

Resource Report 12

PCB Contamination



Resource Report No. 12

PCB Contamination

Central Mainline Corridor Expansion Project

FERC Docket No. CP26-___-000

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**RESOURCE REPORT NO. 12 – PCB CONTAMINATION
SUMMARY OF FILING INFORMATION**

MINIMUM REQUIREMENT	LOCATION ADDRESSED
For projects involving the replacement or abandonment of facilities determined to have PCBs, provide a statement that activities would comply with an approved EPA disposal permit or with the requirements of the TSCA. (§ 380.12(n)(1))	Section 12.1
For compressor station modification on sites that have been determined to have soils contaminated with PCBs, describe the status of remediation efforts completed to date. (§ 380.12(n)(2))	Not applicable – no soils contaminated with PCBs

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Abbreviations and Acronyms

EPA	U.S. Environmental Protection Agency
FERC	Federal Energy Regulatory Commission
Northern	Northern Natural Gas
NPPD	Nebraska Public Power District
PCBs	polychlorinated biphenyls
ppm	parts per million
Project	Central Mainline Corridor Expansion Project
$\mu\text{g}/100\text{ cm}^2$	micrograms per 100 cm squared

12.0 RESOURCE REPORT 12 – PCB CONTAMINATION

Resource Report 12 describes on-site PCB contamination for Northern’s Project. The EPA regulations address PCBs in natural gas pipeline systems and PCB-contaminated pipeline abandonment procedures and requirements. Resource Report 12 is required for filings involving the replacement, abandonment by removal, or abandonment in place of pipeline facilities determined to have PCBs in excess of 50 ppm in pipeline liquids. Resource Report 12 also is required for compressor station modification on sites that have been determined to have PCB-contaminated soil at concentrations in excess of 50 ppm. Since much of Northern’s pipeline system was installed prior to the 1980s, there is a potential that the pipelines have PCBs in excess of 50 ppm in pipeline liquids (e.g., lubricants and sealants) associated with facilities being removed.

Northern owns and operates a natural gas transmission pipeline system and associated aboveground facilities, including pipelines and facilities in Iowa and Nebraska. Northern is proposing to construct the Project, which will consist of (1) install 9.03 miles of 20-inch-diameter Omaha 3rd branch line loop, (2) install 14.64 miles of 30-inch-diameter NPPD Princeton Road power station branch line, (3) install 2.48 miles extension of the 20-inch-diameter Des Moines C-line, (4) uprate of the 20-inch-diameter Des Moines C-line south loop, (5) install new compressor station near Clarion, Iowa, (6) modify five compressor stations in Iowa and Nebraska allowing bidirectional flow, (7) install NPPD Princeton Road power station meter station, (8) install aboveground facilities including a launcher, receiver, tie-in valve settings, and uprate ancillary equipment. All Project components are located in various counties in Nebraska and Iowa.

Table 12.0-1 provides a list of Project components along with their associated counties.

Table 12.0-1 Project Facilities and Location

Component	Project Facility	Facility Description	County, State
Omaha 3rd branch line loop	9.03-mile pipeline	20-inch-diameter loop	Cass and Sarpy, NE
	Palmyra compressor station	Temporary compression site	Otoe, NE
NPPD Princeton Road power station branch line	14.64-mile pipeline	30-inch-diameter branch line	Gage and Lancaster, NE
	Beatrice to Palmyra D-line and Beatrice to Palmyra E-line Block Valve 5 Setting	Temporary compression site	Lancaster, NE
Des Moines C-line branch line extension	2.48-mile pipeline	20-inch-diameter extension	Dallas, IA
	Ogden compressor station	Temporary compression site	Boone, IA
Des Moines C-line south loop uprate	Royal Estates reducing station	Disconnect existing MAOP control valve	Polk, IA
	Grimes Iowa Town Border Station	New maximum allowable operating pressure regulator	Polk, IA
	Des Moines A-line launcher	New control valve	Polk, IA

Component	Project Facility	Facility Description	County, State
Clarion compressor station	Proposed compressor station	ISO-rated 20,500-horsepower	Wright, IA
Beatrice compressor station	Facility modification	New scrubber install	Gage, NE
Guthrie Center compressor	Facility modification	New piping and valves	Guthrie, IA
Oakland compressor station	Facility modification	New piping and valves	Pottawattamie, IA
Ogden compressor station	Facility modification	New piping and valves	Boone, IA
Palmyra compressor station	Facility modification	New piping, valves and regulation	Otoe, NE

The Project is proposing modifications at five compressor stations (Beatrice, Guthrie Center, Oakland, Ogden, and Palmyra) and a pipeline uprate where liquids may be encountered. Northern has previous PCB laboratory data that indicates the Ogden compressor station is PCB free and the Oakland compressor station is below 50 ppm PCBs. The Beatrice, Palmyra, and Guthrie Center compressor stations have historic readings above 50 ppm PCBs. Northern does not have previous knowledge of PCB-contaminated soil or groundwater in the area of the compressor station modifications. The new pipelines and the proposed Clarion compressor station will not contain any liquids that would contain PCBs. No abandonment of existing pipe will occur.

Northern's PCB disposal procedures are discussed in Section 12.1 below; these procedures meet the requirements outlined in the Toxic Substances Control Act as established under EPA regulations.

12.1 Pipe Removal

The Project will not involve any major pipe removal except for small sections at the tie-in locations for the pipelines and cut-in tees at compressor station modifications in order to install the new valves.

Secondary containment will be installed below all pipe segments to be cut prior to initiation of the cutting activity. The sampling for and disposal of any PCB-contaminated materials encountered on the Project will be conducted in accordance with Northern's PCB Mega Rule Marking Requirements (environmental procedure 410.403), PCB Disposal Requirements (environmental procedure 410.301), Abandonment of Pipeline (environmental procedure 410.404), Sampling for PCBs During Pipeline Removal (environmental procedure 410.405), and Procedures for Wipe Sampling Sections (410.405a) provided as Appendix 12A.

Prior to fully cutting the pipe, a hole will be cut in the top of the pipe and the pipe will be inspected for free liquids. In the event liquids are present, they will be removed by a vacuum truck prior to cutting the pipe segment. Any liquids captured in secondary containment will be containerized and tested for PCB contamination. Should the liquids contain PCB levels 50 ppm or higher, the liquids will be transported to an approved PCB disposal site by a licensed contractor. Any non-hazardous liquids will be disposed of through a petroleum recycler.

Any piping which tests above 10 $\mu\text{g}/100 \text{ cm}^2$ (50 ppm) in a wipe test will be grouted per Northern procedures (refer to environmental procedure 410.404) and the Toxic Substances Control Act regulations (40 Code of Federal Regulations § 761.60).

Appendix 12A

Northern’s Environmental Procedure 410.301 for PCB Disposal Requirements

**Northern’s Environmental Procedure 410.403 for PCB Mega Rule Marking
Procedures**

**Northern’s Environmental Procedure 410.404 for PCBs during Abandonment of
Pipeline**

**Northern’s Environmental Procedure 410.405 for Sampling for PCBs during
Pipeline Removal**

Northern’s Environmental Procedure 410.405a for Wipe Sampling Sections

1 PURPOSE:

The purpose of this procedure is to provide regulatory guidance for transportation and disposal of polychlorinated biphenyl (PCB) wastes off-site in accordance with Environmental Protection Agency (EPA) regulations under the Toxic Substance Control Act (TSCA), 40 CFR Part 761.

2 RESPONSIBILITY FOR ADMINISTRATION:

Operations Manager, Environmental Skill Employees, Division Environmental Specialist (DES) or Project Manager

3 GENERAL:

3.1 The following are the disposal methods available for PCB wastes:

3.1.1 Liquid PCB waste (50 ppm PCBs or greater) must be incinerated at an incinerator approved to accept PCB wastes. Organic liquid PCB waste (e.g., condensate and diesel fuel) that is between 2 and 50 ppm PCBs must be managed as used oil.

3.1.2 PCB contaminated articles, such as pipe and equipment can be disposed of at a municipal landfill, non-hazardous industrial landfill, or scrap metal smelter if it is contaminated at levels less than 500 ppm or 100ug/100cm² PCBs. If pipe is less than 4-inches in diameter and a wipe sample cannot be obtained, the pipe is considered PCB-contaminated at a level of 50 to 500 ppm and disposed of accordingly. If pipe is 4-inches or greater in diameter and contaminated at levels 500 ppm or greater or 100ug/100cm² or greater, the material must be decontaminated before it can be disposed of at a municipal landfill, industrial landfill, or scrap smelter. It can be disposed of at a chemical waste landfill if drained of all free flowing liquids without decontamination. (Per environmental procedure 410.401, Sampling and Recordkeeping for PCBs, a wipe template is 10cm x 10cm, which equals 100cm².)

4 RELATED PROCEDURES:

OP 150.101	Motor Carrier Safety
EA 390.106	Manifesting and Other Transport Requirements for Off-Site Disposal
EA 410.101	PCB Storage and On-site Handling
EA 410.202	Marking Requirements
EA 410.401	Sampling and Recordkeeping for PCBs

5 PROCEDURE:

5.1 Package PCB wastes or material in a secure, non-leaking, Department of Transportation (DOT) approved containers or in a manner approved under the DOT regulations. See environmental procedure 410.101, Storage and On-site Handling, for packaging requirements and/or consult with the safety department.

5.2 Determine the type of facility at which the PCB waste will be disposed using the information in the General section above. Contact the DES for guidance and information on available disposal facilities.

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- 5.3 For PCB wastes that fill more than ½ of a gondola, contact the DES directly to determine arrangements for disposal.
 - 5.4 Prior to offering the PCB waste for transport to a disposal facility, prepare a hazardous waste manifest in accordance with the instructions located in environmental procedure 390.106 and include the additional information set out below:
 - 5.4.1 For each bulk load of PCBs: The identity of the PCB waste, the earliest date of removal from service for disposal, and the weight in kilograms of the PCB waste.
 - 5.4.2 For each PCB article container or PCB container: The unique identifying number of the container, the type of waste (e.g., soil, debris, small capacitors), the earliest date of removal from service for disposal, and the weight in kilograms of the PCB waste. (Note: Each PCB article within a PCB article container does not require a unique identifying number.)
 - 5.4.3 For each PCB article not in a PCB container or PCB article container: The serial number, if available, or other method of unique identification, the date of removal from service for disposal, and the weight in kilograms of the PCB waste in each PCB Article.
 - 5.4.4 Contact the DES for assistance in preparation of the manifest to confirm the need for an EPA ID number and proper description of the out of service date.
 - 5.5 Label each container to be shipped offsite in accordance with DOT and TSCA requirements as follows:
 - 5.5.1 DOT substance or waste by name and UN or NA identification number, (e.g., Polychlorinated Biphenyls UN2315).
 - 5.5.2 TSCA PCB sticker. Refer to environmental procedure 410.202, Marking Requirements.
 - 5.6 If the Northern Natural Gas (Northern) facility uses an independent transporter to transport the PCB waste to a commercial storer or disposer, the facility shall confirm by telephone, or by other means of confirmation agreed to by both parties, that the commercial storer or disposer actually received the manifested waste in the following manner:
 - 5.6.1 The Northern facility shall confirm receipt of the waste by close of business the day after it receives the manifest hand-signed by the commercial storer or disposer.
 - 5.6.2 If the Northern facility has not received the hand-signed manifest within 35 days after the independent transporter accepted the PCB waste, the facility shall telephone, or communicate with by some other agreed-upon means, the disposer or commercial storer to determine whether the PCB waste was actually received. If the PCB waste was not received, the facility shall contact the independent transporter to determine the disposition of the PCB waste.
 - 5.6.3 If the Northern facility does not receive a hand-signed manifest from an EPA-approved facility within 10 days from the date of the telephone call or other agreed upon means of communication, to the independent transporter, the facility must submit an “exception report” to the EPA. See environmental procedure 390.106, Manifesting and Other Transport Requirements for Off-Site Disposal.

- 5.6.4 If the Northern facility is required to keep an Annual Document Log, all telephone conversations must be recorded in that document. See environmental procedure 410.101, PCB Storage and On-site Handling.
- 5.7 PCBs must be disposed of within 1 year of the date that they were removed from service and placed in a storage area. Always ship PCB waste to an off-site disposal location at least 90 days before the 1 year time period will elapse. See environmental procedure 410.101 PCB Storage and On-Site Handling for proper storage and storage time limits.
- 5.8 If an independent transporter is used, contact the commercial facility by telephone when the signed copy of the manifest is received to confirm the waste material was received by the commercial facility. If the waste was not received by the commercial facility, contact the DES.
- 5.9 The disposal facility is required to prepare and submit to the generating facility a "Certificate of Disposal" within 30 days of disposal so that the facility can verify that the waste was disposed within the 1 year time limit. Contact the disposal facility if the Certificate of Disposal is not received in a timely manner.

6 RECORDS:

- 6.1 Submit shipping manifests and Certificates of Disposal to the company approved records management system. Use the category, PCB DISPOSAL on the Document Submittal Form. These records will be kept for the life of the facility.

7 REVISION HISTORY:

Responsibility for Procedure:

Address all questions on this procedure to the director of environmental.

Revisions:

<ul style="list-style-type: none"> Rev. 3 02/28/04 Rev. 4 01/01/06 Rev. 5 10/13/11 	<p>Corrected denominators in section 3.1.2. Added section 5.3 to contact the DES for disposal options if PCB wastes fill more than ½ of a gondola.</p>
<ul style="list-style-type: none"> Rev. 6 07/31/12 	<p>Updated the Related Procedures section and added detail stating that if the pipe is less than 4-inches in diameter and a wipe sample cannot be obtained, the pipe is considered PCB-contaminated at a level of 50 to 500 ppm and disposed of accordingly.</p>
<ul style="list-style-type: none"> Rev. 7 01/21/15 	<p>Publish Only: References to 110.420 Motor Carrier Safety were changed to procedure number 150.101 Motor Carrier Safety.</p>
<ul style="list-style-type: none"> Rev. 8 10/02/20 	<p>Publish Only: Updated outdated references to environmental manual.</p>
<ul style="list-style-type: none"> Rev. 9 11/27/24 	<p>Publish Only: Updated the company logo and program names of systems used by the company.</p>

1 PURPOSE:

The purpose of this procedure is to ensure all portions of the Northern system subject to the PCB Mega Rule are marked using the PCB marked as required under the PCB regulations.

2 RESPONSIBILITY FOR ADMINISTRATION:

Team, DES or Project Manager

3 GENERAL:

None

4 RELATED PROCEDURES:

EA 410.202 PCB Marking Requirements

5 PROCEDURE:

- 5.1 Mark all aboveground sources of PCB contamination such as compressors, valves, drips, pipeline liquid tanks, etc. that contain or collect pipeline liquids contaminated with PCBs at levels at or greater than 50 ppm using the Large PCB Mark described in Procedure 410.202 PCB Marking Requirements.
- 5.2 Underground equipment, including pipe, does not need to be marked.
- 5.3 All pipe and equipment that is removed from service and has been determined to be contaminated with PCBs at levels at 50 ppm PCBs or 10 ug/100cm² or above, must be marked in accordance with Procedure 410.202 PCB Marking Requirements. Use large or small mark depending on the size of the equipment removed.
- 5.4 As pipe is being removed from service, it must also be marked as follows for the purpose of characterizing the pipeline:
 - 5.4.1 Use a permanent marker
 - 5.4.2 Mark on the external service
 - 5.4.3 Mark on the upstream side of the pipe segment
 - 5.4.4 Mark the joint number
 - 5.4.5 Mark the flow direction using an arrow
 - 5.4.6 Mark the top of the joint by the words "TOP"
 - 5.4.7 Mark where wipe sample was collected, if appropriate with the words "Sample Point."

6 RECORDS:

None

7 REVISION HISTORY:

Responsibility for Procedure:

Address all questions on this procedure to the director of environmental.

Revisions:

Rev. 3 02/28/04

Rev. 4 01/01/06

Rev. 5 11/27/24 Publish Only: Updated the company logo

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- 5.4 If liquid samples cannot be collected, then wipe samples, in accordance with environmental procedure 410.401 Sampling and Recordkeeping for PCBs, should be collected from both ends of each “segment” of pipe. At a minimum, sample all ends of all pipeline sections to be abandoned in place.
- 5.4.1 If the pipeline section to be abandoned is between the pressure side of one compressor station and the suction side of the next compressor station downstream, at a minimum, sample all ends of the abandoned pipe.
- 5.4.2 If the pipeline section to be abandoned is longer than the distance between the pressure side of one compressor station and the suction side of the next compressor station downstream, divide the pipeline section, for purposes of sampling, into smaller pipeline sections no longer than the distance from the pressure side of one compressor station to the suction side of the next compressor station downstream. Consider each of the smaller sections to be a separate abandonment and sample each one, at a minimum, at all ends.
- 5.4.3 Use the following procedure to locate representative sample collection sites in pipeline sections at points other than the suction and pressure side of compressor stations, or the ends of the pipeline section to be abandoned.
- 5.4.3.1 Assign a unique identifying sequential number to each kilometer or fraction of a kilometer length of pipe within the entire pipeline section.
- 5.4.3.2 Use a random number table or a random number generator to select each representative sample collection site from a complete list of the sequential identification numbers.
- 5.4.3.3 Samples may be collected by removing any covering soil, cutting the pipe to gain access to the sampling location, and collecting the surface sample with the pipe in place, rather than completely removing the pipeline sections to collect the surface sample.
- 5.5 Assume that the PCB surface concentration for an entire pipeline section is the arithmetic mean of the PCB surface concentrations measured at the ends of the pipeline section. If additional representative samples were taken in a pipeline section, assume that the PCB surface concentration for the entire pipeline section is the arithmetic mean of the concentrations measured in all representative samples taken.
- 5.6 Evaluate the results of the characterization, if any, and do the following:
- 5.6.1 Remove liquids through pigging operations or other methods. Pipeline cannot contain any free flowing liquids.
- 5.6.2 For pipe that is 4-inches or less in diameter, include pipe in One Call system or fill at least 50% with a hardening slurry or high density polyurethane foam. Seal ends of the segment to be abandoned.
- 5.6.3 For pipe that is greater than 4-inches in diameter and tests less than 50 ppm or 10 $\mu\text{g}/100\text{ cm}^2$ there is not special abandonment requirements under the PCB Mega Rule.

- 5.6.4 For pipe that is greater than 4-inches in diameter and tests between 50 ppm (10 $\mu\text{g}/100\text{ cm}^2$) and 500 ppm (100 $\mu\text{g}/100\text{cm}^2$), seal both ends of the segment to be abandoned.
- 5.6.5 For pipe that is greater than 4-inches in diameter and tests greater 500 ppm or 100 $\mu\text{g}/\text{cm}^2$, fill at least 50% with hardening slurry (cement) or high density polyurethane foam. If pipeline is located at a water crossing, only hardening slurry is allowed. Seal both ends of the segment to be abandoned.

6 RECORDS:

- 6.1 Documentation of the abandonment process will be kept with the project file.
- 6.2 Maintain PCB sampling records in accordance with environmental procedure 410.401.

7 REVISION HISTORY:

Responsibility for Procedure:

Address all questions on this procedure to the director of environmental.

Revisions:

- Rev. 3 02/28/04
- Rev. 4 01/01/06
- Rev. 5 10/02/20 Publish Only: Added description of PCB wipe-sampling protocol for pipeline abandonment in place.
- Rev. 6 11/27/24 Publish Only: Updated the company logo

1 PURPOSE:

The purpose of this procedure is to ensure all portions of the Northern system are in environmental compliance with regulations when pipe is removed from the system for reuse or disposal.

2 RESPONSIBILITY FOR ADMINISTRATION:

Team Leader, Environmental Skilled Person, Division Environmental Specialist (DES), Project Manager and Construction Coordinator

3 GENERAL:

None

4 RELATED PROCEDURES:

EA 410.401	Sampling and Recordkeeping for PCBs
EA 410.403	PCB Mega Rule Marking Requirements
EA 410.101	Storage and On-Site Handling
EA 410.301	PCB Disposal Requirements
EA 410.408	Storage for Reuse
EA 470.101	Sale and Purchase of Used Material

5 PROCEDURE:

- 5.1 Prior to removal of pipe, characterization of the pipe to determine PCB contamination may be required. All coal tar based coatings must be sampled for the presence of PCBs prior to removal or disposal. Follow environmental procedure 410.401, Sampling and Recordkeeping for PCBs.
- 5.2 If pipe is 4 inches or less in inside diameter, no sampling is required if the pipe is to be reused within the system or destined for disposal. The pipe must be presumed to be PCB-contaminated at greater than or equal to 50 ppm but less than 500 ppm. Because the piping cannot be properly tested due to size, the pipe may not be used in another manner (e.g., sold).
- 5.3 If the pipe is greater than 4-inches in diameter and still in service, collect liquid samples in accordance with environmental procedure 410.401, Sampling and Recordkeeping for PCBs from all condensate collection points along the portion of the pipeline to be removed. Collection points include compressors, filters, scrubbers, drips and tanks. Sampling must occur within 72 hours of the last transmission of gas. If no liquid samples can be collected due to lack of liquids in that portion of the system or sampling did not occur within 72 hours of the last transmission of gas, wipe samples must be collected at the time of removal. If liquids are present, the line must be characterized based on collection of liquid samples.
- 5.4 Results of liquid sampling should be evaluated by reviewing one upstream sample point to the next downstream sample point. The PCB concentration of the entire pipeline system between those two sampling points is assumed to be the concentration of the upstream sample point. For example, as to points A, B and C below the results should be interpreted as follows:

- 5.8 Mark joints removed for reuse or disposal in accordance with environmental procedure, 410.202, PCB Marking Requirements.
- 5.9 Store joints destined for disposal or reuse within the system in accordance with environmental procedure 410.101, Storage and On-site Handling.
- 5.10 Pipe that is less than 4 inches in diameter can be reused within the system or disposed of in a municipal landfill, industrial non hazardous waste landfill, hazardous waste landfill, or other TSCA disposal facility only after discussion with the DES. The material can also be sent to an authorized scrap metal smelter, refer to environmental procedure 470.101, Sale and Purchase of Used Materials. All free-flowing liquids must be removed.
- 5.11 Pipe that is greater than 4 inches in diameter and contaminated at levels less than 500 ppm PCBs or 100 $\mu\text{g}/\text{cm}^2$ can be reused within the system or disposed of in a municipal landfill, industrial non hazardous waste landfill, hazardous waste landfill, or other TSCA disposal facility. The material can also be sent to an authorized scrap metal smelter, refer to environmental procedure 470.101, Sale and Purchase of Used Materials. All free-flowing liquids must be removed.
- 5.12 Pipe that is greater than 4-inches in diameter and contaminated at levels greater than 500 ppm or 100 $\mu\text{g}/\text{cm}^2$ PCBs, must be decontaminated before it can be reused within the system or disposed in a municipal or industrial landfill. Contact the DES for options.
- 5.13 All coal tar based coatings contaminated at levels greater than 50 ppm must be removed before the pipe can be reused within the system. When the sale of used equipment is contemplated refer to environmental procedure 470.101, Sale and Purchase of Used Materials.

6 RECORDS:

- 6.1 Maintain PCB sampling records in accordance with environmental procedure 410.401.

7 REVISION HISTORY:

Responsibility for Procedure:

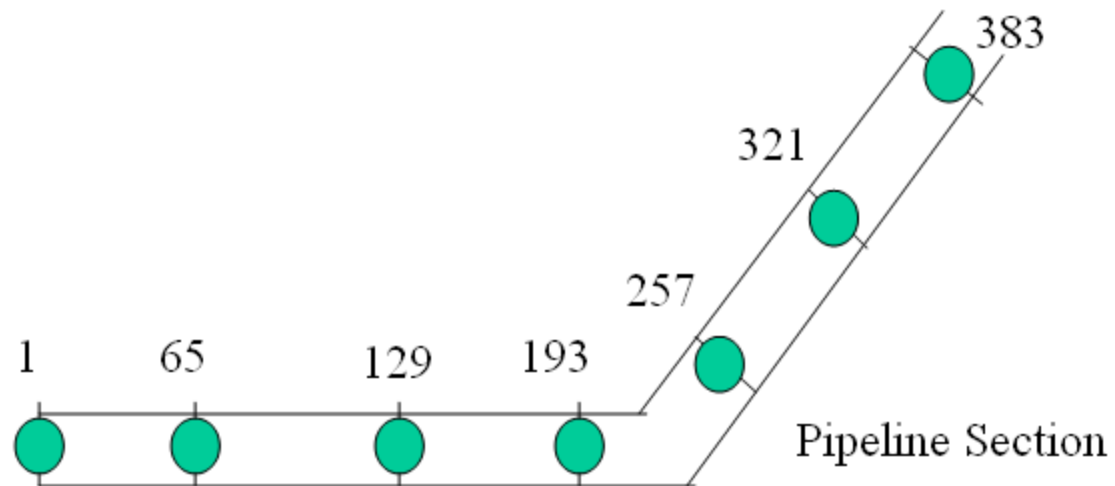
Address all questions on this procedure to the director of environmental.

Revisions:

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|--------|----------|--|
| Rev. 3 | 02/28/04 | |
| Rev. 4 | 01/01/06 | |
| Rev. 5 | 02/28/08 | |
| Rev. 6 | 04/10/13 | Publish Only: Updated procedure for formatting and removed specific reference to the Mega Rule from the Purpose, as this procedure applies to all pipeline removal, including during construction. |
| Rev. 7 | 10/02/20 | Publish Only: Added description of PCB wipe-sampling protocol for pipeline removal. |
| Rev. 8 | 11/27/24 | Publish Only: Updated the company logo |

Wipe Sampling Pipeline Sections that are shorter than 3 miles

1. Determine number of 40 ft. segments (e.g., 2.9 miles has 383 segments)
2. Sample the first and last segments (e.g., 1 and 383)
3. To find other sampling points, divide total number of segments by 6 (e.g., $383/6 = 64$)
4. Take samples sampling interval determined in 3. Above. (e.g., every 64th segment)



Wipe Sampling Pipeline Sections that are longer than 3 miles

1. Sample every one-half mile.
2. 66 Segments equal one half mile.

