17	0573	Atlanta Jct.	Main-line Block Valve	No	Cobb		Yes
SED	Georgia	LINE 15	0511		Main-line Block Valve	No	Cobb		Yes

Colonial Pipeline Company
BLOCK VALVE LOCATIONS

SED	Georgia	LINE 17	0573		Main-line Block Valve	No	Henry	(b) (3), (b) (7)(F)	Yes
SED	Georgia	LINE 20	0504	Atlanta Jct.	Main-line Block Valve	No	Cobb		Yes
SED	Georgia	LINE 20	0505	Chattanooga Jct	Main-line Block Valve	No	Catoosa		No
SED	Georgia	LINE 57603	0576		Main-line Block Valve	No	Fulton		Yes
SED	Georgia	LINE 18	0505	Chattanooga Jct	Main-line Block Valve	No	Catoosa		No
SED	Georgia	LINE 20	0504	Atlanta Jct.	Main-line Block Valve	No	Cobb		Yes
SED	Georgia	LINE 19	0505	Chattanooga Jct	Main-line Block Valve	No	Catoosa		No
SED	Georgia	LINE 19	0504	Atlanta Jct.	Main-line Block Valve	No	Cobb		Yes
SED	Georgia	LINE 20	0505	Chattanooga Jct	Main-line Block Valve	No	Catoosa		No
SED	Georgia	LINE 18	0505	Chattanooga Jct	Main-line Block Valve	Yes	Catoosa		No
SED	Georgia	LINE 20	0505	Chattanooga Jct	Main-line Block Valve	Yes	Catoosa		No
SED	Georgia	LINE 15	0517	Paces Ferry Road	Main-line Block Valve	No	Cobb		Yes
SED	Georgia	LINE 16	0512		Main-line Block Valve	No	Fulton		Yes
SED	Georgia	LINE 56001	0560		Main-line Block Valve	No	Clarke		No
SED	Georgia	LINE 1	0501	Atlanta Jct.	Main-line Block Valve	No	Cobb		Yes

Colonial Pipeline Company
BLOCK VALVE LOCATIONS

SED	Georgia	LINE 20	0505	Rome DF	Main-line Block Valve	No	Floyd	(b) (3), (b) (7)(F)	Yes
SED	Georgia	LINE 18	0505	Rome Station	Main-line Block Valve	No	Floyd		Yes
SED	Georgia	LINE 56506	0565		Main-line Block Valve	No	Fulton		Yes
SED	Georgia	LINE 1	0501	Bremen Station	Injection Block Valve	No	Haralson		No
SED	Georgia	LINE 16	0575		Main-line Block Valve	No	Fulton		Yes
SED	Georgia	LINE 55203	0552		Main-line Block Valve	No	Decatur		Yes
SED	Georgia	LINE 16	0509		Main-line Block Valve	No	Fulton		Yes
SED	Georgia	LINE 56312	0563		Main-line Block Valve	No	DeKalb		Yes
SED	Georgia	LINE 20	0505	Dry Crk Valley Rd	Main-line Block Valve	No	Chattooga		No
SED	Georgia	LINE 17	0573		Main-line Block Valve	No	Cobb		Yes
SED	Georgia	LINE 13	0517	Doraville Station	Main-line Block Valve	No	DeKalb		Yes
SED	Georgia	LINE 20	0505	State Hwy 151	Main-line Block Valve	No	Walker		No
SED	Georgia	LINE 15	0517		Main-line Block Valve	No	Fulton		Yes
SED	Georgia	LINE 56303	0563		Main-line Block Valve	No	DeKalb		Yes
SED	Georgia	LINE 56318	0563		Main-line Block Valve	No	DeKalb		Yes

Colonial Pipeline Company
BLOCK VALVE LOCATIONS

								(b) (3), (b) (7)(F)	
SED	Georgia	LINE 20	0505	Rome Station	Main-line Block Valve	No	Floyd		Yes
SED	Georgia	LINE 1	0501	Atlanta Jct.	Main-line Block Valve	No	Cobb		Yes
SED	Georgia	LINE 55202	0552		Main-line Block Valve	No	Decatur		Yes
SED	Georgia	LINE 56310	0563		Main-line Block Valve	No	DeKalb		Yes
SED	Georgia	LINE 55201	0552		Main-line Block Valve	No	Decatur		Yes
SED	Georgia	LINE 2	0503	Newton Bridge Road	Main-line Block Valve	No	Clarke		No
SED	Georgia	LINE 19	0507	Lookout Mtn DF	Main-line Block Valve	Yes	Walker		No
SED	Georgia	LINE 55204	0552		Main-line Block Valve	No	Decatur		Yes
SED	Georgia	LINE 56311	0563		Main-line Block Valve	No	DeKalb		Yes
SED	Georgia	LINE 56302	0563		Main-line Block Valve	No	DeKalb		Yes
SED	Georgia	LINE 2	0502	E of Riverside Dr	Main-line Block Valve	No	Fulton		Yes
SED	Georgia	LINE 1	0501	Bremen Station	Injection Block Valve	No	Haralson		No
SED	Georgia	LINE 2	0502		Main-line Block Valve	No	Clarke		No
SED	Georgia	LINE 17	0573	N of Lower River Rd	Main-line Block Valve	No	Douglas		No
SED	Georgia	LINE 1	0501	Atlanta Jct.	Main-line Block Valve	No	Cobb		Yes

Colonial Pipeline Company
BLOCK VALVE LOCATIONS

SED	Georgia	LINE 57601	0576		Main-line Block Valve	No	Fulton	(b) (3), (b) (7)(F)	Yes
SED	Georgia	LINE 13	0517		Main-line Block Valve	No	Cobb		Yes
SED	Georgia	LINE 2	0502	Dacula Station	Main-line Block Valve	No	Gwinnett		No
SED	Georgia	LINE 2	0503	Danielsville Sta	Main-line Block Valve	No	Madison		No
SED	Georgia	LINE 56503	0565		Main-line Block Valve	No	Fulton		Yes
SED	Georgia	LINE 56319	0563		Main-line Block Valve	No	DeKalb		Yes
SED	Georgia	LINE 56305	0563		Main-line Block Valve	No	DeKalb		Yes
SED	Georgia	LINE 55205	0552		Main-line Block Valve	No	Decatur		Yes
SED	Georgia	LINE 18	0505	Bell Fy Oostanaula R	Main-line Block Valve	No	Floyd		Yes
SED	Georgia	LINE 56501	0565		Main-line Block Valve	No	Fulton		Yes
SED	Georgia	LINE 16	0575	Hartsfield DF	Main-line Block Valve	No	Fulton		Yes
SED	Georgia	LINE 1	0503	Rd S-2216 E Broad Rv	Main-line Block Valve	No	Elbert		No
SED	Georgia	LINE 57602	0576		Main-line Block Valve	No	Fulton		Yes
SED	Georgia	LINE 18	0506	Chattanooga Jct	Main-line Block Valve	No	Catoosa		No
SED	Georgia	LINE 5520A	0552		Main-line Block Valve	No	Decatur		Yes

Colonial Pipeline Company
BLOCK VALVE LOCATIONS

SED	Georgia	LINE 57601	0576		Main-line Block Valve	No	Fulton	(b) (3), (b) (7)(F)	Yes
SED	Georgia	LINE 18	0504	Atlanta Jct.	Main-line Block Valve	No	Cobb		Yes
SED	Georgia	LINE 15	0517		Main-line Block Valve	No	DeKalb		Yes
SED	Georgia	LINE 2	0502	Dacula Station	Main-line Block Valve	No	Gwinnett		No
SED	Georgia	LINE 56306	0563		Main-line Block Valve	No	DeKalb		Yes
SED	Georgia	LINE 17A	0515	North Albany DF	Main-line Block Valve	No	Dougherty		Yes
SED	Georgia	LINE 17A	0515	North Albany DF	Main-line Block Valve	Yes	Dougherty		Yes
SED	Georgia	LINE 1	0503	Athens DF	Main-line Block Valve	Yes	Clarke		No
SED	Georgia	LINE 56504	0565		Main-line Block Valve	No	Fulton		Yes
SED	Georgia	LINE 1	0502	Dacula Station	Main-line Block Valve	No	Gwinnett		No
SED	Georgia	LINE 2	0503	Hwy 441	Main-line Block Valve	No	Clarke		No
SED	Georgia	LINE 2	0503	Danielsville Sta	Main-line Block Valve	Yes	Madison		No
SED	Georgia	LINE 15	0511		Main-line Block Valve	No	Cobb		Yes
SED	Georgia	LINE 1	0502	Big Bear Rd W Oconee	Main-line Block Valve	No	Clarke		No
SED	Georgia	LINE 56313	0563		Main-line Block Valve	No	DeKalb		Yes

Colonial Pipeline Company
BLOCK VALVE LOCATIONS

SED	Georgia	LINE 1	0502	W of Morgan Falls Rd	Main-line Block Valve	No	Fulton	(b) (3), (b) (7)(F)	Yes
SED	Georgia	LINE 1	0503	Hwy 441	Main-line Block Valve	No	Clarke		No
SED	Georgia	LINE 2	0503	Quarry Rd W Savannah	Main-line Block Valve	No	Hart		No
SED	Georgia	LINE 14	0509	W of Riverview Rd	Main-line Block Valve	No	Cobb		Yes
SED	Georgia	LINE 19	0505	Rome Station	Main-line Block Valve	No	Floyd		Yes
SED	Georgia	LINE 13	0517		Main-line Block Valve	No	DeKalb		Yes
SED	Georgia	LINE 17	0519	S. Macon Jct	Main-line Block Valve	No	Bibb		Yes
SED	Georgia	LINE 17M	0510	South Macon	Main-line Block Valve	Yes	Bibb		Yes
SED	Georgia	LINE 19	0507	Chattanooga Jct	Main-line Block Valve	No	Catoosa		No
SED	Georgia	LINE 17	0573	Griffin DF	Main-line Block Valve	No	Spalding		Yes
SED	Georgia	LINE 17	0519	Montezuma Trap Site	Main-line Block Valve	No	Macon		Yes
SED	Georgia	LINE 13	0517	E of Hwy 41	Main-line Block Valve	No	Fulton		Yes
SED	Georgia	LINE 17	0516	Bainbridge DF	Main-line Block Valve	No	Decatur		Yes
SED	Georgia	LINE 17	0514	N of Gov McDonald Dr	Main-line Block Valve	No	Bibb		Yes
SED	Georgia	LINE 17	0514	Macon DF	Main-line Block Valve	No	Bibb		Yes

Colonial Pipeline Company
BLOCK VALVE LOCATIONS

SED	Georgia	LINE 19	0505	Rome Station	Main-line Block Valve	No	Floyd	(b) (3), (b) (7)(F)	Yes
SED	Georgia	LINE 17	0573		Main-line Block Valve	No	Clayton		Yes
SED	Georgia	LINE 1	0501		Main-line Block Valve	No	Cobb		Yes
SED	Georgia	LINE 17	0513	Macon DF	Main-line Block Valve	No	Bibb		Yes
SED	Georgia	LINE 15	0511	Smyrna Station	Main-line Block Valve	No	Cobb		Yes
SED	Georgia	LINE 17	0515	Century Road	Main-line Block Valve	No	Lee		Yes
SED	Georgia	LINE 56301	0563		Main-line Block Valve	No	DeKalb		Yes
SED	Georgia	LINE 19	0505		Main-line Block Valve	No	Catoosa		No
SED	Georgia	LINE 19	0526		Take-off Valve	No	Catoosa		No
SED	Georgia	LINE 56505	0565		Main-line Block Valve	No	Fulton		Yes
SED	Georgia	LINE 20	0505	Bells Ferry Road	Main-line Block Valve	No	Floyd		Yes
SED	Georgia	LINE 17	0516	South Albany DF	Main-line Block Valve	Yes	Dougherty		Yes
SED	Georgia	LINE 20	0505	East Armuchee Rd	Main-line Block Valve	No	Chattooga		No
SED	Georgia	LINE 17	0514	N of Stapleton Rd	Main-line Block Valve	No	Bibb		Yes
SED	Georgia	LINE 18	0505	Dry Valley Rd Muck C	Main-line Block Valve	No	Chattooga		No

Colonial Pipeline Company
BLOCK VALVE LOCATIONS

SED	Georgia	LINE 56309	0563		Main-line Block Valve	No	DeKalb	(b) (3), (b) (7)(F)	Yes
SED	Georgia	LINE 14	0509		Main-line Block Valve	No	Cobb		Yes
SED	Georgia	LINE 14	0509	Chattahoochee DF	Main-line Block Valve	No	Fulton		Yes
SED	Georgia	LINE 17	0516	Bainbridge DF	Main-line Block Valve	Yes	Decatur		Yes
SED	Georgia	LINE 20	0504	S of Etowah River	Main-line Block Valve	No	Floyd		Yes
SED	Georgia	LINE 1	0503	Hm Ch Rd W Broad Rvr	Main-line Block Valve	No	Madison		No
SED	Georgia	LINE 19	0505	Rome Station	Main-line Block Valve	No	Floyd		Yes
SED	Georgia	LINE 1	0503	Quary Rd W Savannah	Main-line Block Valve	No	Hart		No
SED	Georgia	LINE 1	0501	Bremen Station	Main-line Block Valve	Yes	Haralson		No
SED	Georgia	LINE 57601	0576		Main-line Block Valve	No	Fulton		Yes
SED	Georgia	LINE 1	0502	Dacula Station	Main-line Block Valve	Yes	Gwinnett		No
SED	Georgia	LINE 57402	0574		Main-line Block Valve	No	Cobb		Yes
SED	Georgia	LINE 18	0505	East Armuchee Rd	Main-line Block Valve	No	Chattooga		No

Colonial Pipeline Company
BLOCK VALVE LOCATIONS

SED	Georgia	LINE 17	0513	Forsyth station B/V	(b) (3), (b) (7)(F)	No	Lamar	(b) (3), (b) (7)(F)
SED	Georgia	LINE 1	0501	US278 E Brownsville	Main-line Block Valve	No	Cobb	Yes
SED	Georgia	LINE 18	0505	Rome Station	Main-line Block Valve	Yes	Floyd	Yes
SED	Georgia	LINE 19	0504	S of Etowah River	Main-line Block Valve	No	Floyd	Yes
SED	Georgia	LINE 20	0505	Rome Station	Main-line Block Valve	Yes	Floyd	Yes

Colonial Pipeline Company
BLOCK VALVE LOCATIONS

SED	Georgia	LINE 1	0501		(b) (3), (b) (7)(F)	No	Haralson	(b) (3), (b) (7)(F)	No
SED	Georgia	LINE 13	0517		Main-line Block Valve	No	Cobb		Yes
SED	Georgia	LINE 17	0519		Take-off Valve	No	Sumter		Yes
SED	Georgia	LINE 17	0519		Main-line Block Valve	No	Sumter		Yes
SED	Georgia	LINE 5520A	0552		Main-line Block Valve	No	Decatur		Yes
SED	Georgia	LINE 1	0502	Athens DF	Main-line Block Valve	No	Clarke		No
SED	Georgia	LINE 17	0518	South Albany DF	Main-line Block Valve	No	Dougherty		Yes
SED	Georgia	LINE 1	0503	Danielsville Sta	Main-line Block Valve	Yes	Madison		No

Colonial Pipeline Company
BLOCK VALVE LOCATIONS

SED	Georgia	LINE 17	0519	South Macon Jct	Main-line Block Valve	Yes	Bibb	(b) (3), (b) (7)(F)	Yes
SED	Georgia	LINE 17	0513	Griffin DF	Main-line Block Valve	No	Spalding		Yes
SED	Georgia	LINE 17A	0515	Albany Jct.	Main-line Block Valve	Yes	Dougherty		Yes
SED	Georgia	LINE 17	0519	Americus DF	Main-line Block Valve	No	Sumter		Yes
SED	Georgia	LINE 17	0515	Albany Jct.	Main-line Block Valve	Yes	Dougherty		Yes
SED	Georgia	LINE 17	0573	S of Roberts Rd	Main-line Block Valve	No	Fayette		Yes
SED	Georgia	LINE 17	0516	South Albany DF	Main-line Block Valve	No	Dougherty		Yes
SED	Georgia	LINE 1	0502	W Johnson Ferry Rd	Main-line Block Valve	No	Cobb		Yes
SED	Georgia	LINE 16	0509	Atlanta Jct.	Main-line Block Valve	No	Cobb		Yes
SED	Georgia	LINE 1	0502	Dacula Station	Main-line Block Valve	No	Gwinnett		No
SED	Georgia	LINE 20	0505	Rome Station	Main-line Block Valve	No	Floyd		Yes
SED	Georgia	LINE 20	0504	W of St Hwy 176	Main-line Block Valve	No	Cobb		Yes
SED	Georgia	LINE 19	0508	Lookout Mtn DF	Main-line Block Valve	No	Walker		No
SED	Georgia	LINE 17	0515	Americus DF	Take-off Valve	No	Sumter		Yes
SED	Georgia	LINE 20	0505	Wood Road off Dry Ck	Main-line Block Valve	No	Chattooga		No
SED	Georgia	LINE 2	0502	Smyrna Station	Main-line Block Valve	No	Cobb		Yes

Colonial Pipeline Company
BLOCK VALVE LOCATIONS

SED	Georgia	LINE 17	0515	Americus DF	Take-off Valve	Yes	Sumter	(b) (3), (b) (7)(F)	Yes
SED	Georgia	LINE 18	0505	Rome DF	Main-line Block Valve	No	Floyd		Yes
SED	Georgia	LINE 56003	0560		Main-line Block Valve	No	Clarke		No
SED	Georgia	LINE 2	0502	Atlanta Jct	Main-line Block Valve	No	Cobb		Yes
SED	Georgia	LINE 13	0517	Woodland Brook	Main-line Block Valve	No	Cobb		Yes
SED	Georgia	LINE 17	0515	S of Co. Rd. 188	Main-line Block Valve	No	Lee		Yes
SED	Georgia	LINE 18	0504	W of St Hwy 176	Main-line Block Valve	No	Cobb		Yes
SED	Georgia	LINE 56004	0560		Main-line Block Valve	No	Clarke		No
SED	Georgia	LINE 2	0501	Bremen Station	Main-line Block Valve	Yes	Haralson		No
SED	Georgia	LINE 17	0514	South Macon Jct	Main-line Block Valve	No	Bibb		Yes
SED	Georgia	LINE 20	0507	Lookout Mtn DF	Main-line Block Valve	Yes	Walker		No
SED	Georgia	LINE 1	0501	Atlanta Jct.	Main-line Block Valve	Yes	Cobb		Yes
SED	Georgia	LINE 56002	0560		Main-line Block Valve	No	Clarke		No
SED	Georgia	LINE 2	0501	Atlanta Jct.	Main-line Block Valve	No	Cobb		Yes
SED	Georgia	LINE 20	0507	Chattanooga Jct	Main-line Block Valve	No	Catoosa		No

Colonial Pipeline Company
BLOCK VALVE LOCATIONS

SED	Georgia	LINE 1	0502	Atlanta Jct.	Main-line Block Valve	No	Cobb	(b) (3), (b) (7)(F)	Yes
SED	Georgia	LINE 16	0509	W of Riverview Rd	Main-line Block Valve	No	Cobb		Yes
SED	Georgia	LINE 2	0502	Smyrna Station	Main-line Block Valve	No	Cobb		Yes
SED	Georgia	LINE 2	0502	Atlanta Jct.	Main-line Block Valve	No	Cobb		Yes
SED	Georgia	LINE 2	0501	Atlanta Jct.	Main-line Block Valve	Yes	Cobb		Yes
SED	Georgia	LINE 17	0573	S of Riverside	Main-line Block Valve	No	Fulton		Yes
SED	Georgia	LINE 19	0526	Chattanooga Jct	Main-line Block Valve	No	Catoosa		No
SED	Georgia	LINE 13	0517	Doraville Station	Main-line Block Valve	Yes	DeKalb		Yes
SED	Georgia	LINE 17	0516	S of Flint River	Main-line Block Valve	No	Mitchell		Yes
SED	Georgia	LINE 57401	0574		Main-line Block Valve	No	Cobb		Yes
SED	Georgia	LINE 17	0514	Macon DF	Main-line Block Valve	Yes	Bibb		Yes
SED	Georgia	LINE 17	0519	SW of Flint River	Main-line Block Valve	No	Macon		Yes
SED	Georgia	LINE 17	0515	S of Prison Farm Rd	Main-line Block Valve	No	Lee		Yes
SED	Georgia	LINE 18	0504	W of Etowah River	Main-line Block Valve	No	Floyd		Yes
SED	Georgia	LINE 2	0501	Bremen Station	Main-line Block Valve	Yes	Haralson		No

Colonial Pipeline Company
BLOCK VALVE LOCATIONS

SED	Georgia	LINE 13	0517	Hill Street	Main-line Block Valve	No	Cobb	(b) (3), (b) (7)(F)	Yes
SED	Georgia	LINE 2	0501	Legion Lake	Main-line Block Valve	No	Paulding		No
SED	Georgia	LINE 19	0507	Lookout Mtn DF	Main-line Block Valve	No	Walker		No
SED	Georgia	LINE 57604	0576		Main-line Block Valve	No	Fulton		Yes
SED	Georgia	LINE 17	0519	South Macon Jct	Main-line Block Valve	No	Bibb		Yes
SED	Georgia	LINE 57604	0576		Main-line Block Valve	No	Fulton		Yes
SED	Georgia	LINE 19	0505	Rome DF	Main-line Block Valve	No	Floyd		Yes
SED	Georgia	LINE 17M	0510	South Macon Jct.	Main-line Block Valve	Yes	Bibb		Yes
SED	Georgia	LINE 19	0526		Take-off Valve	No	Catoosa		No
SED	Georgia	LINE 16	0512		Main-line Block Valve	No	Fulton		Yes
SED	Georgia	LINE 15	0517		Main-line Block Valve	No	DeKalb		Yes
SED	Georgia	LINE 13	0517	Hill Street	Main-line Block Valve	No	Cobb		Yes
SED	Georgia	LINE 15	0511	Smyrna Station	Main-line Block Valve	No	Cobb		Yes
SED	Georgia	LINE 56003	0560		Main-line Block Valve	No	Clarke		No
SED	Georgia	LINE 18	0504	Atlanta Jct.	Main-line Block Valve	No	Cobb		Yes
SED	Georgia	LINE 20	0507	Lookout Mtn DF	Main-line Block Valve	No	Walker		No

Colonial Pipeline Company
BLOCK VALVE LOCATIONS

SED	Georgia	LINE 2	0501	Brownsville Rd US278	Main-line Block Valve	No	Cobb	(b) (3), (b) (7)(F)	Yes
SED	Georgia	LINE 13	0517		Main-line Block Valve	No	DeKalb		Yes
SED	Georgia	LINE 2	0501	Bremen Station	Main-line Block Valve	No	Haralson		No
SED	Georgia	LINE 2	0502	Smyrna Station	Main-line Block Valve	Yes	Cobb		Yes
SED	Georgia	LINE 20	0508	Lookout Mtn DF	Main-line Block Valve	No	Walker		No
SED	Georgia	LINE 17	0516	N of Flint River	Main-line Block Valve	No	Baker		Yes
SED	Georgia	LINE 19	0526	Chattanooga Jct	Main-line Block Valve	Yes	Catoosa		No
SED	Tennessee	LINE 66005	0660		Main-line Block Valve	No	Hamilton		Yes
SED	Tennessee	LINE 66206	0662		Main-line Block Valve	No	Davidson		Yes
SED	Tennessee	LINE 66406	0664		Main-line Block Valve	No	Davidson		Yes
SED	Tennessee	LINE 19	0603	Wiser Urselan	Main-line Block Valve	No	Coffee		No
SED	Tennessee	LINE 66401	0664		Main-line Block Valve	No	Davidson		Yes
SED	Tennessee	LINE 66002	0660		Main-line Block Valve	No	Hamilton		Yes
SED	Tennessee	LINE 18	0602	Sweetwater Station	Main-line Block Valve	No	Loudon		No
SED	Tennessee	LINE 19	0603	Moccasin Bend DF	Main-line Block Valve	Yes	Hamilton		Yes

Colonial Pipeline Company
BLOCK VALVE LOCATIONS

SED	Tennessee	LINE 66501	0665		Main-line Block Valve	No	Hamilton	(b) (3), (b) (7)(F)	Yes
SED	Tennessee	LINE 18	0602	Chattanooga DF	Main-line Block Valve	No	Hamilton		Yes
SED	Tennessee	LINE 18	0602		Main-line Block Valve	No	Hamilton		Yes
SED	Tennessee	LINE 18	0602	D.S. HIWASSEE	Main-line Block Valve	No	McMinn		No
SED	Tennessee	LINE 18	0602	U.S. HIWASSEE	Main-line Block Valve	No	Bradley		No
SED	Tennessee	LINE 18	0602		Block Valve	Unknown	McMinn		No
SED	Tennessee	LINE 18	0602		Block Valve	Unknown	McMinn		No
SED	Tennessee	LINE 18	0602	Sweetwater Station	Main-line Block Valve	No	Loudon		No
SED	Tennessee	LINE 18	0602	Mat Bend Rd S TN Rvr	Main-line Block Valve	No	Loudon		No
SED	Tennessee	LINE 66405	0664		Block Valve	Unknown	Davidson		Yes
SED	Tennessee	LINE 19	0604	Nashville DF	Main-line Block Valve	No	Davidson		Yes
SED	Tennessee	LINE 18	0602	Huff Ferry N TN Rvr	Main-line Block Valve	No	Loudon		No
SED	Tennessee	LINE 66004	0660		Main-line Block Valve	No	Hamilton		Yes
SED	Tennessee	LINE 19	0604	E Nashville DF	Main-line Block Valve	Yes	Davidson		Yes
SED	Tennessee	LINE 18	0602	Knoxville DF	Main-line Block Valve	No	Knox		No
SED	Tennessee	LINE 18	0602	Sweetwater Station	Main-line Block Valve	Yes	Loudon		No

Colonial Pipeline Company
BLOCK VALVE LOCATIONS

SED	Tennessee	LINE 66003	0660		Main-line Block Valve	No	Hamilton	(b) (3), (b) (7)(F)	Yes
SED	Tennessee	LINE 66112	0661		Main-line Block Valve	No	Knox		No
SED	Tennessee	LINE 18	0602	Sugarlimb Trap Site	Main-line Block Valve	No	Loudon		No
SED	Tennessee	LINE 66114	0661		Main-line Block Valve	No	Knox		No
SED	Tennessee	LINE 66407	0664		Main-line Block Valve	No	Davidson		Yes
SED	Tennessee	LINE 18	0602	Sugarlimb Trap Site	Main-line Block Valve	No	Loudon		No
SED	Tennessee	LINE 66118	0661		Main-line Block Valve	No	Knox		No
SED	Tennessee	LINE 18	0601	Chattanooga DF	Main-line Block Valve	No	Hamilton		Yes
SED	Tennessee	LINE 66101	0661		Main-line Block Valve	No	Knox		No
SED	Tennessee	LINE 66109	0661		Main-line Block Valve	No	Knox		No
SED	Tennessee	LINE 66111	0661		Main-line Block Valve	No	Knox		No
SED	Tennessee	LINE 19	0603	Nashville Airport	Main-line Block Valve	No	Davidson		Yes
SED	Tennessee	LINE 66110	0661		Main-line Block Valve	No	Knox		No
SED	Tennessee	LINE 19	0603	N Cumberland River	Main-line Block Valve	No	Davidson		Yes
SED	Tennessee	LINE 20	0603	Nashville Airprt Iso	Main-line Block Valve	No	Davidson		Yes

Colonial Pipeline Company
BLOCK VALVE LOCATIONS

SED	Tennessee	LINE 19	0603	Hwy. 41 S TN River	Main-line Block Valve	No	Hamilton	(b) (3), (b) (7)(F)	Yes
SED	Tennessee	LINE 66408	0664		Block Valve	Unknown	Davidson		Yes
SED	Tennessee	LINE 20	0604	Ashland Oil Co.	Main-line Block Valve	No	Davidson		Yes
SED	Tennessee	LINE 20	0603	State Hwy 27	Main-line Block Valve	No	Hamilton		Yes
SED	Tennessee	LINE 66103	0661		Main-line Block Valve	No	Knox		No
SED	Tennessee	LINE 19	0603	Signal Mountain	Main-line Block Valve	No	Hamilton		Yes
SED	Tennessee	LINE 19	0603	Chattanooga to Nashville	Main-line Block Valve	No	Grundy		Yes
SED	Tennessee	LINE 20	0603	Nashville Airprt Iso	Main-line Block Valve	No	Davidson		Yes
SED	Tennessee	LINE 20	0604	Nashville DF	Main-line Block Valve	Yes	Davidson		Yes
SED	Tennessee	LINE 66601	0666		Block Valve	Unknown	Davidson		Yes
SED	Tennessee	LINE 19	0603	E Nashville DF	Main-line Block Valve	Yes	Davidson		Yes
SED	Tennessee	LINE 19	0603		Main-line Block Valve	Yes	Rutherford		Yes
SED	Tennessee	LINE 66405	0664		Block Valve	Unknown	Davidson		Yes
SED	Tennessee	LINE 19	0604	Nashville DF	Main-line Block Valve	Yes	Davidson		Yes
SED	Tennessee	LINE 19	0604	Lion Jct.	Main-line Block Valve	No	Davidson		Yes

Colonial Pipeline Company
BLOCK VALVE LOCATIONS

SED	Tennessee	LINE 19	0603	Moccasin Bend Rd	Main-line Block Valve	No	Hamilton	(b) (3), (b) (7)(F)	Yes
SED	Tennessee	LINE 20	0603	Coalmont Station	Main-line Block Valve	No	Grundy		Yes
SED	Tennessee	LINE 20	0603	Signal Mountain	Main-line Block Valve	No	Hamilton		Yes
SED	Tennessee	LINE 66202	0662		Main-line Block Valve	No	Davidson		Yes
SED	Tennessee	LINE 19	0603	Coalmont Station	Main-line Block Valve	Yes	Grundy		Yes
SED	Tennessee	LINE 19	0603	Outside NW Fc Murf	Main-line Block Valve	No	Rutherford		Yes
SED	Tennessee	LINE 19	0603	S Cumberland Rvr	Main-line Block Valve	No	Davidson		Yes
SED	Tennessee	LINE 20	0603	S Cumberland Rvr	Main-line Block Valve	No	Davidson		Yes
SED	Tennessee	LINE 66116	0661		Main-line Block Valve	No	Knox		No
SED	Tennessee	LINE 66105	0661		Main-line Block Valve	No	Knox		No
SED	Tennessee	LINE 66119	0661		Main-line Block Valve	No	Knox		No
SED	Tennessee	LINE 19	0604	Exxon Jct.	Main-line Block Valve	No	Davidson		Yes
SED	Tennessee	LINE 66113	0661		Main-line Block Valve	No	Knox		No
SED	Tennessee	LINE 19	0603	State Hwy 27	Main-line Block Valve	No	Hamilton		Yes
SED	Tennessee	LINE 66007	0660		Main-line Block Valve	No	Hamilton		Yes
SED	Tennessee	LINE 20	0604	East Nashville D.F.	Main-line Block Valve	Yes	Davidson		Yes

Colonial Pipeline Company
BLOCK VALVE LOCATIONS

SED	Tennessee	LINE 66408	0664		Control Valve	Unknown	Davidson	(b) (3), (b) (7)(F)	Yes
SED	Tennessee	LINE 66405	0664		Control Valve	Unknown	Davidson		Yes
SED	Tennessee	LINE 66405	0664		Main-line Block Valve	No	Davidson		Yes
SED	Tennessee	LINE 66006	0660		Main-line Block Valve	No	Hamilton		Yes
SED	Tennessee	LINE 66102	0661		Main-line Block Valve	No	Knox		No
SED	Tennessee	LINE 20	0603		Main-line Block Valve	No	Marion		No
SED	Tennessee	LINE 20	0603	Hwy. 41 S TN River	Main-line Block Valve	No	Hamilton		Yes
SED	Tennessee	LINE 66203	0662		Main-line Block Valve	No	Davidson		Yes
SED	Tennessee	LINE 19	0603	Murfreesboro Station	Main-line Block Valve	No	Rutherford		Yes
SED	Tennessee	LINE 20	0603	Murfreesboro to Nashville	Main-line Block Valve	No	Rutherford		Yes
SED	Tennessee	LINE 20	0603	Nashville Airport DF	Main-line Block Valve	Yes	Davidson		Yes
SED	Tennessee	LINE 66115	0661		Main-line Block Valve	No	Knox		No
SED	Tennessee	LINE 19	0603	Signal Mountain	Main-line Block Valve	No	Hamilton		Yes
SED	Tennessee	LINE 20	0603	Chattanooga to Nashville	Main-line Block Valve	No	Rutherford		Yes
SED	Tennessee	LINE 20	0603	Coalmont Station	Main-line Block Valve	No	Grundy		Yes

Colonial Pipeline Company
BLOCK VALVE LOCATIONS

SED	Tennessee	LINE 20	0603		Main-line Block Valve	No	Rutherford	(b) (3), (b) (7)(F)	Yes
SED	Tennessee	LINE 66106	0661		Main-line Block Valve	No	Knox		No
SED	Tennessee	LINE 20	0603	Wiser Urselan	Main-line Block Valve	No	Coffee		No
SED	Tennessee	LINE 20	0603	Kidd Road	Main-line Block Valve	No	Rutherford		Yes
SED	Tennessee	LINE 20	0603		Main-line Block Valve	No	Rutherford		Yes
SED	Tennessee	LINE 66117	0661		Main-line Block Valve	No	Knox		No
SED	Tennessee	LINE 66104	0661		Main-line Block Valve	No	Knox		No
SED	Tennessee	LINE 66408	0664		Control Valve	Unknown	Davidson		Yes
SED	Tennessee	LINE 66405	0664		Control Valve	Unknown	Davidson		Yes
SED	Tennessee	LINE 66201	0662		Take-off Valve	No	Davidson		Yes
SED	Tennessee	LINE 66203	0662		Main-line Block Valve	No	Davidson		Yes
SED	Tennessee	LINE 19	0603		Main-line Block Valve	No	Rutherford		Yes
SED	Tennessee	LINE 66001	0660		Main-line Block Valve	No	Hamilton		Yes
SED	Tennessee	LINE 66408	0664		Block Valve	Unknown	Davidson		Yes
SED	Tennessee	LINE 19	0603	Signal Mountain	Main-line Block Valve	Yes	Hamilton		Yes

Colonial Pipeline Company
BLOCK VALVE LOCATIONS

SED	Tennessee	LINE 19	0603	Wiser Urselan	Main-line Block Valve	No	Coffee	(b) (3), (b) (7)(F)	No
SED	Tennessee	LINE 20	0604	Nashville DF	Main-line Block Valve	No	Davidson		Yes
SED	Tennessee	LINE 20	0603	Murfreesboro Station	Main-line Block Valve	No	Rutherford		Yes
SED	Tennessee	LINE 20	0603	Moccasin Bend DF	Main-line Block Valve	Yes	Hamilton		Yes
SED	Tennessee	LINE 20	0603	Hwy 27 N Sequatchie	Main-line Block Valve	No	Marion		No
SED	Tennessee	LINE 20	0604	Lion Jct	Main-line Block Valve	No	Davidson		Yes
SED	Tennessee	LINE 20	0603	Moccasin Bend Rd	Main-line Block Valve	No	Hamilton		Yes
SED	Tennessee	LINE 20	0604	E Nashville to Nashville	Main-line Block Valve	No	Davidson		Yes
SED	Tennessee	LINE 20	0603	Signal Mountain	Main-line Block Valve	No	Hamilton		Yes
SED	Tennessee	LINE 20	0603	Coalmont Station	Main-line Block Valve	Yes	Grundy		Yes
SED	Tennessee	LINE 19	0603	Nashville Airport to NashE	Main-line Block Valve	No	Davidson		Yes
SED	Tennessee	LINE 19	0603	Coalmont Station	Main-line Block Valve	No	Grundy		Yes
SED	Tennessee	LINE 19	0604	S Cumberland Rvr	Main-line Block Valve	No	Davidson		Yes
SED	Tennessee	LINE 19	0603		Main-line Block Valve	No	Rutherford		Yes
SED	Tennessee	LINE 19	0603	Nashville Airport to NashE	Main-line Block Valve	No	Davidson		Yes

Colonial Pipeline Company
BLOCK VALVE LOCATIONS

SED	Tennessee	LINE 20	0603	Coalmont Station	Main-line Block Valve	No	Grundy	(b) (3), (b) (7)(F)	Yes
SED	Tennessee	LINE 19	0603	St Hwy 27	Main-line Block Valve	No	Marion		No
SED	Tennessee	LINE 66405	0664		Main-line Block Valve	No	Davidson		Yes
SED	South Carolina	LINE 76014	0760		Main-line Block Valve	No	Spartanburg		No
SED	South Carolina	LINE 76110	0761	North Augusta	Main-line Block Valve	No	Edgefield		No
SED	South Carolina	LINE 29	0704	North Augusta D	Main-line Block Valve	No	Edgefield		No
SED	South Carolina	LINE 29	0742	North Augusta DF	Main-line Block Valve	Yes	Edgefield		No
SED	South Carolina	LINE 76006	0760		Main-line Block Valve	No	Spartanburg		No
SED	South Carolina	LINE 29	0704	Belton Jct.	Main-line Block Valve	No	Anderson		No
SED	South Carolina	LINE 76205	0762	Belton Del Line	Main-line Block Valve	No	Anderson		No
SED	South Carolina	LINE 76008	0760		Main-line Block Valve	No	Spartanburg		No
SED	South Carolina	LINE 76015	0760		Main-line Block Valve	No	Spartanburg		No
SED	South Carolina	LINE 29	0704	Due West Jct.	Main-line Block Valve	No	Abbeville		No
SED	South Carolina	LINE 2	0702	Belton Jct.	Main-line Block Valve	Yes	Anderson		No
SED	South Carolina	LINE 2	0702	Simpsonville Sta (2)	Main-line Block Valve	Yes	Greenville		Yes

Colonial Pipeline Company
BLOCK VALVE LOCATIONS

SED	South Carolina	LINE 2	0701	Anderson Station	Main-line Block Valve	No	Anderson	(b) (3), (b) (7)(F)	No
SED	South Carolina	LINE 2	0703	M303	(b) (3), (b) (7)(F) Valve. Also, please see attachments for Pressure Test and NDE Reports..	No	Cherokee		No
SED	South Carolina	LINE 76201	0762	Belton Del Line	Main-line Block Valve	No	Anderson		No
SED	South Carolina	LINE 2	0702	Enoree River (2)	Main-line Block Valve	No	Spartanburg		No
SED	South Carolina	LINE 76004	0760		Main-line Block Valve	No	Spartanburg		No
SED	South Carolina	LINE 2	0702	Simpsonville Sta (1)	Main-line Block Valve	No	Greenville		Yes
SED	South Carolina	LINE 76020	0760		Main-line Block Valve	No	Spartanburg		No
SED	South Carolina	LINE 29	0704	Red Hill Jct.	Main-line Block Valve	No	Edgefield		No
SED	South Carolina	LINE 76007	0760		Main-line Block Valve	No	Spartanburg		No

Colonial Pipeline Company
BLOCK VALVE LOCATIONS

SED	South Carolina	LINE 2	0703	Pacolet River (2)	Main-line Block Valve	No	Spartanburg	(b) (3), (b) (7)(F)	No
SED	South Carolina	LINE 2	0701	Anderson Station	Main-line Block Valve	No	Anderson		No
SED	South Carolina	LINE 76203	0762	Belton Del Line	Main-line Block Valve	No	Anderson		No
SED	South Carolina	LINE 29	0704	Bradley/Sumter NF	Main-line Block Valve	No	Greenwood		No
SED	South Carolina	LINE 1	0701	Anderson Station	Main-line Block Valve	No	Anderson		No
SED	South Carolina	LINE 1	0703	Broad River (1)	Main-line Block Valve	No	Cherokee		No
SED	South Carolina	LINE 76009	0760		Main-line Block Valve	No	Spartanburg		No
SED	South Carolina	LINE 2	0703	Gaffney Station	Main-line Block Valve	No	Cherokee		No
SED	South Carolina	LINE 2	0703	Spartanburg TF	Main-line Block Valve	Yes	Spartanburg		No
SED	South Carolina	LINE 2	0703	East Side Broad Rvr	Main-line Block Valve	No	Cherokee		No
SED	South Carolina	LINE 2	0701	Co Rd 709 E Savan Rv	Main-line Block Valve	No	Anderson		No
SED	South Carolina	LINE 2	0701	Anderson Station	Main-line Block Valve	No	Anderson		No
SED	South Carolina	LINE 1	0703	Spartanburg TF (3)	Main-line Block Valve	No	Spartanburg		No
SED	South Carolina	LINE 2	0701	Anderson Station	Main-line Block Valve	No	Anderson		No
SED	South Carolina	LINE 2	0702	Saluda River D/S	Main-line Block Valve	No	Greenville		Yes
SED	South Carolina	LINE 1	0703	Gaffney Station (1)	Main-line Block Valve	No	Cherokee		No

Colonial Pipeline Company
BLOCK VALVE LOCATIONS

								(b) (3), (b) (7)(F)	
SED	South Carolina	LINE 2	0703	Pacolet River (1)	Main-line Block Valve	No	Spartanburg		No
SED	South Carolina	LINE 2	0702	Simpsonville Sta (3)	Main-line Block Valve	No	Greenville		Yes
SED	South Carolina	LINE 2	0702	Enoree River (1)	Main-line Block Valve	No	Laurens		No
SED	South Carolina	LINE 2	0703	Gaffney Station	Main-line Block Valve	No	Cherokee		No
SED	South Carolina	LINE 2	0701		Main-line Block Valve	No	Anderson		No
SED	South Carolina	LINE 1	0703	Pacolet River (1)	Main-line Block Valve	No	Spartanburg		No
SED	South Carolina	LINE 76016	0760		Main-line Block Valve	No	Spartanburg		No
SED	South Carolina	LINE 1	0701	Anderson Station	Main-line Block Valve	No	Anderson		No
SED	South Carolina	LINE 76202	0762	Belton Del Line	Main-line Block Valve	No	Anderson		No
SED	South Carolina	LINE 76010	0760		Main-line Block Valve	No	Spartanburg		No
SED	South Carolina	LINE 76204	0762	Belton Del Line	Main-line Block Valve	No	Anderson		No
SED	South Carolina	LINE 1	0702	Enoree River (1)	Main-line Block Valve	No	Laurens		No
SED	South Carolina	LINE 1	0703	Broad River (2)	Main-line Block Valve	No	Cherokee		No
SED	South Carolina	LINE 1	0702	Belton Jct.	Main-line Block Valve	No	Anderson		No
SED	South Carolina	LINE 1	0703	Pacolet River (2)	Main-line Block Valve	No	Spartanburg		No

Colonial Pipeline Company
BLOCK VALVE LOCATIONS

SED	South Carolina	LINE 1	0702	Simpsonville Station	Main-line Block Valve	Yes	Greenville	(b) (3), (b) (7)(F)	Yes
SED	South Carolina	LINE 1	0701	E Savannah Rvr	Main-line Block Valve	No	Anderson		No
SED	South Carolina	LINE 1	0703	Gaffney Station (2)	Main-line Block Valve	Yes	Cherokee		No
SED	South Carolina	LINE 1	0702	Spartanburg TF (1)	Main-line Block Valve	No	Spartanburg		No
SED	South Carolina	LINE 1	0703	Gaffney Station (3)	Main-line Block Valve	No	Cherokee		No
SED	South Carolina	LINE 1	0702	Hwy 116 W saluda R.1	Main-line Block Valve	No	Anderson		No
SED	South Carolina	LINE 1	0702	Belton Jct.	Main-line Block Valve	No	Anderson		No
SED	South Carolina	LINE 76110	0761	Sold to Charter	Main-line Block Valve	No	Aiken		No
SED	South Carolina	LINE 1	0701	Belton Jct.	Main-line Block Valve	No	Anderson		No
SED	South Carolina	LINE 1	0703	Spartanburg TF (2)	Main-line Block Valve	Yes	Spartanburg		No
SED	South Carolina	LINE 1	0702	Saluda River D/S	Main-line Block Valve	No	Greenville		Yes
SED	South Carolina	LINE 1	0701	Anderson Station	Main-line Block Valve	No	Anderson		No
SED	South Carolina	LINE 76005	0760		Main-line Block Valve	No	Spartanburg		No
SED	South Carolina	LINE 1	0702	Enoree River (2)	Main-line Block Valve	No	Spartanburg		No
SED	South Carolina	LINE 76013	0760		Main-line Block Valve	No	Spartanburg		No

Colonial Pipeline Company
BLOCK VALVE LOCATIONS

SED	South Carolina	LINE 76003	0760		Main-line Block Valve	No	Spartanburg	(b) (3), (b) (7)(F)	No
SED	North Carolina	LINE 86005	0860		Main-line Block Valve	No	Mecklenburg		Yes
SED	North Carolina	LINE 4	0803	South of Hwy 2415	Main-line Block Valve	No	Rockingham		No
SED	North Carolina	LINE 4	0803	Reidville Station	Main-line Block Valve	No	Rockingham		No
SED	North Carolina	LINE 4	0803	Reidville Station	Main-line Block Valve	No	Rockingham		No
SED	North Carolina	LINE 86016	0860		Main-line Block Valve	No	Mecklenburg		Yes
SED	North Carolina	LINE 86002	0860		Main-line Block Valve	No	Mecklenburg		Yes
SED	North Carolina	LINE 86002	0860		Main-line Block Valve	No	Mecklenburg		Yes
SED	North Carolina	LINE 86019	0860		Main-line Block Valve	No	Mecklenburg		Yes
SED	North Carolina	LINE 86001	0860		Main-line Block Valve	No	Mecklenburg		Yes
SED	North Carolina	LINE 86009	0860		Main-line Block Valve	No	Mecklenburg		Yes
SED	North Carolina	LINE 86014	0860		Main-line Block Valve	No	Mecklenburg		Yes
SED	North Carolina	LINE 2	0802	Irish Buffalo Cr D/S	Main-line Block Valve	No	Rowan		No
SED	North Carolina	LINE 2	0802	North Deep River	Main-line Block Valve	No	Guilford		Yes
SED	North Carolina	LINE 2	0802	Kannapolis Sta U/S	Main-line Block Valve	Yes	Cabarrus		Yes
SED	North Carolina	LINE 23	0806	Rock Rest. Road	Main-line Block Valve	No	Chatham		No

Colonial Pipeline Company
BLOCK VALVE LOCATIONS

SED	North Carolina	LINE 24	0806	Apex Station Trap Inlet	Main-line Block Valve	No	Wake	(b) (3), (b) (7)(F)	Yes
SED	North Carolina	LINE 2	0801	Gastonia Station (2)	Main-line Block Valve	Yes	Gaston		No
SED	North Carolina	LINE 2	0801	Catawba River D/S	Injection Block Valve	No	Mecklenburg		Yes
SED	North Carolina	LINE 86109	0861		Main-line Block Valve	No	Guilford		Yes
SED	North Carolina	LINE 86020	0860		Main-line Block Valve	No	Mecklenburg		Yes
SED	North Carolina	LINE 86003	0860		Main-line Block Valve	No	Mecklenburg		Yes
SED	North Carolina	LINE 86007	0860		Main-line Block Valve	No	Mecklenburg		Yes
SED	North Carolina	LINE 3	0803	Plainfield Road	Main-line Block Valve	No	Guilford		Yes
SED	North Carolina	LINE 22	0806	Greensboro Station	Main-line Block Valve	No	Guilford		Yes
SED	North Carolina	LINE 1	0802	Kannapolis Sta U/S	Main-line Block Valve	No	Cabarrus		Yes
SED	North Carolina	LINE 86004	0860		Main-line Block Valve	No	Mecklenburg		Yes
SED	North Carolina	LINE 1	0801	Charlotte T.F. U/S	Main-line Block Valve	No	Mecklenburg		Yes
SED	North Carolina	LINE 86401	0864		Main-line Block Valve	No	Wake		Yes
SED	North Carolina	LINE 86012	0860		Main-line Block Valve	No	Mecklenburg		Yes
SED	North Carolina	LINE 86017	0860		Main-line Block Valve	No	Mecklenburg		Yes

Colonial Pipeline Company
BLOCK VALVE LOCATIONS

SED	North Carolina	LINE 2	0802	Lexington Sta U/S	Main-line Block Valve	No	Davidson	(b) (3), (b) (7)(F)	Yes
SED	North Carolina	LINE 2	0802	Greensboro Jct.	Main-line Block Valve	No	Guilford		Yes
SED	North Carolina	LINE 2	0802	Yadkin River D/S	Main-line Block Valve	No	Davidson		Yes
SED	North Carolina	LINE 2	0802	Kannapolis Sta.	Main-line Block Valve	No	Cabarrus		Yes
SED	North Carolina	LINE 86011	0860		Main-line Block Valve	No	Mecklenburg		Yes
SED	North Carolina	LINE 2	0802	Charlotte Tank Farm	Main-line Block Valve	Yes	Mecklenburg		Yes
SED	North Carolina	LINE 2	0802	South Deep River	Main-line Block Valve	No	Guilford		Yes
SED	North Carolina	LINE 4	0803	Greensboro Station	Main-line Block Valve	No	Guilford		Yes
SED	North Carolina	LINE 2	0802	Coddle Creek D/S	Main-line Block Valve	No	Cabarrus		Yes
SED	North Carolina	LINE 86105	0861		Injection Block Valve	No	Guilford		Yes
SED	North Carolina	LINE 86112	0861		Main-line Block Valve	No	Guilford		Yes
SED	North Carolina	LINE 86114	0861		Main-line Block Valve	No	Guilford		Yes
SED	North Carolina	LINE 2	0801	South Fork River U/S	Injection Block Valve	No	Gaston		No
SED	North Carolina	LINE 3	0803	Lake Brandt Road	Main-line Block Valve	No	Guilford		Yes
SED	North Carolina	LINE 1	0801	Gastonia Station	Main-line Block Valve	Yes	Gaston		No

Colonial Pipeline Company
BLOCK VALVE LOCATIONS

SED	North Carolina	LINE 86110	0861		Main-line Block Valve	No	Guilford	(b) (3), (b) (7)(F) [redacted]	Yes
SED	North Carolina	LINE 2	0801	Gastonia Station U/S	Main-line Block Valve	No	Gaston		No
SED	North Carolina	LINE 1	0802	Charlotte T.F. (2)	Main-line Block Valve	Yes	Mecklenburg		Yes
SED	North Carolina	LINE 2	0802	Yadkin River U/S	Main-line Block Valve	No	Rowan		No
SED	North Carolina	LINE 2	0802	Lake Wright U/S	Main-line Block Valve	No	Rowan		No
SED	North Carolina	LINE 2	0801	Catawba River U/S	Injection Block Valve	No	Gaston		No
SED	North Carolina	LINE 2	0802	Kannapolis Sta D/S	Main-line Block Valve	No	Cabarrus		Yes
SED	North Carolina	LINE 2	0802	Lexington Sta	Main-line Block Valve	Yes	Davidson		Yes
SED	North Carolina	LINE 2	0802	Lexington Sta	Main-line Block Valve	No	Davidson		Yes
SED	North Carolina	LINE 2	0802	Kannapolis Sta	Main-line Block Valve	Yes	Cabarrus		Yes
SED	North Carolina	LINE 24F	0808	N. of Hwy 1412	Main-line Block Valve	No	Harnett		Yes
SED	North Carolina	LINE 86006	0860		Main-line Block Valve	No	Mecklenburg		Yes
SED	North Carolina	LINE 86013	0860		Main-line Block Valve	No	Mecklenburg		Yes
SED	North Carolina	LINE 23	0806	Gilead Church Rd	Main-line Block Valve	No	Chatham		No
SED	North Carolina	LINE 86202	0862		Main-line Block Valve	No	Wake		Yes

Colonial Pipeline Company
BLOCK VALVE LOCATIONS

								(b) (3), (b) (7)(F)	
SED	North Carolina	LINE 24	0806	Rock Rest. Road	Main-line Block Valve	No	Chatham		No
SED	North Carolina	LINE 24	0806	Gilead Church Rd	Main-line Block Valve	No	Chatham		No
SED	North Carolina	LINE 1	0801	Catawba River D/S	Main-line Block Valve	No	Mecklenburg		Yes
SED	North Carolina	LINE 1	0802	Coddle Creek	Main-line Block Valve	No	Cabarrus		Yes
SED	North Carolina	LINE 86107	0861		Main-line Block Valve	No	Guilford		Yes
SED	North Carolina	LINE 23	0806	Farrington Road	Main-line Block Valve	No	Chatham		No
SED	North Carolina	LINE 3	0803	Greensboro Station	Main-line Block Valve	No	Guilford		Yes
SED	North Carolina	LINE 86017	0860		Main-line Block Valve	No	Mecklenburg		Yes
SED	North Carolina	LINE 86010	0860		Main-line Block Valve	No	Mecklenburg		Yes
SED	North Carolina	LINE 86202	0862		Main-line Block Valve	No	Wake		Yes
SED	North Carolina	LINE 1	0802	Yadkin River U/S	Main-line Block Valve	No	Rowan		No
SED	North Carolina	LINE 1	0801	South Fork River U/S	Main-line Block Valve	No	Gaston		No
SED	North Carolina	LINE 86015	0860		Main-line Block Valve	No	Mecklenburg		Yes
SED	North Carolina	LINE 1	0802	South Deep River	Main-line Block Valve	No	Guilford		Yes
SED	North Carolina	LINE 1	0802	Yadkin River D/S	Main-line Block Valve	No	Davidson		Yes

Colonial Pipeline Company
BLOCK VALVE LOCATIONS

SED	North Carolina	LINE 1	0802	Kannapolis Sta	Main-line Block Valve	Yes	Cabarrus	(b) (3), (b) (7)(F)	Yes
SED	North Carolina	LINE 1	0802	Lake Wright U/S	Main-line Block Valve	No	Rowan		No
SED	North Carolina	LINE 1	0802	Lexington Station	Main-line Block Valve	Yes	Davidson		Yes
SED	North Carolina	LINE 86014	0860		Main-line Block Valve	No	Mecklenburg		Yes
SED	North Carolina	LINE 86102	0861		Main-line Block Valve	No	Guilford		Yes
SED	North Carolina	LINE 23	0809	S of CSX RR, NC 1011	Main-line Block Valve	No	Wake		Yes
SED	North Carolina	LINE 86008	0860		Main-line Block Valve	No	Mecklenburg		Yes
SED	North Carolina	LINE 23	0809	N. of Hwy 64	Main-line Block Valve	No	Wake		Yes
SED	North Carolina	LINE 86323	0863		Main-line Block Valve	No	Johnston		Yes
SED	North Carolina	LINE 1	0802	Greensboro Jct.	Main-line Block Valve	No	Guilford		Yes
SED	North Carolina	LINE 86018	0860		Main-line Block Valve	No	Mecklenburg		Yes
SED	North Carolina	LINE 1	0801	Catawba River U/S	Main-line Block Valve	No	Gaston		No
SED	North Carolina	LINE 1	0802	North Deep River	Main-line Block Valve	No	Guilford		Yes
SED	North Carolina	LINE 1	0802	Kannapolis Sta D/S	Main-line Block Valve	No	Cabarrus		Yes
SED	North Carolina	LINE 23	0809	S. of Crabtree Lake	Main-line Block Valve	No	Wake		Yes

Colonial Pipeline Company
BLOCK VALVE LOCATIONS

SED	North Carolina	LINE 86318	0863		Main-line Block Valve	No	Johnston	(b) (3), (b) (7)(F)	Yes
SED	North Carolina	LINE 23	0809	Apex Station	Main-line Block Valve	No	Wake		Yes
SED	North Carolina	LINE 23	0809	RDU D.F.	Main-line Block Valve	No	Wake		Yes
SED	North Carolina	LINE 24	0806	Farrington Road	Main-line Block Valve	No	Chatham		No
SED	North Carolina	LINE 1	0802	Charlotte T.F. D/S	Main-line Block Valve	No	Mecklenburg		Yes
SED	North Carolina	LINE 86117	0861		Main-line Block Valve	No	Guilford		Yes
SED	North Carolina	LINE 86101	0861		Main-line Block Valve	No	Guilford		Yes
SED	North Carolina	LINE 86021	0860		Main-line Block Valve	No	Mecklenburg		Yes
SED	North Carolina	LINE 86119	0861		Main-line Block Valve	No	Guilford		Yes
SED	North Carolina	LINE 24F	0808	Fayetteville Station	Main-line Block Valve	No	Cumberland		Yes
SED	North Carolina	LINE 23	0806		Main-line Block Valve	Yes	Guilford		Yes
SED	North Carolina	LINE 86108	0861		Main-line Block Valve	No	Guilford		Yes
SED	North Carolina	LINE 24	0806	Liberty Pump Station	Main-line Block Valve	No	Alamance		Yes
SED	North Carolina	LINE 23	0806	Apex Incoming	Main-line Block Valve	No	Wake		Yes
SED	North Carolina	LINE 86201	0862		Main-line Block Valve	No	Wake		Yes

Colonial Pipeline Company
BLOCK VALVE LOCATIONS

SED	North Carolina	LINE 86013	0860		Main-line Block Valve	No	Mecklenburg	(b) (3), (b) (7)(F)	Yes
SED	North Carolina	LINE 86018	0860		Main-line Block Valve	No	Mecklenburg		Yes
SED	North Carolina	LINE 86021	0860		Main-line Block Valve	No	Mecklenburg		Yes
SED	North Carolina	LINE 86325	0863		Main-line Block Valve	No	Johnston		Yes
SED	North Carolina	LINE 24	0809		Main-line Block Valve	No	Wake		Yes
SED	North Carolina	LINE 24F	0808	Fayetteville Station	Main-line Block Valve	No	Cumberland		Yes
SED	North Carolina	LINE 86126	0861		Main-line Block Valve	No	Guilford		Yes
SED	North Carolina	LINE 86125	0861		Main-line Block Valve	No	Guilford		Yes
SED	North Carolina	LINE 3	0803	Reidville Station	Main-line Block Valve	No	Rockingham		No
SED	North Carolina	LINE 86317	0863		Main-line Block Valve	No	Johnston		Yes
SED	North Carolina	LINE 23	0809		Main-line Block Valve	No	Wake		Yes
SED	North Carolina	LINE 84302	0843		Main-line Block Valve	No	Cumberland		Yes
SED	North Carolina	LINE 86311	0863		Main-line Block Valve	No	Johnston		Yes
SED	North Carolina	LINE 86321	0863		Main-line Block Valve	No	Johnston		Yes
SED	North Carolina	LINE 86320	0863		Main-line Block Valve	No	Johnston		Yes

Colonial Pipeline Company
BLOCK VALVE LOCATIONS

SED	North Carolina	LINE 23	0806	Liberty Pump Station	Main-line Block Valve	No	Alamance	(b) (3), (b) (7)(F)	Yes
SED	North Carolina	LINE 86116	0861		Main-line Block Valve	No	Guilford		Yes
SED	North Carolina	LINE 86118	0861		Main-line Block Valve	No	Guilford		Yes
SED	North Carolina	LINE 86113	0861		Main-line Block Valve	No	Guilford		Yes
SED	North Carolina	LINE 24	0806	Apex Incoming	Main-line Block Valve	Yes	Wake		Yes
SED	North Carolina	LINE 24F	0808	Lillington Station	Main-line Block Valve	Yes	Harnett		Yes
SED	North Carolina	LINE 86115	0861		Main-line Block Valve	No	Guilford		Yes
SED	North Carolina	LINE 24	0806	Greensboro Station	Main-line Block Valve	No	Guilford		Yes
SED	North Carolina	LINE 86124	0861		Main-line Block Valve	No	Guilford		Yes
SED	North Carolina	LINE 86106	0861		Injection Block Valve	No	Guilford		Yes
SED	North Carolina	LINE 86301	0863		Main-line Block Valve	No	Johnston		Yes
SED	North Carolina	LINE 22	0806		Main-line Block Valve	No	Guilford		Yes
SED	North Carolina	LINE 86111	0861		Block Valve WKM	No	Guilford		Yes
SED	North Carolina	LINE 86110	0861		W.K.M Block Valve	No	Guilford		Yes
SED	North Carolina	LINE 86001	0860		Main-line Block Valve	No	Mecklenburg		Yes
SED	North Carolina	LINE 86401	0864		Main-line Block Valve	No	Wake		Yes

Colonial Pipeline Company
BLOCK VALVE LOCATIONS

SED	North Carolina	LINE 86314	0863		Main-line Block Valve	No	Johnston	(b) (3), (b) (7)(F)	Yes
SED	North Carolina	LINE 86316	0863		Main-line Block Valve	No	Johnston		Yes
SED	North Carolina	LINE 86313	0863		Main-line Block Valve	No	Johnston		Yes
SED	North Carolina	LINE 86310	0863		Main-line Block Valve	No	Johnston		Yes
SED	North Carolina	LINE 86324	0863		Main-line Block Valve	No	Johnston		Yes
SED	North Carolina	LINE 86322	0863		Main-line Block Valve	No	Johnston		Yes
SED	North Carolina	LINE 86319	0863		Main-line Block Valve	No	Johnston		Yes
SED	North Carolina	LINE 22	0807	Selma Station (In)	Main-line Block Valve	No	Johnston		Yes
SED	North Carolina	LINE 22	0806	Apex Station (1)	Main-line Block Valve	No	Wake		Yes
SED	North Carolina	LINE 22	0807	Apex Station (2)	Main-line Block Valve	No	Wake		Yes
SED	North Carolina	LINE 22	0807	Selma Trap Inlet	Main-line Block Valve	No	Johnston		Yes
SED	North Carolina	LINE 86312	0863		Main-line Block Valve	No	Johnston		Yes
SED	North Carolina	LINE 22	0807	W. of Hwy 70-A	Main-line Block Valve	No	Johnston		Yes
SED	North Carolina	LINE 22	0806	Gilead Church Rd	Main-line Block Valve	No	Chatham		No
SED	North Carolina	LINE 22	0806	Liberty Pump Station	Main-line Block Valve	No	Alamance		Yes
SED	North Carolina	LINE 22	0806	Rock Rest. Rd	Main-line Block Valve	No	Chatham		No

Colonial Pipeline Company
BLOCK VALVE LOCATIONS

								(b) (3), (b) (7)(F)	
SED	North Carolina	LINE 22	0806	Farrington Rd	Main-line Block Valve	No	Chatham		No
SED	North Carolina	LINE 86327	0863		Main-line Block Valve	No	Johnston		Yes
SED	North Carolina	LINE 86305	0863		Main-line Block Valve	No	Johnston		Yes
SED	North Carolina	LINE 86309	0863		Main-line Block Valve	No	Johnston		Yes
SED	North Carolina	LINE 86308	0863		Main-line Block Valve	No	Johnston		Yes
SED	North Carolina	LINE 86302	0863		Main-line Block Valve	No	Johnston		Yes
SED	North Carolina	LINE 24F	0808	Apex Station	Main-line Block Valve	No	Wake		Yes
SED	North Carolina	LINE 86306	0863		Main-line Block Valve	No	Johnston		Yes
SED	North Carolina	LINE 86326	0863		Main-line Block Valve	No	Johnston		Yes
SED	North Carolina	LINE 84301	0843		Main-line Block Valve	No	Cumberland		Yes
SED	North Carolina	LINE 86315	0863		Main-line Block Valve	No	Johnston		Yes
SED	North Carolina	LINE 86307	0863		Main-line Block Valve	No	Johnston		Yes
SED	Virginia	LINE 4	0901	Dan River W Hwy 870	Main-line Block Valve	No	Pittsylvania		Yes
SED	Virginia	LINE 4	0901	Witt Station	Main-line Block Valve	No	Pittsylvania		Yes
SED	Virginia	LINE 4	0901	Hickory Grove Sta	Main-line Block Valve	No	Halifax		Yes
SED	Virginia	LINE 4	0901	Hickory Grove Sta	Main-line Block Valve	Yes	Halifax		Yes

Colonial Pipeline Company
BLOCK VALVE LOCATIONS

SED	Virginia	LINE 4	0901	Hickory Grove St	Main-line Block Valve	No	Halifax	(b) (3), (b) (7)(F)	Yes
SED	Virginia	LINE 4	0901	Dan River W.Hwy 871	Main-line Block Valve	No	Pittsylvania		Yes
SED	Virginia	LINE 4	0901	S. of Staunton Rvr	Main-line Block Valve	No	Halifax		Yes
SED	Virginia	LINE 3	0901	West of VA 871	Main-line Block Valve	No	Pittsylvania		Yes
SED	Virginia	LINE 3	0901	Witt Sta. Outgoing	Main-line Block Valve	No	Pittsylvania		Yes
SED	Virginia	LINE 3	0901	South of VA Hwy 870	Main-line Block Valve	No	Pittsylvania		Yes
SED	Virginia	LINE 3	0901	West of VA 40	Main-line Block Valve	No	Halifax		Yes
SED	Virginia	LINE 3	0901	Hickory Grove Sta	Main-line Block Valve	Yes	Halifax		Yes
SED	Virginia	LINE 3	0901		Main-line Block Valve	Yes	Pittsylvania		Yes
SED	Virginia	LINE 3	0901	Witt Sta. Incoming	Main-line Block Valve	No	Pittsylvania		Yes

Colonial Pipeline Company
RECTIFIER LOCATIONS

State	Loc Code	Mile Post	Rectifier Id	Location	Alig Sh #	Quad Map	Latitude	Longitude	Line #	Sta. #	Line #	Sta. #	Line #	Sta. #
0400 AL	0401	(b) (3), (b) (7)(F)	0401166	CR 21	5AL010	AL-4	(b) (3), (b) (7)(F)		Ln 1	(b) (3), (b) (7)(F)	Ln 2	(b) (3), (b) (7)(F)		
0400 AL	0401		0401235	CR 20	5AL013	AL-6			Ln 1		Ln 2			
0400 AL	0448		0449010	Boligee Delivery	5AL013	AL-6			Ln 1		Ln 2			
0400 AL	0401		0401269	Curve Lane (CR133)	5AL015	AL-7			Ln 1		Ln 2			
0400 AL	0401		0401343	Hwy 11	5AL019	AL-9			Ln 1		Ln 2			
0400 AL	0401		0401399	Morris Landing Rd.	5AL022	AL-9			Ln 1		Ln 2			
0400 AL	0401		0401448	Cutt off Rd	5AL025	AL-10			Ln 1		Ln 2			
0400 AL	0420		0420010	Moundville Station	5AL027	AL-10			Ln 1		Ln 2			
0400 AL	0420		0420020	Moundville Station	5AL027	AL-10			Ln 1		Ln 2			
0400 AL	0401		0401522	CR 50, Moundville Station	5AL029	AL-11			Ln 1		Ln 2			
0400 AL	0401		0401551	Salem Cemetary Rd.	5AL030	AL-11			Ln 1		Ln 2			
0400 AL	0401		0401586	TNF FR 706	5AL032	AL-12			Ln 1		Ln 2			
0400 AL	0401		0401666	Hagler Coaling Rd.	5AL037	AL-13			Ln 1		Ln 2			
0400 AL	0401		0401718	Medders Rd	5AL039	AL-14			Ln 1		Ln 2			
0400 AL	0401		0401730	Kofner Rd	5AL040	AL-14			Ln 1		Ln 2			
0400 AL	0401		0401739	Hwy 9	5AL040	AL-15			Ln 1		Ln 2			
0400 AL	0424		0424010	Vance Station	5AL040	AL-16			Ln 1		Ln 2			
0400 AL	0401		0401774	Hermitage Lane	5AL042	AL-15			Ln 1		Ln 2			
0400 AL	0401		0401780	CR. 27	5AL043	AL-16			Ln 1		Ln 2			
0400 AL	0401		0401813	Old Woodstock Rd.	5AL044	AL-16			Ln 1		Ln 2			
0400 AL	0401		0401854	Cherokee Rd.	5AL047	AL-17			Ln 1		Ln 2			
0400 AL	0401		0401873	River Rd.	5AL048	AL-17			Ln 1		Ln 2			
0400 AL	0401		0401898	Southern Lane	5AL049	AL-17			Ln 1		Ln 2			
0400 AL	0401		0401958	Copper Head Rd	5AL052	AL-20			Ln 1		Ln 2			
0400 AL	0401		0401971	Scurlock Rd.	5AL053	AL-20			Ln 1		Ln 2			
0400 AL	0421		0421010	Pelham Station Control Building	5AL055	AL-20			Ln 1		Ln 2			
0400 AL	0421		0421020	Pelham Station #1 BS Building	5AL055	AL-20			Ln 1		Ln 2			

Colonial Pipeline Company
RECTIFIER LOCATIONS

State	Loc Code	Mile	Rectifier Id	Location	Alig Sh #	Quad Map	Latitude	Longitude	Line #	Sta. #	Line #	Sta. #	Line #	Sta. #
0400 AL	0421	(b) (3), (b) (7)(F)	0421030	Pelham Station #2 BS Building	5AL055	AL-20	(b) (3), (b) (7)(F)		Ln 1	(b) (3), (b) (7)(F)	Ln 2	(b) (3), (b) (7)(F)		
0400 AL	0421		0421040	Pelham Tank 214	5AL055	AL-20			Ln 1		Ln 2			
0400 AL	0421		0421050	Pelham Tank 211	5AL055	AL-20			Ln 1		Ln 2			
0400 AL	0421		0421060	Pelham Tank 213	5AL055	AL-20			Ln 1		Ln 2			
0400 AL	0421		0421070	Pelham Tank 272	5AL055	AL-20			Ln 1		Ln 2			
0400 AL	0421		0421080	Pelham Tank 210	5AL055	AL-20			Ln 1		Ln 2			
0400 AL	0421		0421090	Pelham Tank 271	5AL055	AL-20			Ln 1		Ln 2			
0400 AL	0421		0421100	Pelham Tank 212	5AL055	AL-20			Ln 1		Ln 2			
0400 AL	0421		0421110	Pelham Tank 270	5AL055	AL-20			Ln 1		Ln 2			
0400 AL	0421		0421120	Pelham Sta. behind warehouse	5AL055	AL-20			Ln 1		Ln 2			
0400 AL	0402		0402042	Yeager Drive	5AL056	AL-20			Ln 1		Ln 2			
0400 AL	0402		0402100	Matador Drive	5AL058	AL-21			Ln 1		Ln 2			
0400 AL	0402		0402223	CR 32	5AL062	AL-22			Ln 1		Ln 2			
0400 AL	0402		0402278	Cheshire Rd	5AL064	AL-22			Ln 1		Ln 2			
0400 AL	0402		0402310	Deer Wood Lake Rd.	5AL065	AL-23			Ln 1		Ln 2			
0400 AL	0402		0402329	Reynolds Rd.	5AL065	AL-24			Ln 1		Ln 2			
0400 AL	0402		0402375	Vincent Cow Pasture	5AL067	AL-24			Ln 1		Ln 2			
0400 AL	0402		0402415	Glovers Ferry Rd.	5AL068	AL-25			Ln 1		Ln 2			
0400 AL	0402		0402451	Co Rd. 191 by Trailer	5AL069	AL-25			Ln 1		Ln 2			
0400 AL	0425		0425010	St. Ives Station	5AL071	AL-25			Ln 1		Ln 2			
0400 AL	0425		0425020	St. Ives Station	5AL071	AL-25			Ln 1		Ln 2			
0400 AL	0402		0402553	Hwy 42 Renfro	5AL073	AL-26			Ln 1		Ln 2			
0400 AL	0402		0402650	Hwy 77	5AL076	AL-26			Ln 1		Ln 2			
0400 AL	0402		0402676	Jackson Trace	5AL077	AL-27			Ln 1		Ln 2			
0400 AL	0402		0402706	Rocky Ridge	5AL078	AL-28			Ln 1		Ln 2			
0400 AL	0402		0402736	Estaboga Rd.	5AL079	AL-28			Ln 1		Ln 2			
0400 AL	0402		0402769	Curry Station Rd.	5AL080	AL-28			Ln 1		Ln 2			

Colonial Pipeline Company
RECTIFIER LOCATIONS

State	Loc Code	Mile Post	Rectifier Id	Location	Alig Sh #	Quad Map	Latitude	Longitude	Line #	Sta. #	Line #	Sta. #	Line #	Sta. #
0400 AL	0402	(b) (3), (b) (7)(F)	0402788	Watts Rd.	5AL081	AL-29	(b) (3), (b) (7)(F)		Ln 1	(b) (3), (b) (7)(F)	Ln 2	(b) (3), (b) (7)(F)		
0400 AL	0402		0402869	Silver Run Rd.	5AL083	AL-29			Ln 1		Ln 2			
0400 AL	0402		0402886	H.J. Bentley Parkway	5AL084	AL-29			Ln 1		Ln 2			
0400 AL	0402		0402905	Fab-Arc Steel	5AL085	AL-30			Ln 1		Ln 2			
0400 AL	0422		0422010	Oxford Station	5AL086	AL-30			Ln 1		Ln 2			
0400 AL	0403		0403032	Tower Rd	5AL088	AL-30			Ln 1		Ln 2			
0400 AL	0443		0443010	Oxford Delivery	5AL088	AL-30			Ln 1		Ln 2			
0400 AL	0403		0403060	Sunny Eve	5AL089	AL-30			Ln 1		Ln 2			
0400 AL	0403		0403176	Bennett Farm	5AL090	AL-31			Ln 1		Ln 2			
0400 AL	0403		0403215	Highland Lake	5AL091	AL-31			Ln 1		Ln 2			
0400 AL	0403		0403342	Bonner Lake Rd.	5AL092	AL-31			Ln 1		Ln 2			
0400 AL	0403		0403413	State Hwy 9	5AL093	AL-33			Ln 1		Ln 2			
0400 AL	0403		0403490	Evans Bridge Rd	5AL094	AL-33			Ln 1		Ln 2			
0400 AL	0403		0403533	Old Bowden Rd	5AL095	AL-33			Ln 1		Ln 2			
0400 AL	0403		0403522	CR 18	5AL095	AL-33			Ln 1		Ln 2			
0400 AL	0403		0403575	Co Rd 122/ Jimmy Howle	5AL096	AL-33			Ln 1		Ln 2			
0400 AL	0403		0403610	Hwy. 46	5AL096	AL-33			Ln 1		Ln 2			
0400 AL	0426		0426010	Heflin Station	5AL096	AL-33			Ln 1		Ln 2			
0400 AL	0403		0403743	Hwy. 459	5AL098	AL-34			Ln 1		Ln 2			
0400 AL	0403		0403768	CR 437/ Hunting Club	5AL098	AL-34			Ln 1		Ln 2			
0400 AL	0403		0403770	CR 437	5AL098	AL-34			Ln 1		Ln 2			
0400 AL	0403		0403827	CR 66 Pasture	5AL099	AL-34			Ln 1		Ln 2			
0400 AL	0403		0403879	CR 448, Pounds Mill Rd.	5AL100	AL-34			Ln 1		Ln 2			
0400 AL	0403		0403941	CR 37	5AL100	AL-35			Ln 1		Ln 2			
0400 AL	0403		0403953	CR 697 /Kelly Creek	5AL101	AL-35			Ln 1		Ln 2			
0400 AL	0403		0403976	CR 642 State Line	5AL101	AL-35			Ln 1		Ln 2			
0400 AL	0421		0405126	Pelham Jct-B'ham Del. – Helena Jct	5AL301	AL-20			Ln 12					
0400 AL	0445		0445010	Birmingham Del	5AL307	BIRM-2			Ln 12					

Colonial Pipeline Company
RECTIFIER LOCATIONS

State	Loc Code	Mile	Rectifier Id	Location	Alig Sh #	Quad Map	Latitude	Longitude	Line #	Sta. #	Line #	Sta. #	Line #	Sta. #
0500 GA	0501	(b) (3), (b) (7)(F)	0501027	Providence Church Rd	5GA002	AL-35	(b) (3), (b) (7)(F)		Ln 1	(b) (3), (b) (7)(F)	Ln 2	(b) (3), (b) (7)(F)		
0500 GA	0501		0501059	Old Hwy 100	5GA002	AL-35			Ln 1		Ln 2			
0500 GA	0501		0501106	Hwy 100	5GA003	AL-35			Ln 1		Ln 2			
0500 GA	0501		0501147	Budapest Rd	5GA004	GA-2			Ln 1		Ln 2			
0500 GA	0501		0501201	Nitra Rd	5GA004	GA-2			Ln 1		Ln 2			
0500 GA	0501		0501221	Old Bushmill Rd	5GA006	GA-2			Ln 1		Ln 2			
0500 GA	0501		0501235	Waddell St.	5GA006	GA-2			Ln 1		Ln 2			
0500 GA	0501		0501239	Noel Cash Rd.	5GA006	GA-2			Ln 1		Ln 2			
0500 GA	0501		0501264	Waterworks Rd.	5GA007	GA-2			Ln 1		Ln 2			
0500 GA	0501		0501309	Old Hamilton Mill Rd.	5GA007	GA-2			Ln 1		Ln 2			
0500 GA	0521		0521010	Bremen Station	5GA007	GA-2			Ln 1		Ln 2			
0500 GA	0521		0521020	Bremen Station Relief Tank	5GA007	GA-2			Ln 1		Ln 2			
0500 GA	0501		0501361	Little Vine Church Rd.	5GA009	GA-4			Ln 1		Ln 2			
0500 GA	0501		0501405	Liberty Church Rd.	5GA010	GA-4			Ln 1		Ln 2			
0500 GA	0501		0501450	Fortenberry Rd.	5GA011	GA-4			Ln 1		Ln 2			
0500 GA	0501		0501508	Taylors Gin Rd.	5GA012	GA-5			Ln 1		Ln 2			
0500 GA	0501		0501538	Hwy 101 Rockmart Rd.	5GA013	GA-5			Ln 1		Ln 2			
0500 GA	0501		0501564	Legion Lake Rd.	5GA013	GA-5			Ln 1		Ln 2			
0500 GA	0501		0501585	Old Millertown Rd.	5GA014	GA-5			Ln 1		Ln 2			
0500 GA	0501		0501632	Townsend Rd.	5GA015	GA-5			Ln 1		Ln 2			
0500 GA	0501		0501641	Mu berry Rock Rd.	5GA015	GA-5			Ln 1		Ln 2			
0500 GA	0501		0501686	Hitchcock Rd.	5GA016	GA-6			Ln 1		Ln 2			
0500 GA	0501		0501689	Fate Fuller Rd.	5GA016	GA-6			Ln 1		Ln 2			
0500 GA	0501		0501713	Bob Hunton Rd.	5GA017	GA-6			Ln 1		Ln 2			
0500 GA	0501		0501731	Dallas-Nebo Rd.	5GA017	GA-6			Ln 1		Ln 2			
0500 GA	0501		0501754	Mill Creek Rd.	5GA018	GA-6			Ln 1		Ln 2			
0500 GA	0501		0501770	Hughes Rd.	5GA018	GA-6			Ln 1		Ln 2			
0500 GA	0501		0501805	Laird Rd.	5GA019	GA-6			Ln 1		Ln 2			

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0500 GA	0520	(b) (3), (b) (7)(F)	0520010	Atlanta Junction Switchgear	5GA023	GA-7	(b) (3), (b) (7)(F)		Ln 1	(b) (3), (b) (7)(F)	Ln 2	(b) (3), (b) (7)(F)		
0500 GA	0520		0520020	Atanta Junction Piping	5GA023	GA-7			Ln 1		Ln 2			
0500 GA	0520		0520030	Atlanta Junction Oil Tanks	5GA023	GA-7			Ln 1		Ln 2			
0500 GA	0520		0520040	Atlanta Junction Gas Tanks	5GA023	GA-7			Ln 1		Ln 2			
0500 GA	0520		0520050	Atlanta Junction Gas Tanks	5GA023	GA-7			Ln 1		Ln 2			
0500 GA	0520		0520060	Atlanta Junction Cntrl Room	5GA023	GA-7			Ln 1		Ln 2			
0500 GA	0520		0520080	Atlanta Junction Lagoon 1	5GA023	GA-7			Ln 1		Ln 2			
0500 GA	0520		0520085	Atlanta Junction Lagoon 2	5GA023	GA-7			Ln 1		Ln 2			
0500 GA	0520		0520090	Atlanta Junction Manifold Piping	5GA023	GA-7			Ln 1		Ln 2			
0500 GA	0520		0520316	Atlanta Junction Tank 316	5GA023	GA-7			Ln 1		Ln 2			
0500 GA	0520		0520317	Atlanta Junction Tank 317	5GA023	GA-7			Ln 1		Ln 2			
0500 GA	0520		0520333	Atlanta Junction Tank 333	5GA023	GA-7			Ln 1		Ln 2			
0500 GA	0520		0520335	Atlanta Junction Tank 335	5GA023	GA-7			Ln 1		Ln 2			
0500 GA	0520		0520339	Atlanta Junction Tank 339	5GA023	GA-7			Ln 1		Ln 2			
0500 GA	0520		0520354	Atlanta Junction Tank 354	5GA023	GA-7			Ln 1		Ln 2			
0500 GA	0520		0520375	Atlanta Junction Tank 375	5GA023	GA-7			Ln 1		Ln 2			
0500 GA	0520		0520376	Atlanta Junction Tank 376	5GA023	GA-7			Ln 1		Ln 2			(b) (3), (b) (7)(F)
0500 GA	0502		0502016	East-West Connector	5GA025	GA-8			Ln 1		Ln 2		Ln 15	
0500 GA	0502		0502060	Concord Rd.	5GA028	GA-15			Ln 1		Ln 2			
0500 GA	0502		0502080	Gann Rd.	5GA030	GA-8			Ln 1		Ln 2		Ln 15	
0500 GA	0502		0502098	Cedar Cliff Rd.	5GA031	GA-8			Ln 1		Ln 2		Ln 15	
0500 GA	0523		0523010	Smyrna Station	5GA034	GA-10			Ln 1		Ln 2			
0500 GA	0502		0502155	Powers Ferry Rd.	5GA035	GA-10			Ln 1		Ln 2			
0500 GA	0502		0502177	Jogging Trail	5GA048	GA-10			Ln 1		Ln 2			
0500 GA	0502		0502227	Riverside Dr.	5GA051	GA-10			Ln 1		Ln 2			
0500 GA	0502		0502265	Hidden Branches	5GA056	GA-11			Ln 1		Ln 2			
0500 GA	0502		0502344	Peachtree Corners	5GA057	GA-11			Ln 1		Ln 2			

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0500 GA	0502	(b) (3), (b) (7)(F)	0502356	Jay Bird Alley	5GA063	GA-12	(b) (3), (b) (7)(F)		Ln 1	(b) (3), (b) (7)(F)	Ln 2	(b) (3), (b) (7)(F)		
0500 GA	0502		0502433	Davenport Rd.	5GA063	GA-12			Ln 1		Ln 2			
0500 GA	0502		0502447	Commerce Dr.	5GA065	GA-13			Ln 1		Ln 2			
0500 GA	0502		0502456	Evergreen Blvd	5GA070	GA-13			Ln 1		Ln 2			
0500 GA	0502		0502517	Riverside Pkwy	5GA075	GA-13			Ln 1		Ln 2			
0500 GA	0502		0502578	Boulderbrook Circle	5GA076	GA-14			Ln 1		Ln 2			
0500 GA	0502		0502591	Hwy 29	5GA078	GA-14			Ln 1		Ln 2			
0500 GA	0522		0522010	Dacula Station	5GA078	GA-14			Ln 1		Ln 2			
0500 GA	0502		0502621	Harbins Rd.	5GA079	GA-14			Ln 1		Ln 2			
0500 GA	0502		0502640	Drowning Creek Rd.	5GA079	GA-15			Ln 1		Ln 2			
0500 GA	0502		0502682	Kilcrease Rd.	5GA081	GA-15			Ln 1		Ln 2			
0500 GA	0502		0502721	Hazelmoon Dr.	5GA082	GA-15			Ln 1		Ln 2			
0500 GA	0502		0502744	Fort Yargo (AF)	5GA083	GA-16			Ln 1		Ln 2			
0500 GA	0502		0502752	Fort Yargo State Park	5GA083	GA-16			Ln 1		Ln 2			
0500 GA	0502		0502759	Hwy 11	5GA084	GA-16			Ln 1		Ln 2			
0500 GA	0502		0502774	Golf Course Rd.	5GA084	GA-23			Ln 1		Ln 2			
0500 GA	0502		0502776	Golf Course (AF)	5GA084	GA-16			Ln 1		Ln 2			
0500 GA	0502		0502808	Cosby Rd.	5GA086	GA-16			Ln 1		Ln 2			
0500 GA	0502		0502845	Pleasant Hill Church Rd.	5GA087	GA-17			Ln 1		Ln 2			
0500 GA	0502		0502869	Jefferson Rd.	5GA088	GA-17			Ln 1		Ln 2			
0500 GA	0502		0502882	Arnold Rd.	5GA088	GA-17			Ln 1		Ln 2			
0500 GA	0502		0502890	Rat Kinney Rd.	5GA089	GA-17			Ln 1		Ln 2			
0500 GA	0502		0502905	Savage Rd.	5GA089	GA-17			Ln 1		Ln 2			
0500 GA	0502		0502932	Big Bear Rd.	5GA090	GA-17			Ln 1		Ln 2			
0500 GA	0502		0502946	Middle Oconee River (AF)	5GA091	GA-18			Ln 1		Ln 2			
0500 GA	0502		0502947	East of Oconee River	5GA091	GA-18			Ln 1		Ln 2			
0500 GA	0502		0502961	Tallassee Rd	5GA091	GA-18			Ln 1		Ln 2			
0500 GA	0502		0502974	Quail Run	5GA092	GA-18			Ln 1		Ln 2			

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0500 GA	0502	(b) (3), (b) (7)(F)	0502994	Hwy 129	5GA093	GA-18	(b) (3), (b) (7)(F)		Ln 1	(b) (3), (b) (7)(F)	Ln 2	(b) (3), (b) (7)(F)		
0500 GA	0503		0541010	Athens Delivery	5GA093	GA-18			Ln 1		Ln 2			
0500 GA	0503		0503001	Athens Delivery AF	5GA093	GA-18			Ln 1		Ln 2			
0500 GA	0503		0503027	Newton Bridge Rd	5GA093	GA-18			Ln 1		Ln 2			
0500 GA	0503		0503041	Paradise Vally Ln	5GA094	GA-19			Ln 1		Ln 2			
0500 GA	0503		0503049	Hwy 441	5GA094	GA-19			Ln 1		Ln 2			
0500 GA	0503		0503064	Cherokee Forest Dr	5GA094	GA-19			Ln 1		Ln 2			
0500 GA	0503		0503088	Smokey Rd (AF)	5GA095	GA-20			Ln 1		Ln 2			
0500 GA	0503		0503105	Noketchee Creek Road	5GA095	GA-20			Ln 1		Ln 2			
0500 GA	0503		0503118	Smokey Rd	5GA095	GA-20			Ln 1		Ln 2			
0500 GA	0503		0503135	Old Church Rd	5GA096	GA-20			Ln 1		Ln 2			
0500 GA	0503		0503155	Hwy 106	5GA096	GA-20			Ln 1		Ln 2			
0500 GA	0503		0503208	Billy Dillard Rd	5GA097	GA-20			Ln 1		Ln 2			
0500 GA	0503		0503222	Buddy Moore Rd	5GA098	GA-20			Ln 1		Ln 2			
0500 GA	0503		0503257	West Kellog Dr	5GA098	GA-20			Ln 1		Ln 2			
0500 GA	0503		0503284	Moriah Church Rd	5GA099	GA-20			Ln 1		Ln 2			
0500 GA	0503		0524010	Danielsville Station	5GA099	GA-21			Ln 1		Ln 2			
0500 GA	0503		0503300	Danielsville Station AF (Colonial Dr)	5GA099	GA-21			Ln 1		Ln 2			
0500 GA	0503		0503317	Double Branch Rd	5GA100	GA-21			Ln 1		Ln 2			
0500 GA	0503		0503338	Danielsville Rd	5GA100	GA-21			Ln 1		Ln 2			
0500 GA	0503		0503337	Danielsville Rd (AF)	5GA100	GA-21			Ln 1		Ln 2			
0500 GA	0503		0503358	Hwy 98	5GA100	GA-21			Ln 1		Ln 2			
0500 GA	0503		0503378	Draper Rd	5GA101	GA-21			Ln 1		Ln 2			
0500 GA	0503		0503449	Herbert Miller Rd	5GA102	GA-22			Ln 1		Ln 2			
0500 GA	0503		0503497	Davids Home Church Rd	5GA103	GA-22			Ln 1		Ln 2			
0500 GA	0503		0503509	Hickory Nut lane	5GA104	GA-23			Ln 1		Ln 2			
0500 GA	0503		0503531	Parham Town Rd	5GA104	GA-23			Ln 1		Ln 2			
0500 GA	0503		0503676	Hwy 172	5GA104	GA-23			Ln 1		Ln 2			

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0500 GA	0503	(b) (3), (b) (7)(F)	0503559	Corinth Church Rd	5GA105	GA-23	(b) (3), (b) (7)(F)		Ln 1	(b) (3), (b) (7)(F)	Ln 2	(b) (3), (b) (7)(F)		
0500 GA	0503		0503711	Hendricks Rd	5GA106	GA-23			Ln 1		Ln 2			
0500 GA	0503		0503625	West Church Street	5GA106	GA-23			Ln 1		Ln 2			
0500 GA	0503		0503658	Bowman Hwy	5GA107	GA-23			Ln 1		Ln 2			
0500 GA	0503		0503708	Liberty Church Rd	5GA108	GA-24			Ln 1		Ln 2			
0500 GA	0503		0503730	Wakefield Farm Off Hwy 172	5GA108	GA-24			Ln 1		Ln 2			
0500 GA	0503		0503755	Elias P. Jenkins (AF)	5GA109	GA-25			Ln 1		Ln 2			
0500 GA	0503		0503764	Elias P. Jenkins	5GA109	GA-25			Ln 1		Ln 2			
0500 GA	0503		0503777	Shiloh Church Rd.	5GA109	GA-25			Ln 1		Ln 2			
0500 GA	0503		0503806	Bio Church Rd.	5GA110	GA-25			Ln 1		Ln 2			
0500 GA	0503		0503829	Steven Johnson Rd	5GA111	GA-25			Ln 1		Ln 2			
0500 GA	0503		0503846	Hwy 77	5GA111	GA-25			Ln 1		Ln 2			
0500 GA	0503		0503893	Whippoorwill Trail	5GA112	GA-26			Ln 1		Ln 2			
0500 GA	0503		0503895	Whippoorwill Trail (AF)	5GA112	GA-26			Ln 1		Ln 2			
0500 GA	0503		0503924	Seawright Dairy Farm (AF)	5GA113	GA-26			Ln 1		Ln 2			
0500 GA	0503		0503945	Seawright Dairy Farm	5GA113	GA-26			Ln 1		Ln 2			
0500 GA	0503		0503981	Hart Generator Station	5GA114	GA-26			Ln 1		Ln 2			
0500 GA	0503		0503985	Quarry Rd Solar Unit	5GA114	GA-26			Ln 1		Ln 2			
0500 GA	0504		0504170	Lost Mountain Rd	5GA303	CHATT-2			Ln 18		Ln 19			
0500 GA	0504		0504302	Hwy 381	5GA306	CHATT-3			Ln 18		Ln 19		Ln 20	(b) (3), (b) (7)(F)
0500 GA	0504		0504360	Shooting Range	5GA308	CHATT-4			Ln 18		Ln 19		Ln 20	
0500 GA	0504		0504393	Pumpkin Vine CRK	5GA308	CHATT-4			Ln 18		Ln 19		Ln 20	
0500 GA	0504		0504446	Cochran Rd	5GA310	CHATT-4			Ln 18		Ln 19		Ln 20	
0500 GA	0504		0504500	Lucas Rd	5GA311	CHATT-4			Ln 18		Ln 19		Ln 20	
0500 GA	0504		0504541	Brandon Farms	5GA312	CHATT-5			Ln 18		Ln 19		Ln 20	
0500 GA	0504		0504709	Euharlee Rd	5GA317	CHATT-6			Ln 18		Ln 19		Ln 20	

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0500 GA	0504	(b) (3), (b) (7)(F)	0504833	Etowah River	5GA319	CHATT-7	(b) (3), (b) (7)(F)		Ln 18	(b) (3), (b) (7)(F)	Ln 19	(b) (3), (b) (7)(F)	Ln 20	(b) (3), (b) (7)(F)
0500 GA	0505		0505213	Merrit Chicken Farm	5GA329	CHATT-10			Ln 18		Ln 19		Ln 20	
0500 GA	0505		0505424	Villanow-Subligna Rd	5GA334	CHATT-11			Ln 18		Ln 19		Ln 20	
0500 GA	0505		0505698	County Line Rd	5GA341	CHATT-12			Ln 18		Ln 19		Ln 20	
0500 GA	0507		0507994	Lookout MTN Railroad	5GA355	NASH-2			Ln 19		Ln 20		Ln 20	
0500 GA	0573		0573127	Blairsbridge Rd.	5GA372	GA-8			Ln 17					
0500 GA	0573		0573579	Kenwood Rd.	5GA384	BAIN-5			Ln 17					
0500 GA	0573		0573776	Richard Petty Blvd	5GA391	BAIN-7			Ln 17					
0500 GA	0513		0513023	Atanta Gas Light	5GA395	BAIN-8			Ln 17					
0500 GA	0548		0548010	Griffin Delivery	5GA395	BAIN-8			Ln 17					
0500 GA	0513		0513131	Rehobeth Rd.	5GA397	BAIN-10			Ln 17					
0500 GA	0513		0513245	Barnsville Rd.	5GA400	BAIN-10			Ln 17					
0500 GA	0513		0513267	Morgan Dairy Rd.	5GA400	BAIN-10			Ln 17					
0500 GA	0513		0513602	Hwy 83	5GA408	BAIN-13			Ln 17					
0500 GA	0513		0513681	Fletcher Property	5GA410	BAIN-13			Ln 17					
0500 GA	0513		0513756	Pennington Property	5GA411	BAIN-15			Ln 17					
0500 GA	0513		0513790	Power Lines	5GA412	BAIN-15			Ln 17					
0500 GA	0513		0513826	Wadley Rd.	5GA413	BAIN-15			Ln 17					
0500 GA	0513		0513877	Sanders Rd.	5GA414	BAIN-15			Ln 17					
0500 GA	0549		0549010	North Macon Delivery	5GA416	BAIN-16			Ln 17					
0500 GA	0514		0514226	Tucker Rd.	5GA417	BAIN-17			Ln 17					
0500 GA	0519		0519035	Newberry Farm	5GA422	BAIN-19			Ln 17					
0500 GA	0519		0519457	Chestnut Hill Rd.	5GA428	BAIN-21			Ln 17					
0500 GA	0519		0519615	Dole Property	5GA431	BAIN-21			Ln 17					
0500 GA	0519		0519632	Oglethorpe	5GA440	BAIN-24			Ln 17					
0500 GA	0550		0550010	Americus Delivery (Station)	5GA451	BAIN-28			Ln 17					
0500 GA	0550		0550020	Americus Delivery Lines	5GA451	BAIN-28			Ln 56802/02					

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0500 GA	0515	(b) (3), (b) (7)(F)	0515360	Pettis Rd.	5GA458	BAIN-30	(b) (3), (b) (7)(F)		Ln 17	(b) (3), (b) (7)(F)				
0500 GA	0515		0515674	S. of Kinchafoonee Creek	5GA463	BAIN-32			Ln 17					
0500 GA	0557		0557010	Albany Junction	5GA469	BAIN-33			Ln 17,17A					
0500 GA	0553		0553010	South Albany Station	5GA470	BAIN-33			Ln 17					
0500 GA	0516		0516112	Lonesome Rd	5GA472	BAIN-34			Ln 17					
0500 GA	0516		0516359	Coolawachee Creek	5GA479	BAIN-36			Ln 17					
0500 GA	0516		0516863	North of Bainbridge	5GA492	BAIN-40			Ln 17					
0500 GA	0552		0552010	Bainbridge Station	5GA495	BAIN-41			Ln 17					
0500 GA	0555		0555010	South Macon Junction (Station)	5GA501	BAIN-18			Ln 17,17M					
0500 GA	0555		0555020	South Macon Junction (Line 17M)	5GA501	BAIN-16			Ln 17M					
0500 GA	0554		0554010	South Macon Delivery	5GA504	BAIN-17A			Ln 17					
0500 GA	0551		0551010	North Albany Station	5GA515	BAIN-33			Ln 17					
0500 GA	0512		0512276	Welcome All Rd.	5GA546	BAIN-3			Ln 16					
0500 GA	0546		0546010	Chattahoochee Delivery Lines	5GA569	GA-9			Ln 14,16					
0500 GA	0546		0546030	Chattahoochee Delivery (Station)	5GA569	GA-9			Ln 14,16					
0500 GA	0547		0547010	Doraville Delivery	5GA604	GA-11			Ln 13,15					
0600 TN	0603		0603040	Moccasin Bend Rd	5TN303	NASH-3			Ln 19		Ln 20	(b) (3), (b) (7)(F)		
0600 TN	0646		0646010	Moccasin Bend Rd	5TN304	NASH-3			Ln 19		Ln 20			
0600 TN	0622		0622010	Signal Mnt Station	5TN306	NASH-3			Ln 20					
0600 TN	0603		0603178	Hwy 108 - Whitwell	5TN313	NASH-6			Ln 19		Ln 20			
0600 TN	0603		0603221	Pocket Rd	5TN316	NASH-6			Ln 19		Ln 20			
0600 TN	0621		0621010	Coalmont Station	5TN320	NASH-8			Ln 19		Ln 20			
0600 TN	0621		0621020	Coalmont Station	5TN320	NASH-8			Ln 20					
0600 TN	0603		0603315	Freemont Rd	5TN322	NASH-8			Ln 19		Ln 20			
0600 TN	0603		0603411	Henry Cove Rd	5TN328	NASH-11			Ln 19		Ln 20			
0600 TN	0603		0603525	Goose Pond Rd	5TN335	NASH-13			Ln 19		Ln 20			
0600 TN	0603		0603635	Hwy 41	5TN343	NASH-16			Ln 19		Ln 20			

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0600 TN	0623	(b) (3), (b) (7)(F)	0623010	Murfreesboro Station	5TN349	NASH-18	(b) (3), (b) (7)(F)		Ln 20	(b) (3), (b) (7)(F)		(b) (3), (b) (7)(F)		
0600 TN	0603		0603781	Almalille Rd	5TN352	NASH-20			Ln 19		Ln 20			
0600 TN	0603		0603895	Dell Thomas Rd	5TN354	NASH-20			Ln 19		Ln 20			
0600 TN	0650		0650010	Nashville Airport Delivery	5TN363	NASH-22			Ln 19		Ln 20			
0600 TN	0643		0643010	Easy Nashville Delivery	5TN369	NASH-24			Ln 19		Ln 20			
0600 TN	0664		0664020	Lion Junction	5TN372	NASH-24			Ln 19					
0600 TN	0664		0664030	Exxon Junction	5TN376	NASH-24			Ln 19		Ln 20			
0600 TN	0642		0642010	Nashville Delivery	5TN377	NASH-24			Ln 19					
0600 TN	0640		0640010	Chattanooga Delivery 1	5TN405	KNOX-2			Ln 18					
0600 TN	0640		0640020	Chattanooga Delivery 2	5TN405	KNOX-2			Ln 18					
0600 TN	0602		0602067	Troubadour Dr	5TN408	KNOX-3			Ln 18					
0600 TN	0602		0602138	Brymer Creek Rd	5TN412	KNOX-4			Ln 18					
0600 TN	0602		0602207	Timber Trace Circle	5TN415	KNOX-5			Ln 18					
0600 TN	0624		0624010	Charleston Station	5TN428	KNOX-7			Ln 18					
0600 TN	0621		0620010	Niota Block Vlv	5TN429	KNOX-10			Ln 18					
0600 TN	0602		0602576	Moses Rd	5TN433	KNOX-11			Ln 18					
0600 TN	0625		0625010	Sweetwater Station	5TN437	KNOX-13			Ln 18DS					
0600 TN	0602		0602703	Commerce Park	5TN440	KNOX-13			Ln 18DS					
0600 TN	0602		0602751	Sugarwood Rd	5TN442	KNOX-15			Ln 18DS					
0600 TN	0602		0602958	Mars Hill Rd	5TN452	KNOX-18			Ln 18					
0600 TN	0641		0641010	Knoxville Delivery	5TN454	KNOX-19			Ln 18					
0600 TN	0605		0644010	Knoxville East Delivery	5TN458	KNOX-19			Ln 18CS					
0700 SC	0701		0701031	Opry House Rd.	5SC002	GA-26			Ln 1		Ln 2			
0700 SC	0701		0701114	Generosity Church Rd.	5SC002	GA-26			Ln 1		Ln 2			
0700 SC	0701		0701167	Rainey Rd / Hwy 412	5SC003	SC-2			Ln 1		Ln 2			

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0700 SC	0701	(b) (3), (b) (7)(F)	0701290	Mountain Creek Church Rd / Hwy 104	5SC005	SC-3	(b) (3), (b) (7)(F)		Ln 1	(b) (3), (b) (7)(F)	Ln 2	(b) (3), (b) (7)(F)		
0700 SC	0701		0701344	Stevenson Rd	5SC006	SC-3			Ln 1		Ln 2			
0700 SC	0720		0720010	Anderson Station	5SC006	SC-3			Ln 1		Ln 2			
0700 SC	0701		0701415	Bouknight Farm/Honeywell Crossing (Solar)	5SC006	SC-3			Ln 1		Ln 2			
0700 SC	0701		0701478	Keys Stret	5SC007	SC-3			Ln 1		Ln 2			
0700 SC	0701		0701479	Keys Street Aflex	5SC007	SC-3			Ln 1		Ln 2			
0700 SC	0701		0701508	Airline Ave	5SC008	SC-3			Ln 1		Ln 2			
0700 SC	0701		0701562	Acker Rd (AF)	5SC008	SC-4			Ln 1		Ln 2			
0700 SC	0701		0701612	Co Rd. 247 (Broadway Lake Rd (AF)	5SC009	SC-4			Ln 1		Ln 2			
0700 SC	0701		0701656	Ponce De Leon Dr (AF)	5SC009	SC-4			Ln 1		Ln 2			
0700 SC	0701		0701724	Amity Rd (AF)	5SC010	SC-4			Ln 1		Ln 2			
0700 SC	0701		0701778	Co Rd 118 (N. Major Rd)	5SC011	SC-5			Ln 1		Ln 2			
0700 SC	0701		0701779	North Major Rd (AF)	5SC011	SC-5			Ln 1		Ln 2			
0700 SC	0701		0701847	Lamar Mitchell Rd	5SC012	SC-5			Ln 1		Ln 2			
0700 SC	0701		0701864	Co Rd 209 (Roger Bolt Rd)	5SC012	SC-5			Ln 1		Ln 2			
0700 SC	0701		0701889	Griffin Rd	5SC012	SC-5			Ln 1		Ln 2			
0700 SC	0701		0701902	Kay Street	5SC012	SC-5			Ln 1		Ln 2			
0700 SC	0701		0701944	West Calhoun Rd (Co Rd 205)	5SC013	SC-6			Ln 1		Ln 2			
0700 SC	0721		0721010	Belton Jct 10 South (Tank #510 #2)	5SC013	SC-6			Ln 1		Ln 2			
0700 SC	0721		0721020	Belton #20 North near TK 570	5SC013	SC-6			Ln 1		Ln 2			
0700 SC	0721		0721030	Belton #30 Center near TK 510	5SC013	SC-6			Ln 1		Ln 2			
0700 SC	0721		0721040	Belton Jct 40	5SC013	SC-6			Ln 1		Ln 2			
0700 SC	0721		0721050	Belton Jct 50	5SC013	SC-6			Ln 1		Ln 2			
0700 SC	0721		0721060	Belton Jct 60	5SC013	SC-6			Ln 1		Ln 2			
0700 SC	0702		0702019	Murphy Road	5SC014	SC-6			Ln 1		Ln 2			
0700 SC	0702		0702040	Rector Road	5SC014	SC-6			Ln 1		Ln 2			
0700 SC	0702		0702088	Cannon Bottom Rd#116	5SC015	SC-6			Ln 1		Ln 2			

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0700 SC	0702	(b) (3), (b) (7)(F)	0702176	Cooley Bridge Road	5SC017	SC-6	(b) (3), (b) (7)(F)		Ln 1	(b) (3), (b) (7)(F)	Ln 2	(b) (3), (b) (7)(F)		
0700 SC	0702		0702203	Hopkins Road	5SC018	SC-6			Ln 1		Ln 2			
0700 SC	0702		0702228	Holly Drive	5SC019	SC-8			Ln 1		Ln 2			
0700 SC	0702		0702255	Slatton Shoals Road	5SC019	SC-8			Ln 1		Ln 2			
0700 SC	0702		0702279	Fork Shoals Road	5SC020	SC-8			Ln 1		Ln 2			
0700 SC	0702		0702309	South Harrison Bridge Road	5SC020	SC-8			Ln 1		Ln 2			
0700 SC	0702		0702338	Ridgeway Drive	5SC021	SC-8			Ln 1		Ln 2			
0700 SC	0702		0702350	New Harrison Bridge Road	5SC022	SC-8			Ln 1		Ln 2			
0700 SC	0702		0702368	Neely's Ferry Road	5SC022	SC-8			Ln 1		Ln 2			
0700 SC	0702		0702381	Fairview Road	5SC022	SC-8			Ln 1		Ln 2			
0700 SC	0723		0723010	Simpsonville Station	5SC023	SC-9			Ln 1		Ln 2			
0700 SC	0702		0702447	Speedway Drive	5SC023	SC-9			Ln 1		Ln 2			
0700 SC	0702		0702494	Scuffletown Road	5SC024	SC-9			Ln 1		Ln 2			
0700 SC	0702		0702532	Hyman Road	5SC025	SC-9			Ln 1		Ln 2			
0700 SC	0702		0702554	Hunter Road	5SC026	SC-10			Ln 1		Ln 2			
0700 SC	0702		0702569	Cooper Bridge Road - Laurens	5SC026	SC-10			Ln 1		Ln 2			
0700 SC	0702		0702589	Cooper Bridge Road - Spartanburg	5SC026	SC-10			Ln 1		Ln 2			
0700 SC	0702		0702612	Bellview Road	5SC027	SC-11			Ln 1		Ln 2			
0700 SC	0702		0702647	Crescent Green Pond Road	5SC028	SC-11			Ln 1		Ln 2			
0700 SC	0702		0702648	Crescent Green Pond Road	5SC028	SC-11			Ln 1		Ln 2			
0700 SC	0702		0702655	Crescent Green Pond Road - AF	5SC028	SC-11			Ln 1		Ln 2			
0700 SC	0702		0702677	Ferguson Road	5SC029	SC-11			Ln 1		Ln 2			
0700 SC	0702		0702713	Rogers Road	5SC029	SC-11			Ln 1		Ln 2			
0700 SC	0702		0702714	Rogers Road - AF	5SC029	SC-11			Ln 1		Ln 2			
0700 SC	0702		0702743	Bobcat Road	5SC030	SC-11			Ln 1		Ln 2			
0700 SC	0702		0702791	State Highway 290 (Old Spartanburg Road)	5SC031	SC-11			Ln 1		Ln 2			
0700 SC	0702		0702778	Old Spartanburg Road (D/S Hwy 290)	5SC031	SC-12			Ln 1		Ln 2			

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0700 SC	0702	(b) (3), (b) (7)(F)	0702828	Interstate 26	5SC032	SC-12	(b) (3), (b) (7)(F)		Ln 1	(b) (3), (b) (7)(F)	Ln 2	(b) (3), (b) (7)(F)		
0700 SC	0702		0702840	Bullman Road	5SC032	SC-12			Ln 1		Ln 2			
0700 SC	0702		0702890	Bearden Road	5SC032	SC-13			Ln 1		Ln 2			
0700 SC	0702		0702891	Bearden Road - AF	5SC032	SC-13			Ln 1		Ln 2			
0700 SC	0702		0702856	Stella Drive	5SC033	SC-12			Ln 1		Ln 2			
0700 SC	0702		0702864	Stone Station Hwy 215	5SC033	SC-12			Ln 1		Ln 2			
0700 SC	0702		0702875	McAbee Road	5SC033	SC-12			Ln 1		Ln 2			
0700 SC	0702		0702921	Cannan Road	5SC034	SC-13			Ln 1		Ln 2			
0700 SC	0702		0702932	Blanchard Road - AF	5SC034	SC-13			Ln 1		Ln 2			
0700 SC	0702		0702939	Blanchard Road	5SC034	SC-13			Ln 1		Ln 2			
0700 SC	0702		0702952	Baptist Church Camp Road	5SC035	SC-13			Ln 1		Ln 2			
0700 SC	0702		0702996	Saratoga Avenue	5SC036	SC-13			Ln 1		Ln 2			
0700 SC	0741		0741010	Spartanburg Station - Manifold Area	5SC036	SC-14			Ln 1		Ln 2			
0700 SC	0741		0741020	Spartanburg Station - Tanks 650, 651, 652, 660, 661, 662 & 670	5SC036	SC-14			Ln 1		Ln 2			
0700 SC	0741		0741030	Spartanburg Station - Tanks 610, 611, 612, 613, 614, 615 & 616	5SC036	SC-14			Ln 1		Ln 2			
0700 SC	0741		0741040	Spartanburg Station - Tanks 630, 633, 634 & 635	5SC036	SC-14			Ln 1		Ln 2			
0700 SC	0741		0741050	Spartanburg Station - Tanks 632, 633, 634 & 635	5SC036	SC-14			Ln 1		Ln 2			
0700 SC	0741		0741060	Spartanburg Station - Manifold Area	5SC036	SC-14			Ln 1		Ln 2			
0700 SC	0703		0703039	300 Dogwood Club Road	5SC037	SC-14			Ln 1		Ln 2			
0700 SC	0703		0703054	461 Dogwood Club Road	5SC037	SC-14			Ln 1		Ln 2			
0700 SC	0703		0703080	Sutton Road	5SC037	SC-14			Ln 1		Ln 2			
0700 SC	0703		0703112	Emma Cudd Road	5SC038	SC-14			Ln 1		Ln 2			
0700 SC	0703		0703147	Goldmine Road AF	5SC038	SC-14			Ln 1		Ln 2			
0700 SC	0703		0703146	Goldmine Road - Hwy 108	5SC038	SC-14			Ln 1		Ln 2			
0700 SC	0703		0703194	Hammett Road	5SC039	SC-14			Ln 1		Ln 2			
0700 SC	0703		0703246	Soapstone Road	5SC040	SC-15			Ln 1		Ln 2			

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State	Loc Code	Mile Post	Rectifier Id	Location	Alig Sh #	Quad Map	Latitude	Longitude	Line #	Sta. #	Line #	Sta. #	Line #	Sta. #
0700 SC	0703	(b) (3), (b) (7)(F)	0703247	Soapstone Road AF	5SC040	SC-15	(b) (3), (b) (7)(F)		Ln 1	(b) (3), (b) (7)(F)	Ln 2	(b) (3), (b) (7)(F)		
0700 SC	0703		0703282	Goucher School Road	5SC041	SC-15			Ln 1		Ln 2			
0700 SC	0703		0703283	Goucher School Road AF	5SC041	SC-15			Ln 1		Ln 2			
0700 SC	0703		0703322	Double Bridge Road - solar unit	5SC042	SC-16			Ln 1		Ln 2			
0700 SC	0722		0722010	Gaffney Station	5SC043	SC-16			Ln 1		Ln 2			
0700 SC	0703		0703371	Old Race Track Road - Gaffney	5SC043	SC-16			Ln 1		Ln 2			
0700 SC	0703		0703430	Whittenburg Road	5SC044	SC-16			Ln 1		Ln 2			
0700 SC	0703		0703466	Union Highway - Hwy. 18	5SC044	SC-16			Ln 1		Ln 2			
0700 SC	0703		0703505	Vestas Road	5SC045	SC-17			Ln 1		Ln 2			
0700 SC	0703		0703520	Frye Road	5SC045	SC-17			Ln 1		Ln 2			
0700 SC	0703		0703581	Goldmine Road - Gaffney	5SC047	SC-17			Ln 1		Ln 2			
0700 SC	0703		0703596	Ford Road - Hwy. 329	5SC047	SC-17			Ln 1		Ln 2			
0700 SC	0703		0703597	Ford Road - Hwy. 329	5SC047	SC-17			Ln 1		Ln 2			
0700 SC	0703		0703615	River Road - East Side Broad River	5SC047	SC-17			Ln 1		Ln 2			
0700 SC	0703		0703637	South of Bolton Parker Road on R/W	5SC048	SC-17			Ln 1		Ln 2			
0700 SC	0703		0703668	Leagan Road U/S	5SC048	SC-17			Ln 1		Ln 2			
0700 SC	0703		0703669	Leagan Road D/S	5SC048	SC-17			Ln 1		Ln 2			
0700 SC	0703		0703709	South Charleston Street Extension - Linear	5SC049	SC-17			Ln 1		Ln 2			
0700 SC	0703		0703708	South Charleston Street Extension	5SC049	SC-17			Ln 1		Ln 2			
0700 SC	0703		0703723	Rutherford Road	5SC049	SC-17			Ln 1		Ln 2			
0700 SC	0703		0703739	Dye Road	5SC049	SC-18			Ln 1		Ln 2			
0700 SC	0703		0703780	Cherokee Hills Road	5SC050	SC-18			Ln 1		Ln 2			
0700 SC	0703		0703806	Jumping Branch Road	5SC051	SC-19			Ln 1		Ln 2			
0700 SC	0703		0703838	Possum Trot Road	5SC051	SC-19			Ln 1		Ln 2			
0700 SC	0703		0703879	Clayborne Road	5SC052	SC-19			Ln 1		Ln 2			
0700 SC	0703		0703901	Rockhouse Road	5SC052	SC-19			Ln 1		Ln 2			
0700 SC	0703		0703931	Battleground Road - Hwy. 216	5SC053	SC-19			Ln 1		Ln 2			

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0700 SC	0704	(b) (3), (b) (7)(F)	0704302	State Hwy 39 (Lindsey Cemetery Rd)	5SC309	AUG-3	(b) (3), (b) (7)(F)		Ln 21	(b) (3), (b) (7)(F)	Ln 29	(b) (3), (b) (7)(F)		
0700 SC	0704		0704819	Rec @ Hwy 378 McCormick Co.	5SC324	AUG-8			Ln 21		Ln 29			
0700 SC	0704		0704953	State Hwy 53 (Briggs Rd)	5SC327	AUG-12			Ln 21		Ln 29			
0700 SC	0763		0763025	Belvedere Junction	5SC340	AUG-13			Ln 21		Ln 29			
0700 SC	0760		0760402	South Port Road - Spartanburg Deliveries	5SC802	SC-13			Ln 1		Ln 2			
0800 NC	0801		0801013	Bethlehem Road AF	5NC001	SC-20			Ln 1		Ln 2			
0800 NC	0801		0801015	Bethlehem Road	5NC001	SC-20			Ln 1		Ln 2			
0800 NC	0801		0801066	State Highway 161	5NC002	SC-20			Ln 1		Ln 2			
0800 NC	0801		0801114	Unity Church Road	5NC003	SC-20			Ln 1		Ln 2			
0800 NC	0801		0801224	Freedom Mill Road	5NC004	SC-20			Ln 1		Ln 2			
0800 NC	0801		0801296	Crowder's Creek Road	5NC005	NC-2			Ln 1		Ln 2			
0800 NC	0801		0801356	Little Mountain Road	5NC006	NC-2			Ln 1		Ln 2			
0800 NC	0801		0801393	White Pond Road - Across from Gayle Avenue - west of Gastonia Station driveway	5NC007	NC-2			Ln 1		Ln 2			
0800 NC	0801		0822010	Gastonia Sta.	5NC007	NC-2			Ln 1		Ln 2			
0800 NC	0801		0801454	Brentwood Road	5NC007	NC-2			Ln 1		Ln 2			
0800 NC	0801		0801470	Pine Creek Road	5NC008	NC-2			Ln 1		Ln 2			
0800 NC	0801		0801570	Lowell Bethesda Road - Highway 2439	5NC009	NC-3			Ln 1		Ln 2			
0800 NC	0801		0801655	Dan Maple's Drive	5NC009	NC-3			Ln 1		Ln 2			
0800 NC	0801		0801657	Mayflower Street	5NC011	NC-3			Ln 1		Ln 2			
0800 NC	0801		0801659	Cramerton Village Drive	5NC012	NC-3			Ln 1		Ln 2			
0800 NC	0801		0801676	Lake Wood Road	5NC012	NC-3			Ln 1		Ln 2			
0800 NC	0801		0801854	Caldwell Rd.	5NC014	NC-4			Ln 1		Ln 2			
0800 NC	0801		0801860	Moore's Chapel Rd. (Johnson Property off Moore's Chapel)	5NC016	NC-5			Ln 1		Ln 2			
0800 NC	0801		0801901	I-485 - Wildlife Rd	5NC016	NC-5			Ln 1		Ln 2			
0800 NC	0801		0801938	Sullins Road	5NC017	NC-5			Ln 1		Ln 2			
0800 NC	0801		0801997	Kenstead Circle	5NC018	NC-5			Ln 1		Ln 2			

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0800 NC	0840	(b) (3), (b) (7)(F)	0840010	Charlotte Station Tanks 761 AND 770	5NC018	NC-5	(b) (3), (b) (7)(F)		Ln 1	(b) (3), (b) (7)(F)	Ln 2	(b) (3), (b) (7)(F)		
0800 NC	0840		0840020	Charlotte Station Tanks 731-34, 710, ETC.	5NC018	NC-5			Ln 1		Ln 2			
0800 NC	0840		0840030	Charlotte Station Manifold	5NC018	NC-5			Ln 1		Ln 2			
0800 NC	0840		0840040	Charlotte Station Tanks 730, 735-737	5NC018	NC-5			Ln 1		Ln 2			
0800 NC	0840		0840050	Charlotte Station Tank Lines	5NC018	NC-5			Ln 1		Ln 2			
0800 NC	0840		0840060	Charlotte Station Tanks 711, 712 AND 717	5NC018	NC-5			Ln 1		Ln 2			
0800 NC	0840		0840070	Charlotte Station Tanks 750, 751 AND 760	5NC018	NC-5			Ln 1		Ln 2			
0800 NC	0840		0840080	Charlotte Station Tanks 731 AND 732	5NC018	NC-5			Ln 1		Ln 2			
0800 NC	0840		0840090	Charlotte Station Tanks 730 AND 735	5NC018	NC-5			Ln 1		Ln 2			
0800 NC	0840		0840100	Charlotte Station Tank 762	5NC018	NC-5			Ln 1		Ln 2			
0800 NC	0840		0840110	Charlotte Station Tank 750	5NC018	NC-5			Ln 1		Ln 2			
0800 NC	0840		0840120	Charlotte Station Tank 761	5NC018	NC-5			Ln 1		Ln 2			
0800 NC	0840		0840130	Charlotte Station Tank 770	5NC018	NC-5			Ln 1		Ln 2			
0800 NC	0802		0802014	Old Plank Road	5NC019	NC-5			Ln 1		Ln 2			
0800 NC	0802		0802027	Pleasant Grove Road	5NC019	NC-5			Ln 1		Ln 2			
0800 NC	0802		0802043	Sunset Drive	5NC020	NC-5			Ln 1		Ln 2			
0800 NC	0802		0802048	Miranda Rd.	5NC021	NC-5			Ln 1		Ln 2			
0800 NC	0802		0802095	Alexanderana Road	5NC022	NC-6			Ln 1		Ln 2			
0800 NC	0802		0802100	Hambright Rd	5NC023	NC-7			Ln 1		Ln 2			
0800 NC	0802		0802114	State Highway 115	5NC023	NC-7			Ln 1		Ln 2			
0800 NC	0802		0802177	McCauly Road	5NC025	NC-7			Ln 1		Ln 2			
0800 NC	0802		0802182	Kiser Corner Lane	5NC026	NC-7			Ln 1		Ln 2			
0800 NC	0802		0802211	Shiloh Church Rd.	5NC027	NC-7			Ln 1		Ln 2			
0800 NC	0802		0820010	Kannapolis Station	5NC028	NC-8			Ln 1		Ln 2			
0800 NC	0802		0802247	Plum Road	5NC028	NC-9			Ln 1		Ln 2			
0800 NC	0802		0802248	Fox Ridge Road	5NC028	NC-9			Ln 1		Ln 2			
0800 NC	0802		0802270	Wright Road	5NC029	NC-9			Ln 1		Ln 2			

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0800 NC	0802	(b) (3), (b) (7)(F)	0802275	Freeze Rd.	5NC030	NC-9	(b) (3), (b) (7)(F)		Ln 1	(b) (3), (b) (7)(F)	Ln 2	(b) (3), (b) (7)(F)		
0800 NC	0802		0802300	Campbell Road	5NC031	NC-9			Ln 1		Ln 2			
0800 NC	0802		0802301	Campbell Road Linear (End of Campbell Rd.)	5NC031	NC-9			Ln 1		Ln 2			
0800 NC	0802		0802322	Hwy 152	5NC032	NC-9			Ln 1		Ln 2			
0800 NC	0802		0802338	Millbridge Road	5NC032	NC-9			Ln 1		Ln 2			
0800 NC	0802		0802364	Sechler Prop. (off Lipe Rd. behind house by Turkey barns)	5NC033	NC-10			Ln 1		Ln 2			
0800 NC	0802		0802368	Weaver Road	5NC033	NC-10			Ln 1		Ln 2			
0800 NC	0802		0802378	Cooper Road - Trailer Park at End	5NC034	NC-10			Ln 1		Ln 2			
0800 NC	0802		0802421	Cauble Farm Road (West of Salisbury - Hwy 150)	5NC036	NC-11			Ln 1		Ln 2			
0800 NC	0802		0802436	Sherrill's Ford Rd.	5NC036	NC-11			Ln 1		Ln 2			
0800 NC	0802		0802451	Majolica Rd	5NC037	NC-11			Ln 1		Ln 2			
0800 NC	0802		0802481	Hwy. 601 - Private Drive off 1941	5NC038	NC-11			Ln 1		Ln 2			
0800 NC	0802		0802488	White Farm Rd	5NC038	NC-12			Ln 1		Ln 2			
0800 NC	0802		0802508	Sells Rd	5NC039	NC-12			Ln 1		Ln 2			
0800 NC	0802		0802515	Old Mocksville Road - Hwy 1910	5NC040	NC-12			Ln 1		Ln 2			
0800 NC	0802		0802521	Hannah Ferry Road	5NC040	NC-12			Ln 1		Ln 2			
0800 NC	0802		0802534	North of Yadkin River Anodeflex	5NC040	NC-12			Ln 1		Ln 2			
0800 NC	0802		0802536	Parnell Farm - off Hannah Ferry Road	5NC040	NC-12			Ln 1		Ln 2			
0800 NC	0802		0802546	Simerson Road	5NC041	NC-12			Ln 1		Ln 2			
0800 NC	0802		0802555	Sowers Road	5NC041	NC-13			Ln 1		Ln 2			
0800 NC	0802		0802563	Clement Road	5NC041	NC-13			Ln 1		Ln 2			
0800 NC	0802		0802576	Wilson Road	5NC042	NC-13			Ln 1		Ln 2			
0800 NC	0802		0802597	Swicegood Road	5NC043	NC-14			Ln 1		Ln 2			
0800 NC	0802		0802621	Hoyle Grubbs Lane - Hwy. 1213 off Tyro Road	5NC044	NC-14			Ln 1		Ln 2			
0800 NC	0802		0823010	Lexington Station	5NC044	NC-14			Ln 1		Ln 2			
0800 NC	0802		0802635	Helmstettler Road - Hwy. 1208	5NC044	NC-14			Ln 1		Ln 2			

Colonial Pipeline Company
RECTIFIER LOCATIONS

State	Loc Code	Mile Post	Rectifier Id	Location	Alig Sh #	Quad Map	Latitude	Longitude	Line #	Sta. #	Line #	Sta. #	Line #	Sta. #
0800 NC	0802	(b) (3), (b) (7)(F)	0802663	Petrea Road (1/2 Mile Off Old Hwy 64)	5NC045	NC-14	(b) (3), (b) (7)(F)		Ln 1	(b) (3), (b) (7)(F)	Ln 2	(b) (3), (b) (7)(F)		
0800 NC	0802		0802666	Petrea Road (1/4 Mile off Old Hwy 64)	5NC046	NC-14			Ln 1		Ln 2			
0800 NC	0802		0802675	Happy Hill Road - D/S US Highway 64	5NC046	NC-14			Ln 1		Ln 2			
0800 NC	0802		0802710	Arnold Road	5NC048	NC-14			Ln 1		Ln 2			
0800 NC	0802		0802751	Bud Sink Road	5NC049	NC-16			Ln 1		Ln 2			
0800 NC	0802		0802787	Clodfelter Rd	5NC051	NC-16			Ln 1		Ln 2			
0800 NC	0802		0802788	Hoy Long Road - off Clodfelter	5NC051	NC-16			Ln 1		Ln 2			
0800 NC	0802		0802828	Friendship Ledford Road	5NC053	NC-16			Ln 1		Ln 2			
0800 NC	0802		0802850	Plantation Place	5NC054	NC-17			Ln 1		Ln 2			
0800 NC	0802		0802885	Wallburg High Point Road - off Horny Town Road - Hwy. 1741	5NC055	NC-17			Ln 1		Ln 2			
0800 NC	0802		0802919	Impala Ave. & Imperial Drive	5NC056	NC-18			Ln 1		Ln 2			
0800 NC	0802		0802928	Johnson Street - Hwy. 1818	5NC057	NC-18			Ln 1		Ln 2			
0800 NC	0802		0802965	Williard Dairy Road	5NC058	SLD-1			Ln 1		Ln 2			
0800 NC	0802		0802998	Greensboro Station (Upstream Side)	5NC060	SLD-1			Ln 1		Ln 2			
0800 NC	0821		0821010	Greensboro Station Tanks 822, 823, 824, 818, 819 & 821	5NC060	SLD-1			Ln 1		Ln 2			
0800 NC	0821		0821020	Greensboro Station Tanks 834, 835, 836 & 837	5NC060	SLD-1			Ln 1		Ln 2			
0800 NC	0821		0821030	Greensboro Station Drain Down Tanks	5NC060	SLD-1			Ln 1		Ln 2			
0800 NC	0821		0821040	Greensboro Station Tanks 854, 860, 870 & 877	5NC060	SLD-1			Ln 1		Ln 2			
0800 NC	0821		0821050	Greensboro Station Tanks 852, 862 & 875	5NC060	SLD-1			Ln 1		Ln 2			
0800 NC	0821		0821060	Greensboro Station (South Lab)	5NC060	SLD-1			Ln 1		Ln 2			
0800 NC	0821		0821070	Greensboro Station (North Old Lab)	5NC060	SLD-1			Ln 1		Ln 2			
0800 NC	0821		0821080	Greensboro Station Tanks 863, 864 & 880	5NC060	SLD-1			Ln 1		Ln 2			
0800 NC	0821		0821090	Greensboro Station Tanks 856, 881, 882 & 883	5NC060	SLD-1			Ln 1		Ln 2			
0800 NC	0821		0821100	Greensboro Station Tanks 850, 851, 873 & 874	5NC060	SLD-1			Ln 1		Ln 2			

Colonial Pipeline Company
RECTIFIER LOCATIONS

State	Loc Code	Mile Post	Rectifier Id	Location	Alig Sh #	Quad Map	Latitude	Longitude	Line #	Sta. #	Line #	Sta. #	Line #	Sta. #
0800 NC	0821	(b) (3), (b) (7)(F)	0821110	Greensboro Station Tank 872	5NC060	SLD-1	(b) (3), (b) (7)(F)		Ln 1	(b) (3), (b) (7)(F)	Ln 2	(b) (3), (b) (7)(F)		
0800 NC	0821		0821120	Greensboro Station Tank 871	5NC060	SLD-1			Ln 1		Ln 2			
0800 NC	0821		0821130	Greensboro Station Tank 861	5NC060	SLD-1			Ln 1		Ln 2			
0800 NC	0821		0821140	Greensboro Station Tanks 876 & 853	5NC060	SLD-1			Ln 1		Ln 2			
0800 NC	0821		0821150	Greensboro Station Tanks 878 & 879	5NC060	SLD-1			Ln 1		Ln 2			
0800 NC	0821		0821160	Greensboro Station Tanks 810, 816 & 817	5NC060	SLD-1			Ln 1		Ln 2			
0800 NC	0821		0821170	Greensboro Station Tank 815	5NC060	SLD-1			Ln 1		Ln 2			
0800 NC	0821		0821180	Greensboro Station Tanks 811, 812, 813, 814, 897 & 898	5NC060	SLD-1			Ln 1		Ln 2			
0800 NC	0821		0821190	Greensboro Station Tank 820	5NC060	SLD-1			Ln 1		Ln 2			
0800 NC	0821		0821200	Greensboro Station Tank 825, 840, 843, 844 AND 845	5NC060	SLD-1			Ln 1		Ln 2			
0800 NC	0821		0821210	Greensboro Station Tanks 838, 839, 841 AND 842	5NC060	SLD-1			Ln 1		Ln 2			
0800 NC	0821		0821220	Greensboro Station Tanks 830, 831, 832 AND 833	5NC060	SLD-1			Ln 1		Ln 2			
0800 NC	0821		0821230	Greensboro Station Tank 826	5NC060	SLD-1			Ln 1		Ln 2			
0800 NC	0821		0821240	Greensboro Station Tanks 855 & 883	5NC060	SLD-1			Ln 1		Ln 2			
0800 NC	0821		0821250	Greensboro Station Tank 857	5NC060	SLD-1			Ln 1		Ln 2			
0800 NC	0821		0821260	Greensboro Station Tank 880	5NC060	SLD-1			Ln 1		Ln 2			
0800 NC	0821		0821270	Greensboro Station Tank 821	5NC060	SLD-1			Ln 1		Ln 2			
0800 NC	0803		0803010	Greensboro Remote Manifold - Deepwell Rectifier	5NC061	SLD-1			Ln 3		Ln 4			
0800 NC	0803		0861010	Greensboro Delivery Lines (Behind Triad Terminal)	5NC061	SLD-1			Ln 3		Ln 4			
0800 NC	0803		0803100	Old Oak Ridge Road	5NC062	SLD-1			Ln 3		Ln 4			
0800 NC	0803		0803135	Fleming Road	5NC063	SLD-1			Ln 3		Ln 4			
0800 NC	0803		0803140	Horsepen Creek Road State Highway 2182	5NC063	NC-20			Ln 3		Ln 4			
0800 NC	0803		0803180	Camden Falls Circle	5NC064	NC-21			Ln 3		Ln 4			
0800 NC	0803		0803181	Camden Falls Circle - Linear	5NC064	NC-21			Ln 3		Ln 4			

Colonial Pipeline Company
RECTIFIER LOCATIONS

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0800 NC	0803	(b) (3), (b) (7)(F)	0803210	Candlewick Road	5NC064	NC-21	(b) (3), (b) (7)(F)		Ln 3	(b) (3), (b) (7)(F)	Ln 4	(b) (3), (b) (7)(F)		
0800 NC	0803		0803243	Lake Brandt Road	5NC065	NC-21			Ln 3		Ln 4			
0800 NC	0803		0803279	Plainfield Road - State Highway 2324	5NC066	NC-21			Ln 3		Ln 4			
0800 NC	0803		0803280	Plainfield Road - Anodeflex	5NC066	NC-21			Ln 3		Ln 4			
0800 NC	0803		0803345	Cicero Road - Anodeflex	5NC067	NC-21			Ln 3		Ln 4			
0800 NC	0803		0803406	Church Street - State Route 1001	5NC068	NC-22			Ln 3		Ln 4			
0800 NC	0803		0803432	O'Bryant Road - Anodeflex	5NC069	NC-22			Ln 3		Ln 4			
0800 NC	0803		0803459	State Highway 158 - Anodeflex	5NC069	NC-22			Ln 3		Ln 4			
0800 NC	0803		0803490	Koger Road	5NC070	NC-22			Ln 3		Ln 4			
0800 NC	0803		0803541	Miller Chapel Road - Anodeflex	5NC071	NC-23			Ln 3		Ln 4			
0800 NC	0803		0803547	Boyd Road - State Highway 2409	5NC071	NC-23			Ln 3		Ln 4			
0800 NC	0803		0803609	Dapple Road - Anodeflex	5NC072	NC-23			Ln 3		Ln 4			
0800 NC	0803		0803631	Highway 65 & 87 - Anodeflex	5NC073	NC-23			Ln 3		Ln 4			
0800 NC	0803		0826010	Reidsville Station	5NC073	NC-23			Ln 3		Ln 4			
0800 NC	0803		0803647	Reidsville Station Remote Bed	5NC073	NC-23			Ln 3		Ln 4			
0800 NC	0803		0803694	Highway 14	5NC074	NC-24			Ln 3		Ln 4			
0800 NC	0803		0803737	Carl Lane Highway 1982 - Anodeflex	5NC075	NC-24			Ln 3		Ln 4			
0800 NC	0803		0803763	Crutchfield Road - State Highway 1941	5NC076	NC-24			Ln 3		Ln 4			
0800 NC	0803		0803794	Oregon Hills Road - Anodeflex	5NC076	NC-24			Ln 3		Ln 4			
0800 NC	0803		0803810	Worsham Mill Road - Anodeflex	5NC077	NC-24			Ln 3		Ln 4			
0800 NC	0803		0803865	Bailey Farm Road - State Highway 1921 - Anodeflex	5NC078	NC-25			Ln 3		Ln 4			
0800 NC	0803		0803878	Guerrant Springs Road	5NC078	NC-25			Ln 3		Ln 4			
0800 NC	0803		0803893	Dickerson Road - State Highway 1910	5NC078	NC-25			Ln 3		Ln 4			
0800 NC	0803		0803894	Dickerson Road - Stump Farm - Anodeflex	5NC078	NC-25			Ln 3		Ln 4			
0800 NC	0803		0803926	State Highway 1908 - Lillard Road - Anodeflex	5NC079	NC-26			Ln 3		Ln 4			

Colonial Pipeline Company
RECTIFIER LOCATIONS

State	Loc Code	Mile	Rectifier Id	Location	Alig Sh #	Quad Map	Latitude	Longitude	Line #	Sta. #	Line #	Sta. #	Line #	Sta. #
0800 NC	0803	(b) (3), (b) (7)(F)	0803953	Goose Pond Road #1 - NC Highway 1767	5NC080	NC-26	(b) (3), (b) (7)(F)		Ln 3	(b) (3), (b) (7)(F)	Ln 4	(b) (3), (b) (7)(F)		
0800 NC	0803		0803958	Goose Pond Road #2 - NC Highway 1767	5NC080	NC-26			Ln 3		Ln 4			(b) (3), (b) (7)(F)
0800 NC	0803		0803991	State Highway 1759 - Gravel Hill Road - Anodeflex	5NC080	NC-26			Ln 3		Ln 4			
0800 NC	0806		0806003	Greensboro Station	5NC301	SLD-1			Ln 22		Ln 23		Ln 24	
0800 NC	0806		0806046	Gardner Lane	5NC302	SLD-1			Ln 22		Ln 23		Ln 24	
0800 NC	0806		0806061	MacKay Road	5NC303	SLD-1			Ln 22		Ln 23		Ln 24	
0800 NC	0806		0806105	Grand Over Parkway	5NC305	SLD-3			Ln 22		Ln 23		Ln 24	
0800 NC	0806		0806124	Evanstown Road	5NC305	SLD-3			Ln 22		Ln 23		Ln 24	
0800 NC	0806		0806170	South Elm Eugene Street	5NC307	SLD-3			Ln 22		Ln 23		Ln 24	
0800 NC	0806		0806245	Hagan Stone Park Road	5NC309	SLD-4			Ln 22		Ln 23		Ln 24	
0800 NC	0806		0806299	Old Julian Road Linear	5NC311	SLD-4			Ln 22		Ln 23		Ln 24	
0800 NC	0806		0806300	Old Julian Road	5NC311	SLD-4			Ln 22		Ln 23		Ln 24	
0800 NC	0806		0806371	Kimesville Road	5NC314	SLD-5			Ln 22		Ln 23		Ln 24	
0800 NC	0806		0824010	Liberty Station	5NC319	SLD-7			Ln 22		Ln 23		Ln 24	
0800 NC	0806		0806557	Old Switchboard Road	5NC321	SLD-8			Ln 22		Ln 23		Ln 24	
0800 NC	0806		0806564	Green Hill Road	5NC321	SLD-8			Ln 22		Ln 23		Ln 24	
0800 NC	0806		0806598	Pete Thomas Road	5NC322	SLD-8			Ln 22		Ln 23		Ln 24	
0800 NC	0806		0806637	Chicken Bridge Road - State Highway 1546	5NC324	SLD-9			Ln 22		Ln 23		Ln 24	
0800 NC	0806		0806714	Moore Mountain Road	5NC327	SLD-9			Ln 22		Ln 23		Ln 24	
0800 NC	0806		0806843	Holland Chapel Road	5NC331	SLD-11			Ln 22		Ln 23		Ln 24	
0800 NC	0806		0806861	Jenks Road - State Highway 1601	5NC334	SLD-11			Ln 22		Ln 23		Ln 24	
0800 NC	0841		0841010	Apex Station	5NC337	SLD-13			Ln 22		Ln 23		Ln 24	
0800 NC	0807		0807310	Old Stage Road	5NC342	SLD-14			Ln 22		Ln 23S		Ln 24S	
0800 NC	0807		0807567	Cornwallis Road - State Highway 1526	5NC347	SLD-16			Ln 22		Ln 23S		Ln 24S	

Colonial Pipeline Company
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0800 NC	0807	(b) (3), (b) (7)(F)	0807772	Bunk Cole Road	5NC350	SLD-17	(b) (3), (b) (7)(F)		Ln 22	(b) (3), (b) (7)(F)	Ln 23S	(b) (3), (b) (7)(F)	Ln 24S	(b) (3), (b) (7)(F)
0800 NC	0807		0807907	Lee Youngblood	5NC352	SLD-18			Ln 22		Ln 23S		Ln 24S	
0800 NC	0807		0844010	Selma Station	5NC354	SLD-18			Ln 22		Ln 23S		Ln 24S	
0800 NC	0807		0863010	Selma Delivery	5NC354	SLD-18			Ln 22		Ln 23S		Ln 24S	
0800 NC	0809		0809361	West Chatham Street	5NC364	RD-2			Ln 23RDU					
0800 NC	0809		0845010	Raleigh-Durham Station	5NC371	RD-2			Ln 23RDU					
0800 NC	0808		0808123	Grigsby Avenue (State Highway 1395)	5NC383	SLD-13			Ln 24F					
0800 NC	0808		0808347	Rawls Church Road	5NC387	FVD-2			Ln 24F					
0800 NC	0808		0808414	Christian Light Road	5NC389	FVD-3			Ln 24F					
0800 NC	0808		0808503	Lillington Station - Line Rectifier	5NC391	FVD-3			Ln 24F					
0800 NC	0808		0808882	Johnson Farm Road	5NC399	FVD-6			Ln 24F					
0800 NC	0843		0843010	Fayettville Station	5NC402	FVD-7			Ln 24F					
0900 VA	0901		0901011	Hylar Farm	5VA001	NC-26			Ln 3		Ln 4			
0900 VA	0901		0901012	Hylar Farm	5VA001	NC-26			Ln 3		Ln 4			
0900 VA	0901		0901033	Vandola Road / SR 870	5VA002	NC-26			Ln 3		Ln 4			
0900 VA	0901		0901051	US Hwy 58	5VA003	VA-2			Ln 3		Ln 4			
0900 VA	0901		0901072	S. Jamerson Rd / SR 1523	5VA004	VA-2			Ln 3		Ln 4			
0900 VA	0901		0901093	Orphanage Rd / SR 743	5VA005	VA-3			Ln 3		Ln 4			
0900 VA	0901		0901119	Mt. View / SR 745	5VA007	VA-3			Ln 3		Ln 4			
0900 VA	0901		0901121	Witt Station - Linear	5VA007	VA-3			Ln 3		Ln 4			
0900 VA	0920		0920010	Witt Station	5VA007	VA-3			Ln 3		Ln 4			
0900 VA	0901		0901142	US Hwy 29	5VA008	VA-4			Ln 3		Ln 4			
0900 VA	0901		0901156	Chestnut Level Rd / SR 825	5VA009	VA-4			Ln 3		Ln 4			
0900 VA	0901		0901172	Oakes Farm AF	5VA010	VA-4			Ln 3		Ln 4			
0900 VA	0901		0901188	Dodson Rd / SR 662	5VA011	VA-5			Ln 3		Ln 4			
0900 VA	0901		0901198	Mac Rd / SR 707	5VA011	VA-5			Ln 3		Ln 4			
0900 VA	0901		0901199	Mac Rd / SR 707	5VA011	VA-5			Ln 3		Ln 4			

Colonial Pipeline Company
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0900 VA	0901	(b) (3), (b) (7)(F)	0901214	Abbott Rd / SR 706	5VA012	VA-5	(b) (3), (b) (7)(F)		Ln 3	(b) (3), (b) (7)(F)	Ln 4	(b) (3), (b) (7)(F)		
0900 VA	0901		0901223	Slatesville Rd / SR 701	5VA013	VA-5			Ln 3		Ln 4			
0900 VA	0901		0901245	State Hwy 57	5VA014	VA-6			Ln 3		Ln 4			
0900 VA	0901		0901260	Red Rd / SR 729	5VA015	VA-6			Ln 3		Ln 4			
0900 VA	0901		0901261	Red Rd / SR 729	5VA015	VA-6			Ln 3		Ln 4			
0900 VA	0901		0901267	Elkhorn Rd / SR 686	5VA015	VA-6			Ln 3		Ln 4			
0900 VA	0901		0901283	Yeatts Store Rd / SR 666	5VA016	VA-6			Ln 3		Ln 4			
0900 VA	0901		0901297	Church Rd / SR 680	5VA017	VA-7			Ln 3		Ln 4			
0900 VA	0901		0901310	McDaniel Rd / SR 702	5VA017	VA-7			Ln 3		Ln 4			
0900 VA	0901		0901344	Hickory Grove Station - Remote	5VA019	VA-8			Ln 3		Ln 4			
0900 VA	0901		0901345	Hickory Grove Station - Linear	5VA019	VA-8			Ln 3		Ln 4			
0900 VA	0901		0927010	Hickory Grove Station	5VA019	VA-8			Ln 3		Ln 4			
0900 VA	0901		0901356	Old Concord Rd / SR 649	5VA020	VA-8			Ln 3		Ln 4			
0900 VA	0901		0901367	Cody Road / SR 603	5VA020	VA-8			Ln 3		Ln 4			
0900 VA	0901		0901381	Alex Ln / SR 799	5VA021	VA-8			Ln 3		Ln 4			
0900 VA	0901		0901394	Tobacco Rd / SR 647	5VA022	VA-8			Ln 3		Ln 4			
0900 VA	0901		0901404	Thorntons Rd / SR 636	5VA023	VA-8			Ln 3		Ln 4			
0900 VA	0901		0901412	State Highway 40	5VA023	VA-9			Ln 3		Ln 4			
0900 VA	0901		0901420	Bull Creek Rd / SR 638	5VA023	VA-9			Ln 3		Ln 4			
0900 VA	0901		0901432	River Valves	5VA024	VA-10			Ln 3		Ln 4			
0900 VA	0901		0901450	Indian Jim Trail / SR 941	5VA024	VA-10			Ln 3		Ln 4			

Colonial Pipeline Company
ENVIRONMENTALLY SENSITIVE AREAS

(Virginia, North Carolina, South Carolina, Tennessee, Georgia, Alabama)

This section provides an overview of environmentally sensitive ecological and human use areas across Colonial Pipeline's Southeast District including the States of Virginia, North Carolina, South Carolina, Tennessee, Georgia, and Alabama, respectively. These areas include, but are not limited to, rivers, streams, creeks, wetlands, terrestrial features, historical sites, and state and federal recreational areas. These areas may also contain critical habitats and the potential to harbor threatened and endangered plant and animal species as well as migratory waterfowl. The identification of environmentally sensitive areas is important in that emergency response containment, recovery, and remediation activities can be prioritized to limit potential impacts to these areas.

The environmentally sensitive areas (ESA's) along the pipeline corridor within the Southeast District were identified through a review of Google Earth, Google Map, and US Fish and Wildlife Service's Information for Planning and Conservation [IPaC by USFWS]. For inland areas of the pipeline (located between the major river crossings), environmentally sensitive areas were identified within approximately one mile in each direction of the pipeline. For areas where the pipeline crosses major rivers, environmentally sensitive areas were identified for a distance of approximately 75 miles downgradient of the pipeline crossings. However, if a significant surface water feature (e.g., lake, reservoir) was identified prior to reaching the 75 mile downgradient point, and the projected flow rate was expected to allow emergency response and recovery operations to efficiently manage the potential for downgradient exposures, the area included for the environmental sensitive area identification was adjusted accordingly. During an actual event, the site specific conditions of weather, flow, volume released, etc. will be used to refine or expand the assessment of environmentally sensitive areas that potentially can be exposed to spilled product.

This section provides:

Protection Prioritization Considerations: An overview of the emergency response prioritization strategies developed to protect environmentally sensitive areas;
Internal Information Management System: An overview of Colonial's internal information management system developed to support the access and mapping of environmentally sensitive areas; and
Environmentally Sensitive Areas: A listing of environmentally sensitive areas across Colonial Pipeline's Southeast District including the States of Virginia, North Carolina, South Carolina, Tennessee, Georgia, and Alabama.
Each of these topics are discussed, in turn, in the following sections.

PROTECTION PRIORITIZATION CONSIDERATIONS

The protection strategies outlined in this emergency response plan (Section 9.02 of this plan) will be employed to limit potential impacts to environmentally sensitive areas. Resource constraints, time constraints, and various response constraints can influence the areas that can be protected during a major oil spill. As such, environmentally sensitive areas are a priority for protection and include the following:

1. Public Health.
   (a) Storm drain outlets.
   (b) Public drinking water intakes.

(c) Public utility water intakes.
2. Threatened and Endangered Species.
3. Habitat and Species Concentrations.
   (a) Designated natural areas, wildlife refuges and game management areas.
   (b) Wildlife concentrations (which may vary seasonally).
   (c) Vegetated wetlands and shoreline.
   (d) Commercial and recreational fisheries management areas.
4. Other Public Lands including Local, State, and National Parks.
5. Cultural and Historical Sites.
6. Private Recreational Areas and Facilities.
7. Marinas.
8. Private and Industrial Raw Water Supplies

INTERNAL INFORMATION ACCESS AND MANAGEMENT SYSTEM

Colonial has identified major resources at risk along their pipeline routes as well as potential recovery sites. In addition to the information provided in this plan, other environmentally sensitive area information is stored and accessible in Colonial's Response "Map books" and Colonial's GIS-based Pipeline Explorer. Each of these systems may be accessed as described below.

Pipeline Explorer may be accessed by clicking the link on Colonial's Homepage under Applications>Tech Services>Colonial GIS Online, or going directly to http://sp-gisweb/PE/ while logged on to Colonial's intranet.

Pipeline Explorer is a GIS based program that allows the user to view areas of concern, specifically environmentally sensitive areas, along the pipeline system.

Colonial Pipeline utilizes USGS 7.5 minute (1:50,000 – scale) quadrangle sheets bound into a "Map book" from which recovery sites and resources at risk can be identified. For example, these maps include USGS information on roads, State Parks, Federal Lands (i.e., Forests, National Parks, etc.), populated areas, water bodies, and wetlands.

Colonial has superimposed on these maps pertinent information that includes pre-located product recovery/monitoring sites along all potentially impacted waterways, equipment recommendations for each recovery point, qualitative stream velocities, and industrial and municipal water intakes. This information is available on hard copy and in electronic pdf format.

Colonial's information management system has detailed environmental data including access to the following data: Critical Habitat, Ecological Concern, and the Environmental Sensitivity Index information. The system also includes online access to the identified environmentally sensitive areas including the following information:

State or River;
ESA ID;
Latitude;
Longitude;
Colonial Pipeline Quad Name;
Sensitive Area Name; and

Contact / Phone Number.

Specific environmentally sensitive areas are discussed in the following sections.

ENVIRONMENTALLY SENSITIVE AREAS

As stated above, this section includes identified environmentally sensitive ecological and human use areas across Colonial Pipeline's Southeast District including the States of Virginia, North Carolina, South Carolina, Tennessee, Georgia, and Alabama, respectively. The following information can also be viewed within the Colonial Pipeline Navigator Software. The information for each State is presented as follows:

The environmentally sensitive areas are presented in a series of tables and include features such as wetlands, rivers, creeks, public lands, cultural and historical sites, marinas, and pipelines. The information in these tables include: an internal identification number, name of environmentally sensitive area, corresponding Colonial Pipeline quadrangle number, and contact information for the environmentally sensitive areas (where applicable). These data are integrated into Colonial's information management system and can be searched via the internal identification number.

Information on environmentally sensitive areas across Colonial's Southeast District corridor for each state is separated into three main categories. Inland areas, major rivers, and threatened and endangered species. These categories are described as follows:

Inland Areas. Environmentally sensitive areas in inland areas include terrestrial, smaller water features, and human use areas identified within approximately one mile of the pipeline. Water features within these areas are identified if they are major lakes or have a flow rate of 10 cubic meters per second (cms) or higher (based on data from USGS's EDNA Derived Watersheds (http://edna.usgs.gov/watersheds/). There are other water features within the pipeline corridor that have a flow rate of less than 10 cms and are not individually identified in this emergency response plan. However, these features are recognized as environmentally sensitive areas to protect and include smaller creeks, streams, headwater areas, and critical habitats.

Major Rivers. There are 13 "major rivers" within the Southeast District. Rivers were considered to be "major rivers" based upon the ecological and human use areas that could potentially be affected. For each of these rivers, environmentally sensitive areas are identified within approximately 75 miles downgradient of pipeline crossings, or at a significant surface water feature where the flow rate is expected to be reduced (e.g., lake, reservoir) to allow emergency response and recovery operations to efficiently manage the potential for downgradient exposures, whichever occurs first.

In addition, it should also be recognized that there are numerous smaller rivers, creeks, wetlands, and tributaries that are located along the pipeline route and between the major rivers identified. Many of these smaller rivers, creeks, wetlands, and tributaries, including associated environmentally sensitive areas, are also identified in this section of the plan and associated appendices if they have a base flow

rate of 10 cubic meters per second (cms) or higher (based on data from USGS's EDNA Derived Watersheds (http://edna.usgs.gov/watersheds/). Lastly, in the event of a release, environmentally sensitive areas associated with any streams with a base flow of less than 10 cms will be identified and addressed through direct coordination with the local on-site state and federal natural resource agencies.

Threatened and Endangered Species. Federally-listed threatened and endangered species are provided for all counties through which the pipeline traverses (obtained from US Fish and Wildlife Service's Information for Planning and Conservation [IPaC by USFWS]; https://ecos.fws.gov/ipac/). For the inland portions of the pipeline, a polygon that included the pipeline with a one-mile buffer on either side was imported for each state into the USFWS Environmental Conservation Online System (ECOS) website to identify federally listed species in that area. Similarly, for the river portions of the pipeline, a polygon that encompassed the river area was imported into the ECOS website to identify federally listed species along the river corridor.

The environmentally sensitive areas by state are provided in the following sections.

Virginia

1. Description

In Colonial's Southeast District, the pipeline traverses a portion of southern Virginia. The remainder of the pipeline in Virginia is considered part of Colonial's Northeast District and is addressed in a separate EMP. The portion of the pipeline in the Southeast District is predominantly rural with a mixture of forested and agricultural areas. The pipeline traverses two major rivers within this portion of Virginia (the Dan River and the Staunton River), as well as several smaller rivers and creeks. Several lakes and waterways are also located within the one-mile corridor of the pipeline.

2. Water Intakes

Oil may become entrained in water intake structures, causing extensive and expensive damage, and possible harm if the material is flammable or explosive. All precautions should be taken to prevent such materials from entering water intakes. In the event of a spill in the vicinity of a water intake, the point of contact should be notified immediately. Water intake locations are presented in Section 09.06.00 of this plan.

3. Access

The sensitive inland areas (i.e., within one mile from the pipeline) are generally accessible by vehicle or by foot. The sensitive areas along the river (i.e., within approximately 75 miles downgradient from major river crossings) are generally accessible by foot, boat and vehicle, depending on the terrain.

4. Sensitive Inland Areas

Within the Virginia inland area, Featherfin Wildlife Management Area (WMA), Camp Hat Creek, the Dan River, and the Staunton River are several of the sensitive areas and should be a priority for protection and cleanup. A listing of the sensitive areas is provided in the following table. Additional details, including geospatial information, can be found in Appendix B.

Virginia Sensitive Areas (Inland Areas)

ID	Sensitive Area Name	Quadrangle Number	Contact/Phone Number
VA-01	FEATHERFIN WMA	VA-14	VIRGINIA DEPARTMENT OF GAME AND INLAND FISHERIES (434) 525-7522;
VA-02	CAMP HAT CREEK (CAMPGROUND)	VA-10	MAIN OFFICE (434) 376-1250;
VA-03	STAUNTON RIVER	VA-10	N/A = PHYSICAL FEATURE
VA-04	ELKHORN LAKE AND CAMPGROUND	VA-6	(434) 432-9203
VA-05	TUSCARORA COUNTRY CLUB	VA-3	(434) 724-1387
VA-06	DAN RIVER	NC-26	N/A = PHYSICAL FEATURE
VA-07	BROOKNEAL DIXIE YOUTH BASEBALL AND TENNIS RECREATION AREA	VA-10	(434) 376-7804

5. Sensitive Areas along Rivers

The pipeline crosses two major rivers within Virginia: the Staunton River and the Dan River. Along the Staunton River, three wildlife management areas (Bluestone WMA, Hogan Creek WMA and Buffalo WMA) and the John H. Kerr Reservoir. These areas are environmentally sensitive areas and should be a priority for protection and cleanup measures. A listing of the sensitive areas along the Staunton River are provided in the table below. Additional details, including geospatial information, can also be found in Appendix B.

Virginia Sensitive Areas (Staunton River)

ID	Sensitive Area Name	Quadrangle Number	Contact/Phone Number
VA-SR-01	BROOKNEAL PUBLIC BOAT RAMP	VA-10	RADIO RD, NATHALIE, VA 24577
VA-SR-02	STAUNTON RIVER BATTLEFIELD STATE PARK TO THE EAST AND WEST	VA-12F	VIRGINIA DEPARTMENT OF CONSERVATION AND RECREATION (434) 454-4312
VA-SR-03	START OF JOHN H. KERR RESERVOIR TO THE SOUTH	VA-12H	UNITED STATES ARMY CORPS OF ENGINEERS (434) 738-6143
VA-SR-04	START OF HOGAN CREEK WMA TO THE EAST	VA-12H	(434) 738-6143
VA-SR-05	START OF STAUNTON RIVER STATE PARK TO THE SOUTH	VA-12H	(434) 572-4623
VA-SR-06	STAUNTON VIEW PARK AND BOAT RAMP TO THE NORTH	VA-12H	(434) 738-6143
VA-SR-07	BUFFALO WMA TO THE WEST	VA-12H	USACOE (434) 738-6101
VA-SR-08	BUFFALO PARK TO THE WEST	VA-12H	USACOE (434) 374-2063
VA-SR-09	BLUESTONE WMA TO THE EAST	VA-12I	USACOE (434) 738-6101

Along the Dan River, the Danville Wastewater Treatment Facility, Schoolfield Reservoir, and Banister River are environmentally sensitive areas and are a priority for protection and cleanup measures. A listing of the sensitive areas along the Dan River are provided in the table below. Additional details, including geospatial information, can also be found in Appendix B.

Virginia Sensitive Areas (Dan River)

ID	Sensitive Area Name	Quadrangle Number	Contact/Phone Number
VA-DR-01	ABREU GROGAN PARK	VA-2	DANVILLE PARKS AND RECREATION (434) 799-5215
VA-DR-02	SCHOOLFIELD RESERVOIR	VA-2	DANVILLE PARKS AND RECREATION (434) 799-5215
VA-DR-03	BALLOU PARK	VA-2	DANVILLE PARKS AND RECREATION (434) 799-5215
VA-DR-04	RIVERWALK TRAIL	VA-2	DANVILLE PARKS AND RECREATION (434) 799-5215
VA-DR-05	CAMILLA WILLIAMS PARK	VA-2	DANVILLE PARKS AND RECREATION (434) 799-5215
VA-DR-06	RIVERSIDE RESERVOIR/DAMS	VA-2	N/A = PHYSICAL FEATURE
VA-DR-07	CARRINGTON PAVILION	VA-2	DANVILLE PARKS AND RECREATION (434) 797-8961
VA-DR-08	DAN DANIEL MEMORIAL PARK/ PHILLIP WYATT MEMORIAL PARK	VA-4A	DANVILLE PARKS AND RECREATION (434) 799-5215
VA-DR-09	ANGLERS PARK	VA-4A	DANVILLE PARKS AND RECREATION (434) 799-5215
VA-DR-10	START OF TOBACCO HERITAGE TRAIL	VA-6B	(434) 447-7101
VA-DR-11	BANISTER RIVER	VA-11D	N/A = PHYSICAL FEATURE
VA-DR-12	STAUNTON RIVER STATE PARK AND BOAT RAMP TO THE NORTH	VA-12H	VIRGINIA DEPARTMENT OF CONSERVATION AND RECREATION (434) 572-4623
VA-DR-13	DANVILLE WASTEWATER TREATMENT PLANT AND BRIDGE CROSSING	VA-4A	DANVILLE UTILTIES WASTEWATER TREATMENT (434) 799-5137

It should be noted that, although the Staunton and Dan Rivers are the only major rivers that the pipeline crosses, there are several other smaller rivers, creeks and ponded waters that are considered environmentally sensitive as well. Those rivers and creeks above a base flow of 10 cms as well as significant ponded waters (i.e., lakes, ponds, and reservoirs) are listed/highlighted in the above tables.

6. Threatened and Endangered Species

A summary of threatened and endangered species along the pipeline corridor in the inland areas of Virginia and within approximately 75 miles downgradient of where the pipeline intersects the Staunton River and the Dan River is provided in the table below. Specific information on these threatened and endangered species as well as migratory birds and critical habitats in the area are provided in Appendix A.

Threatened and Endangered Species (Virginia)

	Inland Virginia	Dan River	Staunton River
Threatened and Endangered Species			
Overall	3	2	3
Fish	1	1	0
Flowering Plants	0	0	2
Mammals	2	1	1
Migratory Birds	18	16	15

North Carolina

1. Description

In Colonial's Southeast District, the pipeline traverses across a section of North Carolina. This area is comprised predominantly of mixed rural and agricultural areas, with the exception of the metropolitan areas of Charlotte, Greensboro, Raleigh, and Fayetteville. The pipeline crosses one major river within North Carolina (the Catawba River), as well as several smaller rivers and creeks. Several lakes, waterways, State Parks, and historical areas are also located within the one-mile corridor of the pipeline.

2. Water Intakes

Oil may become entrained in water intake structures, causing extensive and expensive damage, and possible harm if the material is flammable or explosive. All precautions should be taken to prevent such materials from entering water intakes in the event of a spill in the vicinity of a water intake in which case the point of contact should be notified immediately. Water intake locations are presented in Section 09.06.00 of this plan.

3. Access

The environmentally sensitive inland areas are generally accessible by vehicle or on foot. The sensitive areas along the river (i.e., within approximately 75 miles downgradient from the Catawba River crossing) are generally accessible by boat and vehicle.

4. Sensitive Inland Areas

Within the North Carolina inland areas, Chinqua Penn Plantation Historical Landmark and several state parks (Crowders Mountain State Park, Raven Rock State Park, and Haw River State Park) as well as several lakes and rivers (Neuse River, Cape Fear, Little River, and Catawba River) are environmentally sensitive and should be a priority for protection and cleanup measures. A listing of the sensitive areas along the inland portion of the pipeline are provided in the table below. Additional details, including geospatial information, can also be found in Appendix B.

North Carolina Sensitive Areas (Inland Areas)

ID	Sensitive Area Name	Quadrangle Number	Contact/Phone Number
NC-01	WOLF CREEK GOLF CLUB	NC-24	(336) 349-7660
NC-02	CHINQUA PENN PLANTATION HISTORICAL LANDMARK	NC-24	(336) 349-4576
NC-03	LAKE HUNT	NC-23	N/A = PHYSICAL FEATURE
NC-04	LAKE REIDSVILLE	NC-23	N/A = PHYSICAL FEATURE
NC-05	HAW RIVER STATE PARK	NC-22	NORTH CAROLINA DIVISION OF PARKS AND RECREATION (336) 342-6163
NC-06	LAKE TOWNSEND	NC-21	N/A = PHYSICAL FEATURE
NC-07	LAKE BRANDT	NC-21	N/A = PHYSICAL FEATURE

Colonial Pipeline Company
ENVIRONMENTALLY SENSITIVE AREAS

ID	Sensitive Area Name	Quadrangle Number	Contact/Phone Number
NC-08	GUILFORD COURTHOUSE NATIONAL MILITARY PARK	NC-21	NATIONAL PARK SERVICE (336) 288-1776
NC-09	TANNENBAUM HISTORIC PARK	NC-21	(336) 545-5315
NC-10	PROEHLIFIC PARK	NC-20	(336) 665-5233
NC-11	CAROLYN S. ALLEN COMMUNITY PARK	NC-20	(336) 373-2955
NC-12	LEONARD RECREATION CENTER	SLD-1	(336) 297-4889
NC-13	GUILFORD MEMORIAL PARK	SLD-1	(336) 299-5177
NC-14	SEDGEFIELD COUNTRY CLUB	SLD-1	(336) 299-5324
NC-15	HAGAN-STONE PARK	SLD-4	GUILFORD COUNTY GOVERNMENT (336) 641-2090
NC-16	SPORT OF HORSES PARK	SLD-7	(866) 800-0764
NC-17	HAW RIVER	SLD-9	N/A = PHYSICAL FEATURE
NC-18	THE PRESERVE AT JORDAN LAKE GOLF CLUB	SLD-9	(919) 542-5501
NC-19	JORDAN LAKE EDUCATIONAL STATE FOREST	SLD-10	JORDAN LAKE EDUCATIONAL STATE FOREST (919) 542-1154
NC-20	JORDAN LAKE	SLD-10	N/A = PHYSICAL FEATURE
NC-21	MEISHIN KYUDOJO	SLD-11	(919) 303-5726
NC-22	CARY-APEX WATER PLANT	SLD-11	TOWN OF CARY (919) 362-5502
NC-23	KELLY ROAD PARK	SLD-12	TOWN OF APEX (919) 249-3419
NC-24	BEAVER CREEK GREENWAY	SLD-12	TOWN OF APEX (919) 249-3402
NC-25	CAMP MUSART	SLD-13	(919) 267-5509
NC-26	APEX JAYCEE PARK	SLD-13	TOWN OF APEX (919) 249-3400
NC-27	JONES PARK	SLD-13	(919) 362-0319
NC-28	NORRIS PARK	SLD-13	APEX CHAMBER OF COMMERCE (919) 249-1002
NC-29	CLUSTER OF SMALL PONDS	SLD-13	N/A = PHYSICAL FEATURE
NC-30	WATER RECLAMATION	SLD-13	TOWN OF APEX (919) 249-3428
NC-31	KNIGHTS PLAY GOLF CENTER	SLD-13	(919) 303-4653
NC-32	CROWDER DISTRICT PARK	SLD-13	WAKE COUNTY PARKS AND RECREATION (919) 662-2850
NC-33	JAMISON / MIDDLE CREEK SCHOOL PARK	SLD-13	TOWN OF CARY (919) 771-1295
NC-34	THE HOBBIT GARDEN	SLD-14A	(919) 772-6761
NC-35	NEUSE RIVER	SLD-18	N/A = PHYSICAL FEATURE

Colonial Pipeline Company
ENVIRONMENTALLY SENSITIVE AREAS

ID	Sensitive Area Name	Quadrangle Number	Contact/Phone Number
NC-36	VETERANS PARK	SLD-13	HOLLY SPRINGS PARKS, FACILITIES, AND GREENWAYS (919) 557-9600
NC-37	JONES PARK	SLD-13	HOLLY SPRINGS PARKS, FACILITIES, AND GREENWAYS (919) 557-9600
NC-38	HOLLY SPRINGS PARKS AND RECREATION DEPARTMENT	SLD-13	HOLLY SPRINGS PARKS, FACILITIES, AND GREENWAYS (919) 557-3930
NC-39	HOLLY SPRINGS COMMUNITY CENTER	SLD-13	HOLLY SPRINGS PARKS, FACILITIES, AND GREENWAYS (919) 557-9600
NC-40	PARRISH WOMBLE PARK	SLD-13	HOLLY SPRINGS PARKS, FACILITIES, AND GREENWAYS (919) 557-9600
NC-41	SUGG FARM PARK	SLD-13	HOLLY SPRINGS PARKS, FACILITIES, AND GREENWAYS (919) 557-2496
NC-42	BASS LAKE PARK	SLD-13	HOLLY SPRINGS PARKS, FACILITIES, AND GREENWAYS (919) 557-2496
NC-43	FLEMING LOOP RECREATIONAL PARK	FVD-2	FUQUAY VARINA PARS AND RECREATION (919) 552-1430
NC-44	RAVEN ROCK STATE PARK	FVD-3	NORTH CAROLINA DIVISION OF PARKS & RECREATION (910) 893-4888
NC-45	CAPE FEAR RIVER	FVD-3	N/A = PHYSICAL FEATURE
NC-46	LITTLE RIVER	FVD-6	N/A = PHYSICAL FEATURE
NC-47	SMITH LAKE	FVD-6	N/A = PHYSICAL FEATURE
NC-48	ROSE LAKE	FVD-7	N/A = PHYSICAL FEATURE
NC-49	BONNIE DOONE LAKE	FVD-7	N/A = PHYSICAL FEATURE
NC-50	KORNBOW LAKE	FVD-7	N/A = PHYSICAL FEATURE
NC-51	APEX LAKE COMMUNITY PARK	SLD-13	(919) 249-3402
NC-52	APEX COMMUNITY PARK	RD-2	TOWN OF APEX (919) 249-3402
NC-53	ANNIE L. JONES PARK	RD-2	TOWN OF CARY (919) 469-4061
NC-54	BISHOP GATE	RD-2	--
NC-55	FRED G POND METRO PARK	RD-2	TOWN OF CARY (919) 469-4100
NC-56	PRESTON WOOD COUNTRY CLUB	RD-2	(919) 467-2566
NC-57	INDIAN CREEK GREENWAY AND TRAILHEAD	RD-2	TOWN OF MORRISVILLE (919) 463-7110
NC-58	MORRISVILLE PARKS AND RECREATION	RD-2	(919) 463-7110

Colonial Pipeline Company
ENVIRONMENTALLY SENSITIVE AREAS

ID	Sensitive Area Name	Quadrangle Number	Contact/Phone Number
NC-59	RURITAN PARK	RD-2	TOWN OF MORRISVILLE (919) 463-6215
NC-60	CEDAR FORK DISTRICT PARK	RD-2	TOWN OF MORRISVILLE (919) 463-7110
NC-61	LAKE CRABTREE	RD-2	N/A = PHYSICAL FEATURE
NC-62	LAKE CRABTREE COUNTRY PARK	RD-2	WAKE COUNTY GOVERNMENT (919) 460-3390
NC-63	OAK HOLLOW LAKE	SLD-1	N/A = PHYSICAL FEATURE
NC-64	JOHNSON STREET DISC GOLF PARK	NC-18	--
NC-65	LAKE TOM-A-LEX	NC-16	N/A = PHYSICAL FEATURE
NC-66	NORTHSIDE PARK	NC-14	--
NC-67	SAPONA RIDGE COUNTRY CLUB	NC-14	(336) 956-6245
NC-68	YADKIN RIVER	NC-12	N/A = PHYSICAL FEATURE
NC-69	ELLIS PARK	NC-12	ROWAN COUNTY PARKS AND RECREATION (704) 216-7783
NC-70	ROWAN MEMORIAL PARK	NC-12	(704) 636-8751
NC-71	WARRIOR GOLF CLUB	NC-9	(704) 856-0871
NC-72	DON T. HOWELL RESERVOIR	NC-8	CABARRUS COUNTY WATER AND SEWER AUTHORITY 704-786-1783
NC-73	BRADFORD PARK	NC-7	HUNTERSVILLE PARKS AND RECREATION (704) 766-2220
NC-74	SKYBROOK GOLF CLUB	NC-7	(704) 948-6611
NC-75	DAVID B. WAYMER AEROMODELER FLYING FIELD	NC-7	CHARLOTTE MECKLENBURG COUNTY (704) 432-1369
NC-76	HUNTERSVILLE PARKS AND RECREATION DEPARTMENT	NC-7	(704) 766-2220
NC-77	HUNTERSVILLE ATHLETIC PARK	NC-7	HUNTERSVILLE PARKS AND RECREATION (704) 948-2811
NC-78	HORNETS NEST PARK	NC-5	(704) 336-3586
NC-79	SUNSET HILLS PUBLIC GOLF COURSE	NC-5	(704) 399-0980
NC-80	MECKLENBURG WILDLIFE CLUB LAKE	NC-5	N/A = PHYSICAL FEATURE
NC-81	ROBERT L SMITH DISTRICT PARK	NC-5	MECKLENBURG COUNTY (704) 336-8869
NC-82	FIELDRIDGE ACRES	CHAR-2	(704) 399-3521
NC-83	CATAWABA RIVER	NC-4	N/A = PHYSICAL FEATURE
NC-84	BELMONT PARK AND RECREATION	NC-3	(704) 825-8191

ID	Sensitive Area Name	Quadrangle Number	Contact/Phone Number
NC-85	DAVIS PARK	NC-3	CITY OF BELMONT(704) 825-8191
NC-86	SOUTH FORK CATAWBA RIVER	NC-3	N/A = PHYSICAL FEATURE
NC-87	RIVERSIDE PARK AND GREENWAY	NC-3	(704) 824-4231
NC-88	MARTHAS RIVERS PARK	NC-2	(704) 866-6839
NC-89	DAVIS PARK	NC-2	GASTON COUNTY (704) 922-2160
NC-90	CROWDERS MOUNTAIN STATE PARK	SC-20	NORTH CAROLINA STATE PARKS (704) 853-5375

5. Sensitive Areas along Rivers

The pipeline crosses the Catawba River within North Carolina, which flows downgradient into South Carolina. Environmental sensitive areas identified along the river are located in both North Carolina and South Carolina, but are all presented in this section. Along the Catawba River, five water treatment facilities (Belmont Water Treatment Plant, Manchester Creek Wastewater Treatment Plant, Chester Metropolitan District, Indian Land Water and Sewer Treatment Plant, and one unidentified wastewater facility), McDowell Nature Preserve, and two beach parks (Windjammer Beach Park and Pitcairn Cove Beach Park) are environmentally sensitive and should be a priority for protection and cleanup measures. A listing of the sensitive areas along the Catawba River are provided in the table below. Additional details, including geospatial information, can also be found in Appendix B.

North Carolina Sensitive Areas (Catawba River)

ID	Sensitive Area Name	Quadrangle Number	Contact/Phone Number
NC-CR-01	PIPELINE CROSSING	NC-4	N/A = PHYSICAL FEATURE
NC-CR-02	BELMONT WATER TREATMENT PLANT	NC-3	CITY OF BELMONT (704) 825-2625
NC-CR-03	POTENTIAL WWTP	NC-3	CITY OF BELMONT (704) 825-2625
NC-CR-04	LAKE WYLIE PARK	NC-3	--
NC-CR-05	NORTH CAROLINA STATE WILDLIFE LANDING	NC-3	--
NC-CR-06	HARBORTOWNE MARINA AND SHIP STORE	NC-3	(704) 825-5050
NC-CR-07	SOUTH FORK CATAWBA RIVER CONFLUENCE	NC-3	N/A = PHYSICAL FEATURE
NC-CR-08	DANIEL STOWE BOTANICAL GARDEN	NC-3	(704) 825-4990
NC-CR-09	TERRY'S MARINA	NC-3A	(704) 588-0418
NC-CR-10	CAROLINA BOAT CLUB	NC-3A	(704) 504-1306

Colonial Pipeline Company
ENVIRONMENTALLY SENSITIVE AREAS

ID	Sensitive Area Name	Quadrangle Number	Contact/Phone Number
SC-CR-11	PIER 88 YACHT CLUB/RIVER HILLS MARINA CLUB	NC-3A	(803) 831-0088
SC-CR-12	COMMODORE YACHT CLUB	NC-3A	GEORGE MEDLER (803)-389-0172
SC-CR-13	WINDJAMMER BEACH PARK	NC-3A	803-548-3512/803-548-3787
SC-CR-14	TEGA CAY MARINA	NC-3A	803-548-3715
NC-CR-15	MCDOWELL NATURE PRESERVE	NC-3A	LAKE WYLIE MARINE COMMISSION 704-588-5224
NC-CR-16	COPPERHEAD ISLAND BOAT LAUNCH	NC-3A	704-588-5224
SC-CR-17	PITCAIRN COVE BEACH PARK	NC-3A	CITY OF TEGA CAY 803-548-3512
SC-CR-18	EBENEZER PARK/LAKE CLUB MARINA	NC-3A	803-366-6620 (EBENEZER PARK)/ 803-324-2232 (LAKE CLUB MARINA)
SC-CR-19	FORT MILL DAM	NC-3A	N/A = PHYSICAL FEATURE
SC-CR-20	CATAWBA RIVER ACCESS FORT MILL DAM	NC-3A	--
SC-CR-21	MANCHESTER CREEK WASTEWATER TREATMENT PLANT	N/A	CITY OF ROCK HILL DEPARTMENT OF SEWER SERVICE 803-329-5500
SC-CR-22	RIVER PARK	N/A	CITY OF ROCK HILL DEPARTMENT OF PARKS 803-329-5627
SC-CR-23	START OF CATAWBA NATION GREENWAY TRAIL	N/A	CATAWBA INDIAN NATION 803-366-4792
SC-CR-24	LANSFORD CANAL STATE PARK	N/A	SOUTH CAROLINA DEPARTMENT OF PARKS 803-789-5800
SC-CR-25	CHESTER METROPOLITAN DISTRICT (LANCASTER HWY; POTENTIAL WATER AND TREATMENT FACILITY)	N/A	803-872-4418
SC-CR-26	EDGEWATER GOLF CLUB	N/A	803-283-9800
SC-CR-27	DAM	N/A	N/A = PHYSICAL FEATURE
SC-CR-28	DAM	N/A	N/A = PHYSICAL FEATURE
SC-CR-29	DAM	N/A	N/A = PHYSICAL FEATURE
SC-CR-30	DAM	N/A	N/A = PHYSICAL FEATURE
SC-CR-31	LAKE WATEREE	N/A	N/A = PHYSICAL FEATURE
SC-CR-32	CATAWBA INDIAN NATION RESERVATION / CATAWBA CULTURAL PRESERVATION	N/A	803-366-4792
SC-CR-33	CAROLINA LAKES GOLF CLUB	N/A	803-547-9688
SC-CR-34	WATERFORD GOLF CLUB	N/A	803-324-0300
SC-CR-35	WESTMINSTER PARK	NC-3A	ROCK HILL PARKS AND RECREATION (803) 329-5620

ID	Sensitive Area Name	Quadrangle Number	Contact/Phone Number
SC-CR-36	CAMP CANAAN CAMPGROUND	NC-3A	803-327-6932
SC-CR-37	INDIAN LAND WATER AND SEWER TREATMENT PLANT	N/A	LANCASTER COUNTY WATER AND SEWER DISTRICT 803-396-3883
N/A = Not applicable			

It should be noted that, although the Catawba River is the only major river that the pipeline crosses, there are several other smaller rivers, creeks and ponded waters that are considered environmentally sensitive as well. Those rivers and creeks above a base flow of 10 cms as well as significant ponded waters (i.e., lakes, ponds, and reservoirs) are listed/highlighted in the above tables.

6. Threatened and Endangered Species

A summary of threatened and endangered species along the pipeline corridor in the inland areas of North Carolina and within approximately 75 miles downgradient of where the pipeline intersects the Catawba River is provided in the table below. Specific information on these threatened and endangered species as well as migratory birds and critical habitats in the area are provided in Appendix A.

Threatened and Endangered Species (North Carolina)

	Inland North Carolina	Catawba River
Threatened and Endangered Species		
Overall	21	9
Birds	1	1
Clams	4	1
Ferns and Allies	0	1
Fish	2	0
Flowering Plants	11	5
Insects	1	0
Mammals	1	1
Reptiles	1	0
Migratory Birds	23	17

South Carolina

1. Description

The pipeline traverses mostly wooded rural areas in the northern portion of South Carolina with the exception of urban areas encountered at or near Greenville and Spartanburg. It should be noted that the Savannah River is a major river that forms most of the border between the State of South Carolina and Georgia. As these states meet at the river centerline, information on environmentally sensitive areas for the Savannah River are duplicated for each state. Similarly, the pipeline crosses the Catawba River, another major river in North Carolina near the border of North Carolina and South Carolina. The environmentally sensitive areas for the Catawba River are duplicated for each state as well. In addition to the Savannah River and Catawba River, the pipeline does cross several smaller rivers and creeks. Several lakes and waterways are also located within the one-mile corridor of the pipeline.

2. Water Intakes

Oil may become entrained in water intake structures, causing extensive and expensive damage, and possible harm if the material is flammable or explosive. All precautions should be taken to prevent such materials from entering water intakes in the event of a spill in the vicinity of a water intake in which case the point of contact should be notified immediately. Water intake locations are presented in Section 09.06.00 of this plan.

3. Access

The environmentally sensitive inland areas are generally accessible by vehicle or on foot. The sensitive areas along the river (i.e., within approximately 75 miles downgradient from the Savannah River crossing) are generally accessible by boat and vehicle.

4. Sensitive Inland Areas

Within the South Carolina inland areas, environmentally sensitive areas include Kings Mountain State Park and Backer Creek State Park and should be a priority for protection and cleanup measures. A listing of the sensitive inland areas in South Carolina are provided in the table below. Additional details, including geospatial information, can also be found in Appendix B.

South Carolina Sensitive Areas (Inland Areas)

ID	Sensitive Area Name	Quadrangle Number	Contact/Phone Number
SC-01	KINGS MOUNTAIN STATE PARK	SC-20	SOUTH CAROLINA STATE PARKS (803) 222-3209
SC-02	KINGS MOUNTAIN NATIONAL MILITARY PARK	SC-20	NATIONAL PARK SERVICE (864) 936-7921
SC-03	BROAD RIVER	SC-19	N/A = PHYSICAL FEATURE
SC-04	CHEROKEE FORD RECREATION AREA	SC-17	(864) 487-2733
SC-05	GAFFNEY COUNTRY CLUB	SC-17	(864) 489-4607
SC-06	HAMMETT LAKE	SC-16	N/A = PHYSICAL FEATURE

ID	Sensitive Area Name	Quadrangle Number	Contact/Phone Number
SC-07	PACOLET RIVER	SC-15	N/A = PHYSICAL FEATURE
SC-08	THE COUNTRY CLUB OF SPARTANBURG	SC-14	(864) 583-3661
SC-09	THE CREEK GOLF CLUB	SC-14	(864) 583-7084
SC-10	CROFT STATE PARK	SC-14	SOUTH CAROLINA STATE PARKS (864) 585-1283
SC-11	THE CAROLINA COUNTRY CLUB	SC-13	(864) 583-1246
SC-12	FOX RUN COUNTRY CLUB	SC-13	(864) 967-9505
SC-13	CANNON MEMORIAL PARK	SC-9	(864) 862-9298
SC-14	SALUDA RIVER	SC-6	N/A = PHYSICAL FEATURE
SC-15	GARDEN OF MEMORIES	AUG-2	(864) 338-7022
SC-16	LONG CANCE SCENIC AREA	AUG-6	--
SC-17	BACKER CREEK STATE PARK	AUG-8	SOUTH CAROLINA STATE PARKS (864) 443-2457
SC-18	SAVANNAH RIVER	AUG-14	N/A = PHYSICAL FEATURE
SC-19	MULDROW PARK	SC-4	--
SC-20	BROADWAY LAKE	SC-4	N/A = PHYSICAL FEATURE
SC-21	LAKE HARTWELL	GA-26	N/A = PHYSICAL FEATURE
SC-22	SAVANNAH RIVER	GA-26	N/A = PHYSICAL FEATURE

5. Sensitive Areas along Rivers

As stated above, the Savannah River is a major river that forms most of the border between the State of South Carolina and Georgia. As these states meet at the river centerline, information on environmentally sensitive areas for the Savannah River are duplicated for each state. Environmentally sensitive areas on the Savannah River downgradient of the pipeline's crossing are provided in the table below.

Along the Savannah River, Knox Scout Reservation and Wildlife Area, four state parks (Richard B. Russell, Bobby Brown, Baker Creek, and Elijah Clark), three water treatment facilities (North Augusta Water Treatment Plant, Aiken County Water Treatment Facility, and one unidentified potential water treatment facility); and four archaeological sites are considered environmentally sensitive and should be a priority for protection and cleanup measures in the event of a spill. A listing of the sensitive areas along the Savannah River are provided in the table below. Additional details, including geospatial information, can also be found in Appendix B.

Georgia Sensitive Areas (Savannah River)

ID	Sensitive Area Name	Quadrangle Number	Contact/Phone Number
GA-SR-01	UNNAMED POND	GA-26	N/A = PHYSICAL FEATURE
GA-SR-02	UNNAMED BOAT RAMP	GA-26	--
GA-SR-03	UNNAMED BOAT RAMP	GA-26	--
GA-SR-04	UNNAMED BOAT RAMP	SC-1A	--

Colonial Pipeline Company
ENVIRONMENTALLY SENSITIVE AREAS

ID	Sensitive Area Name	Quadrangle Number	Contact/Phone Number
GA-SR-05	RICHARD B. RUSSELL STATE PARK	GA-26A	(706) 213-2045
GA-SR-06	ARROWHEAD POINTE GOLF COURSE	SC-1B	(706) 283-6000
GA-SR-07	UNNAMED BOAT RAMP / PARK	SC-1B	--
GA-SR-08	UNNAMED BOAT RAMP	SC-1B	--
GA-SR-09	ALLEN CREEK BOAT RAMP	SC-1B	--
GA-SR-10	UNNAMED PARK	SC-1B	--
GA-SR-11	CALHOUN FALLS STATE RECREATION AREA	SC-4C	(864) 447-8267
GA-SR-12	UNNAMED MARINA / BOAT RAMP	SC-4C	--
GA-SR-13	UNNAMED BOAT RAMP	SC-4C	--
GA-SR-14	UNNAMED BOAT RAMP	SC-4C	--
GA-SR-15	UNNAMED BOAT RAMP	GA-26A	--
GA-SR-16	LAKE RUSSELL BOAT RAMP	SC-4C	--
GA-SR-17	BOBBY BROWN STATE PARK	N/A	(706) 359-3458
GA-SR-18	MT. CARMEL PARK NORTH	N/A	--
GA-SR-19	PATTERSON BRANCH PICNIC AREA / PARK	N/A	--
GA-SR-20	LEROYS FERRY RECREATION AREA	AUG-6B	USACOE (877) 444-6777
GA-SR-21	FISHING CREEK PUBLIC USE AREA	N/A	--
GA-SR-22	HICKORY KNOB STATE RESORT PARK AND GOLF	AUG-6B	(864) 391-2450
GA-SR-23	SAVANNAH LAKES VILLAGE GOLF CLUB	AUG-6B	(864) 391-4115
GA-SR-24	BAKER CREEK STATE PARK	AUG-6B	(864) 443-2457
GA-SR-25	ELIJAH CLARK STATE PARK	N/A	(706) 359-3458
GA-SR-26	UNNAMED BOAT RAMP	N/A	--
GA-SR-27	SAVANNAH LAKES MARINA	N/A	(864) 391-3477
GA-SR-28	CHAMBERLAIN FERRY PICNIC AREA / PARK	AUG-6C	--
GA-SR-29	DORN FISH FACILITY	AUG-6C	--
GA-SR-30	UNNAMED BOAT RAMP	AUG-6C	--
GA-SR-31	MONTICELLO GOLF COURSE	AUG-6A	--
GA-SR-32	BUFFALO CREEK RECREATION AREA	AUG-6B	--
GA-SR-33	CAMPGROUND	AUG-6C	--
GA-SR-34	POINTE PLEASANT PARK	AUG-6C	--
GA-SR-35	CAMP DANIEL MARSHALL	AUG-6C	(706) 359-7292
GA-SR-36	KNOX SCOUT RESERVATION / WILDLIFE AREA	AUG-6C	(706) 359-5422
GA-SR-37	PARKSVILLE RECREATION AREA	AUG-9	USACOE (800) 533-3478

Colonial Pipeline Company
ENVIRONMENTALLY SENSITIVE AREAS

ID	Sensitive Area Name	Quadrangle Number	Contact/Phone Number
GA-SR-38	PARKSVILLE CAMPGROUND	AUG-9	USACOE (800) 533-3478
GA-SR-39	HAMILTON BRANCH STATE PARK	AUG-9	(864) 333-2223
GA-SR-40	CAMPGROUND	AUG-9A	--
GA-SR-41	CAMPGROUND	AUG-9A	--
GA-SR-42	CAMPGROUND	AUG-9A	--
GA-SR-43	WILDWOOD PARK / DISK GOLF / CAMPGROUNDS)	N/A	(706) 541-0586
GA-SR-44	FORT GORDON RECREATION AREA	N/A	--
GA-SR-45	MISTLETOE STATE PARK	N/A	GEORGIA STATE PARKS (706) 541-0321
GA-SR-46	HOLIDAY PARK	N/A	--
GA-SR-47	AMITY RECREATION AREA / BOAT RAMP	N/A	USACOE (706) 359-1171
GA-SR-48	BOAT RAMP	N/A	--
GA-SR-49	CHEROKEE BOAT RAMP	N/A	--
GA-SR-50	BOAT RAMP	N/A	--
GA-SR-51	CLARKE'S HILL LAKE BOAT RAMP	AUG-6C	--
GA-SR-52	ROCKY BRANCH GOLF COURSE	AUG-6C	(706) 359-4303
GA-SR-53	LAKE SPRINGS RECREATION AREA	AUG-9A	(706) 541-0150
GA-SR-54	TRADE WINDS MARINA	AUG-9A	(706) 541-1380
GA-SR-55	RIVER DAM	AUG-9A	N/A = PHYSICAL FEATURE
GA-SR-56	BELOW DAM RECREATION AREA	AUG-9A	(864) 333-1100
GA-SR-57	BOAT RAMP	AUG-9A	--
GA-SR-58	BEACH / PARK	AUG-9A	--
GA-SR-59	BOAT RAMP	AUG-9A	--
GA-SR-60	AUGUSTA SAILING CLUB / MARINA	AUG-9A	(706) 309-9463
GA-SR-61	WEST DAM RECREATION AREA	AUG-9A	USACOE (800) 533-3478
GA-SR-62	HAMILTON BRANCH CAMPGROUND	AUG-9A	SOUTH CAROLINA PARKS (864) 333-2223
GA-SR-63	LAKE SPRINGS CAMPGROUND	AUG-9A	(706) 541-0150
GA-SR-64	CLAY HILL CAMPGROUND	N/A	(706) 359-7495
GA-SR-65	RAYSVILLE MARINA	N/A	(706) 595-5582
GA-SR-66	RAYSVILLE CAMPGROUND	N/A	(706) 595-6759
GA-SR-67	CHAMPIONS RETREAT GOLF COURSE	N/A	(706) 854-6960
GA-SR-68	FURYS FERRY BOAT RAMP	AUG-13A	--
GA-SR-69	MIMS PT. INDIAN VILLAGE ARCHEOLOGICAL SITE	AUG-13A	--

Colonial Pipeline Company
ENVIRONMENTALLY SENSITIVE AREAS

ID	Sensitive Area Name	Quadrangle Number	Contact/Phone Number
GA-SR-70	STEVENS CREEK PUBLIC PARK / BOAT RAMP	AUG-13A	--
GA-SR-71	HAMMONDS FERRY BOAT RAMP	AUG-14	--
GA-SR-72	RIVERWALK MARINA / BOAT RAMP	AUG-14	(706) 722-1388
GA-SR-73	NORTH AUGUSTA / RIVERVIEW PARKS ACTIVITY CENTER	AUG-14	(803) 441-4311
GA-SR-74	NORTH AUGUSTA WATER TREATMENT PLANT	AUG-14	CITY OF NORTH AUGUSTA (803) 279-2121 OR (803) 441-4202
GA-SR-75	DISC GOLF COURSE	AUG-14	--
GA-SR-76	EISENHOWER PARK	AUG-13A	(706) 821-2800
GA-SR-77	BOECKH PARK/ NORTH AUGUST GREENWAY	AUG-14	NORTH AUGUSTA DEPARTMENT OF PARKS AND RECREATION (803) 441-4300
GA-SR-78	THE RIVER GOLF CLUB	AUG-14	--
GA-SR-79	BRICK POND PARK	AUG-14	--
GA-SR-80	RIVERWALK AUGUSTA PARK	AUG-14	--
GA-SR-81	AIKEN COUNTY PUBLIC SERVICES AUTHORITY (POSSIBLE WATER TREATMENT FACILITY)	AUG-14	(803) 278-1911
GA-SR-82	PREHISTORIC INDIAN RIVERSTONE FISH TRAPS	AUG-13A	--
GA-SR-83	SAVANNAH RIVER BLUFFS HERITAGE PRESERVE	AUG-13A	SOUTH CAROLINA DEPARTMENT OF NATURAL RESOURCES HERITAGE TRUST PROGRAM (803) 734-3886
GA-SR-84	STALLING 4300 YEAR-OLD INDIAN VILLAGE	AUG-13A	--
GA-SR-85	SAVANNAH RIVER DAM / PAVILION PARK / AUGUSTA CANAL WALKING TRAIL	AUG-13A	--
GA-SR-86	RECREATIONAL COMPLEX	AUG-14	--
GA-SR-87	POSSIBLE WASTEWATER TREATMENT FACILITY	AUG-14	--
GA-SR-88	MARINA (MARINA DRIVE)	GA-26C	--
GA-SR-89	RUSSELL DAM	SC-4C	N/A = PHYSICAL FEATURE
GA-SR-90	STROM THURMOND RESERVOIR	N/A	N/A = PHYSICAL FEATURE
GA-SR-91	2ND PIPELINE CROSSING	AUG-14	N/A = PHYSICAL FEATURE
GA-SR-92	SAVANNAH LOCK AND DAM / J. B. MESSERLY WASTEWATER TREATMENT PLANT	N/A	AUGUSTA UTILITIES (WASTEWATER TREATMENT) (706) 312-4154

ID	Sensitive Area Name	Quadrangle Number	Contact/Phone Number
	(APPROXIMATELY 2 MILES NORTHWEST)		
GA-SR-93	BURTON'S FERRY PUBLIC BOAT RAMP	N/A	--
GA-SR-94	JOHNSON'S LANDING	N/A	--
GA-SR-95	MCBEAN CREEK CONFLUENCE	N/A	--
GA-SR-96	JACKSON BOAT RAMP	N/A	--
GA-SR-97	PIPELINE CROSSING	GA-26	N/A = PHYSICAL FEATURE
N/A = Not applicable			
Note: GA-SR-60 to GA-SR-80 are unlikely to be impacted in the event of a worse-case scenario oil spill due to the location within or downgradient of a large lake/reservoir system (J. Strom Thurmond Reservoir/Clarks Hill Lake however, these locations were included as a conservative measure.			

As stated previously, the pipeline crosses the Catawba River in North Carolina close to the South Carolina border; therefore, information on environmentally sensitive areas for the Catawba River are duplicated for each state. Environmentally sensitive areas on Catawba River downgradient of the pipeline's crossing are provided in the table below.

Along the Catawba River, five water treatment facilities (Belmont Water Treatment Plant, Manchester Creek Wastewater Treatment Plant, Chester Metropolitan District, Indian Land Water and Sewer Treatment Plant, and one unidentified wastewater facility), McDowell Nature Preserve, and two beach parks (Windjammer Beach Park and Pitcairn Cove Beach Park) are environmentally sensitive and should be a priority for protection and cleanup measures. Additional details, including geospatial information, can also be found in Appendix B.

North Carolina Sensitive Areas (Catawba River)

ID	Sensitive Area Name	Quadrangle Number	Contact/Phone Number
NC-CR-01	PIPELINE CROSSING	NC-4	N/A = PHYSICAL FEATURE
NC-CR-02	BELMONT WATER TREATMENT PLANT	NC-3	CITY OF BELMONT (704) 825-2625
NC-CR-03	POTENTIAL WWTP	NC-3	CITY OF BELMONT (704) 825-2625
NC-CR-04	LAKE WYLIE PARK	NC-3	--
NC-CR-05	NORTH CAROLINA STATE WILDLIFE LANDING	NC-3	--
NC-CR-06	HARBORTOWNE MARINA AND SHIP STORE	NC-3	(704) 825-5050
NC-CR-07	SOUTH FORK CATAWBA RIVER CONFLUENCE	NC-3	N/A = PHYSICAL FEATURE
NC-CR-08	DANIEL STOWE BOTANICAL GARDEN	NC-3	(704) 825-4990
NC-CR-09	TERRY'S MARINA	NC-3A	(704) 588-0418
NC-CR-10	CAROLINA BOAT CLUB	NC-3A	(704) 504-1306

Colonial Pipeline Company
ENVIRONMENTALLY SENSITIVE AREAS

ID	Sensitive Area Name	Quadrangle Number	Contact/Phone Number
SC-CR-11	PIER 88 YACHT CLUB/RIVER HILLS MARINA CLUB	NC-3A	(803) 831-0088
SC-CR-12	COMMODORE YACHT CLUB	NC-3A	GEORGE MEDLER (803)-389-0172
SC-CR-13	WINDJAMMER BEACH PARK	NC-3A	803-548-3512/803-548-3787
SC-CR-14	TEGA CAY MARINA	NC-3A	803-548-3715
NC-CR-15	MCDOWELL NATURE PRESERVE	NC-3A	LAKE WYLIE MARINE COMMISSION 704-588-5224
NC-CR-16	COPPERHEAD ISLAND BOAT LAUNCH	NC-3A	704-588-5224
SC-CR-17	PITCAIRN COVE BEACH PARK	NC-3A	CITY OF TEGA CAY 803-548-3512
SC-CR-18	EBENEZER PARK/LAKE CLUB MARINA	NC-3A	803-366-6620 (EBENEZER PARK)/ 803-324-2232 (LAKE CLUB MARINA)
SC-CR-19	FORT MILL DAM	NC-3A	N/A = PHYSICAL FEATURE
SC-CR-20	CATAWBA RIVER ACCESS FORT MILL DAM	NC-3A	--
SC-CR-21	MANCHESTER CREEK WASTEWATER TREATMENT PLANT	N/A	CITY OF ROCK HILL DEPARTMENT OF SEWER SERVICE 803-329-5500
SC-CR-22	RIVER PARK	N/A	CITY OF ROCK HILL DEPARTMENT OF PARKS 803-329-5627
SC-CR-23	START OF CATAWBA NATION GREENWAY TRAIL	N/A	CATAWBA INDIAN NATION 803-366-4792
SC-CR-24	LANSFORD CANAL STATE PARK	N/A	SOUTH CAROLINA DEPARTMENT OF PARKS 803-789-5800
SC-CR-25	CHESTER METROPOLITAN DISTRICT (LANCASTER HWY; POTENTIAL WATER AND TREATMENT FACILITY)	N/A	803-872-4418
SC-CR-26	EDGEWATER GOLF CLUB	N/A	803-283-9800
SC-CR-27	DAM	N/A	N/A = PHYSICAL FEATURE
SC-CR-28	DAM	N/A	N/A = PHYSICAL FEATURE
SC-CR-29	DAM	N/A	N/A = PHYSICAL FEATURE
SC-CR-30	DAM	N/A	N/A = PHYSICAL FEATURE
SC-CR-31	LAKE WATEREE	N/A	N/A = PHYSICAL FEATURE
SC-CR-32	CATAWBA INDIAN NATION RESERVATION / CATAWBA CULTURAL PRESERVATION	N/A	803-366-4792
SC-CR-33	CAROLINA LAKES GOLF CLUB	N/A	803-547-9688
SC-CR-34	WATERFORD GOLF CLUB	N/A	803-324-0300
SC-CR-35	WESTMINSTER PARK	NC-3A	ROCK HILL PARKS AND RECREATION (803) 329-5620

ID	Sensitive Area Name	Quadrangle Number	Contact/Phone Number
SC-CR-36	CAMP CANAAN CAMPGROUND	NC-3A	803-327-6932
SC-CR-37	INDIAN LAND WATER AND SEWER TREATMENT PLANT	N/A	LANCASTER COUNTY WATER AND SEWER DISTRICT 803-396-3883
N/A = Not applicable			

It should be noted that, although the Savannah and Catawba Rivers are the only major rivers that the pipeline crosses, there are several other smaller rivers, creeks and ponded waters that are considered environmentally sensitive as well. Those rivers and creeks above a base flow of 10 cms as well as significant ponded waters (i.e., lakes, ponds, and reservoirs) are listed/highlighted in the above tables.

6. Threatened and Endangered Species

A summary of threatened and endangered species along the pipeline corridor in the inland areas of South Carolina and within approximately 75 miles downgradient of where the pipeline crosses the Savannah River is provided in the table below. Specific information on these threatened and endangered species as well as migratory birds and critical habitats in the area are provided in Appendix A.

Threatened and Endangered Species (South Carolina)

	Inland South Carolina	Savannah River	Catawba River
Threatened and Endangered Species			
Overall	22	26	9
Amphibians	0	2	0
Birds	2	4	1
Clams	1	1	1
Ferns and Allies	0	1	1
Fish	2	2	0
Flowering Plants	13	9	5
Lichens	1	0	0
Mammals	1	2	1
Reptiles	2	5	0
Migratory Birds	21	37	17

Tennessee

1. Description

The pipeline traverses mostly rural areas in eastern and middle Tennessee, with the exception of the metropolitan areas of Nashville, Knoxville and Chattanooga. Eastern Tennessee (near Knoxville and Chattanooga) is characterized by mountains and rugged terrain. Middle Tennessee consists of more agricultural land use. The pipeline crosses two major rivers within Tennessee (the Cumberland River and the Tennessee River), as well as a number of smaller rivers and creeks. Several lakes and waterways are also located within the one-mile corridor of the pipeline.

2. Water Intakes

Oil may become entrained in water intake structures, causing extensive and expensive damage, and possible harm if the material is flammable or explosive. All precautions should be taken to prevent such materials from entering water intakes in the event of a spill in the vicinity of a water intake in which case the point of contact should be notified immediately. Water intake locations are presented in Section 09.06.00 of this plan.

3. Access

The environmentally sensitive inland areas are generally accessible by vehicle or on foot. The sensitive areas along the rivers (i.e., within approximately 75 miles downgradient from the Tennessee and Cumberland River crossings) are generally accessible by boat and vehicle.

4. Sensitive Inland Areas

Within the Tennessee inland area, Standifer Marsh, Prentis Cooper State Park and Wildlife Management area, Enterprise South Nature Park, and two water intake facilities ([redacted] (b) (3), (b) (7)(F)) as well as several lakes and rivers, are environmentally sensitive and a priority for protection and cleanup measures. A listing of the sensitive inland areas in Tennessee are provided in the table below. Additional details, including geospatial information, can also be found in Appendix B.

Tennessee Sensitive Areas (Inland Areas)

ID	Sensitive Area Name	Quadrangle Number	Contact/Phone Number
TN-01	BORDEAUX GARDENS PARK	NASH-24	NASHVILLE PARKS AND RECREATION 615-862-8400
TN-02	RICHLAND PARK	NASH-24	(615) 862-5870
TN-03	WEST PARK	NASH-24	(615) 862-8400
TN-04	ENGLAND PARK	NASH-24	METROPOLITAN BOARD OF PARKS AND RECREATION (615) 862-8400
TN-05	GEN CLINT FISK PARK	NASH-24	METROPOLITAN BOARD OF PARKS AND RECREATION (615) 862-8400

Colonial Pipeline Company
ENVIRONMENTALLY SENSITIVE AREAS

ID	Sensitive Area Name	Quadrangle Number	Contact/Phone Number
TN-06	TED RHODES GOLF COURSE	NASH-24	(615) 862-8463
TN-07	ELIZABETH PARK	NASH-24	METROPOLITAN BOARD OF PARKS AND RECREATION (615) 862-8400
TN-08	BUENA VISTA PARK	NASH-24	METROPOLITAN BOARD OF PARKS AND RECREATION (615) 862-8400
TN-09	DAVIDSON DISTRICT II RECREATION AREA	NASH-24	(615) 862-8429
TN-10	HARTMAN PARK	NASH-24	(615) 862-8479
TN-11	HAYNES PARK	NASH-24	--
TN-12	CUMBERLAND RIVER GREENWAY	NASH-24	NASHVILLE GREENWAYS COMMISSION (615) 862-8400
TN-13	MORGAN PARK TRAILHEAD	NASH-24	NASHVILLE PARKS AND RECREATION (615) 862-8462
TN-14	BUFFALO PARK	NASH-24	--
TN-15	MCFERRIN PARK	NASH-24	METROPOLITAN BOARD OF PARKS AND RECREATION (615) 862-8400
TN-16	CLEVELAND PARK	NASH-24	METROPOLITAN BOARD OF PARKS AND RECREATION (615) 862-8400
TN-17	LOCK ONE PARK	NASH-24	METROPOLITAN BOARD OF PARKS AND RECREATION (615) 862-8400
TN-18	DOUGLAS PARK	NASH-24	--
TN-19	RIVERFRONT PARK	NASH-24	METROPOLITAN BOARD OF PARKS AND RECREATION (615) 862-8400
TN-20	KIRKPATRICK PARK	NASH-24	METROPOLITAN BOARD OF PARKS AND RECREATION (615) 862-8400
TN-21	EAST PARK	NASH-24	METROPOLITAN BOARD OF PARKS AND RECREATION (615) 862-8400
TN-22	SHELBY WALK PARK	NASH-23	METROPOLITAN BOARD OF PARKS AND RECREATION (615) 862-8400
TN-23	LOCKELAND SPRINGS	NASH-23	METROPOLITAN BOARD OF PARKS AND RECREATION (615) 862-8400
TN-24	SHELBY DOG PARK	NASH-23	METROPOLITAN BOARD OF PARKS AND RECREATION (615) 862-8400

Colonial Pipeline Company
ENVIRONMENTALLY SENSITIVE AREAS

ID	Sensitive Area Name	Quadrangle Number	Contact/Phone Number
TN-25	SEVIER LAKE/SHELBY PARK	NASH-23	METROPOLITAN BOARD OF PARKS AND RECREATION (615) 862-8400
TN-26	SHELBY GOLF COURSE	NASH-23	(615) 862-8474
TN-27	SHELBY BOTTOMS	NASH-23	METROPOLITAN BOARD OF PARKS AND RECREATION (615) 862-8400
TN-28	MUSIC CITY BIKEWAY	NASH-23	(615) 880-1678
TN-29	VINNY LAKES GOLF COURSE	NASH-23	(615) 880-1720
TN-30	NAPIER PARK	NASH-24	METROPOLITAN BOARD OF PARKS AND RECREATION (615) 256-4474
TN-31	DUDLEY PARK	NASH-24	(615) 862-8405
TN-32	SOUTH PARK	NASH-24	--
TN-33	GREAT LAWN	NASH-24	--
TN-34	NASHVILLE MUSIC GARDEN/CITY WALK OF FAME PARK	NASH-24	METROPOLITAN BOARD OF PARKS AND RECREATION (615) 862-8400
TN-35	FIRST GREEN	NASH-24	--
TN-36	FORT NEGLEY PARK	NASH-24	METROPOLITAN BOARD OF PARKS AND RECREATION (615) 862-8400
TN-37	CUMBERLAND PARK	NASH-24	METROPOLITAN BOARD OF PARKS AND RECREATION (615) 862-8400
TN-38	RIVER LAWN AND LANDING	NASH-24	--
TN-39	METRO RIVERFRONT PARK	NASH-24	METROPOLITAN BOARD OF PARKS AND RECREATION (615) 862-8400
TN-40	BICENTENNIAL PARK	NASH-24	METROPOLITAN BOARD OF PARKS AND RECREATION (615) 862-8400
TN-41	PUBLIC SQUARE PARK	NASH-24	METROPOLITAN BOARD OF PARKS AND RECREATION (615) 862-8400
TN-42	VICTORY PARK	NASH-24	--
TN-43	LEGISLATIVE PLAZA	NASH-24	--
TN-44	MONROE PARK	NASH-24	METROPOLITAN BOARD OF PARKS AND RECREATION (615) 862-8400
TN-45	NASHVILLE INTERNATIONAL AIRPORT	NASH-23	(615) 275-1675
TN-46	PRIEST LAKE	NASH-21	N/A = PHYSICAL FEATURE
TN-47	NASHBORO GOLF CLUB	NASH-22	(615) 367-2311
TN-48	CANE RIDGE PARK	NASH-20	METROPOLITAN BOARD OF PARKS AND RECREATION (615) 862-8400

Colonial Pipeline Company
ENVIRONMENTALLY SENSITIVE AREAS

ID	Sensitive Area Name	Quadrangle Number	Contact/Phone Number
TN-49	BLUE WATER LAKE	NASH-20	N/A = PHYSICAL FEATURE
TN-50	BARFIELD CRESCENT PARK	NASH-18	MURFREESBORO PARKS AND RECREATION (615) 890-5333
TN-51	SKYMOUNT LAKE 4	NASH-11	N/A = PHYSICAL FEATURE
TN-52	SKYMOUNT SCOUT RESERVATION AND 2 LAKES	NASH-10	N/A = PHYSICAL FEATURE
TN-53	EAGLE LAKE	NASH-8	N/A = PHYSICAL FEATURE
TN-54	BIG CREEK LAKE	NASH-8	N/A = PHYSICAL FEATURE
TN-55	B LAKES	NASH-8	N/A = PHYSICAL FEATURE
TN-56	SEQUATCHIE RIVER	NASH-6	N/A = PHYSICAL FEATURE
TN-57	CROSSROADS PARK	NASH-5	--
TN-58	DAVIS LAKE	NASH-5	N/A = PHYSICAL FEATURE
TN-59	PRENTIS COOPER STATE PARK AND WMA	NASH-5	TN DEPARTMENT OF AGRICULTURE (423) 658-5551
TN-60	TENNESSEE RIVER	NASH-4	N/A = PHYSICAL FEATURE
TN-61	SIGNAL POINT PARK	NASH-3	NATIONAL PARK SERVICE (706) 866-9241
TN-62	STRINGERS RIDGE PRESERVATION	NASH-3	CITY OF CHATTANOOGA PARKS (423) 425-6311
TN-63	WILLIAMS ISLAND STATE ARCHAEOLOGICAL PARK	NASH-3	--
TN-64	MOCCASIN BEND GOLF CLUB	NASH-3	(423) 267-3585
TN-65	LOOKOUT CREEK	NASH-3	PIPELINE CROSSING
TN-66	REFLECTION RIDING ARBORETUM	NASH-3	REFLECTION RIDING ARBORETUM
TN-67	CHICKAMAUGA & CHATTANOOGA NATIONAL MILITARY PARK AND POINT PARK	NASH-3	NATIONAL PARK SERVICE (423) 821-1099
TN-68	ALTON PARK	NASH-3	--
TN-69	SOUTH CHICAMAUGA CREEK	KNOX-2	PIPELINE CROSSING
TN-70	CHATTANOOGA AUDUBON SOCIETY	CHATT-14	(423) 892-1499
TN-71	CAMP JORDON PARK	KNOX-2	(423) 463-4391
TN-72	CONCORD GOLF COURSE	KNOX-2	(423) 894-4536
TN-73	BRAINERD COMMUNITY PARK	KNOX-2	(423) 643-6311
TN-74	SOUTH CHICKAMAUGA CREEK GREENWAY	KNOX-2	CITY OF CHATTANOOGA PARKS (423) 425-6311
TN-75	SOUTH CHICKAMAUGA CREEK	KNOX-2	N/A = PHYSICAL FEATURE
TN-76	BRAINERD RECREATION COMPLEX	KNOX-2	(423) 425-3600
TN-77	BRAINERD GOLF COURSE	KNOX-2	(423) 855-2692

Colonial Pipeline Company
ENVIRONMENTALLY SENSITIVE AREAS

ID	Sensitive Area Name	Quadrangle Number	Contact/Phone Number
TN-78	CHATTANOOGA AIRPORT	KNOX-2	(423) 855-2200
TN-79	POND AT VULCANS MATERIALS CO.	KNOX-2	N/A = PHYSICAL FEATURE
TN-80	HAMILTON MEMORIAL PARK	KNOX-2	(423) 894-4206
TN-81	TENNESSEE RAILROAD MUSEUM	KNOX-2	(423) 894-8028
TN-82	HICKORY VALLEY GOLF COURSE	KNOX-2	(423) 894-1576
TN-83	TYNER-EAST BRAINERD RECREATION	KNOX-2	(423) 855-2664
TN-84	REDOUBT SOCCER ASSOCIATION PARK	KNOX-2	(423) 899-4180
TN-85	STANDIFER GAP MARSH	KNOX-2	(423) 902-7427
TN-86	ENTERPRISE SOUTH NATURE PARK	KNOX-3	(423) 893-3500
TN-87	POND	KNOX-3	N/A = PHYSICAL FEATURE
TN-88	POND	KNOX-3	N/A = PHYSICAL FEATURE
TN-89	BETHEA POND	KNOX-4	N/A = PHYSICAL FEATURE
TN-90	TWO PONDS	KNOX-4	N/A = PHYSICAL FEATURE
TN-91	JOHNSTON PONDS	KNOX-4	N/A = PHYSICAL FEATURE
TN-92	POND	KNOX-5	N/A = PHYSICAL FEATURE
TN-93	BRYMER CREEK	KNOX-5	N/A = PHYSICAL FEATURE
TN-94	STONE LAKE	KNOX-5	N/A = PHYSICAL FEATURE
TN-95	SWAFFORD NURSERY INC.	KNOX-5	(423) 479-3362
TN-96	POND	KNOX-5	N/A = PHYSICAL FEATURE
TN-97	POND	KNOX-5	N/A = PHYSICAL FEATURE
TN-98	TWO PONDS	KNOX-6	N/A = PHYSICAL FEATURE
TN-99	THREE POND	KNOX-7	N/A = PHYSICAL FEATURE
TN-100	POND	KNOX-7	N/A = PHYSICAL FEATURE
TN-101	POND – EXTENSION OF HIWASSEE RIVER	KNOX-7	N/A = PHYSICAL FEATURE
TN-102	HIWASSEE RIVER CONFLUENCE AND PONDS OFF THE RIVER	KNOX-7	N/A = PHYSICAL FEATURE
TN-103	WETLAND AREA	KNOX-7	N/A = PHYSICAL FEATURE
TN-104	POND	KNOX-7	N/A = PHYSICAL FEATURE
TN-105	MOUSE CREEK NURSERY / NORTH MOUSE CREEK	KNOX-9	(423) 462-2666
TN-106	POND	KNOX-9	N/A = PHYSICAL FEATURE
TN-107	ATHENS REGIONAL PARK	KNOX-9	(423) 744-2704
TN-108	ATHENS CAMPGROUND AND PARK	KNOX-9	(423) 745-9199
TN-109	WEBB LAKE	KNOX-9	N/A = PHYSICAL FEATURE
TN-110	OVER-NITER RV PARK	KNOX-10	(423) 507-0069
TN-111	TENNESSEE COUNTRY CAMPGROUND	KNOX-11	(423) 568-2939

Colonial Pipeline Company
ENVIRONMENTALLY SENSITIVE AREAS

ID	Sensitive Area Name	Quadrangle Number	Contact/Phone Number
TN-112	SWEETWATER FLEA MARKET	KNOX-11	(423) 337-3532
TN-113	POND	KNOX-11	N/A = PHYSICAL FEATURE
TN-114	KOA SWEETWATER CAMPGROUND	KNOX-11	(865) 213-3900
TN-115	POND	KNOX-13	N/A = PHYSICAL FEATURE
TN-116	POND	KNOX-13	N/A = PHYSICAL FEATURE
TN-117	FERGUSON'S FLYING CIRCUS AIRPORT	KNOX-13	(615) 458-3915
TN-118	EXPRESS RV PARK	KNOX-13	(865) 458-8599
TN-119	CITY OF LOUNDON PARKS AND RECREATION	KNOX-13	(865) 458-7525
TN-120	TENNESSEE RIVER	KNOX-15	N/A = PHYSICAL FEATURE
TN-121	MEADOW VIEW GREENHOUSE AND GARDENS	KNOX-16	(865) 986-7229
TN-122	POND	KNOX-16	N/A = PHYSICAL FEATURE
TN-123	MCFEE PARK	KNOX-16	(865) 966-7057
TN-124	FORT LOUDON LAKE (OFF TENNESSEE RIVER)	KNOX-16	N/A = PHYSICAL FEATURE
TN-125	FIRST UTILITY DISTRICT OF KNOX COUNTY WASTEWATER TREATMENT PLANT	KNOX-16	FIRST UTILITY DISTRICT (865) 966-9741
TN-126	INVERNESS GREENWAY	KNOX-16	--
TN-127	PUTT-PUTT GOLF AND GAMES	KNOX-17	(865) 675-5558
TN-128	DEAD HORSE LAKE AND ANOTHER POND	KNOX-18	N/A = PHYSICAL FEATURE
TN-129	TEN MILE CREEK GREENWAY PARK	KNOX-18	(865) 215-4311
TN-130	WALKERS SPRINGS PARK	KNOX-18	(865) 215-6600
TN-131	WEST HILLS PARK	KNOX-18	(865) 215-4311
TN-132	JOHN TARLETON PARK	KNOX-19	(865) 215-6600
TN-133	KNOX COUNTY RECREATIONAL DEPARTMENT	KNOX-19	(865) 215-6600
TN-134	TYSON PARK	KNOX-19	(865) 215-1413
TN-135	SKATE PARK	KNOX-19	(865) 361-5304
TN-136	LESLIE STREET PARK	KNOX-19	PERMANENTLY CLOSED
TN-137	WEST VIEW PARK	KNOX-19	(865) 215-4311
TN-138	MALCOLM MARTIN PARK	KNOX-19	(865) 919-5937
TN-139	DANNY MAYFIELD PARK	KNOX-19	(865) 215-4311
TN-140	THE HILL PARK	KNOX-19	UNIVERSITY OF TENNESSEE – AYRES HALL (865) 974-2225
TN-141	CIRCLE PARK	KNOX-19	UNIVERSITY OF TENNESSEE – MCCLUNG MUSEUM (865) 974-2225
TN-142	NEYLAND STADIUM	KNOX-19	UNIVERSITY OF TENNESSEE – NEYLAND STADIUM

ID	Sensitive Area Name	Quadrangle Number	Contact/Phone Number
			(865) 974-2225
TN-143	WORLD'S FAIR PARK LAWN	KNOX-19	(865) 215-1158
TN-144	BICENTENNIAL PARK	KNOX-19	--
TN-145	KRUTCH PARK	KNOX-19	(865) 215-4248
TN-146	CAL JOHNSON PARK	KNOX-19	(865) 522-3177
TN-147	HARRIET TUBMAN PARK	KNOX-19	(865) 215-4311
TN-148	MORNINGSIDE PARK	KNOX-19	(865) 215-1413
TN-149	DR. WALTER HARDY PARK	KNOX-19	(865) 215-4311
TN-150	MORNINGSIDE GREENWAY	KNOX-19	(865) 215-4311
TN-151	HAZEN HISTORICAL MUSEUM	KNOX-19	(865) 522-8661
TN-152	BECK CULTURAL EXCHANGE CENTER	KNOX-19	(865) 524-8461
TN-153	BABE RUTH PARK	KNOX-19	(865) 215-4311
TN-154	WES COURSE AT WILLIAMS CREEK	KNOX-19	(865) 546-5828
TN-155	KNOXVILLE DOWNTOWN ISLAND AIRPORT	KNOX-19	(865) 577-4461
TN-156	WILL SKELTON GREENWAY	KNOX-19	(865) 215-4311
TN-157	ISLAND HOME PARK	KNOX-19	(865) 215-1413
TN-158	MAYNARD GLEN PARK	KNOX-19	--
TN-159	MARY JAMES PARK	KNOX-19	CITY OF KNOXVILLE PARKS AND RECREATION (865) 215-4311
TN-160	MARY VESTAL PARK	KNOX-19	CITY OF KNOXVILLE PARKS AND RECREATION (865) 215-4311
TN-161	FORT DICKERSON PARK	KNOX-19	(865) 215-4311
TN-162	SHERRI PARKER LEE STADIUM AND REGAL SOCCER STADIUM	KNOX-19	SHERRI PARKER LEE STADIUM (865) 974-2977
TN-163	UT GARDENS	KNOX-19	(865) 974-8265
TN-164	KNOXVILLE UTILITIES BOARD (KUB) KUWAHEE WASTEWATER TREATMENT PLANT	KNOX-19	CUSTOMER SERVICE (865)524-2911
TN-165	TWO PONDS	KNOX-19	N/A = PHYSICAL FEATURE
TN-166	UNIVERSITY OF TENNESSEE – RECSPORTS COMPLEX	KNOX-19	(865) 974-5165
TN-167	CONFEDERATE MEMORIAL HALL	KNOX-19	(865) 993-3397
TN-168	WILLOW CREEK GOLF CLUB	KNOX-16	(865) 675-0100

5. Sensitive Areas along Rivers

The pipeline crosses two major rivers within Tennessee: the Cumberland River and the Tennessee River.

Colonial Pipeline Company
ENVIRONMENTALLY SENSITIVE AREAS

Along the Cumberland River, the Haynes Bottom WMA Hunting Grounds, Barkley WMA, Dyson Ditch Wildlife Refuge, Start of Pardue Pond Wildlife Refuge, a water treatment facility are environmentally sensitive and should be a priority for protection and cleanup measures. A listing of these and additional environmentally sensitive areas along the Cumberland River are provided in the table below. Additional details including geospatial information can also be found in Appendix B.

Tennessee Sensitive Areas (Cumberland River)

ID	Sensitive Area Name	Quadrangle Number	Contact/Phone Number
TN-CR-01	START OF FOUR PARKS TO THE WEST (WEST RIVERFRONT, METRO RIVERFRONT, BICENTENNIAL, PUBLIC SQUARE, AND RIVERFRONT) AND TWO PARKS (CUMBERLAND, RIVER LAWN AND LANDING) AND EAST BANK GREENWAY TO THE EAST	NASH-24	CITY OF NASHVILLE PARKS AND RECREATION (615) 862-8400
TN-CR-02	CUMBERLAND RIVER GREENWAY	NASH-24	CITY OF NASHVILLE PARKS AND RECREATION (615) 862-8400
TN-CR-03	LOCK ONE PARK TO THE NORTH	NASH-24	CITY OF NASHVILLE PARKS AND RECREATION (615) 862-8400
TN-CR-04	TED RHODES GOLF COURSE TO THE EAST	NASH-24	(615) 862-8463
TN-CR-05	ROBERTSON ISLAND	NASH-25	N/A = PHYSICAL FEATURE
TN-CR-06	ROCK HARBOR MARINE TO THE EAST	NASH-25	(615) 356-1111
TN-CR-07	BELLS BEND PARK TO THE NORTH	NASH-25	CITY OF NASHVILLE PARKS AND RECREATION (615) 862-8400
TN-CR-08	GOWER ISLAND	NASH-25	N/A = PHYSICAL FEATURE
TN-CR-09	BULL RUN RECREATIONAL PARK	NASH-25	ASHLAND CITY PARKS AND RECREATION (615) 792-4211
TN-CR-10	HARPETH SHOALS MARINA ENTRANCE TO THE CUMBERLAND RIVER AND CONFLUENCE OF COBB HOLLOW CREEK	NASH-25B	(615) 792-6652
TN-CR-11	CONFLUENCE OF SYCAMORE CREEK	N/A	N/A = PHYSICAL FEATURE
TN-CR-12	START OF DYSON DITCH WILDLIFE REFUGE (NORTH SIDE)	N/A	TENNESSEE WILDLIFE RESOURCES AGENCY (615) 792-4510

Colonial Pipeline Company
ENVIRONMENTALLY SENSITIVE AREAS

ID	Sensitive Area Name	Quadrangle Number	Contact/Phone Number
TN-CR-13	START OF PARDUE POND WILDLIFE REFUGE (SOUTH SIDE)	N/A	TENNESSEE WILDLIFE RESOURCES AGENCY (615) 792-4510
TN-CR-14	START OF CUMBERLAND RIVER BICENTENNIAL TRAIL	N/A	ASHLAND CITY PARKS AND RECREATION (615) 792-2655
TN-CR-15	CHEATHAM DAM	N/A	USACOE (615) 792-5697
TN-CR-16	CLARKSVILLE MARINA	N/A	(931) 645-7476/(931) 444-0646
TN-CR-17	MCGREGOR PARK	N/A	CITY OF CLARKSVILLE PARKS AND RECREATION (931) 645-7476
TN-CR-18	NEW PROVIDENCE RECREATION AREA	N/A	CITY OF CLARKSVILLE PARKS AND RECREATION (931) 645-7476
TN-CR-19	SMITH BRANCH RECREATION AREA	N/A	--
TN-CR-20	HAYNES BOTTOM WMA HUNTING GROUNDS	N/A	TENNESSEE WILDLIFE RESOURCES AGENCY (615) 781-6500
TN-CR-21	GUICES CREEK RECREATION AREA	N/A	--
TN-CR-22	RIVER BEND RECREATION AREA	N/A	--
TN-CR-23	CROSS CREEKS NATIONAL WILDLIFE REFUGE	N/A	UNITED STATES FISH AND WILDLIFE SERVICE (931) 232-7477
TN-CR-24	LICK CREEK RECREATION AREA AND BOAT RAMP	N/A	TOWN OF DOVER PARKS DEPARTMENT (931) 232-5907
TN-CR-25	FORT DONELSON NATIONAL BATTLEFIELD	N/A	UNITED STATES NATIONAL PARK SERVICE (931) 232-5706
TN-CR-26	BARKLEY WMA	N/A	(731) 593-0588
TN-CR-27	LAND BETWEEN THE LAKES RECREATION AREA	N/A	(800) 525-7077
TN-CR-28	BLUE CREEK RECREATION AREA AND BOAT RAMP	N/A	USACOE (270) 362-4236
TN-CR-29	BEAR CREEK WATERFOWL MANAGEMENT UNIT	N/A	TENNESSEE WILDLIFE RESOURCE AGENCY (931) 232-7724
TN-CR-30	BUMPUS MILLS RECREATION AREA	N/A	USACOE (270) 362-4236
TN-CR-31	TOBACCOPORT PUBLIC USE AREA	N/A	--
TN-CR-32	LINTON PUBLIC USE AREA AND BOAT RAMP	N/A	USACOE (270) 362-4236

ID	Sensitive Area Name	Quadrangle Number	Contact/Phone Number
TN-CR-33	DONALDSON CREEK PUBLIC USE AREA	N/A	--
TN-CR-34	CALHOUN HILL PUBLIC USE AREA	N/A	--
TN-CR-35	PRIZER POINT PUBLIC USE AREA, MARINA, AND BOAT RAMP	N/A	(270) 522-3762
TN-CR-36	HURRICANE CREEK RECREATION AND BOAT RAMP	N/A	USACOE (270) 522-8821
TN-CR-37	CANNON SPRING PUBLIC USE AREA	N/A	--
TN-CR-38	EDDY CREEK RECREATIONAL AREA	N/A	(270) 388-2271
TN-CR-39	MINERAL MOUNDS STATE PARK	N/A	KENTUCKY STATE PARKS (270) 388-3673
TN-CR-40	MINERAL MOUNDS GOLF COURSE	N/A	KENTUCKY STATE PARKS (270) 388-3673
TN-CR-41	KUTTAWA HARBOR MARINA	N/A	(270) 388-9563
TN-CR-42	VISTA RIDGE PARK	N/A	LYON COUNTY PARKS DEPARTMENT (270) 388-4769
TN-CR-43	BUZZARD ROCK RESORT, MARINA, AND BOAT RAMP	N/A	(270) 388-7925
TN-CR-44	NICKELL POINT RECREATION AREA AND BOAT RAMP	N/A	--
TN-CR-45	CANAL PUBLIC USE AREA	N/A	--
TN-CR-46	GREEN TURTLE BAY MARINA	N/A	(800) 498-0428
TN-CR-47	EUREKA RECREATION AREA AND BOAT RAMP	N/A	(270) 388-9459
TN-CR-48	COMMUNITY BOAT SLIPS AND RAMP	N/A	--
TN-CR-49	UNIDENTIFIED WATER TREATMENT PLANT	N/A	--
TN-CR-50	COMMUNITY BOAT RAMP	N/A	--
TN-CR-51	INDIAN POINT BOAT RAMP	N/A	--
TN-CR-52	EDDY CREEK MARINA RESORT	N/A	(270) 388-2271
TN-CR-53	BARKLEY STATE LODGE AND MARINA	N/A	--
TN-CR-54	SALINE CREEK BOAT RAMP	N/A	--
TN-CR-55	GATLIN POINT BOAT RAMP	N/A	--

The pipeline crosses the Tennessee River at three locations and traverses both Tennessee and Alabama. Along the Tennessee River, six water treatment facilities, six wildlife refuges (Maclellan Sanctuary on Audubon Island; Hiwassee Wildlife Refuge, Zieglers Island Wildlife Refuge; Blythe Ferry Goose Management Area, North Sauty Wildlife Refuge, and Whites Creek Small Wildlife Area); three WMAs (Paint Rock WMA, Long Island WMA, and Cotton Port WMA), and two archaeological parks

(Moccasin Bend and Williams Island) are environmentally sensitive and should be a priority for protection and cleanup measures. A listing of these and additional environmentally sensitive areas along the Tennessee River are provided in the table below. Additional details including geospatial information can also be found in Appendix B.

Tennessee Sensitive Areas (Tennessee River – 3 Sections)

ID	Sensitive Area Name	Quadrangle Number	Contact/Phone Number
TN-TR-01	THIRD CREEK GREENWAY	KNOX-19	UNIVERSITY OF TENNESSEE DEPARTMENT OF GARDENS (865) 974-8265
TN-TR-02	SEQUOYAH GREENWAY	KNOX-19	--
TN-TR-03	SEQUOYAH PARK	KNOX-19	--
TN-TR-04	LAKESHORE PARK	KNOX-19	--
TN-TR-05	LAKESHORE BALLPARK - RIVER FIELDS	KNOX-19	--
TN-TR-06	KUB FOURTH CREEK WASTEWATER TREATMENT PLANT	KNOX-19	(865) 524-2911
TN-TR-07	UNIVERSITY OF TENNESSEE FARM	KNOX-19	--
TN-TR-08	I.C. KING PARK	KNOX-19	(865) 215-6600
TN-TR-09	TENNESSEE RIVER CONFLUENCE WITH LITTLE RIVER	KNOX-19	N/A = PHYSICAL FEATURE
TN-TR-10	KELLER BEND PARK	KNOX-18A	--
TN-TR-11	LOUISVILLE POINT PARK	KNOX-18A	CITY OF LOUISVILLE PARKS AND RECREATION (865) 983-8831
TN-TR-12	LOUISVILLE LANDING MARINA	KNOX-18A	(865) 984-9001
TN-TR-13	CARL COWAN PARK	KNOX-18A	--
TN-TR-14	ADMIRAL FARRAGUT PARK	KNOX-18A	(865) 215-6600
TN-TR-15	CONCORD YACHT CLUB AND CONCORD PARK	KNOX-16	(865) 671-1210
TN-TR-16	POLAND CREEK CAMPGROUND / POLAND RECREATION AREA	KNOX-18A	(865) 257-6255
TN-TR-17	ANCHOR PARK	KNOX-16	--
TN-TR-18	TURKEY CREEK GREENWAY	KNOX-16	--
TN-TR-19	CONCORD MARINA AND CONCORD PARK	KNOX-16	(865) 966-5831
TN-TR-20	CHOTO MARINA	KNOX-16	(865) 966-5472
TN-TR-21	YARBERRY PENINSULA RECREATION AREA	KNOX-16	(865) 986-3993
TN-TR-22	FORT LOUDON MARINA	KNOX-16	(865) 986-5536
TN-TR-23	POTENTIAL WASTEWATER TREATMENT FACILITY	KNOX-15	--

Colonial Pipeline Company
ENVIRONMENTALLY SENSITIVE AREAS

ID	Sensitive Area Name	Quadrangle Number	Contact/Phone Number
TN-TR-24	TELLICO DAM RECREATION AREA	KNOX-16	(800) 882-5263
TN-TR-25	POTENTIAL WASTEWATER TREATMENT FACILITY	KNOX-14	--
TN-TR-26	LOUDON MARINE PARK	KNOX-14	--
TN-TR-27	POTENTIAL WASTEWATER TREATMENT FACILITY	KNOX-15	POTENTIALLY LOUDON UTILITIES BOARD
TN-TR-28	INTERSECTS WITH PIPELINE IN LOUDON, TENNESSEE	KNOX-15	N/A = PHYSICAL FEATURE
TN-TR-29	RIVERVIEW GOLF COURSE	KNOX-15	(865) 986-6972
TN-TR-30	TENNESSEE NATIONAL GOLF CLUB	KNOX-13A	(865) 657-2001
TN-TR-31	PAINT ROCK WMA	KNOX-13A	(423) 693-6791
TN-TR-32	LONG ISLAND WMA	KNOX-13A	(423) 693-6791
TN-TR-33	LAKESIDE GOLF COURSE	KNOX-13A	(845) 735-2094
TN-TR-34	SOUTHWEST POINT GOLF COURSE	KNOX-13B	(865) 376-5282
TN-TR-35	SOUTHWEST POINT PARK	KNOX-13B	CITY OF KINGSTON PARKS (865) 376-1356
TN-TR-36	CONFLUENCE WITH CLINCH RIVER/WHITEOAK LAKE	N/A	N/A = PHYSICAL FEATURE
TN-TR-37	KINGSTON WATERFRONT PARK	KNOX-13B	--
TN-TR-38	KINGSTON CITY PARK	N/A	CITY OF KINGSTON PARKS AND RECREATION (865) 376-9476
TN-TR-39	ROANE COUNTY PARK/CANEY CREEK RV RESORT / POTENTIAL MARINA	KNOX-13B	(865) 882-2640 (PARK); (865) 882-4042 (RV RESORT)
TN-TR-40	ROCKWOOD COMMUNITY PARK/ DR. TOM FULLER MEMORIAL PARK	KNOX-13C	ROCKWOOD CITY PARKS (865) 354-0434
TN-TR-41	BAYSIDE MARINA	KNOX-13C	(718) 229-0097
TN-TR-42	BLUE SPRING MARINA	KNOX-13D	(865) 376-7298
TN-TR-43	UNNAMED MARINA	N/A	--
TN-TR-44	WHITES CREEK SMALL WILDLIFE AREA	N/A	--
TN-TR-45	ARROWHEAD RESORT, CAMPGROUND AND MARINA	KNOX-13D	MIKE BENNETT (423) 365-6484
TN-TR-46	TERRACE VIEW MARINA	KNOX-13D	(423) 365-6060
TN-TR-47	CEP EDEN MARINA	KNOX-13D	(423) 365-6929
TN-TR-48	HORNSBY HOLLOW RECREATION AREA	KNOX-13D	--
TN-TR-49	CAMPGROUND ON THE LAKESHORE	KNOX-13D	(423) 334-1490
TN-TR-50	BIG SPRINGS ACCESS AREA	KNOX-13D	--

Colonial Pipeline Company
ENVIRONMENTALLY SENSITIVE AREAS

ID	Sensitive Area Name	Quadrangle Number	Contact/Phone Number
TN-TR-51	HORNSBY HOLLOW CAMPGROUND	KNOX-13D	(423) 334-1709
TN-TR-52	EUCHEE MARINA	KNOX-13D	(423) 334-1004
TN-TR-53	SAM'S BOAT DECK	KNOX-13D	(423) 334-5620
TN-TR-54	FOSHEE PASS RECREATION AREA	KNOX-13E	MEIGS COUNTY RECREATION (423) 334-4842
TN-TR-55	RHEA SPRINGS RECREATION AREA	KNOX-13E	(423) 775-7801
TN-TR-56	SPRING CITY PARK	KNOX-13E	TOWN OF SPRING CITY PARK AND RECREATION (423) 365-6441
TN-TR-57	POTENTIAL MARINA	KNOX-13E	--
TN-TR-58	CEDAR POINT RV PARK AND CABINS	KNOX-13E	(423) 322-6490
TN-TR-59	MEIGS COUNTY PARK	KNOX-13E	--
TN-TR-60	WATTS BAR DAM	KNOX-13F	--
TN-TR-61	COTTON PORT WMA	KNOX-9A	(423) 365-9166
TN-TR-62	COTTON PORT LANDING	KNOX-9A	--
TN-TR-63	ARMSTRONG FERRY RECREATION AREA	KNOX-9A	MEIGS COUNTY RECREATION (423) 334-3584
TN-TR-64	BLUE WATER RV RESORT AND MARINA	KNOX-9A	(423) 775-3265
TN-TR-65	ZIEGLERS ISLAND WILDLIFE REFUGE	KNOX-9A	--
TN-TR-66	HIWASSEE WILDLIFE REFUGE	KNOX-9A	(423) 614-3018
TN-TR-67	BLYTHE FERRY GOOSE MANAGEMENT AREA	KNOX-9A	--
TN-TR-68	CONFLUENCE WITH HIWASSEE ISLAND	KNOX-9A	--
TN-TR-69	BEAR BRANCH ACCESS AREA	KNOX-9B	--
TN-TR-70	SALE CREEK RECREATION AREA	KNOX-7B	(423) 332-8468
TN-TR-71	SALE CREEK MARINA	KNOX-7B	(423) 332-6312
TN-TR-72	GRASSHOPPER CREEK RECREATION AREA	KNOX-7B	(423) 961-2055
TN-TR-73	POSSUM CREEK RV PARK AND CAMPGROUND	KNOX-7B	(423) 332-8468
TN-TR-74	POSSUM CREEK RECREATION AREA AND POTENTIAL MARINA	KNOX-7B	--
TN-TR-75	PINE HARBOR MARINA	KNOX-7C	(423) 332-3963
TN-TR-76	FORREST COVE MARINA	KNOX-7B	--
TN-TR-77	MISTY HARBOR MARINA	KNOX-7B	(423) 595-1388
TN-TR-78	SKULL ISLAND RECREATION AREA	KNOX-3A	(423) 344-7722

Colonial Pipeline Company
ENVIRONMENTALLY SENSITIVE AREAS

ID	Sensitive Area Name	Quadrangle Number	Contact/Phone Number
TN-TR-79	BEAR TRACE GOLF COURSE / HARRISON BAY STATE PARK	KNOX-3A	(423) 326-0885
TN-TR-80	HARRISON BAY STATE PARK AND CAMPGROUND	KNOX-3B	TENNESSEE STATE PARKS (423) 344-6214
TN-TR-81	HAMILTON COUNTY PARK	KNOX-3B	HAMILTON COUNTY PARKS AND RECREATION (423) 842-0177
TN-TR-82	CHESTER FROST PARK	KNOX-3B	HAMILTON COUNTY PARKS AND RECREATION (423) 842-0177
TN-TR-83	BASS BAY MARINA	KNOX-3A	(731) 593-3239
TN-TR-84	CAMP DIXIE (CAMPGROUND)	KNOX-3B	(423) 400-0390
TN-TR-85	CAMP COLUMBUS (CAMPGROUND)	KNOX-3B	(423) 842-7011
TN-TR-86	POTENTIAL MARINA – NOT NAMED	KNOX-3A	--
TN-TR-87	WOLFTEVER CREEK BOAT RAMP	KNOX-3A	--
TN-TR-88	ISLAND COVE MARINA AND RESORT	KNOX-3B	(423) 344-8331
TN-TR-89	CAMP JOY (CAMPGROUND)	KNOX-3A	(931) 273-5850
TN-TR-90	CHATTANOOGA YACHT CLUB	KNOX-2	(423) 344-6033
TN-TR-91	EAGLE BLUFF GOLF CLUB	KNOX-3B	(423) 326-0202
TN-TR-92	HIXSON MARINA / BIG RIDGE YACHT CLUB	KNOX-3B	(423) 843-3243 (BIG RIDGE)
TN-TR-93	PRIVATEER YACHT CLUB	KNOX-2	(423) 877-9411
TN-TR-94	BOOKER T WASHINGTON STATE PARK	KNOX-2	TENNESSEE STATE PARKS (423) 894-4955
TN-TR-95	GOLD POINT YACHT HARBOR	KNOX-2	(423) 622-1978
TN-TR-96	CHICKAMAUGA MARINA	KNOX-2	(423) 622-8919
TN-TR-97	MARINA POINT	KNOX-2	(423) 877-3773
TN-TR-98	TENNESSEE RIVERWALK (A GREENWAY)	KNOX-2	HAMILTON COUNTY PARKS AND RECREATION (423) 643-6086 OR (423) 842-0177
TN-TR-99	TENNESSEE RIVER PARK AND HAMILTON COUNTY RIVER PARK	KNOX-2	HAMILTON COUNTY PARKS AND RECREATION (423) 842-0177
TN-TR-100	DUPONT PARK AND NORTH RIVER SOCCER COMPLEX	NASH-3	(423) 425-6311 (DUPONT PARK); (423) 505-9451 (SOCCER COMPLEX)
TN-TR-101	LUPTON CITY GOLF CLUB, CHAMPIONS TENNIS CLUB, AND BASEBALL FIELDS	NASH-3	(423) 364-6947
TN-TR-102	SOUTH CHICKAMAUGA CREEK CONFLUENCE	NASH-3	N/A = PHYSICAL FEATURE

Colonial Pipeline Company
ENVIRONMENTALLY SENSITIVE AREAS

ID	Sensitive Area Name	Quadrangle Number	Contact/Phone Number
TN-TR-103	CHATTANOOGA GOLF AND COUNTRY CLUB	NASH-3	(423) 266-6178
TN-TR-104	MACLELLAN SANCTUARY ON AUDUBON ISLAND	NASH-3	(423) 892-1499
TN-TR-105	HUNTER MUSEUM OF AMERICAN ART	NASH-3	(423) 267-0968
TN-TR-106	COOLRIDGE PARK	NASH-3	CHATTANOOGA DEPARTMENT OF PARKS (423) 643-5956
TN-TR-107	RENAISSANCE PARK	NASH-3	CHATTANOOGA DEPARTMENT OF PARKS (423) 643-6311
TN-TR-108	MOCCASIN BEND GOLF COURSE	NASH-3	(423) 267-3585
TN-TR-109	MOCCASIN BEND NATIONAL ARCHAEOLOGICAL DISTRICT	NASH-3	NATIONAL PARK SERVICE (706) 866-9241
TN-TR-110	MOCCASIN BEND ARCHAEOLOGICAL DISTRICT / INTERSECTS PIPELINE ON TENNESSEE RIVER	NASH-3	NATIONAL PARK SERVICE (706) 866-9241
TN-TR-111	CONFLUENCE WITH LOOKOUT CREEK	NASH-3	N/A = PHYSICAL FEATURE
TN-TR-112	BROWN'S FERRY MARINA	NASH-3	(423) 821-8700
TN-TR-113	CHATTANOOGA SEWER TREATMENT PLANT	NASH-3	CHATTANOOGA PUBLIC WORKS (423) 757-5026
TN-TR-114	WILLIAMS ISLAND ARCHAEOLOGICAL PARK	NASH-3	--
TN-TR-115	MOCCASIN BEND NATIONAL ARCHEOLOGICAL DISTRICT	NASH-3	NATIONAL PARK SERVICE (706) 866-9241
TN-TR-116	PRENTICE COOPER PRIMITIVE CAMPSITE	NASH-4	--
TN-TR-117	HALES BAR MARINA AND RESORT	NASH-4	(423) 942-9000
TN-TR-118	MARION COUNTY PARK	NASH-6A	(423) 942-6653
TN-TR-119	RUNNING WATER PUBLIC USE AREA	NASH-6A	--
TN-TR-120	SHELLMOND CAMPGROUND AND BOAT RAMP	NASH-6A	(423) 942-9857
TN-TR-121	MAPLE VIEW PUBLIC USE AREA	N/A	(615) 781-6534
TN-TR-122	NICKAJACK LOCK	NASH-6A	USACOE (423) 942-3985
TN-TR-123	SOUTH PITTSBURG MUNICIPAL PARK	NASH-6B	CITY OF SOUTH PITTSBURG PARKS AND RECREATION (423) 228-3186
TN-TR-124	CITY OF SOUTH PITTSBURG WASTEWATER TREATMENT PLANT	NASH-6B	SOUTH PITTSBURG BOARD OF WATER WORKS AND SEWERS (423) 837-7164

Colonial Pipeline Company
ENVIRONMENTALLY SENSITIVE AREAS

ID	Sensitive Area Name	Quadrangle Number	Contact/Phone Number
AL-TR-01	BOAT RAMP	N/A	--
AL-TR-02	CROW CREEK CONFLUENCE	N/A	N/A = PHYSICAL FEATURE
AL-TR-03	RACCOON CREEK PUBLIC HUNTING AREA	N/A	ALABAMA DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES (334) 242-3465
AL-TR-04	MCNARY RESERVATION	N/A	--
AL-TR-05	SCOTTSBORO MUNICIPAL PARK	N/A	--
AL-TR-06	SCOTTSBORO WASTEWATER TREATMENT PLANT	N/A	(256) 574-4470
AL-TR-07	GOOSE POND RESORT, PLANTATION GOLF, AND MARINA	N/A	(256) 912-0592
AL-TR-08	NORTH SAUTY WILDLIFE REFUGE	N/A	ALABAMA DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES 334-242-3465
AL-TR-09	CAMP MARANATHA (CAMPGROUND)	N/A	(256) 574-4539
AL-TR-10	LANGSTON CITY PARK	N/A	--
AL-TR-11	BUCK'S POCKET STATE PARK	N/A	ALABAMA STATE PARKS (800) 252-7275
AL-TR-12	LITTLE MOUNTAIN MARINA AND CAMPING	N/A	(256) 582-1280
AL-TR-13	RIVER BEND MARINA	N/A	(256) 582-6857
AL-TR-14	MONSATO TRACT	N/A	--
AL-TR-15	POTENTIAL CAMPGROUND	N/A	--
AL-TR-16	LAKE GUNTERSVILLE STATE PARK	N/A	(256) 571-5440
AL-TR-17	SHORT CREEK CONFLUENCE	N/A	N/A = PHYSICAL FEATURE
AL-TR-18	MARSHALL COUNTY PARK	N/A	(256) 582-2193
AL-TR-19	POTENTIAL MARINA	N/A	--
AL-TR-20	GUNTERSVILLE EAST LAKE TREATMENT	N/A	GUNTERSVILLE WATER BOARD (256) 582-2144
AL-TR-21	LOCK/DAM	N/A	N/A = PHYSICAL FEATURE
AL-TR-22	GUNTERSVILLE MUNICIPAL PARK	N/A	CITY OF GUNTERSVILLE PARKS AND RECREATION (256) 571-7590
AL-TR-23	NORTH ALABAMA SAILING MARINA	N/A	(256) 486-3311
AL-TR-24	TOM JACKSON PARK	N/A	--
AL-TR-25	OGLETREE PARK	N/A	CITY OF GUNTERSVILLE PARKS AND RECREATION (256) 571-7590
AL-TR-26	DAVID CROCKETT VISIT LIONS CLUB PARK	N/A	--

ID	Sensitive Area Name	Quadrangle Number	Contact/Phone Number
AL-TR-27	ALRED MARINA	N/A	(256) 582-4400
AL-TR-28	HONEYCOMB CAMPGROUND	N/A	(256) 582-9882
N/A = Not applicable			

It should be noted that, although the Cumberland and Tennessee Rivers are the only major rivers that the pipeline crosses, there are several other smaller rivers, creeks and ponded waters that are considered environmentally sensitive as well. Those rivers and creeks above a base flow of 10 cms as well as significant ponded waters (i.e., lakes, ponds, and reservoirs) are listed/highlighted in the above tables.

6. Threatened and Endangered Species

A summary of threatened and endangered species along the pipeline corridor in the inland areas of Tennessee and within approximately 75 miles downgradient of where the pipeline crosses the Cumberland and Tennessee Rivers is provided in the table below. Specific information on these threatened and endangered species as well as migratory birds and critical habitats in the area are provided in Appendix A.

Threatened and Endangered Species (Tennessee)

	Inland Tennessee	Cumberland River	Tennessee River
Threatened and Endangered Species			
Overall	41	23	66
Amphibians	0	0	1
Birds	0	1	0
Clams	17	14	32
Crustaceans	1	0	1
Ferns and Allies	1	0	1
Fish	5	0	9
Flowering Plants	10	5	12
Mammals	4	3	4
Reptiles	0	0	1
Snails	3	0	5
Migratory Birds	27	25	30

Colonial Pipeline Company
ENVIRONMENTALLY SENSITIVE AREAS

Georgia

1. Description

The pipeline traverses predominantly forested areas in the northern portion of Georgia to a mixture of forested and agricultural areas in the western and eastern portion of Georgia to predominantly agricultural areas in the southern portion of Georgia. The pipeline traverses a number of high density population areas (i.e., Atlanta, Americus, Albany, Fort Valley, and Macon) that are connected by more rural locations of the state. The pipeline traverses four major rivers within Georgia (the Chattahoochee River, Oconee River, Flint River, and Savannah River), as well as smaller rivers and creeks. Numerous lakes, ponds, and other waterways are also located within the one-mile corridor of the pipeline.

2. Water Intakes

Oil may become entrained in water intake structures, causing extensive and expensive damage, and possible harm if the material is flammable or explosive. All precautions should be taken to prevent such materials from entering water intakes in the event of a spill in the vicinity of a water intake in which case the point of contact should be notified immediately. Water intake locations are presented in Section 09.06.00 of this plan.

3. Access

The environmentally sensitive inland areas are generally accessible by vehicle or on foot. The sensitive areas along the rivers (i.e., within approximately 75 miles downgradient from the Chattahoochee, Oconee, Flint, and Savannah River crossings) are generally accessible by boat and vehicle.

4. Sensitive Inland Areas

Within the Georgia inland areas, three reservoirs (Breman Reservoir, Bear Creek Reservoir, and City of East Point Reservoir) as well as several lakes and waterways (Oostanaula River, Armuchee Creek, Etowah River, Chattachoochee River, Flint River, Big Slough, North Oconee, Sope Creek, and Kinchafoonee Creek) are environmentally sensitive and a priority for protection and cleanup measures. A listing of the sensitive inland areas in Georgia are provided in the table below. Additional details, including geospatial information, can also be found in Appendix B.

Georgia Sensitive Areas (Inland Areas)

ID	Sensitive Area Name	Quadrangle Number	Contact/Phone Number
GA-01	LOOKOUT MOUNTAIN GOLF CLUB	NASH-2	(706) 820-0719
GA-02	LOOKOUT MOUNTAIN FAIRYLAND CLUB	NASH-2	(706) 820-1551
GA-03	ROSSVILLE RECREATIONAL AREA AND TWO PONDS	NASH-2	(423) 488-1999
GA-04	SIXTH CALVARY MUSEUM AND PARK	NASH-2	(706) 861-2860

Colonial Pipeline Company
ENVIRONMENTALLY SENSITIVE AREAS

ID	Sensitive Area Name	Quadrangle Number	Contact/Phone Number
GA-05	JACK MATTOX BASEBALL PARK	CHATT-14	CATOOSA COUNTY PARKS AND RECREATION (706) 891-4199
GA-06	BOYNTON RECREATIONAL PARK	CHATT-14	(423) 762-3105
GA-07	POND	CHATT-14	N/A = PHYSICAL FEATURE
GA-08	JACKSON LAKE/PEAVINE CREEK	CHATT-13	N/A = PHYSICAL FEATURE
GA-09	CHATTAHOOCHEE NATIONAL FOREST (PIPELINE TRAVERSES APPROXIMATELY 20 MILES OF THE FOREST)	CHATT-12	UNITED STATES FOREST SERVICE (770) 297-3000
GA-10	CROSS CREEK CAMPGROUND	CHATT-11	(706) 746-6974
GA-11	ARROWHEAD LAKE, LOWER ARROWHEAD LAKE AND TWO MORE PONDS	CHATT-10	N/A = PHYSICAL FEATURE
GA-12	TURKEY MOUNTAIN LAKE	CHATT-10	N/A = PHYSICAL FEATURE
GA-13	TURKEY MOUNTAIN RECREATION AREA	CHATT-10	GEORGIA DEPARTMENT OF NATURAL RESOURCES (DNR) – WILDLIFE RESOURCES DIVISION
GA-14	JOHNSTON LAKE	CHATT-10A	(706) 802-5087
GA-15	OOSTANAULA RIVER	CHATT-9	N/A = PHYSICAL FEATURE
GA-16	ARMUCHEE CREEK	CHATT-9	N/A = PHYSICAL FEATURE
GA-17	UPDEGROVE LAKE	CHATT-9	N/A = PHYSICAL FEATURE
GA-18	ARMUCHEE PARK	CHATT-9	ROME-FLOYD PARKS AND RECREATION AUTHORITY (706) 291 0766
GA-19	ARMUCHEE CREEK AND OOSTANAULA RIVER CONFLUENCE	CHATT-8	N/A = PHYSICAL FEATURE
GA-20	HALLS LAKE	CHATT-8	N/A = PHYSICAL FEATURE
GA-21	ETOWAH RIVER	CHATT-7	N/A = PHYSICAL FEATURE
GA-22	JOE COWAN PARK	CHATT-6	CITY OF EUHARLEE PARKS AND RECREATION (770) 386-1542
GA-23	DRY CREEK MOUNTAIN BIKING TRAILS	CHATT-11	USDA FOREST SERVICE CONASAUGA RANGER DISTRICT (706) 695-6736
GA-24	BROWNS LAKE	CHATT-4	N/A = PHYSICAL FEATURE
GA-25	BURNT HICKORY PARK	CHATT-4	PAULDING COUNTY PARKS & RECREATION (770) 443-7540
GA-26	WOFFORD LAKE	CHATT-2	N/A = PHYSICAL FEATURE

Colonial Pipeline Company
ENVIRONMENTALLY SENSITIVE AREAS

ID	Sensitive Area Name	Quadrangle Number	Contact/Phone Number
GA-27	FORT YARGO LAKE	CHATT-2	N/A = PHYSICAL FEATURE
GA-28	LOST MOUNTAIN PARK AND WARD RECREATION CENTER AND LOST MOUNTAIN SOFTBALL COMPLEX	CHATT-2	COBB COUNTY P.A.R.K.S. (770) 528-8885
GA-29	MUD CREEK SOCCER COMPLEX	CHATT-2	COBB COUNTY P.A.R.K.S. (404) 818-9221
GA-30	WILD HORSE CREEK PARK AND RON ANDERSON COMMUNITY CENTER	CHATT-2	COBB COUNTY P.A.R.K.S. (770) 528-8890
GA-31	EUHARLEE COVERED BRIDGE	CHATT-6	CITY OF EUHARLEE (770) 386-1542
GA-32	WEST LAKE	GA-2	N/A = PHYSICAL FEATURE
GA-33	BREMAN RESERVOIR	GA-2	N/A = PHYSICAL FEATURE
GA-34	BREMAN WATER TREATMENT PLANT	GA-2	(574) 546-3829
GA-35	BAXTER LAKE	GA-3	N/A = PHYSICAL FEATURE
GA-36	HATFIELD'S LAKE	GA-4	N/A = PHYSICAL FEATURE
GA-37	GARRET LAKE	GA-4	N/A = PHYSICAL FEATURE
GA-38	EULENFIELD LAKE	GA-4	N/A = PHYSICAL FEATURE
GA-39	WIGGINS LAKE	GA-4	N/A = PHYSICAL FEATURE
GA-40	FERMANDER LAKE	GA-5	N/A = PHYSICAL FEATURE
GA-41	TUMBLINS LAKE	GA-5	N/A = PHYSICAL FEATURE
GA-42	LEGION LAKE	GA-5	N/A = PHYSICAL FEATURE
GA-43	BALL PARK	GA-5	--
GA-44	THE FROG GOLF CLUB / COURSE	GA-5	(770) 459-4400
GA-45	RECREATIONAL POND	GA-5	N/A = PHYSICAL FEATURE
GA-46	ELLIS LAKE	GA-6	N/A = PHYSICAL FEATURE
GA-47	JONES LAKE	GA-6	N/A = PHYSICAL FEATURE
GA-48	PAULDING COUNTY GOLF COURSE / COUNTRY CLUB (AKA CREEKSIDE GOLF & COUNTRY CLUB)	GA-6	(770) 445-7655
GA-49	LAKE RAMONA	GA-6	N/A = PHYSICAL FEATURE
GA-50	UNNAMED POND/LAKE	GA-6	N/A = PHYSICAL FEATURE
GA-51	WILLIAMS LAKE	GA-6	N/A = PHYSICAL FEATURE
GA-52	POOLE'S MILL BRIDGE PARK	GA-6	(770) 781-2215
GA-53	TAYLOR FARM PARK	GA-7	PAULDING COUNTY PARKS AND RECREATION (770) 222-3270
GA-54	PINE VALLEY LAKE	GA-7	N/A = PHYSICAL FEATURE
GA-55	ROUNDTREE RECREATION COMPLEX	GA-6	(770) 443-1187
GA-56	POWDER SPRINGS PARK	GA-7	POWDER SPRINGS PARKS AND RECREATION

Colonial Pipeline Company
ENVIRONMENTALLY SENSITIVE AREAS

ID	Sensitive Area Name	Quadrangle Number	Contact/Phone Number
			770-528-8890
GA-57	AYRESOUTH AIRPORT	GA-4	(770) 948-1238
GA-58	THE LION GOLF CLUB	GA-2	(770) 537-7020
GA-59	CLARKDALE PARK	GA-7	COBB COUNTY P.A.R.K.S. (770) 528-8890
GA-60	SAVANNAH RIVER	GA-26	N/A = PHYSICAL FEATURE
GA-61	LAKE HARTWELL	GA-26	N/A = PHYSICAL FEATURE
GA-62	BIG OAKS RECREATION AREA	GA-26	HART COUNTY PARKS AND RECREATION (888) 893-0678
GA-63	WATSADLER CAMPGROUND	GA-26	USACOE (888) 893-0678
GA-64	MEMORIAL GARDEN OF PRAYER	GA-25	--
GA-65	BROAD RIVER	GA-23	N/A = PHYSICAL FEATURE
GA-66	LAKE CHAPMAN	GA-19	N/A = PHYSICAL FEATURE
GA-67	SANDY CREEK PARK	GA-19	(706) 613-3631
GA-68	NORTH OCONEE RIVER	GA-19	N/A = PHYSICAL FEATURE
GA-69	ATHENS-CLARKE COUNTY UNIFIED GREENWAYS AND RIVERSIDE PARKS	GA-18	706-613-3800
GA-70	SANDY CREEK NATURE CENTER	GA-18	(706) 613-3615
GA-71	HOLLAND SPORTS COMPLEX	GA-19	(706) 613-3604
GA-72	ATHENS COUNTRY CLUB	GA-18	(706) 354-7100
GA-73	MIDDLE OCONEE RIVER	GA-18	N/A = PHYSICAL FEATURE
GA-74	BEAR CREEK RESERVOIR	GA-17	UPPER OCONEE BASIN WATER AUTHORITY (706) 369-5650
GA-75	THE GEORGIA CLUB	GA-17	(770) 725-8101
GA-76	WATERSHED LAKE	GA-17	N/A = PHYSICAL FEATURE
GA-77	BARROW MEMORIAL GARDENS	GA-16	(770) 867-3290
GA-78	PINE HILLS GOLF COURSE	GA-16	(770) 867-3150
GA-79	THE CHIMNEYS GOLF COURSE	GA-16	(770) 307-4900
GA-80	WINDER-BARROW HIGH SCHOOL BASEBALL FIELDS	GA-16	(770) 867-4519
GA-81	NATURAL RESOURCES DEPARTMENT	GA-16	--
GA-82	FORT YARGO STATE PARK	GA-16	770-867-3489
GA-83	FORT YARGO LAKE	GA-16	N/A = PHYSICAL FEATURE
GA-84	BEACH AT FORT YARGO LAKE	GA-16	N/A = PHYSICAL FEATURE
GA-85	MARBURY LAKE	GA-15	N/A = PHYSICAL FEATURE
GA-86	CLUSTER OF SMALL PONDS	GA-15	N/A = PHYSICAL FEATURE
GA-87	FREEMAN'S MILL PARK	GA-14	GWINNETT COUNTY PARKS AND RECREATION (770) 822-8840

Colonial Pipeline Company
ENVIRONMENTALLY SENSITIVE AREAS

ID	Sensitive Area Name	Quadrangle Number	Contact/Phone Number
GA-88	RHODES JORDAN PARK	GA-14	GWINNETT COUNTY PARKS AND RECREATION (770) 822-5414
GA-89	HARRIS LAKE	GA-13	N/A = PHYSICAL FEATURE
GA-90	CHADWICK LAKE	GA-13	N/A = PHYSICAL FEATURE
GA-91	THE GEORGIA TRAIL AT SUGARLOAD	GA-13	THE GEORGIA TRAIL (770) 497-4653
GA-92	MCDANIEL FARM PARK	GA-13	GWINNETT COUNTY PARKS AND RECREATION (770) 814-4920
GA-93	CARDINAL LAKE	GA-12	N/A = PHYSICAL FEATURE
GA-94	SHORTY HOWELL PARK	GA-12	GWINNETT COUNTY PARKS AND RECREATION (678) 277-0900
GA-95	MORRISON LAKE	GA-12	N/A = PHYSICAL FEATURE
GA-96	WEST GWINNETT PARK AND AQUATIC CENTER	GA-12	GWINNETT COUNTY PARKS AND RECREATION (678) 407-8801
GA-97	PINCKNEYVILLE PARK DOG PARK	GA-12	GWINNETT COUNTY PARKS AND RECREATION (678) 277-0920
GA-98	PINCKNEYVILLE PARK AND SOCCER COMPLEX	GA-12	GWINNETT COUNTY PARKS AND RECREATION (678) 277-0920
GA-99	CROWELL BROTHERS FUNERAL HOME	GA-12	(770) 448-5757
GA-100	NORTH ATLANTA MEMORIAL PARK	GA-11	(770) 804-1177
GA-101	WINDWOOD HOLLOW PARK	GA-11	CITY OF DUNWOODY (678) 382-6700
GA-102	KINGSLEY LAKE	GA-11	N/A = PHYSICAL FEATURE
GA-103	DUNWOODY COUNTRY CLUB	GA-11	(770) 394-4492
GA-104	MARCUS JEWISH COMMUNITY CENTER OF ATLANTA	GA-11	(678) 812-4000
GA-105	DUNWOODY NATURE CENTER	GA-11	(770) 394-3322
GA-106	DUNWOODY PARK	GA-11	(678) 382-6700
GA-107	BIG TREES FOREST PRESERVE	GA-11	(770) 673-0111
GA-108	MORGAN FALLS ATHLETIC FIELDS	GA-11	SANDY SPRINGS PARKS AND RECREATION (770) 730-5600
GA-109	STEEL CANYON GOLF CLUB	GA-11	(770) 390-0424
GA-110	CHEROKEE TOWN AND COUNTRY CLUB	GA-11	(770) 993-4407
GA-111	ORKIN LAKE	GA-10	N/A = PHYSICAL FEATURE
GA-112	MORGAN FALLS OVERLOOK PARK	GA-10	SANDY SPRINGS PARKS AND RECREATION (770) 730-5600

Colonial Pipeline Company
ENVIRONMENTALLY SENSITIVE AREAS

ID	Sensitive Area Name	Quadrangle Number	Contact/Phone Number
GA-113	SANDY SPRINGS DOG PARK	GA-10	SANDY SPRINGS PARKS AND RECREATION (770) 730-5600
GA-114	ORIGINAL SHEA BUTTER HOUSE	GA-10	(404) 735-0533
GA-115	ABERNATHY GREENWAY	GA-10	SANDY SPRINGS PARKS AND RECREATION (770) 730-5600
GA-116	CHATTAHOOCHEE RIVER	GA-10	N/A = PHYSICAL FEATURE
GA-117	ABERNATHY PARK	GA-10	SANDY SPRINGS PARKS AND RECREATION (770) 730-5600
GA-118	GEORGIA STATE GOLF ASSOCIATION	GA-10	(770) 955-4272
GA-119	NORTH ATLANTA SOCCER COMPLEX	GA-10	(770) 955-8700
GA-120	MCFARLANE PARK	GA-10	NO PHONE NUMBER
GA-121	ATLANTA COUNTRY CLUB	GA-10	(770) 953-2100
GA-122	SOPE CREEK PARK	GA-10	CHATTAHOOCHEE RIVER NATIONAL RECREATION AREA (678) 538-1200
GA-123	CHATTAHOOCHEE RIVER NATIONAL RECREATION AREA	GA-10	CHATTAHOOCHEE RIVER NATIONAL RECREATION AREA (678) 538-1200
GA-124	CHATTAHOOCHEE NATIONAL RECREATION AREA	GA-10	CHATTAHOOCHEE RIVER NATIONAL RECREATION AREA (678) 538-1200
GA-125	COCHRAN SHOALS-POWERS ISLAND	GA-10	(678) 538-1200
GA-126	CHATTAHOOCHEE RIVER RUN/BIKE PATH	GA-10	CHATTAHOOCHEE RIVER NATIONAL RECREATION AREA (678) 538-1200
GA-127	RIVER PARK	GA-10	CHATTAHOOCHEE RIVER NATIONAL RECREATION AREA (678) 538-1200
GA-128	CHATTAHOOCHEE NATIONAL RECREATION AREA : PACES MILL	GA-9	CHATTAHOOCHEE RIVER NATIONAL RECREATION AREA (678) 538-1200
GA-129	JONQUIL PARK	GA-10	(770) 319-2501
GA-130	COUNTRY PARK	GA-10	(678) 305-0801
GA-131	TAYLOR BRAWNER PARK	N/A	(770) 431-2842

Colonial Pipeline Company
ENVIRONMENTALLY SENSITIVE AREAS

ID	Sensitive Area Name	Quadrangle Number	Contact/Phone Number
GA-132	PACES FERRY PARK	GA-9	(770) 319-9333
GA-133	OAKDALE PARK	GA-9	(770) 240-2001
GA-134	RHYNE PARK	GA-8	(770) 801-5343
GA-135	LAUREL LAKE	GA-8	N/A = PHYSICAL FEATURE
GA-136	SILVER COMET TRAIL	GA-8	COBB COUNTY PARK RANGER (770) 528-8865
GA-137	NORTH COOPER LAKE PARK	GA-8	--
GA-138	COMMUNITY GARDEN	GA-8	COMMUNITY GARDENS PROGRAM (404) 546-6852
GA-139	HERITAGE PARK	GA-8	(770) 528-8810
GA-140	THOMPSON PARK	GA-8	COBB COUNTY P.A.R.K.S. (770) 819-3215
GA-141	HERITAGE PARK TRAIL	GA-8	(770) 528-8810
GA-142	ASKEW PARK	GA-8	CITY OF SMYRNA (678) 631-5394
GA-143	TOLLESON PARK	GA-8	CITY OF SMYRNA (770) 431-2844
GA-144	LAKE COURT PARK	GA-8	(770) 431-2842
GA-145	COBB COUNTY HURT ROAD PARK	GA-8	COBB COUNTY P.A.R.K.S. (770) 528-8810
GA-146	TRAMORE PARK	GA-8	COBB COUNTY P.A.R.K.S. (770) 528-8890
GA-147	LIONS PARK	GA-8	COBB COUNTY P.A.R.K.S. (770) 819-3231
GA-148	MT HARMONY MEMORIAL GARDENS	GA-8	(770) 948-3033
GA-149	TROLLEY LINE PARK	GA-9	COBB COUNTY P.A.R.K.S. (770) 528-8810
GA-150	PARK AT VININGS	GA-9	(770) 574-4313
GA-151	COBB COUNTY RECREATION	GA-9	(404) 696-6767
GA-152	CHATTAHOOCHEE TRAIL PARK	GA-9	CHATTAHOOCHEE RIVER NATIONAL RECREATION AREA (678) 538-1200
GA-153	RIVERSIDE PARK	GA-9	ROSWELL PARKS AND RECREATION (770) 641-3705
GA-154	WHITTIER MILLS PARK	GA-9	CITY OF ATLANTA URBAN DESIGN COMMISSION (404) 330-6200
GA-155	CHATTAHOOCHEE PARK	GA-9	CHATTAHOOCHEE RIVER NATIONAL RECREATION AREA (678) 538-1200

Colonial Pipeline Company
ENVIRONMENTALLY SENSITIVE AREAS

ID	Sensitive Area Name	Quadrangle Number	Contact/Phone Number
GA-156	NICKAJACK PARK	GA-8	COBB COUNTY P.A.R.K.S. (770) 528-8810
GA-157	RIVERLINE PARK	GA-8	(770) 431-2842
GA-158	ATLANTA INDUSTRIAL PARK	GA-9	--
GA-159	ENGLISH PARK	GA-9	CITY OF ATLANTA, OFFICE OF RECREATION (404) 505-3116
GA-160	LILLIAN COOPER SHEPHERD PARK	GA-9	(404) 817-6744
GA-161	COLLIER PARK	GA-8	CITY OF ATLANTA, OFFICE OF RECREATION (404) 505-3157
GA-162	CORETTA SCOTT KING ACADEMY	GA-9	ATLANTA PUBLIC SCHOOLS (404) 802-4962
GA-163	UTOY BOULDER PARK	BAIN-3	CITY OF ATLANTA OFFICE OF PARKS (404) 546-6813
GA-164	WILSON MILL PARK	GA-8	CITY OF ATLANTA OFFICE OF PARKS (404) 817-6744
GA-165	ADAMSVILLE TRIANGLE	GA-8	N/A = PHYSICAL FEATURE
GA-166	ADAMSVILLE GYM PARK	GA-9	CITY OF ATLANTA OFFICE OF PARKS (404) 505-3181
GA-167	DOLLAR MILL MEDIAN	BAIN-3	N/A = PHYSICAL FEATURE
GA-168	WILDWOOD LAKE	BAIN-3	N/A = PHYSICAL FEATURE
GA-169	UTOY PARK	BAIN-3	--
GA-170	NISKEY LAKE	BAIN-3	N/A = PHYSICAL FEATURE
GA-171	MELVIN DRIVE PARK	BAIN-3	(404) 817-6744
GA-172	CITY OF EAST POINT RESERVOIR	BAIN-3	CITY OF EAST POINT WATER AND SEWER (404) 761-2179
GA-173	TUCSON TRAIL PARK	BAIN-3	CITY OF ATLANTA OFFICE OF PARKS (404) 817-6742
GA-174	BEN HILL PARK	BAIN-3	(404) 346-5891
GA-175	DEERWOOD PARK	BAIN-3	CITY OF ATLANTA OFFICE OF PARKS (404) 817-6744
GA-176	STEPHANIE DRIVE PARK	BAIN-3	(404) 546-6813
GA-177	COWART LAKE	BAIN-3	N/A = PHYSICAL FEATURE
GA-178	GEORGIA SOCCER PARK	BAIN-3	(404) 992-4928
GA-179	WELCOME ALL PARK	BAIN-3	(404) 612-4058
GA-180	HARRINGTON PARK	HART-6	(404) 684-0543
GA-181	BRANNON MEMORIAL PARK	HART-6	CITY OF COLLEGE PARK RECREATION DEPARTMENT (404) 669-3767

Colonial Pipeline Company
ENVIRONMENTALLY SENSITIVE AREAS

ID	Sensitive Area Name	Quadrangle Number	Contact/Phone Number
GA-182	WORLD BOTANICAL GARDEN	HART-6	(678) 973-0611
GA-183	BRENNINGHAM PARK	HART-6	(404) 669-3776
GA-184	GORDON MORRIS MEMORIAL GOLF COURSE	HART-6	(404) 761-0731
GA-185	COLLEGE PARK GOLF COURSE	HART-6	(404) 761-0731
GA-186	BARRETT PARK	HART-6	CITY OF COLLEGE PARK (404) 669-3776
GA-187	JAMESTOWN PARK	HART-6	CITY OF COLLEGE PARK (404) 669-3767
GA-188	PETER PAN PARK	HART-6	CITY OF COLLEGE PARK (404) 669-3767
GA-189	BOYS AND GIRLS CLUB OF METRO ATLANTA	HART-6	(404) 527-7100
GA-190	EGAN PARK	HART-6	(800) 864-7275
GA-191	COFIELD PARK	HART-6	CITY OF HAPEVILLE, PARKS AND FACILITIES DIVISION (404) 669-2120
GA-192	WEST BOLLING PARK/TEACHING MUSEUM SOUTH	HART-6	FULTON COUNTY SCHOOLS (470) 254-8015
GA-193	WASHINGTON COMMUNITY PARK/ JESS LUCAS Y-TEEN PARK	HART-6	(404) 669-2120
GA-194	TOM E MORRIS SPORTS COMPLEX	HART-6	CITY OF HAPEVILLE, PARKS AND FACILITIES DIVISION (404) 669-2136
GA-195	CHATTAHOOCHEE RIVER	GA-9	N/A = PHYSICAL FEATURE
GA-196	NORTH FULTON GOLF COURSE	GA-9	(404) 255-0723
GA-197	CHASTAIN MEMORIAL PARK	GA-9	CITY OF ATLANTA PARKS AND RECREATION (404) 733-5012
GA-198	RIDGEVIEW PARK	GA-11	CITY OF SANDY SPRINGS (770) 730-5600
GA-199	YMCA SOCCER FIELDS/WINDSOR PARKWAY SOCCER COMPLEX	GA-11	METRO ATLANTA YMCA SOCCER 770-(423) 9622
GA-200	LYNNWOOD PARK	GA-11	BROOKHAVEN PARKS AND RECREATION (404) 637-0562
GA-201	SILVER LAKE	GA-11	N/A = PHYSICAL FEATURE
GA-202	BLACKBURN PARK	GA-11	BROOKHAVEN PARKS AND RECREATION (404) 637-0562
GA-203	KESWICK FOREST	GA-11	N/A = PHYSICAL FEATURE

Colonial Pipeline Company
ENVIRONMENTALLY SENSITIVE AREAS

ID	Sensitive Area Name	Quadrangle Number	Contact/Phone Number
GA-204	MURPHEY CANDLER PARK	GA-11	BROOKHAVEN PARKS AND RECREATION (404) 637-0562
GA-205	HUNTLEY HILLS PARK	GA-11	CITY OF CHAMBLEE (770) 986 5016
GA-206	BERNARD HALPERN PARK	GA-11	DORAVILLE PARKS AND RECREATION (770) 936-3850
GA-207	CHICOPEE PARK	GA-11	DORAVILLE PARKS AND RECREATION (770) 936-3850
GA-208	FLOWERS PARK	GA-11	DORAVILLE PARKS AND RECREATION (770) 936-3850
GA-209	HONEYSUCKLE PARK	GA-11	DORAVILLE PARKS AND RECREATION (770) 936-3850
GA-210	CHATTAHOOCHEE RIVER	GA-10	N/A = PHYSICAL FEATURE
GA-211	HERBERT GREENE	BAIN-3	CITY OF ATLANTA OFFICE OF PARKS (404) 546-6813
GA-212	ROSE GARDEN PARK	GA-10	CITY OF SMYRNA (770) 431-2842
GA-213	MOUNT PARAN AND NORTHSIDE PARK	GA-10	CITY OF ATLANTA (404) 546-6813
GA-214	DOGWOOD GOLF CLUB	GA-7	(770) 941-2202
GA-215	SWEETWATER PARK	GA-7	GEORGIA STATE PARK (770) 732-5871
GA-216	LEGIONS PARK	GA-7	CITY OF AUSTELL PARKS AND RECREATION (770) 944-4309
GA-217	GEORGE BEAVES PARK	GA-7	CITY OF AUSTELL PARKS AND RECREATION (770) 944-4309
GA-218	COLLAR PARK	GA-7	CITY OF AUSTELL PARKS AND RECREATION (770) 944-4309
GA-219	LOUISE SUGGS MEMORIAL PARK	GA-7	CITY OF AUSTELL PARKS AND RECREATION (770) 944-4309
GA-220	ATLANTA WEST CAMPGROUND	GA-8	(770) 948-7302
GA-221	SWEETWATER CREEK	GA-8	N/A = PHYSICAL FEATURE
GA-222	GEORGE H SPARKS RESERVOIR	GA-7	GEORGIA STATE PARK (770) 732-5871
GA-223	SWEETWATER CREEK STATE PARK	GA-7	GEORGIA STATE PARK (770) 732-5871
GA-224	CHATTAHOOCHEE RIVER	BAIN-3	N/A = PHYSICAL FEATURE

Colonial Pipeline Company
ENVIRONMENTALLY SENSITIVE AREAS

ID	Sensitive Area Name	Quadrangle Number	Contact/Phone Number
GA-225	WOLF CREEK GOLF COURSE	BAIN-3	(404) 344-1334
GA-226	LAKE FRANCES	BAIN-4	N/A = PHYSICAL FEATURE
GA-227	VALLEY LAKES	BAIN-4	N/A = PHYSICAL FEATURE
GA-228	CANINE CROSSING DOG PARK	BAIN-4	FULTON COUNTY (770) 306-3010
GA-229	FOREST LAWN MEMORIAL GARDENS	BAIN-4	(770) 964-7871
GA-230	SHANNON LAKE	BAIN-4	N/A = PHYSICAL FEATURE
GA-231	CLUSTER OF SMALL PONDS	BAIN-5	N/A = PHYSICAL FEATURE
GA-232	CLUSTER OF SMALL PONDS	BAIN-5	N/A = PHYSICAL FEATURE
GA-233	CLUSTER OF SMALL PONDS	BAIN-5	N/A = PHYSICAL FEATURE
GA-234	CLUSTER OF SMALL PONDS	BAIN-6	N/A = PHYSICAL FEATURE
GA-235	FUN JUNCTION USA	BAIN-6	FUN JUNCTION USA (770) 460-5862
GA-236	LINKS GOLF CLUB	BAIN-6	(770) 461-5100
GA-237	PANHANDLE PARK	BAIN-7	CLAYTON COUNTY PARKS AND RECREATION (770) 473-5730
GA-238	LAKE TWELVE OAKS	BAIN-7	N/A = PHYSICAL FEATURE
GA-239	LAKE TALMADGE	BAIN-7	N/A = PHYSICAL FEATURE
GA-240	CABIN CREEK GOLF COURSE	BAIN-9	(770) 227-9794
GA-241	PARKS LAKE	BAIN-9	N/A = PHYSICAL FEATURE
GA-242	CROUCH LAKE NUMBER TWO	BAIN-10	N/A = PHYSICAL FEATURE
GA-243	NORTH CRYSTAL LAKE	BAIN-10	N/A = PHYSICAL FEATURE
GA-244	BARNESVILLE RESERVOIR	BAIN-12	N/A = PHYSICAL FEATURE
GA-245	CHILDS POND	BAIN-12	N/A = PHYSICAL FEATURE
GA-246	FORSYTH GOLF COURSE	BAIN-13	(478) 994-5328
GA-247	MONROE COUNTY RECREATION DEPARTMENT	BAIN-13	(478) 994-7035
GA-248	EVERGREEN LAWN AND GARDEN	BAIN-15	(478) 992-8577
GA-249	LAMON LAKE	BAIN-15	N/A = PHYSICAL FEATURE
GA-250	LAKE WILDWOOD	BAIN-18	N/A = PHYSICAL FEATURE
GA-251	LAKE TOBESOFKEE RECREATION AREA	BAIN-18	(478) 474-8770
GA-252	CLAYSTONE PARK	BAIN-18	(478) 474-8770
GA-253	LAKE TOBESOFKEE	BAIN-18	(478) 474-8770
GA-254	FLINTROCK PARK	BAIN-18	--
GA-255	SIKES LAKE	BAIN-17	N/A = PHYSICAL FEATURE
GA-256	OAKVIEW GOLF COURSE	BAIN-17	(478) 785-1833
GA-257	TAYLORS POND	BAIN-21	N/A = PHYSICAL FEATURE
GA-258	SOUTH PEACH PARK	BAIN-21	(478) 825-3334
GA-259	MASSEE LANE GARDENS	BAIN-22	(478) 967-2358
GA-260	FLINT RIVER	BAIN-24	N/A = PHYSICAL FEATURE
GA-261	PIONEER FARM	BAIN-26	(229) 924-2558
GA-262	LAKE COLLINS	BAIN-28	N/A = PHYSICAL FEATURE

Colonial Pipeline Company
ENVIRONMENTALLY SENSITIVE AREAS

ID	Sensitive Area Name	Quadrangle Number	Contact/Phone Number
GA-263	WELLS MILLPOND	BAIN-29	N/A = PHYSICAL FEATURE
GA-264	KINCHAFOONEE CREEK	BAIN-32	N/A = PHYSICAL FEATURE
GA-265	JAMES POND	BAIN-32	N/A = PHYSICAL FEATURE
GA-266	ROCK HOLE CREEK	BAIN-32	N/A = PHYSICAL FEATURE
GA-267	GRAND ISLAND	BAIN-32	(229) 878-0071
GA-268	LANSING PARK	BAIN-33	ALBANY PARKS AND RECREATION (912) 430-5222
GA-269	HAWTHORN PARK	BAIN-33	ALBANY PARKS AND RECREATION (912) 430-5222
GA-270	SHERWOOD PARK	BAIN-33	ALBANY PARKS AND RECREATION (912) 430-5222
GA-271	WEBB PARK	BAIN-33	ALBANY PARKS AND RECREATION (912) 430-5222
GA-272	WALDEN PARK	BAIN-33	ALBANY PARKS AND RECREATION (912) 430-5222
GA-273	EUGEMAR PARK	BAIN-33	ALBANY PARKS AND RECREATION (912) 430-5222
GA-274	BALDWIN PARK	BAIN-33	ALBANY PARKS AND RECREATION (912) 430-5222
GA-275	SHADOWLAWN PARK	BAIN-33	ALBANY PARKS AND RECREATION (912) 430-5222
GA-276	DELLWOOD PARK	BAIN-33	ALBANY PARKS AND RECREATION (912) 430-5222
GA-277	AVALON PARK	BAIN-33	ALBANY PARKS AND RECREATION (912) 430-5222
GA-278	WEST TOWN PARK	BAIN-33	ALBANY PARKS AND RECREATION (912) 430-5222
GA-279	WADDELL PARK	BAIN-33	ALBANY PARKS AND RECREATION (912) 430-5222
GA-280	GORDON SPORTS COMPLEX	BAIN-33	(229) 430-5254
GA-281	EVERGREEN PARK	BAIN-33	ALBANY PARKS AND RECREATION (912) 430-5222
GA-282	CLUSTER OF SMALL PONDS	BAIN-35	N/A = PHYSICAL FEATURE
GA-283	CLUSTER OF SMALL PONDS	BAIN-35	N/A = PHYSICAL FEATURE

ID	Sensitive Area Name	Quadrangle Number	Contact/Phone Number
GA-284	FLINT RIVER	BAIN-36	N/A = PHYSICAL FEATURE
GA-285	ROCKY BEND FLINT RIVER RETREAT	BAIN-36	(229) 734-4109
GA-286	RIO PIEDRA PLANTATION	BAIN-36	(229) 336-1677
GA-287	PINES GOLF COURSE	BAIN-40	(229) 246-8545
GA-288	FOURMILE POND	BAIN-41	N/A = PHYSICAL FEATURE
GA-289	BIG SLOUGH (TRIBUTARY OF FLINT RIVER)	BAIN-41	N/A = PHYSICAL FEATURE
GA-290	BATEAU POND	BAIN-41	N/A = PHYSICAL FEATURE
GA-291	SOUTH WINDS PLANTATIONS	BAIN-41	(229) 246-8277
GA-292	TWIN LAKES	BAIN-41	N/A = PHYSICAL FEATURE

5. Sensitive Areas along Rivers

The pipeline crosses four major rivers within Georgia: Chattahoochee River, Savannah River, Flint River, and Oconee River.

Along the Chattahoochee River, the Chattahoochee River National Recreation Area (which is located along the river corridor for the metropolitan area of Atlanta), four wastewater treatment facilities and one water intake facility, and two wildlife management areas (Lakeside and Dixie Creek) are considered sensitive to oil spills and should be the first priority for protection and cleanup measures in the event of a spill. A listing of the sensitive areas along the Chattahoochee River are provided in the table below. Additional details, including geospatial information, can also be found in Appendix B.

Georgia Sensitive Areas (Chattahoochee River)

ID	Sensitive Area Name	Quadrangle Number	Contact/Phone Number
GA-CR-01	MORGAN FALLS RIVER PARK/SANDY SPRINGS DOG PARK	GA-10	CITY OF SANDY SPRINGS (770) 730-5600
GA-CR-02	CHATTAHOOCHEE RIVER NATIONAL RECREATION AREA (CRNRA) - JOHNSON'S FERRY (HIKING AND BOAT RAMP)	GA-10	UNITED STATES NATIONAL PARK SERVICE (678) 538-1200
GA-CR-03	CRNRA	GA-10	UNITED STATES NATIONAL PARK SERVICE (678) 538-1200
GA-CR-04	CRNRA - POWERS ISLAND	GA-10	UNITED STATES NATIONAL PARK SERVICE (678) 538-1200
GA-CR-05	CRNRA - COCHRAN SHOALS	GA-10	UNITED STATES NATIONAL PARK SERVICE (678) 538-1200
GA-CR-06	RIVER PARK	GA-10	MOST LIKELY PART OF CRNRA

Colonial Pipeline Company
ENVIRONMENTALLY SENSITIVE AREAS

ID	Sensitive Area Name	Quadrangle Number	Contact/Phone Number
GA-CR-07	WHITEWATER CREEK TRAILS	GA-10	UNITED STATES NATIONAL PARK SERVICE (678) 538-1200
GA-CR-08	CRNRA - PACES MILL	GA-9	UNITED STATES NATIONAL PARK SERVICE (678) 538-1200
GA-CR-09	RL SUTTON WATER RECLAMATION FACILITY	GA-9	COBB COUNTY WATER SYSTEM (404) 609-6050
GA-CR-10	ATLANTA CLAYTON WATER RECLAMATION CENTER (CWRC) / CHATTACHOOCHEE WATER TREATMENT PLANT (CWTP)	GA-9	CITY OF ATLANTA DEPARTMENT OF WATERSHED MANAGEMENT (404) 351-6120 (CLAYTON) (404) 546-0311 (CWTP)
GA-CR-11	POTENTIAL WATER AND/OR WASTEWATER TREATMENT FACILITY	GA-9	MOST LIKELY PART OF CWRC OR CWTP
GA-CR-12	CRNRA	GA-9	(UNITED STATES NATIONAL PARK SERVICE 678) 538-1200
GA-CR-13	WHITTIER MILLS PARK	GA-9	CITY OF ATLANTA, OFFICE OF PARKS (404) 564-6813
GA-CR-14	PIPELINE CROSSING	GA-9	N/A = PHYSICAL FEATURE
GA-CR-15	PIPELINE CROSSING	GA-9	N/A = PHYSICAL FEATURE
GA-CR-16	PIPELINE CROSSING	GA-10	N/A = PHYSICAL FEATURE
GA-CR-17	PIPELINE CROSSING	GA-9	N/A = PHYSICAL FEATURE
GA-CR-18	PIPELINE CROSSING	GA-9	N/A = PHYSICAL FEATURE
GA-CR-19	SOUTH COBB WATER RECLAMATION FACILITY - AUSTELL	GA-8	COBB COUNTY WATER SYSTEM (770) 819-3204
GA-CR-20	CNP-PALISADES	GA-10	UNITED STATES NATIONAL PARK SERVICE (678) 538-1200
GA-CR-21	SWEETWATER CREEK CONFLUENCE	BAIN-3	N/A = PHYSICAL FEATURE
GA-CR-22	LOCK/DAM ON DOG RIVER ROAD	BAIN-3B	N/A = PHYSICAL FEATURE
GA-CR-23	CHATTAHOOCHEE BEND STATE PARK	GA-5C	GEORGIA STATE PARKS (770) 254-7271
GA-CR-24	CHATTAHOOCHEE BEND STATE PARK - BOAT RAMP	GA-4C	GEORGIA STATE PARKS (770) 254-7271
GA-CR-25	BUSH HEAD SHOALS STATE PARK	GA-4D	GEORGIA STATE PARKS (770) 254-7271
GA-CR-26	BUSH CREEK RECREATION AREA	N/A	HEARD COUNTY DEPARTMENT OF RECREATION (706) 675-2267

Colonial Pipeline Company
ENVIRONMENTALLY SENSITIVE AREAS

ID	Sensitive Area Name	Quadrangle Number	Contact/Phone Number
GA-CR-27	SNAKE CREEK RECREATION AREA	N/A	USACOE (706) 645-2937
GA-CR-28	NEW RIVER RECREATION AREA	N/A	USACOE (706) 645-2937
GA-CR-29	CARTER CREEK RECREATIONAL AREA	N/A	USACOE (706) 645-2937
GA-CR-30	GEORGIA DNR WMA	N/A	(800) 241-4113; GEORGIA DNR
GA-CR-31	CHATTAHOOCHEE PARK	N/A	UNITED STATES NATIONAL PARK SERVICE (678) 538-1200
GA-CR-32	RINGER RECREATION AREA	N/A	USACOE (706) 645-2937
GA-CR-33	CROSSROAD RECREATION AREA	N/A	USACOE (706) 645-2937
GA-CR-34	BOAT RAMP	N/A	--
GA-CR-35	GEORGIA RECREATION AREA	N/A	USACOE (706) 645-2937
GA-CR-36	LIBERTY HILL RECREATION AREA	N/A	USACOE (706) 645-2937
GA-CR-37	YELLOWJACKET CREEK RECREATION AREA	N/A	USACOE (706) 645-2937
GA-CR-38	LAKESIDE GEORGIA DNR WMA	N/A	GEORGIA DNR (800) 241-4113
GA-CR-39	DIXIE CREEK DNR WMA	N/A	GEORGIA DNR (800) 241-4113
GA-CR-40	MCGEE RECREATION AREA	N/A	USACOE (706) 645-2937
GA-CR-41	MARINA - SEMINOLE ROAD	N/A	--
GA-CR-42	AUTRY PARK	N/A	--
GA-CR-43	WHITEWATER ACCESS	N/A	USACOE (706) 645-2937
GA-CR-44	CHATTACHOOCHEE BOY SCOUT RESERVATION	N/A	--
GA-CR-45	PYNE ROAD PARK	N/A	--
GA-CR-46	INDIAN SPRINGS GROUP CAMP	N/A	GEORGIA STATE PARKS (770) 504-2277
GA-CR-47	HORACE KING ACCESS	N/A	USACOE (706) 645-2937
GA-CR-48	WHITETAIL RIDGE PARK	N/A	USACOE (706) 884-8972
GA-CR-49	WHITETAIL RIDGE CAMPGROUND	N/A	USACOE (706) 884-8972
GA-CR-50	HOLIDAY PARK	N/A	USACOE (706) 884-6818
GA-CR-51	GLASS BRIDGE RECREATION AREA	N/A	USACOE (706) 645-2937
GA-CR-52	EARL COOK RECREATION AREA AND DAY USE PARK	N/A	USACOE (706) 645-2937
GA-CR-53	BIRD CREEK RECREATION AREA	N/A	USACOE (706) 645-2937
GA-CR-54	POTTS ROAD RECREATION AREA	N/A	USACOE (706) 645-2937

ID	Sensitive Area Name	Quadrangle Number	Contact/Phone Number
GA-CR-55	MAPLE CREEK PARK	N/A	--
GA-CR-56	LONG CANE RECREATION AREA	N/A	USACOE (706) 645-2937
GA-CR-57	R SHAEFER HEARD PARK	N/A	(706) 645-2404
GA-CR-58	OAKLAND RECREATION PARK	N/A	--
GA-CR-59	VEASEY CREEK RECREATION AREA	N/A	USACOE (706) 645-2937
GA-CR-60	ROCKY POINT RECREATION AREA	N/A	USACOE (706) 645-2937
GA-CR-61	AMITY PARK	N/A	USACOE (706) 645-2937
GA-CR-62	WEST LAKE RECREATION AREA	N/A	USACOE (706) 645-2937
GA-CR-63	BURNT VILLAGE PARK	N/A	--
GA-CR-64	SOUTHERN HARBOR RESORT MARINA	N/A	(334) 644-3881; SOUTHERN HARBOR MARINA
GA-CR-65	WEST OVER LOOK AREA	N/A	USACOE (706) 645-2937
GA-CR-66	HARDLEY CREEK RECREATION AREA AND DAM	N/A	USACOE (706) 645-2937
GA-CR-67	WEHALKEE SERVICE AREA (FUTURE)	N/A	--
GA-CR-68	MCINTOSH RESERVE PARK	GA-5C	CARROLL COUNTY PARKS AND FACILITIES (770) 830-5879
GA-CR-69	CHATTAHOOCHEE RAW WATER PUMPING FACILITY	GA-9	CITY OF ATLANTA DEPARTMENT OF WATERSHED MANAGEMENT (404) 546-0311
N/A = Not applicable			

Along the Savannah River, Knox Scout Reservation and Wildlife Area, four state parks (Richard B. Russell, Bobby Brown, Baker Creek, and Elijah Clark), three water treatment facilities (North Augusta Water Treatment Plant, Aiken County Water Treatment Facility, and one unidentified potential water treatment facility); and four archaeological sites are considered sensitive to oil spills and should be the first priority for protection and cleanup measures in the event of a spill. A listing of the sensitive areas along the Savannah River are provided in the table below. Additional details, including geospatial information, can also be found in Appendix B.

Georgia Sensitive Areas (Savannah River)

ID	Sensitive Area Name	Quadrangle Number	Contact/Phone Number
GA-SR-01	UNNAMED POND	GA-26	N/A = PHYSICAL FEATURE
GA-SR-02	UNNAMED BOAT RAMP	GA-26	--
GA-SR-03	UNNAMED BOAT RAMP	GA-26	--
GA-SR-04	UNNAMED BOAT RAMP	SC-1A	--

Colonial Pipeline Company
ENVIRONMENTALLY SENSITIVE AREAS

ID	Sensitive Area Name	Quadrangle Number	Contact/Phone Number
GA-SR-05	RICHARD B. RUSSELL STATE PARK	GA-26A	(706) 213-2045
GA-SR-06	ARROWHEAD POINTE GOLF COURSE	SC-1B	(706) 283-6000
GA-SR-07	UNNAMED BOAT RAMP / PARK	SC-1B	--
GA-SR-08	UNNAMED BOAT RAMP	SC-1B	--
GA-SR-09	ALLEN CREEK BOAT RAMP	SC-1B	--
GA-SR-10	UNNAMED PARK	SC-1B	--
GA-SR-11	CALHOUN FALLS STATE RECREATION AREA	SC-4C	(864) 447-8267
GA-SR-12	UNNAMED MARINA / BOAT RAMP	SC-4C	--
GA-SR-13	UNNAMED BOAT RAMP	SC-4C	--
GA-SR-14	UNNAMED BOAT RAMP	SC-4C	--
GA-SR-15	UNNAMED BOAT RAMP	GA-26A	--
GA-SR-16	LAKE RUSSELL BOAT RAMP	SC-4C	--
GA-SR-17	BOBBY BROWN STATE PARK	N/A	(706) 359-3458
GA-SR-18	MT. CARMEL PARK NORTH	N/A	--
GA-SR-19	PATTERSON BRANCH PICNIC AREA / PARK	N/A	--
GA-SR-20	LEROYS FERRY RECREATION AREA	AUG-6B	USACOE (877) 444-6777
GA-SR-21	FISHING CREEK PUBLIC USE AREA	N/A	--
GA-SR-22	HICKORY KNOB STATE RESORT PARK AND GOLF	AUG-6B	(864) 391-2450
GA-SR-23	SAVANNAH LAKES VILLAGE GOLF CLUB	AUG-6B	(864) 391-4115
GA-SR-24	BAKER CREEK STATE PARK	AUG-6B	(864) 443-2457
GA-SR-25	ELIJAH CLARK STATE PARK	N/A	(706) 359-3458
GA-SR-26	UNNAMED BOAT RAMP	N/A	--
GA-SR-27	SAVANNAH LAKES MARINA	N/A	(864) 391-3477
GA-SR-28	CHAMBERLAIN FERRY PICNIC AREA / PARK	AUG-6C	--
GA-SR-29	DORN FISH FACILITY	AUG-6C	--
GA-SR-30	UNNAMED BOAT RAMP	AUG-6C	--
GA-SR-31	MONTICELLO GOLF COURSE	AUG-6A	--
GA-SR-32	BUFFALO CREEK RECREATION AREA	AUG-6B	--
GA-SR-33	CAMPGROUND	AUG-6C	--
GA-SR-34	POINTE PLEASANT PARK	AUG-6C	--
GA-SR-35	CAMP DANIEL MARSHALL	AUG-6C	(706) 359-7292
GA-SR-36	KNOX SCOUT RESERVATION / WILDLIFE AREA	AUG-6C	(706) 359-5422
GA-SR-37	PARKSVILLE RECREATION AREA	AUG-9	USACOE (800) 533-3478

Colonial Pipeline Company
ENVIRONMENTALLY SENSITIVE AREAS

ID	Sensitive Area Name	Quadrangle Number	Contact/Phone Number
GA-SR-38	PARKSVILLE CAMPGROUND	AUG-9	USACOE (800) 533-3478
GA-SR-39	HAMILTON BRANCH STATE PARK	AUG-9	(864) 333-2223
GA-SR-40	CAMPGROUND	AUG-9A	--
GA-SR-41	CAMPGROUND	AUG-9A	--
GA-SR-42	CAMPGROUND	AUG-9A	--
GA-SR-43	WILDWOOD PARK / DISK GOLF / CAMPGROUNDS)	N/A	(706) 541-0586
GA-SR-44	FORT GORDON RECREATION AREA	N/A	--
GA-SR-45	MISTLETOE STATE PARK	N/A	GEORGIA STATE PARKS (706) 541-0321
GA-SR-46	HOLIDAY PARK	N/A	--
GA-SR-47	AMITY RECREATION AREA / BOAT RAMP	N/A	USACOE (706) 359-1171
GA-SR-48	BOAT RAMP	N/A	--
GA-SR-49	CHEROKEE BOAT RAMP	N/A	--
GA-SR-50	BOAT RAMP	N/A	--
GA-SR-51	CLARKE'S HILL LAKE BOAT RAMP	AUG-6C	--
GA-SR-52	ROCKY BRANCH GOLF COURSE	AUG-6C	(706) 359-4303
GA-SR-53	LAKE SPRINGS RECREATION AREA	AUG-9A	(706) 541-0150
GA-SR-54	TRADE WINDS MARINA	AUG-9A	(706) 541-1380
GA-SR-55	RIVER DAM	AUG-9A	N/A = PHYSICAL FEATURE
GA-SR-56	BELOW DAM RECREATION AREA	AUG-9A	(864) 333-1100
GA-SR-57	BOAT RAMP	AUG-9A	--
GA-SR-58	BEACH / PARK	AUG-9A	--
GA-SR-59	BOAT RAMP	AUG-9A	--
GA-SR-60	AUGUSTA SAILING CLUB / MARINA	AUG-9A	(706) 309-9463
GA-SR-61	WEST DAM RECREATION AREA	AUG-9A	USACOE (800) 533-3478
GA-SR-62	HAMILTON BRANCH CAMPGROUND	AUG-9A	SOUTH CAROLINA PARKS (864) 333-2223
GA-SR-63	LAKE SPRINGS CAMPGROUND	AUG-9A	(706) 541-0150
GA-SR-64	CLAY HILL CAMPGROUND	N/A	(706) 359-7495
GA-SR-65	RAYSVILLE MARINA	N/A	(706) 595-5582
GA-SR-66	RAYSVILLE CAMPGROUND	N/A	(706) 595-6759
GA-SR-67	CHAMPIONS RETREAT GOLF COURSE	N/A	(706) 854-6960
GA-SR-68	FURYS FERRY BOAT RAMP	AUG-13A	--
GA-SR-69	MIMS PT. INDIAN VILLAGE ARCHEOLOGICAL SITE	AUG-13A	--

Colonial Pipeline Company
ENVIRONMENTALLY SENSITIVE AREAS

ID	Sensitive Area Name	Quadrangle Number	Contact/Phone Number
GA-SR-70	STEVENS CREEK PUBLIC PARK / BOAT RAMP	AUG-13A	--
GA-SR-71	HAMMONDS FERRY BOAT RAMP	AUG-14	--
GA-SR-72	RIVERWALK MARINA / BOAT RAMP	AUG-14	(706) 722-1388
GA-SR-73	NORTH AUGUSTA / RIVERVIEW PARKS ACTIVITY CENTER	AUG-14	(803) 441-4311
GA-SR-74	NORTH AUGUSTA WATER TREATMENT PLANT	AUG-14	CITY OF NORTH AUGUSTA (803) 279-2121 OR (803) 441-4202
GA-SR-75	DISC GOLF COURSE	AUG-14	--
GA-SR-76	EISENHOWER PARK	AUG-13A	(706) 821-2800
GA-SR-77	BOECKH PARK/ NORTH AUGUST GREENWAY	AUG-14	NORTH AUGUSTA DEPARTMENT OF PARKS AND RECREATION (803) 441-4300
GA-SR-78	THE RIVER GOLF CLUB	AUG-14	--
GA-SR-79	BRICK POND PARK	AUG-14	--
GA-SR-80	RIVERWALK AUGUSTA PARK	AUG-14	--
GA-SR-81	AIKEN COUNTY PUBLIC SERVICES AUTHORITY (POSSIBLE WATER TREATMENT FACILITY)	AUG-14	(803) 278-1911
GA-SR-82	PREHISTORIC INDIAN RIVERSTONE FISH TRAPS	AUG-13A	--
GA-SR-83	SAVANNAH RIVER BLUFFS HERITAGE PRESERVE	AUG-13A	SOUTH CAROLINA DEPARTMENT OF NATURAL RESOURCES HERITAGE TRUST PROGRAM (803) 734-3886
GA-SR-84	STALLING 4300 YEAR-OLD INDIAN VILLAGE	AUG-13A	--
GA-SR-85	SAVANNAH RIVER DAM / PAVILION PARK / AUGUSTA CANAL WALKING TRAIL	AUG-13A	--
GA-SR-86	RECREATIONAL COMPLEX	AUG-14	--
GA-SR-87	POSSIBLE WASTEWATER TREATMENT FACILITY	AUG-14	--
GA-SR-88	MARINA (MARINA DRIVE)	GA-26C	--
GA-SR-89	RUSSELL DAM	SC-4C	N/A = PHYSICAL FEATURE
GA-SR-90	STROM THURMOND RESERVOIR	N/A	N/A = PHYSICAL FEATURE
GA-SR-91	2ND PIPELINE CROSSING	AUG-14	N/A = PHYSICAL FEATURE
GA-SR-92	SAVANNAH LOCK AND DAM / J. B. MESSERLY WASTEWATER TREATMENT PLANT	N/A	AUGUSTA UTILITIES (WASTEWATER TREATMENT) (706) 312-4154

ID	Sensitive Area Name	Quadrangle Number	Contact/Phone Number
	(APPROXIMATELY 2 MILES NORTHWEST)		
GA-SR-93	BURTON'S FERRY PUBLIC BOAT RAMP	N/A	--
GA-SR-94	JOHNSON'S LANDING	N/A	--
GA-SR-95	MCBEAN CREEK CONFLUENCE	N/A	N/A = PHYSICAL FEATURE
GA-SR-96	JACKSON BOAT RAMP	N/A	--
GA-SR-97	PIPELINE CROSSING	GA-26	N/A = PHYSICAL FEATURE
N/A = Not applicable			
Note: GA-SR-60 to GA-SR-80 are unlikely to be impacted in the event of a worse-case scenario oil spill due to the location within or downgradient of a large lake/reservoir system (J. Strom Thurmond Reservoir/Clarks Hill Lake however, these locations were included as a conservative measure.			

Along the Flint River, the Silver Lake WMA is considered sensitive to oil spills and should be the first priority for protection and cleanup measures in the event of a spill. A listing of the sensitive areas along the Flint River are provided in the table below. Additional details, including geospatial information, can also be found in Appendix B.

Georgia Sensitive Areas (Flint River)

ID	Sensitive Area Name	Quadrangle Number	Contact/Phone Number
GA-FR-01	ROCKY BEND FLINT RIVER RETREAT	BAIN-36	ROCK BEND FLINT RIVER RETREAT (229) 343-2767
GA-FR-02	ICHAWAYNOCHAWAY CREEK CONFLUENCE	BAIN-38	N/A = PHYSICAL FEATURE
GA-FR-03	BOAT LANDING	BAIN-39A	--
GA-FR-04	BIG SLOUGH CONFUENCE	BAIN-41	N/A = PHYSICAL FEATURE
GA-FR-05	EARLE MAY PARK AND BAINBRIDGE BOAT BASIN PARK	BAIN-41	CITY OF BAINBRIDGE PARKS (229) 248-2000
GA-FR-06	BAINBRIDGE MARINA	BAIN-41	BAINBRIDGE MARINA (229) 246-6336
GA-FR-07	CHENEY GRIFFIN PARK	BAIN-41	CITY OF BAINBRIDGE PARKS (229) 515-0022
GA-FR-08	SILVER LAKE WMA	BAIN-41B	GEORGIA DNR (229) 430-4254
GA-FR-09	ENTRANCE INTO LAKE SEMINOLE	BAIN-41B	N/A = PHYSICAL FEATURE
GA-FR-10	CHASON PARK	BAIN-41	CITY OF BAINBRIDGE PARK (229) 416-4007
GA-FR-11	FLINT RIVER RV PARK	BAIN-41	FLINT RIVER RV PARK (229) 246-5802

Along the Oconee River, two water treatment facilities (Middle Oconee and ACC North Oconee), the State of Georgia Botanical Gardens, and the Oconee National Forest are considered sensitive to oil spills and should be the first priority for protection and cleanup measures in the event of a spill. A listing of the sensitive areas along the Oconee River are provided in the table below. Additional details, including geospatial information, can also be found in Appendix B.

Georgia Sensitive Areas (Oconee River)

ID	Sensitive Area Name	Quadrangle Number	Contact/Phone Number
GA-OR-01	BEN BURTON PARK	GA-18	--
GA-OR-02	MIDDLE OCONEE WATER TREATMENT PLANT	GA-18	ATHENS-CLARKE COUNTY WATER RECLAMATION FACILITIES (706) 613-3486
GA-OR-03	STATE BOTANICAL GARDENS OF GEORGIA	GA-18	(706) 542-1244
GA-OR-04	MIDDLE OCONEE RAILROAD CROSSING	GA-20B	N/A = PHYSICAL FEATURE
GA-OR-05	SANDY CREEK NATURE CENTER	GA-18	(706) 613-3615
GA-OR-06	ATHENS-NORTH OCONEE RIVER GREENWAY	GA-18	(706) 613-3801
GA-OR-07	NORTH OCONEE RIVER GREENWAY	GA-18	(706) 613-3801
GA-OR-08	NORTH OCONEE RIVER PARK	GA-20A	--
GA-OR-09	DUDLEY PARK	GA-20A	(706) 613-3801
GA-OR-10	ACC NORTH OCONEE WATER TREATMENT PLANT	GA-20A	ATHENS-CLARKE COUNTY WATER RECLAMATION FACILITIES (706) 613-3486
GA-OR-11	BARNETT SHOALS ROAD DAM	GA-20B	--
GA-OR-12	OCONEE NATIONAL FOREST	GA-20B	(770) 297-3000 OR (770) 536-0541
GA-OR-13	OCONEE RIVER CAMPGROUND AND BOAT RAMP	GA-20C	--
GA-OR-14	SCULL SHOALS EXPERIMENTAL FOREST	GA-20C	--
GA-OR-15	FISHING CREEK AND WETLANDS AREAS	GA-20C	--
GA-OR-16	DYAR'S PASTURE RECREATION AREA	GA-20C	UNITED STATES FOREST SERVICE

It should be noted that, although the Chattahoochee, Savannah, Flint, and Oconee Rivers are the only major rivers that the pipeline crosses, there are several other smaller rivers, creeks and ponded waters that are considered environmentally sensitive as well. Those rivers and creeks above a base flow of 10 cms as well as significant ponded waters (i.e., lakes, ponds, and reservoirs) are listed/highlighted in the above tables.

6. Threatened and Endangered Species

Colonial Pipeline Company
ENVIRONMENTALLY SENSITIVE AREAS

A summary of threatened and endangered species along the pipeline corridor in the inland areas of Georgia and within approximately 75 miles downgradient of where the pipeline crosses the Chattahoochee, Savannah, Flint, and Oconee Rivers is provided in the table below. Specific information on these threatened and endangered species as well as migratory birds and critical habitats in the area are provided in Appendix A.

Threatened and Endangered Species (Georgia)

	Inland Georgia	Chattahoochee River	Savannah River	Flint River	Oconee River
Threatened and Endangered Species					
Overall	54	14	26	16	3
Amphibians	1	0	2	2	0
Birds	2	1	4	2	0
Clams	15	5	1	5	0
Conifers and Cycads	1	0	0	1	0
Ferns and Allies	1	1	1	0	1
Fish	8	0	2	0	0
Flowering Plants	19	4	9	4	2
Mammals	3	3	2	0	0
Reptiles	3	0	5	2	0
Snails	1	0	0	0	0
Migratory Birds	33	20	37	30	16

Colonial Pipeline Company
ENVIRONMENTALLY SENSITIVE AREAS

Alabama

1. Description

In Alabama, the pipeline traverses predominantly mixed forest and farmland with a low human population density, with the exception of the metropolitan area of Birmingham. The pipeline traverses three major rivers within Alabama (the Cahaba River, Tombigbee River, and the Black Warrior River), as well as smaller rivers and creeks. Several lakes and waterways are also located within the one-mile corridor of the pipeline.

2. Water Intakes

Oil may become entrained in water intake structures, causing extensive and expensive damage, and possible harm if the material is flammable or explosive. All precautions should be taken to prevent such materials from entering water intakes in the event of a spill in the vicinity of a water intake in which case the point of contact should be notified immediately. Water intake locations are presented in Section 09.06.00 of the plan.

3. Access

The environmentally sensitive inland areas are generally accessible by vehicle or on foot. The sensitive areas along the rivers (i.e., within approximately 75 miles downgradient from the Cahaba River, Tombigbee River, and the Black Warrior River crossings) are generally accessible by boat and vehicle.

4. Sensitive Inland Areas

Within the Alabama inland areas, the swamps (Boligee Swamp and Ruffin Swamp), Yellowleaf Game Reserve, and Moundville Archaeological Park as well as several lakes and rivers are environmentally sensitive and should be a priority for protection and cleanup measures in the event of a spill. A listing of the sensitive inland areas in Alabama are provided in the table below. Additional details, including geospatial information, can also be found in Appendix B.

Alabama Sensitive Areas (Inland Areas)

ID	Sensitive Area Name	Quadrangle Number	Contact/Phone Number
AL-01	SUCARNOOTCHEE RIVER	AL-2	N/A = PHYSICAL FEATURE
AL-02	TURKEY CREEK	AL-4	N/A = PHYSICAL FEATURE
AL-03	FACTORY CREEK(S)	AL-5	N/A = PHYSICAL FEATURE
AL-04	TOMBIGBEE RIVER	AL-5	N/A = PHYSICAL FEATURE
AL-05	BOLIGEE CREEK SWAMP	AL-6	N/A = PHYSICAL FEATURE
AL-06	CANAL DITCH	AL-7	N/A = PHYSICAL FEATURE
AL-07	CYPRESS CUTOFF LAKE	AL-10	N/A = PHYSICAL FEATURE
AL-08	WHITES ISLAND (BLACK WARRIOR RIVER)	AL-10	N/A = PHYSICAL FEATURE
AL-09	LITTLE KEATON LAKE	AL-10	N/A = PHYSICAL FEATURE
AL-10	UNNAMED CREEK OR RIVER	AL-10	N/A = PHYSICAL FEATURE

Colonial Pipeline Company
ENVIRONMENTALLY SENSITIVE AREAS

ID	Sensitive Area Name	Quadrangle Number	Contact/Phone Number
AL-11	MOUNDVILLE ARCHEOLOGICAL PARK	AL-10	(205) 371-2234
AL-12	MOUNDVILLE BALL PARK	AL-11	(205) 371-2641
AL-13	MOUNDVILLE PUBLIC AIRSTRIP	AL-10	(205) 371-2641
AL-14	TALLADEGA NATIONAL FOREST EASTERN BLOCK / NEARBY CAMPGROUNDS	AL-13	(205) 926-9765
AL-15	CLIFTON BRANCH (LAKE)	AL-16	N/A = PHYSICAL FEATURE
AL-16	CAHABA RIVER	AL-18	N/A = PHYSICAL FEATURE
AL-17	RUFFIN SWAMP	AL-20	N/A = PHYSICAL FEATURE
AL-18	PENHALE PARK	AL-20	HELENA PARKS & RECREATION (205) 620-2877
AL-19	CADDELL LAKE	AL-20	N/A = PHYSICAL FEATURE
AL-20	WYATT LAKE	AL-20	N/A = PHYSICAL FEATURE
AL-21	HOLTZCLAW LAKE	AL-20	N/A = PHYSICAL FEATURE
AL-22	JOE TUCKER PARK	AL-20	HELENA PARKS & RECREATION (205) 620-2877
AL-23	WILLIAMS LAKE	AL-20	N/A = PHYSICAL FEATURE
AL-24	BUCK LAKE	AL-21	N/A = PHYSICAL FEATURE
AL-25	BIRMINGHAM SOUTH CAMPGROUND	AL-20	(205) 664-8832
AL-26	COKER PARK	AL-20	(205) 620-6426
AL-27	YELLOWLEAF GAME PRESERVE	AL-21	--
AL-28	INDIAN HILLS GOLF COURSE	AL-22	(205) 349-1500
AL-29	LAKE NEXT TO INDIAN HILLS GOLF COURSE	AL-22	INDIAN HILLS GOLF COURSE (205) 349-1500
AL-30	PURDY LAKE	AL-22	N/A = PHYSICAL FEATURE
AL-31	DEERWOOD LAKE	AL-23	N/A = PHYSICAL FEATURE
AL-32	COOSA RIVER	AL-24	N/A = PHYSICAL FEATURE
AL-33	CHOCCOLOCCO CREEK	AL-29	N/A = PHYSICAL FEATURE
AL-34	GRANTS POND	AL-29	N/A = PHYSICAL FEATURE
AL-35	CHOCCOLOCCO CREEK	AL-29	N/A = PHYSICAL FEATURE
AL-36	ANNISTON METROPOLITAN AIRPORT	AL-30	(256) 831-4410
AL-37	OXFORD LAKE	AL-30	N/A = PHYSICAL FEATURE
AL-38	RECREATIONAL COMPLEX	AL-30	OXFORD PARKS & RECREATION (256) 831-2660
AL-39	OXFORD CIVIC CENTER	AL-30	OXFORD PARKS & RECREATION (256) 831-2660
AL-40	BLUE POND	AL-30	N/A = PHYSICAL FEATURE

Colonial Pipeline Company
ENVIRONMENTALLY SENSITIVE AREAS

ID	Sensitive Area Name	Quadrangle Number	Contact/Phone Number
AL-41	RECREATION COMPLEX / BALL PARKS	AL-30	OXFORD PARKS & RECREATION (256) 831-2660
AL-42	ROBERTSON'S LAKE	AL-30	N/A = PHYSICAL FEATURE
AL-43	CEDAR RIDGE GOLF COURSE	AL-30	(256) 831-7222
AL-44	RIVERCHASE GOLF COURSE	AL-20	(205) 988-4140
AL-45	LAKE TRACE	AL-20	N/A = PHYSICAL FEATURE
AL-46	HOOVER METROPOLITAN STADIUM (FORMERLY KNOWN AS REGIONS PARK)	AL-20	(205) 458-8000
AL-47	SCOUT LAKE	AL-20	N/A = PHYSICAL FEATURE
AL-48	B MOUNTAIN LAKE	AL-20	N/A = PHYSICAL FEATURE
AL-49	UNNAMED LAKE/POND	BIRM-2	N/A = PHYSICAL FEATURE
AL-50	RENAISSANCE BIRMINGHAM ROSS RIDGE GOLF COURSE	BIRM-2A	(205) 916-7677
AL-51	WILBORN LAKE	AL-20	N/A = PHYSICAL FEATURE
AL-52	CAHABA RIVER	AL-20	N/A = PHYSICAL FEATURE
AL-53	OXMOOR VALLEY GOLF COURSE / RTJ AT OXMOOR VALLEY	BIRM-2A	(205) 942-1177
AL-54	HELENA (RUFFIN ROAD) SPORTS COMPLEX AND COMMUNITY CENTER	AL-20	(205) 620-2877
AL-55	BUCK CREEK	AL-20	N/A = PHYSICAL FEATURE
AL-56	RED MOUNTAIN PARK	BIRM-2	--
AL-57	WESTSIDE GOLF COURSE / DRIVING RANGE	BIRM-2A	(205) 923-2979
AL-58	BUCCANEER STADIUM	AL-20	HOOVER HIGH SCHOOL (205) 439-1200
AL-59	UNNAMED POND/LAKE	AL-21	N/A = PHYSICAL FEATURE
AL-60	UNNAMED POND/LAKE	AL-21	N/A = PHYSICAL FEATURE
AL-61	VINCENT HIGH SCHOOL ATHLETIC FIELDS	AL-24	(205) 682-7300
AL-62	YMCA: CAMP COSBY	AL-25	(256) 268-2007
AL-63	LOGAN MARTIN LAKE	AL-25	N/A = PHYSICAL FEATURE
AL-64	USFS FACILITY / SHOAL CREEK RANGER STATION	N/A	(256) 463-2272
AL-65	LAKE HEFLIN	AL-33	N/A = PHYSICAL FEATURE
AL-66	UNNAMED POND/LAKE	AL-34	N/A = PHYSICAL FEATURE
AL-67	CE BOYD LAKE	AL-3	N/A = PHYSICAL FEATURE
AL-68	BLACK WARRIOR RIVER	AL-9	N/A = PHYSICAL FEATURE
AL-69	TOMBIGBEE RIVER	AL-6	N/A = PHYSICAL FEATURE
AL-70	UNNAMED POND/LAKE	AL-6	N/A = PHYSICAL FEATURE
AL-71	TALLAPOOSA RIVER	AL-34	N/A = PHYSICAL FEATURE
AL-72	TALLADEGA NATIONAL FOREST WESTERN BLOCK	AL-31	SHOAL CREEK RANGER DISTRICT

ID	Sensitive Area Name	Quadrangle Number	Contact/Phone Number
			(256) 463-2272
N/A – Not applicable			

5. Sensitive Areas along Rivers

The pipeline crosses three major rivers within Alabama: the Cahaba River, Tombigbee River, and Black Warrior River.

Along the Cahaba River, the Cahaba River National Wildlife Refuge and Marion Fish Hatchery Number One are environmentally sensitive and should be a priority for protection and cleanup. A listing of the sensitive areas along the Cahaba River are provided in the table below. Additional details, including geospatial information, can also be found in Appendix B.

Alabama Sensitive Areas (Cahaba River)

ID	Sensitive Area Name	Quadrangle Number	Contact/Phone Number
AL-CR-01	CAHABA RIVER NATIONAL WILDLIFE REFUGE – NORTH SITE	AL-17	UNITED STATES FISH AND WILDLIFE (256) 848-7085 OR (256) 848-6833;
AL-CR-02	CAHABA RIVER NATIONAL WILDLIFE REFUGE – SOUTH SITE	AL-17A	UNITED STATES FISH AND WILDLIFE (256) 848-7085
AL-CR-03	CAHABA FALLS GOLF COURSE	AL-15A	(205) 926-9323
AL-CR-04	BALL PARK	AL-15A	--
AL-CR-05	PLANTATION RD. UNNAMED LAKE/POND	AL-15A	N/A = PHYSICAL FEATURE
AL-CR-06	TALLADEGA NATIONAL FOREST	AL-15C	(205) 926-9765
AL-CR-07	PERRY LAKES PARK	AL-15E	N/A = PHYSICAL FEATURE
AL-CR-08	MARION FISH HATCHERY NUMBER ONE	AL-15D	--
AL-CR-09	UNNAMED POND/LAKE	AL-15G	N/A = PHYSICAL FEATURE
AL-CR-10	UNNAMED POND/LAKE	AL-15G	N/A = PHYSICAL FEATURE
AL-CR-11	UNNAMED POND/LAKE	AL-15G	N/A = PHYSICAL FEATURE
AL-CR-12	CAHABA RIVER PUBLIC USE AREA	AL-15I	--
AL-CR-13	UNNAMED POND/LAKE	AL-17A	N/A = PHYSICAL FEATURE
AL-CR-14	CONFLUENCE WITH LITTLE CAHABA RIVER	AL-17	N/A = PHYSICAL FEATURE

Along the Tombigbee River, Demopolis State WMA, Demopolis Water Treatment Plant, and the Choctaw National Wildlife Refuge are considered sensitive to oil spills and should be the first priority for protection and cleanup measures in the event of a spill. A listing of the sensitive areas along the

Tombigbee River are provided in the table below. Additional details, including geospatial information, can also be found in Appendix B.

Alabama Sensitive Areas (Tombigbee River)

ID	Sensitive Area Name	Quadrangle Number	Contact/Phone Number
AL-TBR-01	UNNAMED MARSH / SWAMP	AL-5	N/A = PHYSICAL FEATURE
AL-TBR-02	UNNAMED POND / LAKE	AL-5	N/A = PHYSICAL FEATURE
AL-TBR-03	LUKE'S LANDING BOAT RAMP	AL-5	--
AL-TBR-04	WETLAND AREA	AL-7B	N/A = PHYSICAL FEATURE
AL-TBR-05	DEMOPOLIS STATE WMA	AL-7E	--
AL-TBR-06	DEMOPOLIS ACCESS AREA PARK	AL-7E	--
AL-TBR-07	DEMOPOLIS BOTANICAL GARDENS	AL-7E	(334) 289-9399
AL-TBR-08	CONFLUENCE WITH BLACK WARRIOR RIVER	AL-7E	N/A = PHYSICAL FEATURE
AL-TBR-09	DEMOPOLIS YACHT BASIN AND RV PARK	AL-7E	(334) 289-4374
AL-TBR-10	DEMOPOLIS WATER TREATMENT PLANT	AL-7D	CITY OF DEMOPOLIS (334) 289-1344 OR (334) 289-1344
AL-TBR-11	FOSCUE PARK	AL-7E	--
AL-TBR-12	GARDNERS BLUFF/TOMBIGBEE RIVER DAM	AL-7D	--
AL-TBR-13	LOCK THREE RIGHT BANK PUBLIC USE AREA	AL-7G	--
AL-TBR-14	LOCK NUMBER TWO PARK	AL-5D	--
AL-TBR-15	GRIFFIN LAKE CONFLUENCE	AL-5B	N/A = PHYSICAL FEATURE
AL-TBR-16	BASHI CREEK PUBLIC USE AREA	N/A	USACOE (334) 289-3540
AL-TBR-17	WOODS BLUFF PUBLIC USE AREA	N/A	--
AL-TBR-18	UNNAMED BACKWATER LAKE	N/A	N/A = PHYSICAL FEATURE
AL-TBR-19	JUDYS SLOUGH	N/A	N/A = PHYSICAL FEATURE
AL-TBR-20	CHOCTAW NATIONAL WILDLIFE REFUGE	N/A	UNITED STATES FISH AND WILDLIFE 251-843-5238
AL-TBR-21	COFFEEVILLE LAKE PUBLIC USE AREA / SERVICE PARK CAMPGROUND	N/A	USACOE 251-753-6935
AL-TBR-22	BOAT RAMP	N/A	--
AL-TBR-23	DAM/LOCK	N/A	N/A = PHYSICAL FEATURE
AL-TBR-24	LOCK NUMBER ONE LEFT BANK PUBLIC USE AREA	N/A	--
AL-TBR-25	MORGAN CREEK CONFLUENCE	AL-5D	N/A = PHYSICAL FEATURE

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ID	Sensitive Area Name	Quadrangle Number	Contact/Phone Number
AL-TBR-26	CHICKASAW BOGUE CONFLUENCE	AL-7G	N/A = PHYSICAL FEATURE
AL-TBR-27	SUCARNOOCHEE RIVER CONFLUENCE	AL-5B	N/A = PHYSICAL FEATURE
N/A = Not applicable			

Along the Black Warrior River, a campground and a number of public use areas are considered sensitive to oil spills and should be the first priority for protection and cleanup measures in the event of a spill. A listing of the sensitive areas along the Black Warrior River are provided in the table below. Additional details, including geospatial information, can also be found in Appendix B.

Alabama Sensitive Areas (Black Warrior River)

ID	Sensitive Area Name	Quadrangle Number	Contact/Phone Number
AL-BWR-01	UNNAMED BACKWATER LAKE/POND	AL-9	N/A = PHYSICAL FEATURE
AL-BWR-02	LOCK EIGHT PUBLIC USE AREA	AL-9	--
AL-BWR-03	FINCHES FERRY PUBLIC USE AREA	AL-7A	--
AL-BWR-04	LAKE	AL-7A	N/A = PHYSICAL FEATURE
AL-BWR-05	JENNINGS FERRY CAMP GROUND AND PUBLIC USE AREA	AL-7A	(205) 372-1217
AL-BWR-06	WARRIOR LOCK AND DAM PUBLIC USE AREA	AL-7A	--
AL-BWR-07	LOCK SEVEN PUBLIC USE AREA	AL-7A	--
AL-BWR-08	DAMSITE PUBLIC USE AREA	AL-7A	--
AL-BWR-09	DAM (HOWARD BROWN LAKE)	AL-7A	N/A = PHYSICAL FEATURE
AL-BWR-10	LOCKS AND DAM BYPASS	AL-7A	N/A = PHYSICAL FEATURE
AL-BWR-11	LOCK NUMBER SIX PUBLIC USE AREA	AL-7C	--
AL-BWR-12	WOLF BLUFF BOAT RAMP	AL-7C	--
AL-BWR-13	LOCK NUMBER FIVE PUBLIC USE AREA	AL-10C	--
AL-BWR-14	ARCOLA PUBLIC USE AREA	AL-7E	--
AL-BWR-15	BACKBONE BRANCH PUBLIC USE AREA	AL-7E	--
AL-BWR-16	LARGE BACKWATER POND/LAKE	AL-7E	N/A = PHYSICAL FEATURE
AL-BWR-17	FRENCH CREEK PUBLIC USE AREA	AL-7E	--
AL-BWR-18	RUNAWAY BRANCH PUBLIC USE AREA #1	AL-7E	--
AL-BWR-19	RUNAWAY BRANCH PUBLIC USE AREA #2	AL-7E	--

It should be noted that, although the Cahaba, Tombigbee, and Black Warrior Rivers are the only major rivers that the pipeline crosses, there are several other smaller rivers, creeks and ponded waters that are considered environmentally sensitive as well. Those rivers and creeks above a base flow of 10 cms as well as significant ponded waters (i.e., lakes, ponds, and reservoirs) are listed/highlighted in the above tables.

6. Threatened and Endangered Species

A summary of threatened and endangered species along the pipeline corridor in the inland areas of Alabama and within approximately 75 miles downgradient of where the pipeline crosses the Cahaba, Black Warrior, and Tombigbee Rivers is provided in the table below. Specific information on these threatened and endangered species as well as migratory birds and critical habitats in the area are provided in Appendix A.

Threatened and Endangered Species (Alabama)

	Inland Alabama	Cahaba River	Black Warrior River	Tombigbee River
Threatened and Endangered Species				
Overall	46	37	11	15
Amphibians	1	1	0	0
Birds	2	2	2	1
Clams	13	13	6	6
Crustaceans	0	0	0	0
Ferns and Allies	0	0	0	0
Fish	8	3	0	2
Flowering Plants	8	7	1	1
Lichens	0	0	1	1
Insects	1	1	1	0
Mammals	3	3	0	1
Reptiles	1	1	0	3
Snails	9	6	0	0
Migratory Birds	25	25	24	26

Appendix A – Threatened and Endangered Species and Critical Habitats

State or River	Category	Common Name	Scientific Name	Critical Habitat (Y/N) (a)	Status
Alabama	Amphibians	Black Warrior Waterdog	Necturus alabamensis	N	C
Alabama	Birds	Red-cockaded Woodpecker	Picoides borealis	N	E
Alabama	Birds	Wood Stork	Mycteria americana	N	T
Alabama	Clams	Alabama (=inflated) Heelsplitter	Potamilus inflatus	N	T
Alabama	Clams	Alabama Moccasinshell	Medionidus acutissimus	Y	T
Alabama	Clams	Coosa Moccasinshell	Medionidus parvulus	Y	E
Alabama	Clams	Dark Pigtoe	Pleurobema furvum	N	E
Alabama	Clams	Finelined Pocketbook	Lampsilis altilis	Y	T
Alabama	Clams	Heavy Pigtoe	Pleurobema taitianum	N	E
Alabama	Clams	Orangenacre Mucket	Lampsilis perovalis	Y	T
Alabama	Clams	Ovate Clubshell	Pleurobema perovatum	Y	E
Alabama	Clams	Southern Acornshell	Epioblasma othcaloogensis	Y	E
Alabama	Clams	Southern Clubshell	Pleurobema decisum	Y	E
Alabama	Clams	Southern Pigtoe	Pleurobema georgianum	Y	E
Alabama	Clams	Triangular Kidneyshell	Ptychobranchus greenii	Y	E
Alabama	Clams	Upland Combshell	Epioblasma metastriata	Y	E
Alabama	Fishes	Alabama Sturgeon	Scaphirhynchus suttkusi	N	E
Alabama	Fishes	Blue Shiner	Cyprinella caerulea	N	T
Alabama	Fishes	Cahaba Shiner	Notropis cahabae	N	E
Alabama	Fishes	Goldline Darter	Percina aurolineata	N	T
Alabama	Fishes	Pygmy Sculpin	Cottus paulus (=pygmaeus)	N	T
Alabama	Fishes	Rush Darter	Etheostoma phytophilum	N	E
Alabama	Fishes	Vermilion Darter	Etheostoma chermocki	N	E
Alabama	Fishes	Watercress Darter	Etheostoma nuchale	N	E
Alabama	Flowering Plants	Alabama Leather Flower	Clematis socialis	N	E
Alabama	Flowering Plants	Gentian Pinkroot	Spigelia gentianoides	N	E
Alabama	Flowering Plants	Georgia Rockcress	Arabis georgiana	N	T
Alabama	Flowering Plants	Green Pitcher-plant	Sarracenia oreophila	N	E
Alabama	Flowering Plants	Mohr's Barbara's Buttons	Marshallia mohrii	N	T
Alabama	Flowering Plants	Price's Potato-bean	Apios priceana	N	T
Alabama	Flowering Plants	Tennessee Yellow-eyed Grass	Xyris tennesseensis	N	E
Alabama	Flowering Plants	White Fringeless Orchid	Platanthera integrilabia	N	PT
Alabama	Insects	Mitchell's Satyr Butterfly	Neonympha mitchellii mitchellii	N	E
Alabama	Mammals	Gray Bat	Myotis grisescens	N	E
Alabama	Mammals	Indiana Bat	Myotis sodalis	N	E
Alabama	Mammals	Northern Long-eared Bat	Myotis septentrionalis	N	T
Alabama	Reptiles	Flattened Musk Turtle	Sternotherus depressus	N	T
Alabama	Snails	Black Mudalia	Elimia melanoides	N	C
Alabama	Snails	Cylindrical Lioplax (snail)	Lioplax cyclostomaformis	N	E
Alabama	Snails	Flat Pebblesnail	Lepyrium showalteri	N	E
Alabama	Snails	Lacy Elimia (snail)	Elimia crenatella	N	T

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State or River	Category	Common Name	Scientific Name	Critical Habitat (Y/N) (a)	Status
Alabama	Snails	Painted Rocksnail	Leptoxis taeniata	N	T
Alabama	Snails	Plicate Rocksnail	Leptoxis plicata	N	E
Alabama	Snails	Rough Hornsnail	Pleurocera foremani	N	E
Alabama	Snails	Round Rocksnail	Leptoxis ampla	N	T
Alabama	Snails	Tulotoma Snail	Tulotoma magnifica	N	T
Georgia	Amphibians	Reticulated Flatwoods Salamander	Ambystoma bishopi	N	E
Georgia	Birds	Red-cockaded Woodpecker	Picoides borealis	N	E
Georgia	Birds	Wood Stork	Mycteria americana	N	T
Georgia	Clams	Alabama (=inflated) Heelsplitter	Potamilus inflatus	N	T
Georgia	Clams	Alabama Moccasinshell	Medionidus acutissimus	Y	T
Georgia	Clams	Coosa Moccasinshell	Medionidus parvulus	Y	E
Georgia	Clams	Fat Threeridge (mussel)	Amblema neislerii	Y	E
Georgia	Clams	Finelined Pocketbook	Lampsilis altilis	Y	T
Georgia	Clams	Gulf Moccasinshell	Medionidus penicillatus	Y	E
Georgia	Clams	Oval Pigtoe	Pleurobema pyriforme	Y	E
Georgia	Clams	Ovate Clubshell	Pleurobema perovatum	Y	E
Georgia	Clams	Purple Bankclimber (mussel)	Elliptoideus sloatianus	Y	T
Georgia	Clams	Shinyrayed Pocketbook	Lampsilis subangulata	Y	E
Georgia	Clams	Southern Acornshell	Epioblasma othcaloogensis	Y	E
Georgia	Clams	Southern Clubshell	Pleurobema decisum	Y	E
Georgia	Clams	Southern Pigtoe	Pleurobema georgianum	Y	E
Georgia	Clams	Triangular Kidneyshell	Ptychobranchus greenii	Y	E
Georgia	Clams	Upland Combshell	Epioblasma metastriata	Y	E
Georgia	Conifers and Cycads	Florida Torreya	Torreya taxifolia	N	E
Georgia	Ferns and Allies	Black Spored Quillwort	Isoetes melanospora	N	E
Georgia	Fishes	Atlantic Sturgeon	Acipenser oxyrinchus oxyrinchus	N	E
Georgia	Fishes	Atlantic Sturgeon (gulf Subspecies)	Acipenser oxyrinchus (=oxyrhynchus) desotoi	N	T
Georgia	Fishes	Blue Shiner	Cyprinella caerulea	N	T
Georgia	Fishes	Cherokee Darter	Etheostoma scotti	N	T
Georgia	Fishes	Etowah Darter	Etheostoma etowahae	N	E
Georgia	Fishes	Pallid Sturgeon	Scaphirhynchus albus	N	E
Georgia	Fishes	Pearl Darter	Percina aurora	N	C
Georgia	Fishes	Snail Darter	Percina tanasi	N	T
Georgia	Flowering Plants	Alabama Leather Flower	Clematis socialis	N	E
Georgia	Flowering Plants	American Chaffseed	Schwalbea americana	N	E
Georgia	Flowering Plants	Canby's Dropwort	Oxypolis canbyi	N	E
Georgia	Flowering Plants	Cooley's Meadowrue	Thalictrum cooleyi	N	E
Georgia	Flowering Plants	Fringed Campion	Silene polypetala	N	E
Georgia	Flowering Plants	Georgia Rockcress	Arabis georgiana	Y	T
Georgia	Flowering Plants	Harperella	Ptilimnium nodosum	N	E
Georgia	Flowering Plants	Large-flowered Skullcap	Scutellaria montana	N	T
Georgia	Flowering Plants	Little Amphianthus	Amphianthus pusillus	N	T
Georgia	Flowering Plants	Michaux's Sumac	Rhus michauxii	N	E
Georgia	Flowering Plants	Mohr's Barbara's Buttons	Marshallia mohrii	N	T

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State or River	Category	Common Name	Scientific Name	Critical Habitat (Y/N) (a)	Status
Georgia	Flowering Plants	Pondberry	Lindera melissifolia	N	E
Georgia	Flowering Plants	Relict Trillium	Trillium reliquum	N	E
Georgia	Flowering Plants	Small Whorled Pogonia	Isotria medeoloides	N	T
Georgia	Flowering Plants	Smooth Coneflower	Echinacea laevigata	N	E
Georgia	Flowering Plants	Tennessee Yellow-eyed Grass	Xyris tennesseensis	N	E
Georgia	Flowering Plants	Virginia Spiraea	Spiraea virginiana	N	T
Georgia	Flowering Plants	White Fringeless Orchid	Platanthera integrilabia	N	PT
Georgia	Flowering Plants	Whorled Sunflower	Helianthus verticillatus	N	E
Georgia	Mammals	Gray Bat	Myotis grisescens	N	E
Georgia	Mammals	Indiana Bat	Myotis sodalis	N	E
Georgia	Mammals	Northern Long-eared Bat	Myotis septentrionalis	N	T
Georgia	Reptiles	Eastern Indigo Snake	Drymarchon corais couperi	N	T
Georgia	Reptiles	Gopher Tortoise	Gopherus polyphemus	N	T
Georgia	Reptiles	Yellow-blotched Map Turtle	Graptemys flavimaculata	N	T
Georgia	Snails	Interrupted (=georgia) Rocksnail	Leptoxis foremani	Y	E
North Carolina	Birds	Red-cockaded Woodpecker	Picoides borealis	N	E
North Carolina	Clams	Carolina Heelsplitter	Lasmigona decorata	N	E
North Carolina	Clams	Dwarf Wedgemussel	Alasmidonta heterodon	N	E
North Carolina	Clams	James Spinymussel	Pleurobema collina	N	E
North Carolina	Clams	Tar River Spinymussel	Elliptio steinstansana	N	E
North Carolina	Fishes	Cape Fear Shiner	Notropis mekistocholas	N	E
North Carolina	Fishes	Roanoke Logperch	Percina rex	N	E
North Carolina	Flowering Plants	American Chaffseed	Schwalbea americana	N	E
North Carolina	Flowering Plants	Dwarf-flowered Heartleaf	Hexastylis naniflora	N	T
North Carolina	Flowering Plants	Harperella	Ptilimnium nodosum	N	E
North Carolina	Flowering Plants	Little Amphianthus	Amphianthus pusillus	N	T
North Carolina	Flowering Plants	Michaux's Sumac	Rhus michauxii	N	E
North Carolina	Flowering Plants	Pondberry	Lindera melissifolia	N	E
North Carolina	Flowering Plants	Rough-leaved Loosestrife	Lysimachia asperulaefolia	N	E
North Carolina	Flowering Plants	Schweinitz's Sunflower	Helianthus schweinitzii	N	E
North Carolina	Flowering Plants	Small Whorled Pogonia	Isotria medeoloides	N	T
North Carolina	Flowering Plants	Small-anthered Bittercress	Cardamine micranthera	N	E
North Carolina	Flowering Plants	Smooth Coneflower	Echinacea laevigata	N	E
North Carolina	Insects	Saint Francis' Satyr Butterfly	Neonympha mitchellii francisci	N	E
North Carolina	Mammals	Northern Long-eared Bat	Myotis septentrionalis	N	T
North Carolina	Reptiles	American Alligator	Alligator mississippiensis	N	SA(T)
South Carolina	Birds	Red-cockaded Woodpecker	Picoides borealis	N	E
South Carolina	Birds	Wood Stork	Mycteria americana	N	T
South Carolina	Clams	Carolina Heelsplitter	Lasmigona decorata	Y	E
South Carolina	Fishes	Atlantic Sturgeon	Acipenser oxyrinchus oxyrinchus	N	E
South Carolina	Fishes	Shortnose Sturgeon	Acipenser brevirostrum	N	E
South Carolina	Flowering Plants	Bunched Arrowhead	Sagittaria fasciculata	N	E
South Carolina	Flowering Plants	Dwarf-flowered Heartleaf	Hexastylis naniflora	N	T
South Carolina	Flowering Plants	Harperella	Ptilimnium nodosum	N	E

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State or River	Category	Common Name	Scientific Name	Critical Habitat (Y/N) (a)	Status
South Carolina	Flowering Plants	Little Amphianthus	Amphianthus pusillus	N	T
South Carolina	Flowering Plants	Miccosukee Gooseberry	Ribes echinellum	N	T
South Carolina	Flowering Plants	Mountain Sweet Pitcher-plant	Sarracenia rubra ssp. jonesii	N	E
South Carolina	Flowering Plants	Relict Trillium	Trillium reliquum	N	E
South Carolina	Flowering Plants	Schweinitz's Sunflower	Helianthus schweinitzii	N	E
South Carolina	Flowering Plants	Small Whorled Pogonia	Isotria medeoloides	N	T
South Carolina	Flowering Plants	Smooth Coneflower	Echinacea laevigata	N	E
South Carolina	Flowering Plants	Swamp Pink	Helonias bullata	N	T
South Carolina	Flowering Plants	White Fringeless Orchid	Platanthera integrilabia	N	PT
South Carolina	Flowering Plants	White Irisette	Sisyrinchium dichotomum	N	E
South Carolina	Lichens	Rock Gnome Lichen	Gymnoderma lineare	N	E
South Carolina	Mammals	Northern Long-eared Bat	Myotis septentrionalis	N	T
South Carolina	Reptiles	Bog (=muhlenberg) Turtle	Clemmys muhlenbergii	N	SA(T)
South Carolina	Reptiles	Gopher Tortoise	Gopherus polyphemus	N	C
Tennessee	Clams	Cumberland Bean (pearlymussel)	Villosa trabalis	N	E
Tennessee	Clams	Cumberland Elktoe	Alasmidonta atropurpurea	N	E
Tennessee	Clams	Cumberland Pigtoe	Pleurobema gibberum	N	E
Tennessee	Clams	Cumberlandian Combshell	Epioblasma brevidens	N	E
Tennessee	Clams	Dromedary Pearlymussel	Dromus dromas	N	E
Tennessee	Clams	Fanshell	Cyprogenia stegaria	N	E
Tennessee	Clams	Finerayed Pigtoe	Fusconaia cuneolus	N	E
Tennessee	Clams	Littlewing Pearlymussel	Pegias fabula	N	E
Tennessee	Clams	Orangefoot Pimpleback (pearlymussel)	Plethobasus cooperianus	N	E
Tennessee	Clams	Pale Lilliput (pearlymussel)	Toxolasma cylindrellus	N	E
Tennessee	Clams	Pink Mucket (pearlymussel)	Lampsilis abrupta	N	E
Tennessee	Clams	Ring Pink (mussel)	Obovaria retusa	N	E
Tennessee	Clams	Rough Pigtoe	Pleurobema plenum	N	E
Tennessee	Clams	Slabside Pearlymussel	Pleuronaia dolabelloides	Y	E
Tennessee	Clams	Spectaclecase (mussel)	Cumberlandia monodonta	N	E
Tennessee	Clams	Tubercled Blossom (pearlymussel)	Epioblasma torulosa torulosa	N	E
Tennessee	Clams	Turgid Blossom (pearlymussel)	Epioblasma turgidula	N	E
Tennessee	Crustaceans	Nashville Crayfish	Orconectes shoupi	N	E
Tennessee	Ferns and Allies	American Hart's-tongue Fern	Asplenium scolopendrium var. americanum	N	T
Tennessee	Fishes	Bluemask (=jewel) Darter	Etheostoma sp.	N	E
Tennessee	Fishes	Boulder Darter	Etheostoma wapiti	N	EP, NE
Tennessee	Fishes	Duskytail Darter	Etheostoma percnurum	N	E
Tennessee	Fishes	Laurel Dace	Chrosomus saylori	N	E
Tennessee	Fishes	Snail Darter	Percina tanasi	N	T
Tennessee	Flowering Plants	Braun's Rock-cress	Arabis perstellata	N	E
Tennessee	Flowering Plants	Guthrie's (=pyne's) Ground-plum	Astragalus bibullatus	N	E

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State or River	Category	Common Name	Scientific Name	Critical Habitat (Y/N) (a)	Status
Tennessee	Flowering Plants	Large-flowered Skullcap	Scutellaria montana	N	T
Tennessee	Flowering Plants	Leafy Prairie-clover	Dalea foliosa	N	E
Tennessee	Flowering Plants	Morefield's Leather Flower	Clematis morefieldii	N	E
Tennessee	Flowering Plants	Price's Potato-bean	Apios priceana	N	T
Tennessee	Flowering Plants	Short's Bladderpod	Physaria globosa	N	E
Tennessee	Flowering Plants	Small Whorled Pogonia	Isotria medeoloides	N	T
Tennessee	Flowering Plants	Virginia Spiraea	Spiraea virginiana	N	T
Tennessee	Flowering Plants	White Fringeless Orchid	Platanthera integrilabia	N	PT
Tennessee	Mammals	Carolina Northern Flying Squirrel	Glaucomys sabrinus coloratus	N	E
Tennessee	Mammals	Gray Bat	Myotis grisescens	N	E
Tennessee	Mammals	Indiana Bat	Myotis sodalis	N	E
Tennessee	Mammals	Northern Long-eared Bat	Myotis septentrionalis	N	T
Tennessee	Snails	Anthony's Riversnail	Athearnia anthonyi	N	EP,NE/E
Tennessee	Snails	Royal Marstonia (snail)	Pyrgulopsis ogmorhaphe	N	E
Virginia	Fishes	Roanoke Logperch	Percina rex	N	E
Virginia	Mammals	Gray Bat	Myotis grisescens	N	E
Virginia	Mammals	Northern Long-eared Bat	Myotis septentrionalis	N	T
Black Warrior River	Birds	Red-cockaded Woodpecker	Picoides borealis	N	E
Black Warrior River	Birds	Wood Stork	Mycteria americana	N	T
Black Warrior River	Clams	Alabama (=inflated) Heelsplitter	Potamilus inflatus	N	T
Black Warrior River	Clams	Alabama Moccasinshell	Medionidus acutissimus	N	T
Black Warrior River	Clams	Heavy Pigtoe	Pleurobema taitianum	N	E
Black Warrior River	Clams	Orangenacre Mucket	Lampsilis perovalis	N	T
Black Warrior River	Clams	Ovate Clubshell	Pleurobema perovatum	N	E
Black Warrior River	Clams	Southern Clubshell	Pleurobema decisum	N	E
Black Warrior River	Flowering Plants	Georgia Rockcress	Arabis georgiana	N	T
Black Warrior River	Insects	Mitchell's Satyr Butterfly	Neonympha mitchellii mitchellii	N	E
Black Warrior River	Northern Long-eared Bat	Northern Long-eared Bat	Myotis septentrionalis	N	T
Cahaba River	Amphibians	Black Warrior Waterdog	Necturus alabamensis	N	C
Cahaba River	Birds	Red-cockaded Woodpecker	Picoides borealis	N	E
Cahaba River	Birds	Wood Stork	Mycteria americana	N	T
Cahaba River	Clams	Alabama (=inflated) Heelsplitter	Potamilus inflatus	N	T
Cahaba River	Clams	Alabama Moccasinshell	Medionidus acutissimus	Y	T
Cahaba River	Clams	Coosa Moccasinshell	Medionidus parvulus	N	E
Cahaba River	Clams	Dark Pigtoe	Pleurobema furvum	N	E
Cahaba River	Clams	Finelined Pocketbook	Lampsilis altilis	Y	T

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State or River	Category	Common Name	Scientific Name	Critical Habitat (Y/N) (a)	Status
Cahaba River	Clams	Heavy Pigtoe	Pleurobema taitianum	N	E
Cahaba River	Clams	Orangenacre Mucket	Lampsilis perovalis	Y	T
Cahaba River	Clams	Ovate Clubshell	Pleurobema perovatum	Y	E
Cahaba River	Clams	Southern Acornshell	Epioblasma othcaloogensis	Y	E
Cahaba River	Clams	Southern Clubshell	Pleurobema decisum	Y	E
Cahaba River	Clams	Southern Pigtoe	Pleurobema georgianum	N	E
Cahaba River	Clams	Triangular Kidneyshell	Ptychobranchus greenii	Y	E
Cahaba River	Clams	Upland Combshell	Epioblasma metastriata	Y	E
Cahaba River	Fishes	Alabama Sturgeon	Scaphirhynchus suttkusi	Y	E
Cahaba River	Fishes	Cahaba Shiner	Notropis cahabae	N	E
Cahaba River	Fishes	Goldline Darter	Percina aurolineata	N	T
Cahaba River	Flowering Plants	Alabama Canebrake Pitcher-plant	Sarracenia rubra ssp. alabamensis	N	E
Cahaba River	Flowering Plants	Gentian Pinkroot	Spigelia gentianoides	N	E
Cahaba River	Flowering Plants	Georgia Rockcress	Arabis georgiana	Y	T
Cahaba River	Flowering Plants	Mohr's Barbara's Buttons	Marshallia mohrii	N	T
Cahaba River	Flowering Plants	Price's Potato-bean	Apios priceana	N	T
Cahaba River	Flowering Plants	Tennessee Yellow-eyed Grass	Xyris tennesseensis	N	E
Cahaba River	Flowering Plants	White Fringeless Orchid	Platanthera integrilabia	N	PT
Cahaba River	Insects	Mitchell's Satyr Butterfly	Neonympha mitchellii mitchellii	N	E
Cahaba River	Mammals	Gray Bat	Myotis grisescens	N	E
Cahaba River	Mammals	Indiana Bat	Myotis sodalis	N	E
Cahaba River	Mammals	Northern Long-eared Bat	Myotis septentrionalis	N	T
Cahaba River	Reptiles	Flattened Musk Turtle	Sternotherus depressus	N	T
Cahaba River	Snails	Cylindrical Lioplax (snail)	Lioplax cyclostomaformis	N	E
Cahaba River	Snails	Flat Pebblesnail	Lepyrium showalteri	N	E
Cahaba River	Snails	Painted Rocksnail	Leptoxis taeniata	N	T
Cahaba River	Snails	Rough Hornsnail	Pleurocera foremani	N	E
Cahaba River	Snails	Round Rocksnail	Leptoxis ampla	N	T
Cahaba River	Snails	Tulotoma Snail	Tulotoma magnifica	N	T
Catawba River	Birds	Red-cockaded Woodpecker	Picoides borealis	N	E
Catawba River	Clams	Carolina Heelsplitter	Lasmigona decorata	N	E
Catawba River	Ferns and Allies	Black Spored Quillwort	Isoetes melanospora	N	E
Catawba River	Flowering Plants	Dwarf-flowered Heartleaf	Hexastylis naniflora	N	T
Catawba River	Flowering Plants	Little Amphianthus	Amphianthus pusillus	N	T
Catawba River	Flowering Plants	Michaux's Sumac	Rhus michauxii	N	E
Catawba River	Flowering Plants	Schweinitz's Sunflower	Helianthus schweinitzii	N	E
Catawba River	Flowering Plants	Smooth Coneflower	Echinacea laevigata	N	E
Catawba River	Mammals	Northern Long-eared Bat	Myotis septentrionalis	N	T
Chattahoochee River	Birds	Red-cockaded Woodpecker	Picoides borealis	N	E
Chattahoochee River	Clams	Finelined Pocketbook	Lampsilis altilis	N	T
Chattahoochee River	Clams	Gulf Moccasinshell	Medionidus penicillatus	N	E
Chattahoochee River	Clams	Oval Pigtoe	Pleurobema pyriforme	N	E

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State or River	Category	Common Name	Scientific Name	Critical Habitat (Y/N) (a)	Status
Chattahoochee River	Clams	Purple Bankclimber (mussel)	Elliptoideus sloatianus	N	T
Chattahoochee River	Clams	Shinyrayed Pocketbook	Lampsilis subangulata	N	E
Chattahoochee River	Ferns and Allies	Black Spored Quillwort	Isoetes melanospora	N	E
Chattahoochee River	Flowering Plants	Georgia Rockcress	Arabis georgiana	N	T
Chattahoochee River	Flowering Plants	Little Amphianthus	Amphianthus pusillus	N	T
Chattahoochee River	Flowering Plants	Michaux's Sumac	Rhus michauxii	N	E
Chattahoochee River	Flowering Plants	White Fringeless Orchid	Platanthera integrilabia	N	PT
Chattahoochee River	Mammals	Gray Bat	Myotis grisescens	N	E
Chattahoochee River	Mammals	Indiana Bat	Myotis sodalis	N	E
Chattahoochee River	Mammals	Northern Long-eared Bat	Myotis septentrionalis	N	T
Cumberland River	Birds	Least Tern	Sterna antillarum	N	E
Cumberland River	Clams	Clubshell	Pleurobema clava	N	E
Cumberland River	Clams	Cumberlandian Combshell	Epioblasma brevidens	N	E
Cumberland River	Clams	Fanshell	Cyprogenia stegaria	N	E
Cumberland River	Clams	Fat Pocketbook	Potamilus capax	N	E
Cumberland River	Clams	Fluted Kidneyshell	Ptychobranchus subtentum	N	E
Cumberland River	Clams	Orangefoot Pimpleback (pearlymussel)	Plethobasus cooperianus	N	E
Cumberland River	Clams	Pink Mucket (pearlymussel)	Lampsilis abrupta	N	E
Cumberland River	Clams	Rabbitsfoot	Quadrula cylindrica cylindrica	Y	T
Cumberland River	Clams	Ring Pink (mussel)	Obovaria retusa	N	E
Cumberland River	Clams	Rough Pigtoe	Pleurobema plenum	N	E
Cumberland River	Clams	Sheepnose Mussel	Plethobasus cyphyus	N	E
Cumberland River	Clams	Slabside Pearlymussel	Pleuronaia dolabelloides	N	E
Cumberland River	Clams	Spectaclecase (mussel)	Cumberlandia monodonta	N	E
Cumberland River	Clams	Tan Riffleshell	Epioblasma florentina walkeri (=E. walkeri)	N	E

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State or River	Category	Common Name	Scientific Name	Critical Habitat (Y/N) (a)	Status
Cumberland River	Flowering Plants	Braun's Rock-cress	Arabis perstellata	N	E
Cumberland River	Flowering Plants	Guthrie's (=pyne's) Ground-plum	Astragalus bibullatus	N	E
Cumberland River	Flowering Plants	Leafy Prairie-clover	Dalea foliosa	N	E
Cumberland River	Flowering Plants	Price's Potato-bean	Apios priceana	N	T
Cumberland River	Flowering Plants	Short's Bladderpod	Physaria globosa	Y	E
Cumberland River	Mammals	Gray Bat	Myotis grisescens	N	E
Cumberland River	Mammals	Indiana Bat	Myotis sodalis	N	E
Cumberland River	Mammals	Northern Long-eared Bat	Myotis septentrionalis	N	T
Dan River	Fishes	Roanoke Logperch	Roanoke Logperch	N	E
Dan River	Mammals	Northern Long-eared Bat	Myotis septentrionalis	N	T
Flint River	Amphibians	Reticulated Flatwoods Salamander	Ambystoma bishopi	N	E
Flint River	Amphibians	Striped Newt	Notophthalmus perstriatus	N	C
Flint River	Birds	Red-cockaded Woodpecker	Picoides borealis	N	E
Flint River	Birds	Wood Stork	Mycteria americana	N	T
Flint River	Clams	Fat Threeridge (mussel)	Amblema neislerii	Y	E
Flint River	Clams	Gulf Moccasinshell	Medionidus penicillatus	Y	E
Flint River	Clams	Oval Pigtoe	Pleurobema pyriforme	Y	E
Flint River	Clams	Purple Bankclimber (mussel)	Elliptoideus sloatianus	Y	T
Flint River	Clams	Shinyrayed Pocketbook	Lampsilis subangulata	Y	E
Flint River	Conifers and Cycads	Florida Torreya	Torreya taxifolia	N	E
Flint River	Flowering Plants	American Chaffseed	Schwalbea americana	N	E
Flint River	Flowering Plants	Cooley's Meadowrue	Thalictrum cooleyi	N	E
Flint River	Flowering Plants	Pondberry	Lindera melissifolia	N	E
Flint River	Flowering Plants	Relict Trillium	Trillium reliquum	N	E
Flint River	Reptiles	Eastern Indigo Snake	Drymarchon corais couperi	N	T
Flint River	Reptiles	Gopher Tortoise	Gopherus polyphemus	N	C
Oconee River	Ferns and Allies	Black Spored Quillwort	Isoetes melanospora	N	E
Oconee River	Flowering Plants	Harperella	Ptilimnium nodosum	N	E
Oconee River	Flowering Plants	Little Amphianthus	Amphianthus pusillus	N	T
Savannah River	Amphibians	Frosted Flatwoods Salamander	Ambystoma cingulatum	N	T
Savannah River	Amphibians	Striped Newt	Notophthalmus perstriatus	N	C
Savannah River	Birds	Kirtland's Warbler	Setophaga kirtlandii (= Dendroica kirtlandii)	N	E
Savannah River	Birds	Piping Plover	Charadrius melodus	N	T

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State or River	Category	Common Name	Scientific Name	Critical Habitat (Y/N) (a)	Status
Savannah River	Birds	Red-cockaded Woodpecker	Picoides borealis	N	E
Savannah River	Birds	Wood Stork	Mycteria americana	N	T
Savannah River	Clams	Carolina Heelsplitter	Lasmigona decorata	Y	E
Savannah River	Ferns and Allies	Mat-forming Quillwort	Isoetes tegetiformans	N	E
Savannah River	Fishes	Atlantic Sturgeon	Acipenser oxyrinchus oxyrinchus	N	E
Savannah River	Fishes	Shortnose Sturgeon	Acipenser brevirostrum	N	E
Savannah River	Flowering Plants	American Chaffseed	Schwalbea americana	N	E
Savannah River	Flowering Plants	Canby's Dropwort	Oxypolis canbyi	N	E
Savannah River	Flowering Plants	Harperella	Ptilimnium nodosum	N	E
Savannah River	Flowering Plants	Little Amphianthus	Amphianthus pusillus	N	T
Savannah River	Flowering Plants	Miccosukee Gooseberry	Ribes echinellum	N	T
Savannah River	Flowering Plants	Michaux's Sumac	Rhus michauxii	N	E
Savannah River	Flowering Plants	Pondberry	Lindera melissifolia	N	E
Savannah River	Flowering Plants	Relict Trillium	Trillium reliquum	N	E
Savannah River	Flowering Plants	Smooth Coneflower	Echinacea laevigata	N	E
Savannah River	Mammals	Northern Long-eared Bat	Myotis septentrionalis	N	T
Savannah River	Mammals	West Indian Manatee	Trichechus manatus	N	E
Savannah River	Reptiles	Eastern Indigo Snake	Drymarchon corais couperi	N	T
Savannah River	Reptiles	Gopher Tortoise	Gopherus polyphemus	N	C
Savannah River	Reptiles	Green Sea Turtle	Chelonia mydas	N	T
Savannah River	Reptiles	Kemp's Ridley Sea Turtle	Lepidochelys kempii	N	E
Savannah River	Reptiles	Leatherback Sea Turtle	Dermochelys coriacea	N	E
Staunton River	Flowering Plants	Harperella	Ptilimnium nodosum	N	E
Staunton River	Flowering Plants	Smooth Coneflower	Echinacea laevigata	N	E
Staunton River	Mammals	Northern Long-eared Bat	Myotis septentrionalis	N	T
Tennessee River	Amphibians	Black Warrior Waterdog	Necturus alabamensis	N	C
Tennessee River	Clams	Alabama Lampmussel	Lampsilis virescens	N	E
Tennessee River	Clams	Alabama Moccasinshell	Medionidus acutissimus	N	T
Tennessee River	Clams	Appalachian Monkeyface (pearlymussel)	Quadrula sparsa	N	EP,NE
Tennessee River	Clams	Cracking Pearlymussel	Hemistena lata	N	EP,NE / E
Tennessee River	Clams	Cumberland Bean (pearlymussel)	Villosa trabalis	N	EP,NE / E
Tennessee River	Clams	Cumberlandian Combshell	Epioblasma brevidens	N	EP,NE
Tennessee River	Clams	Dromedary Pearlymussel	Dromus dromas	N	EP,NE / E
Tennessee River	Clams	Fanshell	Cyprogenia stegaria	N	EP, NE / E
Tennessee River	Clams	Finelined Pocketbook	Lampsilis altilis	N	T
Tennessee River	Clams	Finerayed Pigtoe	Fusconaia cuneolus	N	EP,NE / E

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State or River	Category	Common Name	Scientific Name	Critical Habitat (Y/N) (a)	Status
Tennessee River	Clams	Orangefoot Pimpleback (pearlymussel)	Plethobasus cooperianus	N	EP,NE / E
Tennessee River	Clams	Orangenacre Mucket	Lampsilis perovalis	N	T
Tennessee River	Clams	Ovate Clubshell	Pleurobema perovatum	N	E
Tennessee River	Clams	Oyster Mussel	Epioblasma capsaeformis	N	EP,NE / E
Tennessee River	Clams	Pale Lilliput (pearlymussel)	Toxolasma cylindrellus	N	E
Tennessee River	Clams	Pink Mucket (pearlymussel)	Lampsilis abrupta	N	E
Tennessee River	Clams	Purple Bean	Villosa perpurpurea	N	E
Tennessee River	Clams	Rabbitsfoot	Quadrula cylindrica cylindrica	Y	T
Tennessee River	Clams	Ring Pink (mussel)	Obovaria retusa	N	EP,NE / E
Tennessee River	Clams	Rough Pigtoe	Pleurobema plenum	N	EP,NE / E
Tennessee River	Clams	Rough Rabbitsfoot	Quadrula cylindrica strigillata	N	E
Tennessee River	Clams	Sheepnose Mussel	Plethobasus cyphyus	N	E
Tennessee River	Clams	Shiny Pigtoe	Fusconaia cor	N	EP,NE / E
Tennessee River	Clams	Slabside Pearlymussel	Pleuronaia dolabelloides	Y	E
Tennessee River	Clams	Snuffbox Mussel	Epioblasma triquetra	N	E
Tennessee River	Clams	Southern Clubshell	Pleurobema decisum	N	E
Tennessee River	Clams	Spectaclecase (mussel)	Cumberlandia monodonta	N	E
Tennessee River	Clams	Triangular Kidneyshell	Ptychobranchus greenii	N	E
Tennessee River	Clams	Tubercled Blossom (pearlymussel)	Epioblasma torulosa torulosa	N	E
Tennessee River	Clams	Turgid Blossom (pearlymussel)	Epioblasma turgidula	N	E
Tennessee River	Clams	Upland Combshell	Epioblasma metastriata	N	E
Tennessee River	Clams	White Wartyback (pearlymussel)	Plethobasus cicatricosus	N	EP,NE/ E
Tennessee River	Crustaceans	Alabama Cave Shrimp	Palaemonias alabamae	N	E
Tennessee River	Ferns and Allies	American Hart's-tongue Fern	Asplenium scolopendrium var. americanum	N	T

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State or River	Category	Common Name	Scientific Name	Critical Habitat (Y/N) (a)	Status
Tennessee River	Fishes	Blue Shiner	Cyprinella caerulea	N	T
Tennessee River	Fishes	Duskytail Darter	Etheostoma percnurum	N	EP,N/E
Tennessee River	Fishes	Laurel Dace	Chrosomus saylori	Y	E
Tennessee River	Fishes	Palezone Shiner	Notropis albizonatus	N	E
Tennessee River	Fishes	Pygmy Madtom	Noturus stanauli	N	EP,NE
Tennessee River	Fishes	Rush Darter	Etheostoma phytophilum	N	E
Tennessee River	Fishes	Slackwater Darter	Etheostoma boschungi	N	T
Tennessee River	Fishes	Snail Darter	Percina tanasi	N	T
Tennessee River	Fishes	Spotfin Chub	Erimonax monachus	Y	EP,NE/T
Tennessee River	Flowering Plants	Cumberland Rosemary	Conradina verticillata	N	T
Tennessee River	Flowering Plants	Cumberland Sandwort	Arenaria cumberlandensis	N	E
Tennessee River	Flowering Plants	Green Pitcher-plant	Sarracenia oreophila	N	E
Tennessee River	Flowering Plants	Harperella	Ptilimnium nodosum	N	E
Tennessee River	Flowering Plants	Kral's Water-plantain	Sagittaria secundifolia	N	T
Tennessee River	Flowering Plants	Large-flowered Skullcap	Scutellaria montana	N	T
Tennessee River	Flowering Plants	Morefield's Leather Flower	Clematis morefieldii	N	E
Tennessee River	Flowering Plants	Price's Potato-bean	Apios priceana	N	T
Tennessee River	Flowering Plants	Small Whorled Pogonia	Isotria medeoloides	N	T
Tennessee River	Flowering Plants	Spreading Avens	Geum radiatum	N	E
Tennessee River	Flowering Plants	Virginia Spiraea	Spiraea virginiana	N	T
Tennessee River	Flowering Plants	White Fringeless Orchid	Platanthera integrilabia	N	PT
Tennessee River	Mammals	Carolina Northern Flying Squirrel	Glaucomys sabrinus coloratus	N	E
Tennessee River	Mammals	Gray Bat	Myotis grisescens	N	E
Tennessee River	Mammals	Indiana Bat	Myotis sodalis	N	E
Tennessee River	Mammals	Northern Long-eared Bat	Myotis septentrionalis	N	T

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State or River	Category	Common Name	Scientific Name	Critical Habitat (Y/N) (a)	Status
Tennessee River	Reptiles	Flattened Musk Turtle	Sternotherus depressus	N	T
Tennessee River	Snails	Anthony's Riversnail	Athearnia anthonyi	N	EP,NE/ E
Tennessee River	Snails	Armored Snail	Pyrgulopsis (=Marstonia) pachyta	N	E
Tennessee River	Snails	Royal Marstonia (snail)	Pyrgulopsis ogmorhaphe	N	E
Tennessee River	Snails	Slender Campeloma	Campeloma decampi	N	E
Tennessee River	Critical Habitat (b)	Fluted Kidneyshell	Ptychobranchus subtentum	Y	-
Tombigbee River	Birds	Wood Stork	Mycteria americana	N	T
Tombigbee River	Clams	Alabama (=inflated) Heelsplitter	Potamilus inflatus	N	T
Tombigbee River	Clams	Alabama Moccasinshell	Medionidus acutissimus	Y	T
Tombigbee River	Clams	Heavy Pigtoe	Pleurobema taitianum	N	E
Tombigbee River	Clams	Orangenacre Mucket	Lampsilis perovalis	Y	T
Tombigbee River	Clams	Ovate Clubshell	Pleurobema perovatum	Y	E
Tombigbee River	Clams	Southern Clubshell	Pleurobema decisum	Y	E
Tombigbee River	Fishes	Alabama Sturgeon	Scaphirhynchus suttkusi	N	E
Tombigbee River	Fishes	Atlantic Sturgeon (gulf Subspecies)	Acipenser oxyrinchus (=oxyrhynchus) desotoi	N	T
Tombigbee River	Flowering Plants	Georgia Rockcress	Arabis georgiana	Y	T
Tombigbee River	Mammals	Northern Long-eared Bat	Myotis septentrionalis	N	T
Tombigbee River	Reptiles	Black Pine Snake	Pituophis melanoleucus lodingi	N	T
Tombigbee River	Reptiles	Eastern Indigo Snake	Drymarchon corais couperi	N	T
Tombigbee River	Reptiles	Gopher Tortoise	Gopherus polyphemus	N	C/T

Notes:

C	Candidate
E	Endangered
EP, NE	Experimental Population, Non-Essential; Specific reintroduced populations of listed species. A “nonessential” designation for an experimental population means that, on the basis of the best available information, the experimental population is not essential for the continued existence of that species. A species may be a listed species (threatened, candidate, or endangered) elsewhere except where it is listed as an experimental population.
PT	Proposed Threatened
SA(T)	Similarity of Appearance (Threatened)

State or River	Category	Common Name	Scientific Name	Critical Habitat (Y/N) (a)	Status

T Threatened

(a) Although there may be critical habitats designated for this species, this column refers to if there are critical habitats designated for this species in this location.

(b) The species was not listed as being threatened or endangered at this location but critical habitat for this species was designated in this location

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Additional agency resources to identify environmental and economic sensitive areas can be found in the following table:

Emergency Response Resource Websites		
Resource	**Contents**	**Document Link/Navigation Instructions**
EPA		
SERC Database for LEPCs	EPA's list of state emergency response contacts (SERC)	http://www.epa.gov/osweroe1/content/epcra/serc_contacts.htm
EJMapper	Interactive map of facilities that report to EPA (including NPDES Permit holders), water bodies, governmental jurisdictions, demographics (populations, economics, etc.), land cover, etc.	http://www.epa.gov/environmentaljustice/mapping.html
EPA OSC Website	EPA's clearinghouse of useful information for On-Scene Coordinators (H&S information, Equipment and Supply Vendors, Training Providers, etc.)	http://www.epaosc.org/default.aspx
EPA NEPAssist Website	Interactive map of facilities that report to EPA (including NPDES Permit holders), water bodies, governmental jurisdictions, demographics (populations, economics, etc.), land cover, etc.	http://134.67.99.123/nepassist/entry.aspx
FEMA		
NIMS Resource Center	FEMA's NIMS information clearinghouse that includes guidance documents, training materials and related resources	http://www.fema.gov/emergency/nims/index.shtm
NOAA		
Oil Spill Responder Tools and Resources	Link to multiple resources to assist oil spill responders such as trajectory/weathering/dispersion models, Environmental Sensitivity Index maps, ICS forms and job aids, SCAT and Aerial Recon job aids	http://response.restoration.noaa.gov/oil-and-chemical-spills/chemical-spills/response-tools/guide-responder-tools.html
OHSA		
Oil Spill Response Worker Protection Website	OSHA requirements and guidance for ensuring the protection of oil spill cleanup activities	http://www.osha.gov/oilspills/index.html
Incident Command System eTool Website	OSHA's ICS information clearinghouse that includes guidance documents, training materials and related resources	http://www.osha.gov/SLTC/etools/ics/index.html

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PHMSA		
National Pipeline Mapping System	PHMSA's Pipeline Information Management Mapping Application (PIMMA). Persons must apply to PHMSA for access to Interactive Map	https://www.npms.phmsa.dot.gov/
National Pipeline Mapping System Downloads	PIMMA download site which includes the following GIS datasets: Pipeline Data, Unusually Sensitive Area Data, Population Data, Basemap Data, Commercially Navigable Waterways and Natural Disaster Data	https://www.npms.phmsa.dot.gov/application.asp?tact=Data&page=subapp.asp?app=data&act=data_req
Regional Response Teams		
Regional Response Team Website Links	Link to the 13 Regional Response Team Websites; which often include information such as the Regional/Geographic Response Plans	http://www.rrt.nrt.org/
USGS		
USCG Homeport	Homepage that provides links to all USCG Ports/Sectors and public-access versions of the Area Contingency Plans	https://homeport.uscg.mil/mycg/portal/ep/home.do
USDA		
Web Soil Survey	Interactive Map and downloadable GIS data that provide information about soil characteristics	http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm
USFWS		
USFWS Critical Habitat for Threatened and Endangered Species	Interactive Map and downloadable GIS data that identifies areas that are designated as Critical Habitat and Threatened or Endangered Species by State and County	http://criticalhabitat.fws.gov/crithab/
National Wetlands Inventory	Interactive Map and downloadable GIS data that identifies areas that are designated as wetlands by the USFWS	http://www.fws.gov/wetlands/data/

USGS		
USGS Surface-Water Data for the Nation	Database used to track water levels, discharge rates, rainfall and surface water quality at over 850,000 stations in the United States.	http://waterdata.usgs.gov/nwis/sw
USGS Watershed Data for Google Earth	Downloadable Google Earth Watershed/Water Feature overlay maps for the United States	http://edna.usgs.gov/watersheds/kml_index.htm
Juice Analytics for Google Earth		
Census Data	Census Data/Population Density for Google Earth by county or block in each state	http://www.juiceanalytics.com/writing/census-data-in-google-earth/
US Census Bureau		
Census Data	Census Data/Population Density	http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml

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WATER INTAKE LOCATIONS – RESPONSE ZONE 802

MUNICIPALITY OR OWNER	ID# on USGS MAP	PHONE NUMBER	STATE	USGS MAP#	WATER CROSSING	DRINK WATER INTAKE	IND. WATER INTAKE	LATITUDE (DEG/MIN/ SEC)	LONGITUDE (DEG/MIN/ SEC)	BOOM ON HAND?
(b) (3), (b) (7)(F)		(b) (3), (b) (7)(F)	GA	(b) (3), (b) (7)(F)	(b) (3), (b) (7)(F)	X		(b) (3), (b) (7)(F)		No
			GA			X				No
			GA			X				No
			GA			X				No
			GA			X				No
			GA			X				Yes
			GA			X		(b) (3), (b) (7)(F)		No
										No
			GA			X		(b) (3), (b) (7)(F)		No
			GA			X				No
			GA			X				No
			GA			X				No
	(b)		GA			X				No
			GA			X				No
			GA			X				No
			GA			X				No
			GA			X				No
			GA			X				No
			GA			X				No
			GA			X				No

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WATER INTAKE LOCATIONS – RESPONSE ZONE 802

MUNICIPALITY OR OWNER	ID# on USGS MAP	PHONE NUMBER	STATE	USGS MAP#	WATER CROSSING	DRINK WATER INTAKE	IND. WATER INTAKE	LATITUDE (DEG/MIN/ SEC)	LONGITUDE (DEG/MIN/ SEC)	BOOM ON HAND?
(b) (3), (b) (7)(F)		(b) (3), (b) (7)(F)	GA	(b) (3), (b) (7)(F)	(b) (3), (b) (7)(F)	X		(b) (3), (b) (7)(F)		No
			GA			X				No
			GA			X				No
			GA			X				No
			GA			X				No
			GA			X				No
			GA			X				No
			GA			X				Yes
			GA			X				Yes
			GA			X				Yes
			GA			X				No
			GA			X				No
			GA			X				No
			GA			X				No
			GA			X				No
			GA			X				No
			GA			X				No
			GA			X				No
			GA			X				No
			GA			X				No

Colonial Pipeline Company

WATER INTAKE LOCATIONS – RESPONSE ZONE 802

MUNICIPALITY OR OWNER	ID# on USGS MAP	PHONE NUMBER	STATE	USGS MAP#	WATER CROSSING	DRINK WATER INTAKE	IND. WATER INTAKE	LATITUDE (DEG/MIN/ SEC)	LONGITUDE (DEG/MIN/ SEC)	BOOM ON HAND?
(b) (3), (b) (7)(F)		(b) (3), (b) (7)(F)	GA	(b) (3), (b) (7)(F)	(b) (3), (b) (7)(F)	X		(b) (3), (b) (7)(F)		No
			GA			X				No
			GA			X				No
			GA			X				No
			GA			X				No
			GA			X				No
			GA			X				No
			GA			X				No
			GA			X				No
			GA			X				No
			GA			X				No
	(b) (3), (b) (7)		GA			X				No
			GA			X				No
			TN				X			No
			TN				X			No
			TN				X			No
			TN			X				No
			TN				X			No
			TN				X			Yes

Colonial Pipeline Company

WATER INTAKE LOCATIONS – RESPONSE ZONE 802

MUNICIPALITY OR OWNER	ID# on USGS MAP	PHONE NUMBER	STATE	USGS MAP#	WATER CROSSING	DRINK WATER INTAKE	IND. WATER INTAKE	LATITUDE (DEG/MIN/ SEC)	LONGITUDE (DEG/MIN/ SEC)	BOOM ON HAND?
(b) (3), (b) (7)(F)		(b) (3), (b) (7)(F)	TN	(b) (3), (b) (7)(F)	(b) (3), (b) (7)(F)		X	(b) (3), (b) (7)(F)		No
			TN				X			No
			TN				X			No
			TN				X			No
			TN			X				No
			TN			X				No
			TN			X				Yes
			TN			X				No
			TN			X				No
			TN			X				No
			TN			X				No
			TN			X				No
			TN			X				No
	(b) (3), (b) (7)		TN			X				No
			TN				X			No
			TN			X				No
	(b) (3), (b) (7)		TN				X			No
			TN			X				No
			TN				X			No

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WATER INTAKE LOCATIONS – RESPONSE ZONE 802

MUNICIPALITY OR OWNER	ID# on USGS MAP	PHONE NUMBER	STATE	USGS MAP#	WATER CROSSING	DRINK WATER INTAKE	IND. WATER INTAKE	LATITUDE (DEG/MIN/ SEC)	LONGITUDE (DEG/MIN/ SEC)	BOOM ON HAND?
(b) (3), (b) (7)(F)		(b) (3), (b) (7)(F)	TN	(b) (3), (b) (7)(F)	(b) (3), (b) (7)(F)		X	(b) (3), (b) (7)(F)		No
			TN			X				No
			TN			X				Yes
			TN			X				No
			TN			X				No
			TN			X				No
			TN			X				No
			TN			X				No
			TN			X				No
			TN			X				No
			TN			X				No
			SC							No
			SC			X				No
			SC							No
			SC			X				No
			SC				X			No
			SC							No

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WATER INTAKE LOCATIONS – RESPONSE ZONE 802

MUNICIPALITY OR OWNER	ID# on USGS MAP	PHONE NUMBER	STATE	USGS MAP#	WATER CROSSING	DRINK WATER INTAKE	IND. WATER INTAKE	LATITUDE (DEG/MIN/ SEC)	LONGITUDE (DEG/MIN/ SEC)	BOOM ON HAND?
[redacted]	[redacted]	[redacted]	NC	[redacted]	[redacted]		X	[redacted]	[redacted]	Yes
[redacted]	[redacted]	[redacted]	NC	[redacted]	[redacted]	X		[redacted]	[redacted]	No
[redacted]	[redacted]	[redacted]	NC	[redacted]	[redacted]		X	[redacted]	[redacted]	Yes
[redacted]	[redacted]	[redacted]	NC	[redacted]	[redacted]	X		[redacted]	[redacted]	No
[redacted]	[redacted]	[redacted]	NC	[redacted]	[redacted]	X		[redacted]	[redacted]	No
[redacted]	[redacted]	[redacted]	NC	[redacted]	[redacted]		X	[redacted]	[redacted]	No
[redacted]	[redacted]	[redacted]	NC	[redacted]	[redacted]	X		[redacted]	[redacted]	No
[redacted]	[redacted]	[redacted]	NC	[redacted]	[redacted]	X		[redacted]	[redacted]	Yes
[redacted]	[redacted]	[redacted]	NC	[redacted]	[redacted]	X		[redacted]	[redacted]	No
[redacted]	[redacted]	[redacted]	NC	[redacted]	[redacted]	X		[redacted]	[redacted]	No
[redacted]	[redacted]	[redacted]	NC	[redacted]	[redacted]	X		[redacted]	[redacted]	No
[redacted]		[redacted]	NC	[redacted]	[redacted]	X		[redacted]	[redacted]	No
[redacted]		[redacted]	NC	[redacted]	[redacted]	X		[redacted]	[redacted]	No
[redacted]	[redacted]	[redacted]	NC	[redacted]	[redacted]	X		[redacted]	[redacted]	No
[redacted]	[redacted]	[redacted]	NC	[redacted]	[redacted]	X		[redacted]	[redacted]	No
[redacted]		[redacted]	NC	[redacted]	[redacted]	X		[redacted]	[redacted]	No
[redacted]		[redacted]	NC	[redacted]	[redacted]	X		[redacted]	[redacted]	No
[redacted]		[redacted]	NC	[redacted]	[redacted]	X		[redacted]	[redacted]	No
[redacted]		[redacted]	NC	[redacted]	[redacted]	X		[redacted]	[redacted]	No
[redacted]		[redacted]	NC	[redacted]	[redacted]	X		[redacted]	[redacted]	No
[redacted]	[redacted]	[redacted]	NC	[redacted]	[redacted]	X		[redacted]	[redacted]	No
[redacted]		[redacted]	NC	[redacted]	[redacted]	X		[redacted]	[redacted]	No
[redacted]		[redacted]	NC	[redacted]	[redacted]	X		[redacted]	[redacted]	No
[redacted]		[redacted]	NC	[redacted]	[redacted]	X		[redacted]	[redacted]	No
[redacted]		[redacted]	NC	[redacted]	[redacted]	X		[redacted]	[redacted]	No
[redacted]		[redacted]	NC	[redacted]	[redacted]	X		[redacted]	[redacted]	No
[redacted]		[redacted]	NC	[redacted]	[redacted]	X		[redacted]	[redacted]	No
[redacted]	[redacted]	[redacted]	NC	[redacted]	[redacted]	X		[redacted]	[redacted]	No
[redacted]	[redacted]	[redacted]	NC	[redacted]	[redacted]	X		[redacted]	[redacted]	No
[redacted]		[redacted]	NC	[redacted]	[redacted]	X		[redacted]	[redacted]	No
[redacted]		[redacted]	NC	[redacted]	[redacted]	X		[redacted]	[redacted]	No
[redacted]		[redacted]	NC	[redacted]	[redacted]	X		[redacted]	[redacted]	No

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WATER INTAKE LOCATIONS – RESPONSE ZONE 802

MUNICIPALITY OR OWNER	ID# on USGS MAP	PHONE NUMBER	STATE	USGS MAP#	WATER CROSSING	DRINK WATER INTAKE	IND. WATER INTAKE	LATITUDE (DEG/MIN/ SEC)	LONGITUDE (DEG/MIN/ SEC)	BOOM ON HAND?
(b) (3), (b) (7)(F)		(b) (3), (b) (7)(F)	NC	(b) (3), (b) (7)(F)	(b) (3), (b) (7)(F)	X		(b) (3), (b) (7)(F)		No
			NC			X				No
			NC			X				No
			NC			X				No
			NC			X				No
			NC			X				No
			NC			X				No
			NC			X				No
			NC			X				No
			NC			X				No
			NC			X				No
			NC			X				No
			NC			X				No
			NC			X				No
			NC				X			No
			NC			X				No
			NC			X				No
			NC			X				No
			NC			X				No
			NC			X				No
			NC			X				No
			NC			X				No
			NC			X				No
			NC			X				Mo
			NC			X				No
			NC			X				No
			NC			X				No
			NC			X				No

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WATER INTAKE LOCATIONS – RESPONSE ZONE 802

MUNICIPALITY OR OWNER	ID# on USGS MAP	PHONE NUMBER	STATE	USGS MAP#	WATER CROSSING	DRINK WATER INTAKE	IND. WATER INTAKE	LATITUDE (DEG/MIN/ SEC)	LONGITUDE (DEG/MIN/ SEC)	BOOM ON HAND?
(b) (3), (b) (7)(F)		(b) (3), (b) (7)(F)	NC	(b) (3), (b) (7)(F)	(b) (3), (b) (7)(F)	X		(b) (3), (b) (7)(F)		No
			NC			X				No
	[redacted]		NC			X				No
			NC			X				No
	[redacted]		NC			X				No
			NC			X				No
			NC			X				Yes
			NC			X				No
	[redacted]		NC			X				No
			NC			X				No
			NC			X				No
			NC			X				No
			NC			X				No
			NC			X				No
			VA			X				No
	[redacted]		VA				X			No
			VA			X				No
			VA			X				No
			AL			X				
			AL			X	X			
			AL			X				
			AL			X	X			
			AL			X				