

HDD Inadvertent Return Contingency Plan with Special Bog Turtle Area Procedures

Pennsylvania Pipeline Project

February 29, 2016

Prepared for:

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**Sunoco Pipeline, L.P. HDD Inadvertent Return Contingency Plan
with Special Bog Turtle Area Procedures
-Pennsylvania Pipeline Project-**

Revision – February 29, 2016

Introduction

This document has been prepared to minimize potential for impacts to sensitive environmental resources from inadvertent releases associated with the horizontal directional drill (HDD) method. This plan will be followed during construction of Sunoco Pipeline, L.P.'s (SPLP's) Pennsylvania Pipeline Project where the HDD construction method is planned under streams, rivers, wetlands, special areas, and transportation features. This plan also contains a specific section outlining the procedures to be implemented to avoid potential impacts to the bog turtle (*Glyptemys muhlenbergii*), a federally threatened species, at some of the HDD locations. A listing of HDD sites is provided in Attachment A with the special bog turtle HDDs highlighted. Construction personnel will be provided detailed construction plans for each HDD, and will be required to implement all erosion and sedimentation control and this contingency plan.

Horizontal directional drilling is used to install pipeline crossings on construction projects, depending on site-specific conditions. HDD is a widely used trenchless construction method which accomplishes the installation of pipelines and buried utilities with minimal disturbance to the ground surface, including streams and wetlands. The primary potential environmental impact associated with HDD revolves around the use of drilling fluids. An inadvertent return of drilling lubricant is a potential concern when the HDD method is used. The purpose of this document is to present SPLP's plan for minimizing the risk for inadvertent returns and potential environmental impacts associated with drilling fluids that do inadvertently escape to the ground surface.

The purpose of this contingency plan is to:

- Provide an overview of the HDD process;
- Minimize the potential for inadvertent returns associated with horizontal drilling activities;
- Provide for the timely detection of inadvertent returns;
- Protect areas that are considered environmentally sensitive (streams, wetlands, other biological resources, cultural resources);
- Ensure an organized and timely response in the unlikely event an inadvertent release of drilling mud would occur; and,
- Ensure that all appropriate notifications are made to SPLP's Environmental Compliance Coordinator, the U.S. Army Corps of Engineers (USACE), U.S. Fish and Wildlife Service (USFWS), Pennsylvania Department of Environmental Protection (PADEP), and other applicable regulatory agencies in a timely manner, and that all required documentation is completed as identified in this document.

Background

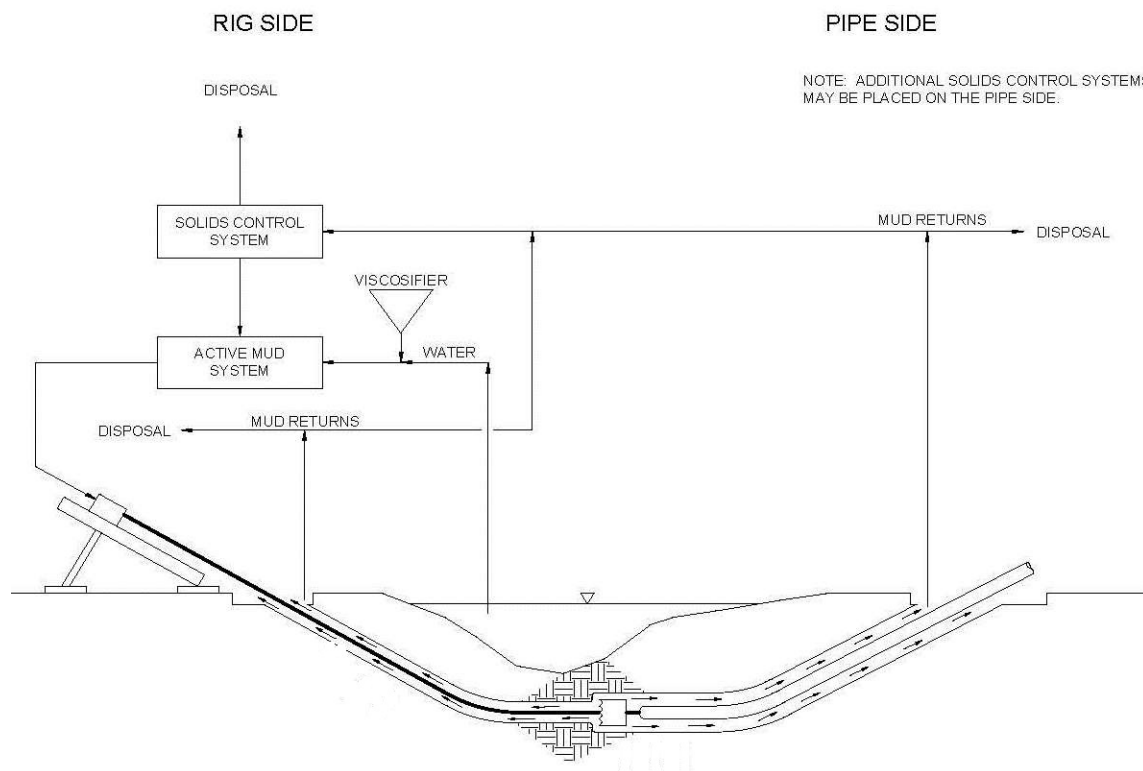
An awareness of the function and composition of HDD drilling fluids (also referred to as drilling mud) is imperative in producing a permittable and constructable HDD crossing design. The principal functions of drilling fluid in HDD pipeline installation are listed below.

- **Transportation of Spoil.** Drilled spoil, consisting of excavated soil or rock cuttings, is suspended in the fluid and carried to the surface by the fluid stream flowing in the annulus between the bore hole and the pipe.
- **Cooling and Cleaning of Cutters.** Build-up of drilled spoils on bit or reamer cutters is removed by high velocity fluid streams directed at the cutters. Cutters are also cooled by the fluid.
- **Reduction of Friction.** Friction between the pipe and the hole wall is reduced by the lubricating properties of the drilling fluid.
- **Hole Stabilization.** Stabilization of the drilled hole is accomplished by the drilling fluid building up a "wall cake" which seals pores and holds soil particles in place. This is critical in HDD pipeline installation as holes are often in soft soil formations and are uncased.
- **Transmission of Hydraulic Power.** Power required to turn a bit and mechanically drill a hole is transmitted to a downhole motor by the drilling fluid.
- **Hydraulic Excavation.** Soil is excavated by erosion from high velocity fluid streams directed from jet nozzles on bits or reaming tools.
- **Soil Modification.** Mixing of the drilling fluid with the soil along the drilled path facilitates installation of a pipeline by reducing the shear strength of the soil to a near fluid condition. The resulting soil mixture can then be displaced as a pipeline is pulled into this formation.

The major component of drilling fluid used in HDD pipeline installation is fresh water, typically obtained at the crossing location. To increase the hydraulic properties of the water, it is generally necessary to modify it by adding a viscosifier. The viscosifier used almost exclusively in HDD drilling fluids is naturally occurring bentonite clay, which is principally sodium montmorillonite. It is not a listed hazardous material/substance as defined by the U.S. Environmental Protection Agency's (USEPA) Emergency Planning and Community Right-to-know Act (EPCRA) or Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) regulatory criteria. If the product becomes a waste, it does not meet the criteria of a hazardous waste, as defined by the USEPA. Bentonite is non-toxic and commonly used in farming practices, but has the potential to impact plants, fish and their eggs if discharged to waterways in significant quantities.

All stages of HDD involve circulating drilling fluid from equipment on the surface, through a drill pipe, and back to the surface through a drilled annulus. Drilling fluid returns collected at the entry and exit points are stored in a steel tank and processed through a solids control system which removes spoil from the drilling fluid, allowing the fluid to be recycled. The cleaned fluid is trucked back to the entrance point for reuse. The basic method used by the solids control system is mechanical separation using shakers, desanders, and desilters. The excess spoil and drilling fluid

are transported to, and disposed of, at an approved and permitted solid waste landfill. A typical HDD drilling fluid flow circuit is illustrated schematically below.



Drilling fluid expended downhole will flow in the path of least resistance. In the drilled annulus, the path of least resistance may be an existing fracture or fissure in the soil or rock substrate. When this happens, circulation can be lost or reduced. This is a common occurrence in the HDD process, but does not prevent completion. However, the environment may be impacted if the fluid inadvertently returns to the surface at a location on a waterway's banks or within a waterway or wetland.

Inadvertent Return Minimization Practices

The risk of an inadvertent return can be mitigated through profile design and implementation of specific measures throughout the installation process.

The HDD profile is designed to minimize the potential for the release of drilling fluid in sensitive areas. Cohesive soils, such as clays, dense sands, and competent rock are considered ideal materials for containment of drilling fluids. Case by case analysis of the overburden will be conducted to determine the depth of the bore necessary to provide a margin of safety against returns in a sensitive area. In non-cohesive soils, such as gravel, a greater depth of cover will be used. If substrate test bores are required during the design phase, they should be a minimum of 20 feet from the HDD centerline where practical. The bore holes should be properly sealed by filling with concrete prior to the HDD process.

Key preventive measures implemented during installation are geared toward keeping the drill fluid contained in the borehole and preventing its escape to the surface. This is accomplished through monitoring and management of drill fluid pressures and drill fluid volumes. The most effective ways of containing and controlling an inadvertent return are early detection and quick response by the HDD crew.

Minimization of Environmental Impact

The major key to minimize environmental impacts associated with HDD drilling fluids is to maintain fluid circulation to the extent practical. Maintenance of fluid circulation is the responsibility of the HDD contractor. Monitoring of drilling mud volumes, pressures, and pump rates/returns will be monitored to assist in determining if significant drill mud loss occurs signaling a possible inadvertent return.

It should be recognized that restoration of circulation may not be practical or possible, and that environmental impact will be minimized by completing construction as soon as possible.

Drilling fluid is easily contained by standard erosion and sedimentation control measures. Drilling fluid is controlled within the boundaries of the worksite through the use of pits at the crossing entry and exit points and typical fluid handling equipment such as vac trucks.

The environmental impacts of a release of drilling fluid into a water body include a temporary increase in local turbidity until drilling fluid dissipates with the current and/or settles to the bottom. In the immediate vicinity of a release, benthic organisms may be impacted if sufficient quantities of bentonite settle upon them.

SPLP will ensure that the HDD contractor will closely monitor fluid circulation to detect potential inadvertent returns at the earliest possible time.

SPLP does not expect that HDD will alter, disturb, or otherwise impact subsurface hydrology of associated streams and wetlands, including subsurface pressurized waters. As such, the surfacing of groundwater is not expected. The HDD engineer is able to monitor pressure releases which would signify a potential return or the surfacing of ground water. Such pressure releases would result in the inspection of the HDD alignment and adjacent areas for releases. If a groundwater discharge is identified, it will be photographed, characterized (i.e., location, size, limits, flow rate, flow direction, clarity, etc.) and reported to the chain of command which will follow the proper agency notification procedures. The inspection and early detection of any discharge will allow the HDD engineer to stop or adjust the HDD to reduce the potential for secondary impacts.

Response to Inadvertent Returns

The HDD contractor shall immediately notify the lead Construction Inspector (CI) and Environmental Inspector (EI) of any sudden losses in returns or any inadvertent return to the surface. If a return is observed, the HDD contractor will take reasonable measures to eliminate, reduce, or control the release. The actions to be taken will depend on the location and time of release, site specific geologic conditions, and the volume of the release. The EI or CI will notify the SPLP's Environmental Compliance Coordinator (ECC) with the initial details of the return upon discovery.

Inadvertent Returns in Uplands

If a release is identified within or nearby the HDD alignment, but outside of wetland areas and within the adjacent uplands, notification, containment, and clean-up will be carried out as necessary. The EI will be required to be present as these activities may need to be conducted outside of pre-approved limits of disturbance. The CI and EI will work closely to determine the best course of action for inadvertent returns occurring within upland areas. The EI will be responsible for notification of the return to SPLP's ECC. The PADEP/USACE/USFWS will not be notified in these cases. The HDD contractor will take appropriate reasonable actions to reduce, eliminate, or control the release. The actions may include:

- Constructing a small pit or sandbag coffer around the release point, installing a section of silt fence and/or straw bales to trap as much drilling fluids as possible, and placing a pump hose in the pit to pump the drilling fluid back to the bore site or temporary holding area or vessels (i.e.: vac truck);
- Reducing drilling fluid pressures;
- Thickening drilling fluid mixture; and/or
- Adding pre-approved loss circulation materials to the fluid mixture, such as wood fibers or shredded paper.

Drilling fluid may be recovered, recycled, and reused to the extent practical. All waste drilling fluid will be properly managed.

Inadvertent Returns in Wetlands/Streams

If the release is identified within wetlands and/or streams, drilling operations will be temporarily suspended to allow the EI to appropriately quantify the release, document its location, photograph the release, assess the potential to impact to the resource(s), and report the incident to SPLP's ECC. Information about the return will be recorded and updated as necessary as a running report on the data form provided in Attachment B. SPLP's ECC is responsible for completion of the data form with the assistance of the EI and environmental compliance contractor. Each form will be updated as new information is learned about the return and as activities to restore the area occur. The general reporting will be "Initial", "Interim", and then "Final". The initial, interim, and final reports will comprehensively document the return from initial discovery/notification through final restoration. **ALL inadvertent returns in wetlands and streams, regardless of size, are to be reported to the appropriate agencies in accordance with the notification section below.**

Containment, clean-up, and restoration activities that would require the installation of construction matting or the entry of construction vehicles and equipment are not allowed without PADEP/USACE approval. If upon reporting the incident, and under further consultation with the agencies, the return is determined to be significant enough to warrant containment, clean-up, and restoration via mechanical methods, then the following procedures will be followed:

- Draft containment and restoration plan, outlining the limits, types, and duration of disturbances, will be submitted to the PADEP/USACE for review and approval.
- Appropriate aquatic resource encroachment permits will be applied for depending on levels and types of disturbances required to clean up the material.
- Approved activities would only be implemented under the close, full-time supervision of the assigned EI.

- Drilling operations will resume when the return is contained and successfully remediated. The return area will continue to be monitored during the daily inspection.

One exception to ceasing drilling operations would be a release of drilling fluids during the pipe pullback process. Ceasing operations would pose significant risk of causing the pulled pipe to be stuck and not able to resume.

Containment & Clean-up Material and Equipment

The HDD contractor will be required to have the necessary containment and clean-up equipment on-site and/or readily available for use. At a minimum, a combination of some or all of the following material and equipment should be on site and in ample supply depending on the extent of sensitive areas:

- Spill sorbent pads and booms
- Compost filter socks
- Straw bales (certified weed-free)
- Wood stakes
- Sand bags
- Silt fence
- Plastic sheeting
- Corrugated plastic pipe
- Shovels
- Push brooms
- Centrifugal, trash and sump pumps
- Vacuum truck
- Rubber tired or wide track back hoe
- Bobcat (if needed)
- Storage tanks (if needed)
- Floating turbidity curtain (may be considered for use on large streams) Timber (enough to cross 50% of the wetland length need to be readily available)

If necessary, a 24-hour outside emergency response company may be called in for assistance (such as Enviroserve – 1-800-642-1311).

Notifications

No agency notifications are required for returns occurring in and contained in upland areas. SPLP's ECC will be responsible for notifying the PADEP/USACE of all returns occurring in or flowing into aquatic resources. SPLP's ECCs are identified as Chris Embry (610-670-3237) and Matt Gordon (610-670-3284). The notifications will initially be via phone to the PADEP Emergency Response numbers listed below and then to the appropriate agency personnel via submittal of an initial inadvertent return data form located in Attachment B.

The Pennsylvania Clean Streams Law regulations require that when any pollutant is discharged into surface or groundwater, including sewers, drains and ditches, the person spilling the substance or the person owning the premises from which the substance is spilled must notify PADEP

immediately. Therefore all returns in aquatic resources SPLP will notify the appropriate PADEP regional emergency number within 24 hours of return discovery:

- PADEP Southwest Regional Office: 412-442-4000;
- PADEP Southcentral Regional Office: 717-705-4802
- PADEP Southeast Regional Office: 484-250-5900
- Other agencies that will be notified include;
 - U.S. Army Corps of Engineers
Pittsburgh District: 412-395-7155
Baltimore District: 410-962-3670
Philadelphia District: 215-656-6728
 - Local agencies and municipalities who are downstream users of water, as applicable.

Following notification to the appropriate emergency/regulatory numbers, SPLP's ECC will notify the following individuals via e-mail submittal of the inadvertent return form located in Attachment B. This will consist of the initial reporting of the return and open consultation and further reporting to the PADEP/USACE in regards the return. The further consultations will be regards to remediation approval, restoration approval, and the need for appropriate approval/permits. The inadvertent return data form will be used to document the consultation and approvals and report final remediation/restoration.

- PADEP Southwest Regional Permit Reviewer (Michael Engelhardt)
- PADEP Southcentral Regional Permit Reviewer (Andrew McDonald)
- PADEP Southeast Regional Permit Reviewer (Donald Knorr)
- PADEP Pittsburgh District Permit Reviewer (Jared Pritts)
- USACE Baltimore District Permit Reviewer (Patricia Strong)
- USACE Philadelphia District Permit Reviewer (David Caplan)

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Phone: 412.442.4304
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Department of Environmental Protection | Waterways and Wetlands Program
South-central Regional Office
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Phone: 717.705.4776
anmcdonald@pa.gov

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Philadelphia, PA 19107
215-656-6731 (office)
David.J.Caplan@usace.army.mil

SPECIAL BOG TURTLE AREA PROCEDURES

All crossings occurring within known or potential bog turtle habitats, as identified and approved by the U.S Fish and Wildlife Service (USFWS) and listed in Attachment A (highlighted in yellow), will be HDD or dry-bored, rather than open trenched, to minimize impact to this species and their habitat. In addition, the HDD drilling activities will only occur at known or potential sites between the dates of April 1 and October 31 to further minimize the potential impact. This plan includes pre-construction and during construction procedures to ensure no bog turtles are negatively impacted at the HDD sites listed in Attachment A (and highlighted in yellow), and outlines a contingency plan for inadvertent releases at these special concern areas.

As discussed, the primary potential environmental impact associated with HDD revolves around the use of drilling fluids. Inadvertent return of drilling lubricant is a potential environmental concern in general and is of particular concern to the USFWS and SPLP in regards to potential impacts to bog turtles where they occur or have the potential to occur. In addition, the increased construction activity in the area of known or potential habitats has the potential for unintentional disturbance to individuals and their habitats. Although implementation of the HDD crossing method represents one of the highest levels of avoidance of impacts (by minimizing/avoiding open trench excavation and the operation of construction equipment in the wetland), the purpose of this document is to present SPLP's plan to further minimize potential impacts to bog turtles associated with all phases of the HDD process and in particular in the event of an inadvertent release.

The objectives of this section of this contingency plan are:

- Avoid impacts to the bog turtle.
- List known or potential bog turtle habitats.
- Ensure project work areas and wetlands are clearly defined on engineer approved project plans.
- Ensure all construction contractors are appropriately trained on the identification of this species and its biology, the notification procedures, and implementation of this contingency plan.
- Ensure bog turtle wetlands/areas are marked prior to construction and that all work areas are appropriately defined (e.g., staked) according to project plans.
- Ensure bog turtle wetlands/areas are sealed off/protected from construction activities.
- Provide daily inspection of contractor activities to ensure compliance with project work plans.
- Provide daily inspection of the HDD alignment and adjacent areas for timely detection of inadvertent returns.
- Ensure all appropriate notifications are made to the USFWS, United States Army Corps of Engineers (USACE) and PADEP, and all other applicable regulatory agencies in a timely manner and that all required documentation is completed as identified in this document.

Pre-construction Activities

All construction, including professional survey personnel will be trained on implementation of this plan, the identification of this species and its biology, and the location of the areas of particular concern. All construction personnel, Environmental Inspector (EI), and on-site bog turtle Specialist (BT Specialist) will be provided with the necessary project plans, mapping, permits, authorized impacts, clearance letters, conservation plans, and this contingency plan prior to the start of construction activities.

To reduce the risk of unintentional damage to bog turtles and their habitats, a BT Specialist will inspect the surveyed (e.g. staked) entrance and exit locations and access roadways associated with the HDD prior to disturbance to ensure that they are not sited in bog turtle habitat and in accordance with project plans (A BT Specialist is defined as an individual holding a Pennsylvania Fish and Boat Commission a Scientific Collector's Permit, and a Special Permit to survey for and handle bog turtles species pursuant to 58 PA Code 75.4). In addition, the boundary of the bog turtle habitat nearest the work areas will be temporarily marked to ensure no activities are unintentionally conducted within bog turtle wetlands and work is restricted to approved work-spaces. Under the direction of the BT Specialist, silt fence will be installed between wetlands and work areas to also prevent bog turtles from entering construction work spaces. Under the direction of the BT Specialist, some areas of herbaceous vegetation may require clearing so that inspection of the area for bog turtles can be made easier.

Construction Activities

No HDDs identified as bog turtle HDDs in Attachment A will occur between November 1 and March 30 to protect hibernating turtles from potential returns. Some pre-construction activities that do not include ground disturbance within the wetland areas, such as drill rig set-up and equipment staging may occur between these time frames, but under close monitoring by the bog turtle specialists.

All procedures implemented by the drilling contractor discussed previously in this contingency plan to reduce the potential for, identification, and notification of inadvertent returns will be implemented at all HDDs. At the bog turtle HDDs listed in Attachment A, inspection of the work areas and compliance with the project plans will be carried out daily by the BT Specialist. In addition, when drilling commences the BT Specialist will inspect all disturbed upland areas and silt fencing multiple times for bog turtles and inadvertent returns. In addition, each wetland will be inspected once-daily for the occurrence of inadvertent returns, including the surfacing of ground water by the BT Specialist. Multiple, daily inspections for inadvertent returns within the wetlands areas were determined unnecessary and a one-time daily inspection would reduce the direct disturbance of normal behaviors if turtles are present. These inspections will continue until drilling is completed and the inadvertent return risk in the wetlands has been removed. Only if the drilling contractor suspects an inadvertent return as determined from the drilling progress and monitoring of the drilling fluids would more than one daily inspection of the wetlands for returns be performed.

Bog Turtle Observations and Handling

Construction personnel will be trained to report all turtle observations to the EI immediately upon siting. All bog turtle observations that are not in harm's way will be documented within project

logs and reported to the USFWS/USACE/PADEP within the final report. Documentation will include dates, times, photographs, and behavior. Additional, protection measures should be considered depending on where bog turtles are observed in relation to project areas.

Bog turtles observed in harm's way shall be handled by the bog turtle Specialist assigned to the area and only if handling is determined necessary to remove the risk of injury or death. Other project personnel are allowed to move turtles small distances, but only in cases of immediate danger. Otherwise steps to passively remove the threat and allow the turtles to continue normal behavior may be determined to be the best course of action. Bog turtles will only be moved to an area within the same wetland, only to a distance necessary to remove the threat. Additional silt fence installation may be required in the area to prevent turtles from returning to areas that presented the threat. Removal or relocation of the construction activity in that particular area will also be considered if practicable to completing the drill. Any bog turtles found within harm's way will be reported to the USFWS immediately as an incident and how it was handled.

Response to Inadvertent Returns

The HDD contractor shall immediately notify the lead Construction Inspector (CI) and Environmental Inspector (EI) of any sudden losses in returns or any inadvertent return to the surface. If a return is observed, the HDD contractor will take reasonable measures to eliminate, reduce, or control the release. The actions to be taken will depend on the location and time of release, site specific geologic conditions, and the volume of the release. The EI or CI will notify the SPLP's Environmental Compliance Coordinator (ECC) with the initial details of the return upon discovery.

Inadvertent Returns in Bog Turtle Wetlands/Streams

If the release is identified within bog turtle wetlands and/or streams, drilling operations will be temporarily suspended to allow the EI and BT Specialist to appropriately quantify the release, document its location, photograph the release, assess the potential to impact to the resource(s), and report the incident to SPLP's ECC. Information about the return will be recorded and updated as necessary as a running report on the data form provided in Attachment B. SPLP's ECC is responsible for completion of the data form with the assistance of the EI, BT Specialist, and environmental compliance contractor. Each form will be updated as new information is learned about the return and as activities to restore the area occur. The general reporting will be "Initial", "Interim", and then "Final". The initial, interim, and final reports will comprehensively document the return from initial discovery/notification through final restoration.

ALL inadvertent returns in bog turtle wetlands and streams, regardless of size, are to be reported to the appropriate agencies in accordance with the notification section below.

Containment, clean-up, and restoration activities that would require the installation of construction matting or the entry of construction vehicles and equipment are not allowed without PADEP/USACE/USFWS approval. If upon reporting the incident, and under further consultation with the agencies, the return is determined to be significant enough to warrant containment, clean-up, and restoration via mechanical methods, then the following procedures will be followed:

- Draft containment and restoration plan, outlining the limits, types, and duration of disturbances, will be submitted to the PADEP/USACE/USFWS for review and approval.
- Appropriate aquatic resource encroachment permits will be applied for depending on levels and types of disturbances required to clean up the material.
- Approved activities would only be implemented under the close, full-time supervision of the assigned EI.
- Drilling operations will resume when the return is contained and successfully remediated. The return area will continue to be monitored during the daily inspection.

One exception to ceasing drilling operations would be a release of drilling fluids during the pipe pullback process. Ceasing operations would pose significant risk of causing the pulled pipe to be stuck and not able to resume.

Containment & Clean-up Material and Equipment

The HDD contractor will be required to have the necessary containment and clean-up equipment on-site and/or readily available for use. At a minimum, a combination of some or all of the following material and equipment should be on site and in ample supply depending on the extent of sensitive areas:

- Spill sorbent pads and booms
- Compost filter socks
- Straw bales (certified weed-free)
- Wood stakes
- Sand bags
- Silt fence
- Plastic sheeting
- Corrugated plastic pipe
- Shovels
- Push brooms
- Centrifugal, trash and sump pumps
- Vacuum truck
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- Bobcat (if needed)
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If necessary, a 24-hour outside emergency response company may be called in for assistance (such as Enviroserve – 1-800-642-1311).

Notifications

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the PADEP Emergency Response numbers listed below and then to the appropriate agency personnel via submittal of an initial inadvertent return data form located in Attachment B.

The Pennsylvania Clean Streams Law regulations require that when any pollutant is discharged into surface or groundwater, including sewers, drains and ditches, the person spilling the substance or the person owning the premises from which the substance is spilled must notify PADEP immediately. Therefore all returns in aquatic resources SPLP will notify the appropriate PADEP regional emergency number within 24 hours of return discovery:

- PADEP Southcentral Regional Office: 717-705-4802
- PADEP Southeast Regional Office Waters and Wetlands: 484-250-5160

In addition, SPLP will notify the appropriate USACE regulatory office numbers within 24 hours of return discovery:

- U.S. Army Corps of Engineers
Baltimore District: 410-962-3670
Philadelphia District: 215-656-6728

Following notification to the appropriate emergency/regulatory numbers, SPLP's ECC will notify the following individuals via e-mail submittal of the inadvertent return form located in Attachment B. This will consist of the initial reporting of the return and open consultation and further reporting to the PADEP/USACE in regards the return. The further consultations will be regards to remediation approval, restoration approval, and the need for appropriate approval/permits. The inadvertent return data form will be used to document the consultation and approvals and report final remediation/restoration.

- PADEP Southcentral Regional Permit Reviewer (Andy McDonald)
- PADEP Southeast Regional Permit Reviewer (Donald Knorr)
- USACE Baltimore District Permit Reviewer (Debby Nizer)
- USACE Philadelphia District Permit Reviewer (David Caplan)

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HDDs under bog turtle wetlands will also require additional notification to the USFWS/USACE/PADEP personnel if different from above. The contact information for the identified points of contacts for bog turtles for these agencies is provide below (note: these may overlapped with other notifications points of contact):

<p>Pamela Shellenberger U.S. Fish & Wildlife Service Pennsylvania Field Office 110 Radnor Rd; Suite 101 State College, PA 16801 814 234-4090 x7459 Pamela_shellenberger@fws.gov</p>	<p>Brian Scofield U.S. Fish & Wildlife Service Pennsylvania Field Office 110 Radnor Rd; Suite 101 State College, PA 16801 814 234-4090 Brian_scofield@fws.gov</p>
<p>Cumberland County Debby Nizer U. S. Army Corps of Engineers Baltimore Dist., Regulatory Branch, PA Section P. O. Box 1715 Baltimore, MD 21203-1715 Phone: 410-962-6085 DEBBY.NIZER@usace.army.mil</p>	<p>Berks (Baltimore District), York Counties Mike Danko U. S. Army Corps of Engineers Carlisle Regulatory Field Office 401 Louthier Street, Suite 205 Carlisle, PA 17013 Phone: 717-249-8730</p>
<p>Berks (Philadelphia District), Chester (Philadelphia District), Delaware, Counties Bill Jenkins, Chief, Applications Section U. S. Army Corps of Engineers Wanamaker Building 100 Penn Square East Philadelphia, PA 19107-3390 Phone: 215-656-6726</p>	<p>Chester (Baltimore District), Lancaster, Lebanon Counties Pat Strong U. S. Army Corps of Engineers Baltimore Dist., Regulatory Branch, PA Section P. O. Box 1715 Baltimore, MD 21203-1715 Phone: 410-962-1847</p>

Summary Report

A summary report will be prepared at the end of the project to document the implementation of the drilling method and this special section of the contingency plan. Number of drills, duration of drills, number of returns, return characteristics, inspection results and observations, lessons learned, and recommendations will all be discussed within this report.

ATTACHMENT A

HDD Table

HDD Name	Aquatic Resources Crossed	County	PADEP Region	Notes	BT HDD
PA-BL-0001.0021-RD	W- BB120	Blair	Southcentral	Drive Through - Travel Only	
PA-BL-0001.0021-RD-16	W- BB120	Blair	Southcentral	Drive Through - Travel Only	
PA-BL-0001.0027-RD	S-M69, W- M49, W- M79	Blair	Southcentral		
PA-BL-0001.0027-RD-16	S-M69, W- M49, W- M79	Blair	Southcentral		
PA-BL-0001.0032-RD	No Aquatic Resource Crossed	Blair	Southcentral	Drive Through - Clearing Only	
PA-BL-0001.0032-RD-16	No Aquatic Resource Crossed	Blair	Southcentral	Drive Through - Clearing Only	
PA-BL-0001.0048-RR	S-BB48, W- BB58	Blair	Southcentral	Drive Through - Clearing Only	
PA-BL-0001.0048-RR-16	S-BB48, W- BB58	Blair	Southcentral	Drive Through - Clearing Only	
PA-BL-0001.0094-WX	S-L76, S-L77, S-BB92, S-BB95, W- L54, W- L55, W- L56	Blair	Southcentral		
PA-BL-0001.0094-WX-16	S-L76, S-L77, S-BB92, S-BB95, W- BB125, W- L54, W- L56	Blair	Southcentral		
PA-BL-0122.0000-WX	S-M38, S-M32, S-M31, W- M24, W- M29	Blair	Southcentral	Drive Through - Clearing Only	
PA-BL-0122.0000-WX-16	S-M38, S-M32, S-M31, W- M24, W- M29	Blair	Southcentral	Drive Through - Clearing Only	
PA-BL-0126.0000-RD	S-M30, S-M33, W- M26	Blair	Southcentral		
PA-BL-0126.0000-RD-16	S-M30, S-M33	Blair	Southcentral		
PA-BR-0032.0000-RD	No Aquatic Resource Crossed	Berks	Southcentral	Drive Through - Travel Only	
PA-BR-0032.0000-RD-16	No Aquatic Resource Crossed	Berks	Southcentral	Drive Through - Travel Only	
PA-BR-0075.0000-RD	No Aquatic Resource Crossed	Berks	Southcentral		
PA-BR-0075.0000-RD-16	No Aquatic Resource Crossed	Berks	Southcentral		
PA-BR-0079.0000-RD	No Aquatic Resource Crossed	Berks	Southcentral		
PA-BR-0079.0000-RD-16	No Aquatic Resource Crossed	Berks	Southcentral		
PA-BR-0138.0001-RD	Pond-B3PuB	Berks	Southcentral	Drive Through - Clearing Only	
PA-BR-0138.0001-RD-16	Pond-B3PuB	Berks	Southcentral	Drive Through - Clearing Only	
PA-BR-0181.0000-RD	S-A57, S-A58, S-J51, W- J48	Berks	Southcentral		
PA-BR-0181.0000-RD-16	S-A57, S-A58, S-J51, W- A37, W- J48	Berks	Southcentral		
PA-CU-0015.0000-RD	S-I89, W- I63, W- J40	Cumberland	Southcentral		
PA-CU-0015.0000-RD-16	S-I89, W- I63, W- J40	Cumberland	Southcentral		
PA-CU-0053.0000-RD	S-BB120, W177	Cumberland	Southcentral		
PA-CU-0053.0000-RD-16	S-BB120, W177	Cumberland	Southcentral		
PA-CU-0062.0000-WX	S-J41, S-J37, S-J36, W- J35	Cumberland	Southcentral		
PA-CU-0062.0000-WX-16	S-J41, S-J37, S-J36, W- J35	Cumberland	Southcentral		
PA-CU-0067.0000-RD	S-J34, W- J31, W- J31	Cumberland	Southcentral		
PA-CU-0067.0000-RD-16	S-J34, W- J31-1	Cumberland	Southcentral		
PA-CU-0128.0000-WX	S-K45, S-I54, S-I53, W- J10, W- J9, W- K44	Cumberland	Southcentral		
PA-CU-0128.0000-WX-16	S-K45, S-I54, S-I53, W- I36, W- J10, W- J9, W- K44	Cumberland	Southcentral		
PA-CU-0136.0000-RD	No Aquatic Resource Crossed	Cumberland	Southcentral		
PA-CU-0136.0000-RD-16	No Aquatic Resource Crossed	Cumberland	Southcentral		
PA-CU-0136.0003-RD	S-I47, W- I30	Cumberland	Southcentral		
PA-CU-0136.0003-RD-16	S-I47, W- I30	Cumberland	Southcentral		
PA-CU-0136.0012-RD	No Aquatic Resource Crossed	Cumberland	Southcentral		
PA-CU-0136.0012-RD-16	No Aquatic Resource Crossed	Cumberland	Southcentral		
PA-CU-0136.0020-RR	No Aquatic Resource Crossed	Cumberland	Southcentral		
PA-CU-0136.0020-RR-16	No Aquatic Resource Crossed	Cumberland	Southcentral		
PA-CU-0136.0002-WX	S-I50, S-I48, W- I31, W- I32	Cumberland	Southcentral		
PA-CU-0136.0002-WX-16	S-I48, W- I31, W- I32	Cumberland	Southcentral		
PA-CU-0176.0014-RD	No Aquatic Resource Crossed	Cumberland	Southcentral		
PA-CU-0176.0014-RD-16	No Aquatic Resource Crossed	Cumberland	Southcentral		
PA-CU-0176.0019-RD	No Aquatic Resource Crossed	Cumberland	Southcentral		
PA-CU-0176.0019-RD-16	No Aquatic Resource Crossed	Cumberland	Southcentral		
PA-CU-0189.0000-RD	S-I40, S-I41, S-I43, W- I25, W- I26, W- I27	Cumberland	Southcentral		
PA-CU-0189.0000-RD-16	S-I40, S-I41, S-I43, W- I25, W- I26, W- I27	Cumberland	Southcentral		
PA-CU-0203.0000-WX	S-I34, S-I36, W- I24	Cumberland	Southcentral		
PA-CU-0203.0000-WX-16	S-I34, S-I36, W- I24	Cumberland	Southcentral		
PA-DA-0005.0000-RD	No Aquatic Resource Crossed	Dauphin	Southcentral		
PA-DA-0005.0000-RD-16	No Aquatic Resource Crossed	Dauphin	Southcentral		
PA-DA-0019.0000-RD	No Aquatic Resource Crossed	Dauphin	Southcentral		
PA-DA-0019.0000-RD-16	No Aquatic Resource Crossed	Dauphin	Southcentral		
PA-DA-0020.0000-RD	No Aquatic Resource Crossed	Dauphin	Southcentral		
PA-DA-0020.0000-RD-16	No Aquatic Resource Crossed	Dauphin	Southcentral		
PA-DA-0030.0000-RR	S-B70, S-C54	Dauphin	Southcentral		
PA-DA-0030.0000-RR-16	S-B70, S-C54	Dauphin	Southcentral		
PA-DA-0039.0000-RD	S-A75, W- CC22	Dauphin	Southcentral		
PA-DA-0039.0000-RD-16	S-A75, W- CC22	Dauphin	Southcentral		
PA-DA-0056.0000-RD	S-B60, S-B61, S-B62, S-B63, W- B57, W- B58, W- C26	Dauphin	Southcentral		
PA-DA-0056.0000-RD-16	S-B60, S-B61, S-B62, S-B63, W- B57, W- B58, W- C26	Dauphin	Southcentral		
PA-DA-0063.0000-RD	No Aquatic Resource Crossed	Dauphin	Southcentral		

HDD Name	Aquatic Resources Crossed	County	PADEP Region	Notes	BT HDD
PA-DA-0063.0000-RD-16	No Aquatic Resource Crossed	Dauphin	Southcentral		
PA-HU-0019.0002-RD	S-Y5, S-Y6, S-Y7, W- Y6, W- Y7-1	Huntingdon	Southcentral	Drive Through - Travel Only	
PA-HU-0019.0002-RD-16	S-Y5, S-Y6, W- Y6, W- Y7-1	Huntingdon	Southcentral		
PA-HU-0020.0008-SS2	S-Y1, S-Y2, S-Y3, W- Y1, W- Y2, W- Y3, W- Y4	Huntingdon	Southcentral	Drive Through - Clearing Only	
PA-HU-0020.0008-SS2-16	S-Y1, S-Y2, S-Y3, W- Y1, W- Y2, W- Y3, W- Y4	Huntingdon	Southcentral	Drive Through - Clearing Only	
PA-HU-0020.0008-WX	LK-2PuB	Huntingdon	Southcentral		
PA-HU-0020.0008-WX-16	LK-2PuB	Huntingdon	Southcentral		
PA-HU-0047.0000-RD	S-L46, W- L27-1	Huntingdon	Southcentral		
PA-HU-0047.0000-RD-16	S-L45, S-L46, Pond-I4PuB, W- L27-1	Huntingdon	Southcentral		
PA-HU-0078.0000-WX	S-L29, S-L28, W46b	Huntingdon	Southcentral		
PA-HU-0078.0000-WX-16	S-L29, S-L28, W46b	Huntingdon	Southcentral		
PA-HU-0106.0000-RD	S-K94, W- K69, W- K69, W- K70-2	Huntingdon	Southcentral		
PA-HU-0106.0000-RD-16	S-K94, W- K69, W- K69, W- K70-2	Huntingdon	Southcentral		
PA-HU-0110.0000-SR	S-K93, S-K91, W- K68	Huntingdon	Southcentral		
PA-HU-0110.0000-SR-16	S-K93, S-K91, W- K68	Huntingdon	Southcentral		
PA-JU-0004.0000-WX	S-K74, W- K59, W- K60-1	Juniata	Southcentral		
PA-JU-0004.0000-WX-16	S-K74, W- K59, W- K60-1	Juniata	Southcentral		
PA-LA-0004.0000-SR	S-K34, S-K35, W- K32	Lancaster	Southcentral		
PA-LA-0004.0000-SR-16	S-K34, S-K35, W- K32	Lancaster	Southcentral		
PA-LA-0014.0000-SR	S-A77, S-A78, S-A79, S-A82, S-A83, W- A54, W-A55	Lancaster	Southcentral		Yes
PA-LA-0014.0000-SR-16	S-A77, S-A78, S-A79, S-A82, S-A83, W- A54, W-A55	Lancaster	Southcentral		Yes
PA-LE-0005.0000-RD	S-A49, S-A51	Lebanon	Southcentral		
PA-LE-0005.0000-RD-16	S-A49	Lebanon	Southcentral		
PA-LE-0001.0000-SR	S-A47, S-K18, W- J47	Lebanon	Southcentral		
PA-LE-0001.0000-SR-16	S-A47, S-K18, W- J47	Lebanon	Southcentral		
PA-LE-0009.0000-RD	No Aquatic Resource Crossed	Lebanon	Southcentral	Drive Through - Travel Only	
PA-LE-0009.0000-RD-16	No Aquatic Resource Crossed	Lebanon	Southcentral		
PA-LE-0055.0000-RD	S-A17	Lebanon	Southcentral		
PA-LE-0055.0000-RD-16	S-A17	Lebanon	Southcentral		
PA-LE-0117.0000-WX	S-C86, W- H13, W- H14	Lebanon	Southcentral		
PA-LE-0117.0000-WX-16	S-C86, W- H13, W- H14	Lebanon	Southcentral		
PA-PE-0002.0000-RD	S-L6, W- L1-1, W- L2	Perry	Southcentral		
PA-PE-0002.0000-RD-16	S-L6, W- L1-1, W- L2	Perry	Southcentral		
PA-YO-0016.0000-RD	No Aquatic Resource Crossed	York	Southcentral	Drive Through - Travel Only	
PA-YO-0016.0000-RD-16	No Aquatic Resource Crossed	York	Southcentral	Drive Through - Travel Only	
PA-YO-0040.0002-RD	No Aquatic Resource Crossed	York	Southcentral		
PA-YO-0040.0002-RD-16	No Aquatic Resource Crossed	York	Southcentral		
PA-YO-0063.0000-RR-16	S-A22, W- A18, W- BB1	York	Southcentral	Drive Through - Clearing Only	
PA-YO-0063.0000-RRb	S-A22, W- A18, W- BB1	York	Southcentral	Drive Through - Clearing Only	
PA-CH-0088.0000-RD	S-Q83, S-Q88, W- Q76, W- Q77, W- Q79	Chester	Southeast		
PA-CH-0088.0000-RD-16	S-Q83, S-Q86, S-Q88, W- Q77, W- Q79	Chester	Southeast		
PA-CH-0100.0000-RD	S-H10, W- H17-1	Chester	Southeast	Drive Through - Travel Only	
PA-CH-0100.0000-RD-16	S-H10, S-H11, W- H17-1	Chester	Southeast	Drive Through - Travel Only	
PA-CH-0111.0000-RD	S-C92, S-C91, S-C87, S-C90, S-C89, W- C43	Chester	Southeast		Yes
PA-CH-0111.0000-RD-16	S-C92, S-C87, S-C90, S-C89, W- C43-1	Chester	Southeast		Yes
PA-CH-0124.0000-RD	S-H4, S-C67, S-C68, S-C69, S-H3, W- C37	Chester	Southeast	BT wetlands H1 and C36 in vicinity	Yes
PA-CH-0124.0000-RD-16	S-H4, S-C67, S-C68, S-C69, S-H3, W- C37	Chester	Southeast	BT wetlands H1 and C36 in vicinity	Yes
PA-CH-0127.0000-RD	S-H5	Chester	Southeast		
PA-CH-0127.0000-RD-16	S-H5	Chester	Southeast		
PA-CH-0138.0000-RD	No Aquatic Resource Crossed	Chester	Southeast		
PA-CH-0138.0000-RD-16	No Aquatic Resource Crossed	Chester	Southeast		
PA-CH-0167.0000-RD	S-C64, S-C63	Chester	Southeast		
PA-CH-0167.0000-RD-16	S-C64, S-C63	Chester	Southeast		
PA-CH-0199.0000-RD	No Aquatic Resource Crossed	Chester	Southeast		
PA-CH-0199.0000-RD-16	No Aquatic Resource Crossed	Chester	Southeast		
PA-CH-0212.0000-RD	S-C61, S-C59, S-C60	Chester	Southeast		
PA-CH-0212.0000-RD-16	S-C61, S-C61, S-C59, S-C59, S-C60, S-C60	Chester	Southeast		
PA-CH-0219.0000-RD	S-B79, S-B81, W- B71	Chester	Southeast		
PA-CH-0219.0000-RD-16	S-B79, S-B81, W- B71	Chester	Southeast		
PA-CH-0227.0003-RD	S-BB27, S-BB28	Chester	Southcentral		
PA-CH-0227.0007-RD	No Aquatic Resource Crossed	Chester	Southcentral		
PA-CH-0227.0010-RD	No Aquatic Resource Crossed	Chester	Southcentral		
PA-CH-0256.0000-RR	No Aquatic Resource Crossed	Chester	Southeast		
PA-CH-0256.0000-RR-16	No Aquatic Resource Crossed	Chester	Southeast		

HDD Name	Aquatic Resources Crossed	County	PADEP Region	Notes	BT HDD
PA-CH-0277.0000-RD	No Aquatic Resource Crossed	Chester	Southeast		
PA-CH-0277.0000-RD-16	No Aquatic Resource Crossed	Chester	Southeast		
PA-CH-0290.0000-RD	S-H30	Chester	Southeast		
PA-CH-0290.0000-RD-16	S-H30	Chester	Southeast		
PA-CH-0326.0000-RD	No Aquatic Resource Crossed	Chester	Southeast		
PA-CH-0326.0000-RD-16	No Aquatic Resource Crossed	Chester	Southeast		
PA-CH-0326.0004-SR	No Aquatic Resource Crossed	Chester	Southeast		
PA-CH-0326.0004-SR-16	No Aquatic Resource Crossed	Chester	Southeast		
PA-CH-0326.0006-RD	No Aquatic Resource Crossed	Chester	Southeast		
PA-CH-0326.0006-RD-16	No Aquatic Resource Crossed	Chester	Southeast		
PA-CH-0355.0000-RD	No Aquatic Resource Crossed	Chester	Southeast		
PA-CH-0355.0000-RD-16	No Aquatic Resource Crossed	Chester	Southeast		
PA-CH-0370.0000-RD	No Aquatic Resource Crossed	Chester	Southeast		
PA-CH-0370.0000-RD-16	No Aquatic Resource Crossed	Chester	Southeast		
PA-CH-0383.0003-ABTE	No Aquatic Resource Crossed	Chester	Southeast		
PA-CH-0383.0003-ABTE-16	No Aquatic Resource Crossed	Chester	Southeast		
PA-CH-0413.0000-RD	No Aquatic Resource Crossed	Chester	Southeast		
PA-CH-0413.0000-RD-16	No Aquatic Resource Crossed	Chester	Southeast		
PA-CH-0420.0000-RD	No Aquatic Resource Crossed	Chester	Southeast		
PA-CH-0420.0000-RD-16	No Aquatic Resource Crossed	Chester	Southeast		
PA-CH-0421.0000-RD	S-B35	Chester	Southeast		
PA-CH-0421.0000-RD-16	S-B35	Chester	Southeast		
PA-DE-0008.0000-RD	No Aquatic Resource Crossed	Delaware	Southeast		
PA-DE-0008.0000-RD-16	S-B36	Delaware	Southeast		
PA-DE-0016.0000-RD	S-B54, S-B52	Delaware	Southeast		
PA-DE-0016.0000-RD-16	S-B54, S-B55	Delaware	Southeast		
PA-DE-0032.0000-RD	No Aquatic Resource Crossed	Delaware	Southeast		
PA-DE-0032.0000-RD-16	No Aquatic Resource Crossed	Delaware	Southeast		
PA-DE-0046.0000-RD	S-C42, S-C40	Delaware	Southeast		
PA-DE-0046.0000-RD-16	S-C42, S-C40, W- C21	Delaware	Southeast		
PA-DE-0074.0000-RD	S-C24, S-C25, S-C23, S-C26, W- C10-1	Delaware	Southeast		
PA-DE-0074.0000-RD-16	S-C24, S-C25, S-C23, S-C26, W- C10	Delaware	Southeast		
PA-DE-0100.0000-RR-16	W- I1	Delaware	Southeast	Drive Through - Travel Only	
PA-DE-0100.0000-RR-16	S-I2, W- I1	Delaware	Southeast	Drive Through - Travel Only	
PA-DE-0104.0008-WX	S-H39, S-H41, S-H37	Delaware	Southeast		
PA-DE-0104.0008-WX-16	S-H39, S-H41, S-H37	Delaware	Southeast		
PA-DE-0104.0023-RR	S-I18, W- BA5, W- BA6, W- I16	Delaware	Southeast		
PA-DE-0104.0023-RR-16	S-I18, W- BA5, W- BA6, W- I16	Delaware	Southeast		
PA-DE-0104.0025-RD	S-H44, S-H43	Delaware	Southeast		
PA-DE-0104.0025-RD-16	S-H44, S-H43	Delaware	Southeast		
PA-AL-0001.0000-RR	No Aquatic Resource Crossed	Allegheny	Southeast		
PA-AL-0033.0000-RD	S163	Allegheny	Southwest	Drive Through - Clearing Only	
PA-CA-0016.0000-RD	S-N41, S-N42 ,W- N27 ,W- N26 , W- N25	Cambria	Southwest		
PA-CA-0016.0000-RD-16	S-N41 ,W- N27 ,W- N26 ,W- N25, S-N42	Cambria	Southwest		
PA-CA-0023.0000-RD	S-N39, S-O44, S-N36, S-O43 ,W- N24 ,W- N20	Cambria	Southwest		
PA-CA-0023.0000-RD-16	S-N39, S-O44, S-N36, S-O43 ,W- O35 ,W- N24 ,W- N20	Cambria	Southwest		
PA-CA-0047.0000-SR	S-CC8 ,W- CC17 ,W- CC19 ,W- CC16	Cambria	Southwest		
PA-CA-0047.0000-SR-16	S-CC8 ,W- CC17 ,W- CC19 ,W- CC16	Cambria	Southwest	Drive Through - Travel Only	
PA-CA-0069.0000-RD	S-N34, S-N17 ,W- N18	Cambria	Southwest	Drive Through - Clearing Only	
PA-CA-0069.0000-RD-16	S-N34, S-N17 ,W- N18	Cambria	Southwest	Drive Through - Clearing Only	
PA-CA-0089.0000-RR	S-K33 ,W- K31	Cambria	Southwest		
PA-CA-0089.0000-RR-16	S-K33 ,W- K31	Cambria	Southwest		
PA-CA-0091.0016-RD	W- L62 ,W- M59 ,	Cambria	Southwest		
PA-CA-0091.0016-RD-16	W- L62 ,W- M59	Cambria	Southwest		
PA-IN-0000.0001-WX	S-J55 ,W- J52 ,W- N28	Indiana	Southwest		
PA-IN-0000.0001-WX-16	S-J56, S-J55 ,W- N28	Indiana	Southwest		
PA-IN-0002.0000-RR	S-J57	Indiana	Southwest	Drive Through - Clearing Only	
PA-IN-0002.0000-RR-16	S-J57, S-J54 ,W- P1	Indiana	Southwest	Drive Through - Clearing Only	
PA-IN-0019.0000-RR	S-J58 ,W- J53	Indiana	Southwest		
PA-IN-0019.0000-RR-16	S-J58 ,W- J53	Indiana	Southwest		
PA-IN-0022.0000-RD	S-O113 ,W- O77	Indiana	Southwest		
PA-IN-0022.0000-RD-16	S-O113 ,W- N61 ,W- O77	Indiana	Southwest		
PA-IN-0025.0000-RD	No Aquatic Resource Crossed	Indiana	Southwest		
PA-IN-0025.0000-RD-16	No Aquatic Resource Crossed	Indiana	Southwest		
PA-IN-0048.0000-RD	W- N56 ,W- N57	Indiana	Southwest		
PA-IN-0048.0000-RD-16	W- N56 ,W- N57	Indiana	Southwest		

HDD Name	Aquatic Resources Crossed	County	PADEP Region	Notes	BT HDD
PA-IN-0086.0000-RD	S-N66 ,W- N34	Indiana	Southwest	Drive Through - Clearing Only	
PA-IN-0086.0000-RD-16	S-N66, S-N65 ,W- N35 ,W- N34	Indiana	Southwest	Drive Through - Clearing Only	
PA-WA-0072.0000-SR	No Aquatic Resource Crossed	Washington	Southwest		
PA-WA-0074.0000-RR	S7	Washington	Southwest		
PA-WA-0102.0000-SR	No Aquatic Resource Crossed	Washington	Southwest		
PA-WA-0103.0000-RD	S16, S250	Washington	Southwest	Drive Through - Clearing Only	
PA-WA-0106.0000-SR	No Aquatic Resource Crossed	Washington	Southwest	Drive Through - Travel Only	
PA-WA-0111.0000-SR	No Aquatic Resource Crossed	Washington	Southwest	Drive Through - Travel Only	
PA-WA-0119.0000-RD	S129, S280	Washington	Southwest		
PA-WA-0119.0003-RD	No Aquatic Resource Crossed	Washington	Southwest		
PA-WA-0127.0000-RR	S130, S131 ,W- W43	Washington	Southwest		
PA-WA-0164.0000-RD	No Aquatic Resource Crossed	Washington	Southwest	Drive Through - Travel Only	
PA-WA-0171.0000-RR	S142, S27, S28	Washington	Southwest	Drive Through - Clearing Only	
PA-WA-0172.0000-RD	S29	Washington	Southwest		
PA-WA-0176.0000-RR	S121	Washington	Southwest		
PA-WM1-0012.0000-RR	S222, S122	Westmoreland	Southwest	Drive Through - Clearing Only	
PA-WM1-0020.0000-WX	S224	Westmoreland	Southwest	Drive Through - Clearing Only	
PA-WM1-0023.0000-RD	S172	Westmoreland	Southwest		
PA-WM1-0039.0000-RD	S226, S181	Westmoreland	Southwest	Drive Through - Clearing Only	
PA-WM1-0042.0000-WX	S182	Westmoreland	Southwest		
PA-WM1-0044.0000-RD	S184	Westmoreland	Southwest	Drive Through - Clearing Only	
PA-WM1-0054.0000-RD	S227, S228 ,W68	Westmoreland	Southwest		
PA-WM1-0072.0000-RD	S198	Westmoreland	Southwest	Drive Through - Clearing Only	
PA-WM1-0088.0000-RR	S199	Westmoreland	Southwest	Drive Through - Clearing Only	
PA-WM1-0111.0000-RD	S201, S202	Westmoreland	Southwest		
PA-WM1-0144.0000-RD	S215 ,W61	Westmoreland	Southwest	Drive Through - Clearing Only	
PA-WM1-0157.0000-RD	No Aquatic Resource Crossed	Westmoreland	Southwest		
PA-WM2-0021.0000-RD	S-Q8, S-Q5, S-Q7 ,W- Q8 ,W- Q7 ,W- Q6	Westmoreland	Southwest		
PA-WM2-0021.0000-RD-16	S-Q8, S-Q5, S-Q7 ,W- Q4 ,W- Q8 ,W- Q7 ,W- Q6	Westmoreland	Southwest		
PA-WM2-0064.0000-WX	Pond-O4	Westmoreland	Southwest	Drive Through - Clearing Only	
PA-WM2-0064.0000-WX-16	Pond-O4	Westmoreland	Southwest	Drive Through - Clearing Only	
PA-WM2-0090.0000-RD	S-P20 ,W- P14 ,W- P13 ,Pond-P3	Westmoreland	Southwest		
PA-WM2-0090.0000-RD-16	S-P20 ,Pond-P3	Westmoreland	Southwest		
PA-WM2-0093.0000-RD	S-O61 ,W- O45	Westmoreland	Southwest	Drive Through - Clearing Only	
PA-WM2-0093.0000-RD-16	S-O61 ,W- O45	Westmoreland	Southwest	Drive Through - Clearing Only	

ATTACHMENT B

Inadvertent Return Data Form

SPLP PENNSYLVANIA PIPELINE PROJECT

HORIZONTAL DIRECTIONAL DRILLING – INADVERTENT RETURN REPORT FORM

IR TRACKING ID	
REPORT DATE:	
REPORT INITIAL/UPDATE/FINAL:	
PADEP PERMIT NO:	
USACE PERMIT NO:	
RESOURCE(S):	
LOCATION COORDINATES:	
LOCATION DESCRIPTION:	
MATERIAL(s) RELEASED:	
DESCRIPTION OF THE RELEASE:	
QUANTITY:	
AERIAL EXTENT:	
T&E / BOG TURTLE SUMMARY:	
TROUT STREAM / EV WATER:	
PADEP EMERGENCY NOTIFICATION:	
NUMBER:	
DATE:	
TIME:	
PERSON:	
CASE NO:	
NOTES:	
PADEP WATERWAYS NOTIFICATION:	
PHONE / EMAIL:	
DATE:	
TIME:	
PERSON:	
NOTES:	
USACE REGULATORY NOTIFICATION:	
PHONE / EMAIL:	
DATE:	
TIME:	

PERSON:	
NOTES:	
USFWS NOTIFICATION:	
PHONE / EMAIL:	
DATE:	
TIME:	
PERSON:	
NOTES:	
IMMEDIATE ACTION:	
CORRECTIVE MEASURES SUMMARY:	
MONITORING PLAN:	
RESTORATION PLAN:	
MAP:	See attached
PHOTOGRAPH(S):	See attached
SPLP POC:	
RESTORATION STATUS:	
ROOT CAUSE:	
IR PLAN REVISIONS:	

MAP:

PHOTOS: