

Pipeline Failure Investigation Report
OPID 2714; Unit ID 3261; NRC #N/A; Activity #127584

Pipeline System: H-197 **Operator:** Dominion Transmission
Location: Taylor Ridge, Marshall County **Date of Occurrence:** October 23, 2008
Medium Released: Natural Gas **Quantity:** Not Provided

PHMSA Arrival Time & Date: January 9, 2009 **Total Damages \$** 13,433

Investigation Responsibility: State PHMSA NTSB Other _____

Company Reported Apparent Cause: Corrosion Excavation
 Natural Forces Incorrect Operation Other Outside Force Damage
 Material and/or Welds Equipment and Operations Other _____

Rupture No
Leak Yes
Fire No
Explosion No
Evacuation No Number of Persons NA Area NA

Narrative Summary

Short summary of the Incident/Accident which will give interested persons sufficient information to make them aware of the basic scenario and facts.

DTI submitted a nullification letter to the Information Officer which indicated this event did NOT meet the criteria of a REPORTABLE INCIDENT.

This event was investigated by the WV PSC at the request of the RD, Eastern Region. The WV PSC investigation was deferred with the knowledge that this event would not meet the threshold criteria to be classified as an incident. There was no fire, explosion, evacuation, or injuries.

While constructing a new cross-over connection between existing transmission lines H-197 and TL-558 the backhoe operator snagged the top of an abandoned tap on H-197 about 3" below grade. The existence of the tap was unknown to the construction crew and was not shown on the existing plant drawings. The "original" drawing (5-29-1958) did not show the existence of the 2" tap, but did note modifications done to the yard piping in 1990. The 2" tap is believed to be a pre-code component that pre-dates the drawing. The tap was damaged sufficiently to cause a leak, but the gas did not ignite. The dig-in occurred with the line in service and operating at 250 psig. Pressure was reduced to 50 psig to allow the line to be repaired. The dig-in occurred at 10:10 AM and repairs were completed at 3:30 PM. Crews left the site at 6:30 PM, October 23.

Region/State: Eastern / West Virginia **Reviewed by:** David A. Hippchen
Principal Investigator: Edwin D. Clarkson **Title:** Senior Engineer, Gas Pipeline Safety Section
Date: May 28, 2009 **Date:** May 28, 2009

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Failure Location & Response			
Location (City, Township, Range, County/Parish): Taylor Ridge, Franklin District, Marshall County Map – Appendix 13			(Acquire Map)
Address or M.P. on Pipeline: 39.83884 N 80.77055 W		Type of Area (Rural, City): Rural	
Date: October 23, 2008		Time of Failure: 10:10 AM	
Time Detected: 10:10 AM		Time Located: 10:10 AM	
How Located: Dig-in during excavation activities			
NRC Report #: 888046 (Attach Report)		Time Reported to NRC: 4:12 PM	Reported by: Jim Shafer, Dominion Transmission
Type of Pipeline:			
Gas Distribution	Gas Transmission		Hazardous Liquid
<input type="checkbox"/> LP	<input checked="" type="checkbox"/> Interstate Gas		<input type="checkbox"/> Interstate Liquid
<input type="checkbox"/> Municipal	<input type="checkbox"/> Intrastate Gas		<input type="checkbox"/> Intrastate Liquid
<input type="checkbox"/> Public Utility	<input type="checkbox"/> Jurisdictional Gas Gathering		<input type="checkbox"/> Offshore Liquid
<input type="checkbox"/> Master Meter	<input type="checkbox"/> Offshore Gas		<input type="checkbox"/> Jurisdictional Liquid Gathering
	<input type="checkbox"/> Offshore Gas - High H ₂ S		<input type="checkbox"/> CO ₂
<input type="checkbox"/> LNG Facility			
Pipeline Configuration (Regulator Station, Pump Station, Pipeline, etc.): Existing regulator station on piping run between pipelines H-197 and TL-558. Operator was installing new crossover between these two pipelines. Pipeline facility that damaged during excavation was a 2" nipple and valve on line H-197.			

Operator/Owner Information	
Owner: Dominion Transmission, Inc. Address: 445 West Main Street Clarksburg, WV 26301 Company Official: Jim Shafer Phone No.: 304-627-3430 Fax No.: Not Avail.	Operator: Dominion Transmission, Inc. Address: 445 West Main Street Clarksburg, WV 26301 Company Official: Jim Shafer Phone No. 304-627-3430 Fax No. Not Avail.
<u>Drug and Alcohol Testing Program Contacts</u>	
X N/A	
Drug Program Contact & Phone:	
Alcohol Program Contact & Phone:	

Damages			
Product/Gas Loss or Spill ⁽²⁾	Not Available	Estimated Property Damage \$	Not Available
Amount Recovered		Associated Damages ⁽³⁾ \$	NA

- 1 Photo documentation
2 Initial volume lost or spilled
3 Including cleanup cost

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<i>Damages</i>	
Estimated Amount \$	13,433
Description of Property Damage: Damaged valve and nipple	
Customers out of Service:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Number: <u>1</u>
Suppliers out of Service:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Number: _____

<i>Fatalities and Injuries</i>					
Fatalities:	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Company: _____	Contractor: _____	Public: _____
Injuries - Hospitalization:	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Company: _____	Contractor: _____	Public: _____
Injuries - Non-Hospitalization:	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Company: _____	Contractor: _____	Public: _____
Total Injuries (including Non-Hospitalization):			Company: _____	Contractor: _____	Public: _____
Name	Job Function	Yrs w/ Comp.	Yrs. Exp.	Type of Injury	

<i>Drug/Alcohol Testing</i>					<i>X N/A</i>
Were all employees that could have contributed to the incident, post-accident tested within the 2 hour time frame for alcohol or the 32 hour time frame for all other drugs?					
<input type="checkbox"/> Yes <input type="checkbox"/> No					
Job Function	Test Date & Time	Location	Results		Type of Drug
			Pos	Neg	
			<input type="checkbox"/>	<input type="checkbox"/>	
			<input type="checkbox"/>	<input type="checkbox"/>	
			<input type="checkbox"/>	<input type="checkbox"/>	
			<input type="checkbox"/>	<input type="checkbox"/>	
			<input type="checkbox"/>	<input type="checkbox"/>	

<i>System Description</i>

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<i>Weather Conditions</i>		<input checked="" type="checkbox"/> N/A
Temperature:	Wind (Direction & Speed):	
Climate (Snow, Rain):	Humidity:	
Was Incident preceded by a rapid weather change? <input type="checkbox"/> Yes <input type="checkbox"/> No		
Weather Conditions Prior to Incident (Cloud Cover, Ceiling Heights, Snow, Rain, Fog):		

<i>Class Location/High Consequence Area</i>		<input type="checkbox"/> N/A
Class Location: 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/>	HCA Area? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Determination: _____	Determination: _____	
Odorization Required? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A		

<i>Maps & Records</i>		<input type="checkbox"/> N/A
Are Maps and Records Current? ⁽⁵⁾ <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
Comments: The "original" drawing (5-29-1958) did not show the existence of the 2" tap, but did note modifications done to the yard piping in 1990. The 2" tap is believed to be a pre-code component that pre-dates the drawing.		

<i>Operator/Contractor Error</i>		<input type="checkbox"/> N/A
Name: Don Pethel	Job Function: Equipment Operator	
Title: [Not available]	Years of Experience: [Not available]	
Training (Type of Training, Background): Company Internal Training		
Was the person "Operator Qualified" as applicable to a precursor abnormal operating condition? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		
Was qualified individual suspended from performing covered task <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		
Type of Error (Inadvertent Operation of a Valve): Did not anticipate finding tap on line at less than standard cover.		
Procedures that are required: See Work Procedure Number OQ-040-GL – Appendix 10		
Actions that were taken: Hand digging to expose pipe; removing cover with mechanized equipment.		
Pre-Job Meeting (Construction, Maintenance, Blow Down, Purging, Isolation): NA		
Prevention of Accidental Ignition (Tag & Lock Out, Hot Weld Permit): NA		
Procedures conducted for Accidental Ignition: NA		
Was a Company Inspector on the Job? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
Was an Inspection conducted on this portion of the job? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
Additional Actions (Contributing factors may include number of hours at work prior to failure or time of day work being conducted): NA		

⁵ Obtain copies of maps and records

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Maps & Records N/A

Are Maps and Records Current? ⁽⁵⁾ Yes No

Training Procedures:
NA

Operation Procedures:
NA

Controller Activities:
NA

Name	Title	Years Experience	Hours on Duty Prior to Failure	Shift

Alarm Parameters: NA

High/Low Pressure Shutdown: NA

Flow Rate: NA

Procedures for Clearing Alarms: NA

Type of Alarm: NA

Company Response Procedures for Abnormal Operations: NA

Over/Short Line Balance Procedures: NA

Frequency of Over/Short Line Balance: NA

Additional Actions: NA

Additional Actions Taken by the Operator N/A

Make notes regarding the emergency and Failure Investigation Procedures (Pressure reduction, Reinforced Squeeze Off, Clean Up, Use of Evacuators, Line Purging, closing Additional Valves, Double Block and Bleed, Continue Operating downstream Pumps):

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Additional Actions Taken by the Operator

N/A

Dominion revoked the OQ credentials for the two individuals directly involved with the dig-in: Don Pethel and Jesse Ramsey. These individuals were to be re-qualified for subsequent work.

Dominion revised the equipment drawing for XS-2118 to show the presence of the abandoned 2" tap on H-197 (2" 600# BV, screw [threaded connection], 12' from new crossover). (Appendix 2 – Appendix 3)

Dominion placed a field marker on site to identify the abandoned 2" tap location. Dominion did not place tub enclosure around abandoned facility, however.

Dominion will emphasize appropriate marking in the field and adequate as-built drawings during employee training.

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Photo Documentation ⁽¹⁾			
Overall Area from best possible view. Pictures from the four points of the compass. Failed Component, Operator Action, Damages in Area, Address Markings, etc.			
Photo No.	Description (Appendix 4)	Photo No.	Description
1	Construction Site Close-up		
2	Construction Site General		
3	Damaged Valve and Nipple		
4	Post-Incident General View (1)		
5	Close-up of Marker		
6	Post-Incident General View (2)		
7	Post-Incident General View (3)		
Camera Type: Unknown Make of Digital by Dominion Transmission			

Persons Interviewed		
Name	Title	Phone Number
Shawn Miller	Compliance Engineer	304-627-3404
Joseph Pernell	Corrosion Tech	304-266-2742
William Everitt	Operations Supervisor	304-627-3098
Jeremy Smith	Operations Superintendent	304-269-6933

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<i>Event Log</i>	
Sequence of events prior, during, and after the incident by time. (Consider the events of all parties involved in the incident, Fire Department and Police reports, Operator Logs and other government agencies.)	
Time / Date	Event
	See DTI Accident Investigation Appendix 1

<i>Failure Investigation Documentation Log</i>				
Operator: Dominion Transmission, Inc.		Unit #: 2714	CPF #: NA	Date: 10/23/08
Appendix Number	Documentation Description	Date Received	FOIA – Posted on Web	
			Yes	No
1	DTI Accident Investigation	1/9/09	NA	
2	XS-2118 Original Drawing	1/9/09	NA	
3	XS-2118 Current Drawing	1/9/09	NA	
4	Photographs (7)	6/12/09	NA	
5	TFIR 36970	1/9/09	NA	
6	TFIR 36971	1/9/09	NA	
7	TFIR 36976	1/9/09	NA	
8	TFIR 36986	1/9/09	NA	
9	TFIR 37040	1/9/09	NA	
10	Work Procedure Number OQ-040-GL	1/9/09	NA	
11	Miss Utility Ticket #2380341	1/9/09	NA	
12	Miss Utility Ticket #2900038	1/9/09	NA	
13	Incident Location Map	11/8/2010	NA	

From: Jeremy Smith**Date:** 11/3/2008**Category:** *Accident Investigation***Subject:** H-197 Line Hit Investigation**Overview**

H-197 near Taylors Ridge @ XS-2118 in Marshall County, WV was exposed to install a 12" split tee for a hot tap. The line was spotted by hand digging then the excavator was used with a spotter to expand the hole to accommodate the fitting and welders. While clearing off the topsoil over the pipe a 2" valve and nipple that was stubbed off under ground was struck. The valve was only 3" below the ground. H-197 was at 275 psi. There was no indication or record of the tap being there. Pressure was lowered to less than 50 psi and a new valve and nipple was installed. Fittings were tightened and leak checked. The Certainteed plant was the only customer we could not keep in gas.

DOT Reportable Incident? N***** NRC Report #888046**

***Incident was initially reported in case the damage was more than the \$50,000 threshold. It was later determined to be less than \$50,000.

Accident Chronology

<u>Date</u>	<u>Time</u>	<u>Description of Event</u>
10/23/08	9:00 AM	Hand digging began on H-197 by Southern Area Support (SAS) to expose line for 12" split tee. Line was spotted and then excavated with equipment. Don Pethel was equipment operator, Jesse Ramsey spotter.
10/23/08	10:10 AM	A 2" nipple and valve was struck and broke while continuing to remove cover from H-197. The valve was only 3" below grade. Equipment was shut off and employees evacuated the site. Pressure was approximately 275 psi.
10/23/08	10:12 AM	All employees were safe and accounted for then Jeff Hull/Jeremy Smith were notified by area employees.

10/23/08	10:15 AM	Gas Control was notified. Gas Control had notified Hope Gas and Spectra of the incident. Spectra dispatched meter specialist to Taylor Ridge M&R.
10/23/08	10:30 AM	Jim Merritt arrived on site and contacted Jeremy Smith/Jeff Hull.
10/23/08	11:30 AM	Kenny Davis and Bernard Grisby were contacted @ West Union extraction plant and dispatched to Taylor Ridge M&R to assist with pressure control.
10/23/08	12:00 PM	Gas Control ask Spectra to lower pressure to 100 psi.
10/23/08	1:00 PM	Spectra lowered the pressure from 275 psi to 100 psi.
10/23/08	1:20 PM	SAS could not repair leak at that pressure.
10/23/08	1:45 PM	Kenny Davis and Bernard Grisby lowered pressure to 75 psi on the DTI regulator runs.
10/23/08	2:30 PM	SAS could not repair leak at that pressure
10/23/08	3:00 PM	Pressure was lowered again to 50 psi
10/23/08	3:21 PM	SAS repaired leak with new 2" nipple and valve.
10/23/08	3:30 PM	Pressure was increased until the original set point of 275 psi was reached. Leak checks were performed periodically until 275 psi was achieved. Gas Control, Hope Gas and Spectra were all contacted.
10/23/08	6:30 PM	Pressure through regulation had been set and holding 275 psi. Gas Control was notified by Kenny Davis that they were leaving the M&R.

Drug/Alcohol Testing

<u>Date</u>	<u>Time</u>	<u>Name of Person Tested</u>	<u>Type of Test</u>
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Testing not required per Jim Parsons/Jim Shafer

List of Samples Sent for Analysis

<u>Date</u>	<u>Sample Type</u>	<u>Description</u>	<u>Name of Laboratory</u>
NA			

Root Cause Analysis

Investigation

1. Investigation of incident revealed that the valve was only 3” deep. The line had been located with a locator then exposed by hand digging. Once exposed the excavator was used to expose more pipe. It is nearly impossible to locate buried taps that do not come above grade unless someone is aware of their location or they are marked on a drawing. There was no gate site drawing for this location. Locator technology does an acceptable job for line location and an approximate depth but does not indicate the location of taps and such in a vertical position. There was no marker indicating the buried valve. It should have been placed in a valve tub. Both the equipment operator and spotter were OQ qualified and very experienced @ excavating.

Causes

1. There was no gate junction-drawing showing the location of the buried valve.
2. There were no above ground markings indicating the buried valve.
3. Not a known way of finding a buried tap on a pipeline
4. Current locator technology does not indicate taps, valves, etc. while locating a pipeline.

Countermeasures

1. Operations is working with Maps and Records to develop a gate site drawing for this location. Tap and valve will be on the drawing
2. Valve has been painted orange and will be encompassed in a tub so that it will remain above ground and can be seen.
3. Valve indication marker will be install @ valve location.
4. Awareness through the “Near Miss” program. Hope to educate people on the importance of marking underground facilities in the field and on drawings.

Lessons Learned

1. There was no gate junction drawing on record. Field Operations is working with Maps and Records to develop a gate junction drawing.
2. 2” valve contacted by excavator with no above ground marker. Operations is installing a valve tub and marker to prevent reoccurrence @ this location.
3. There is a high probability that there are many more of these unknown buried facilities. There is a chance of contacting these other buried facilities in the future. It is prudent that we discuss with our employees the importance of not marking buried piping, valves, etc. Whenever possible the avoidance of burying this equipment all together is the best practice. When this cannot be done the buried piping should be well marked and documented.

Additional Information

- There were no injuries, fires or excavations.
- One call had been placed and cleared. GPS Coordinates 39.832503 / -80.774212
- Originally reported as DOT reportable. After investigation it is clear it is NOT DOT recordable.
- Jeff Barger, Jim Parsons, Phyllis Hinterer were all contacted during incident.
- Also spoke with Jim Shafer, Joe Kienle and the Certificates group.
- Certainteed Plant was unable to stay online due the low pressure. (Not a Firm Customer)
- The needed pressure supply to Certainteed was restored in less than 3 hours.
- OQ qualifications for excavation a pipeline were revoked for the equipment operator and the spotter.
- Bob Nutter (Safety Rep) worked on investigation with Jeremy Smith and Jim Merritt
- Gas Loss was \$13,433
- Some times were approximated.

Photographs and Videos

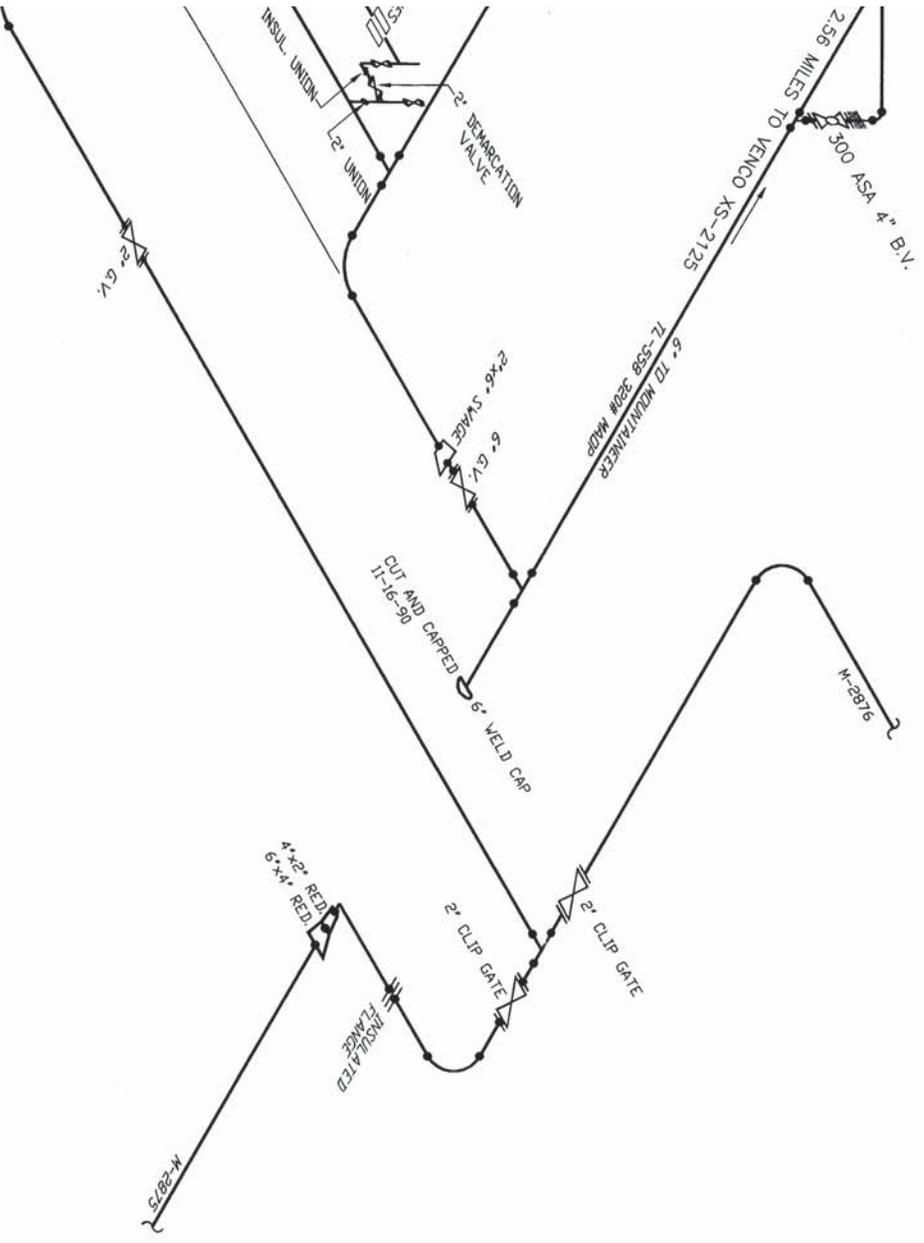
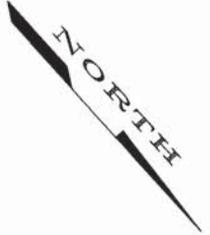
New 2" Valve and Nipple.



Damaged 2" Valve and Nipple Assembly



GATE TABLE								
LTR	VAZ	ANS	MFR	TYP	ECN	OPM	OTP	OPE
A	4"	300#	ASA	B.V.	FLGD.	-	-	-

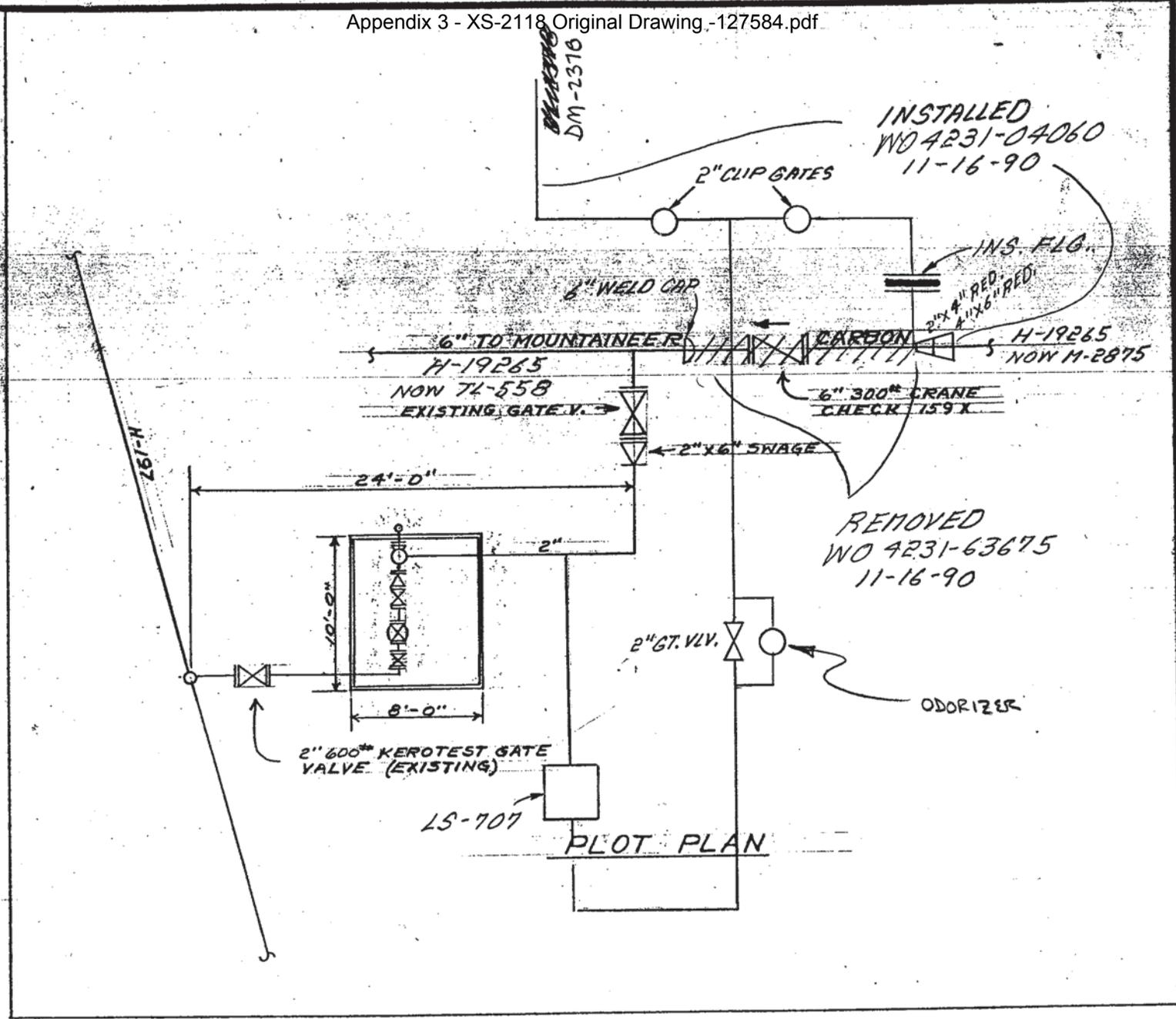


DATE	BY	REVISION INFORMATION	PROJECT/TASK	APP.

Dominion Transmission, Inc.
 445 West Main St. Charlottesville, West Virginia 26301 / Phone (304) 623-8000

TITLE:
 TAYLOR RIDGE/GATTS
 XS-2118

COUNTY:	MARSHALL	OMAP:	Q115143
RESPON. CEN:		FACET:	FF41502219
DRAWN:	BWH	DATE:	10/28/08
911 ADDRESS:		AREA:	SOUTHERN
		GATE NO.	1182
		REV.	0



DEPARTMENTAL
 APPROVAL
 DATE 5/29/58
 BY [Signature]

HOPE NATURAL GAS CO.
 CLARKSBURG, W. VA.
 FOR: MOUNTAINEER CARBON
 TITLE: H-197 TAP & REGULATOR TO SUPPLY

SCALE $\frac{1"}{2"} = 1'-0"$	DATE	BUDGET	W.O. 16-39-27-C
DRAWN NB	5-29-58	DEPARTMENT	
CHECKED GHE	5-29-58	METER	
ENGINEER GHE	5-29-58	XS-2118	
APPROVED [Signature]	5-29-58	DWG. NO.	REV
		16-39-27-C	0
SYM.	DATE	BY	REVISION

Photo 1 - Construction Site Closeup



Photo 2 -Construction Site General



Photo 3 - Damaged Valve and Nipple



Photo 4 – Post Incident General View



Photo 5 – Close up of Marker



Photo 6 – Post Incident General View (2)



Photo 6 – Post Incident General View (3)





TFIR By Report Number

TFIR 36970

Common Section:

TFIR Report No.	Inspection Date	Resp. Center	County	Township	TFIR User ID	Co. One Call Ticket No.	Ext. One Call Ticket No.	Facility in HCA?
36970	8/29/08	Bridgeport Transmission	Marshall	Franklin	jose415	2380341		No
Foreign/Company Facility	Facility Type	Facility Class	*	Pipeline Number	Class Location			
	Pipeline	Transmission	H	197	Class 1			
Reason For Report	Bellhole Type	Defect Type	Discovered By	Pipe Cover	Soil Type			
In-House Construction				Soil	Earth			
SAMS Sys ID	Survey Station	Physical Location	GPS Latitude	GPS Longitude	Dist. to Nearest Structure			
		TAYLOR RIDGE	39.83823	-80.76961				
Damage Description	Property Damage	Reportable Incident Type	Report Number	WBS Type	WBS Number			
					39066.1.2			
Remarks								
H197 PRE EVALUATION OF PIPING FOR HOT TAP AT TL558 JCT XS2118								

Detailed Pipe Inspection:

Did you observe bare pipe?	CorrEval Filled Out?	CorrEval No.	Line Location					
Yes	No		Under Ground					
Outside Diameter	Remaining Wall Thickness	Original Wall Thickness	Existing Pipe Grade	Existing Coating	Existing Joint Coating			
12	0.291	0.312	Grade B	None	None			
Existing Joint	Footage Exposed	Material	Cover Amount	Trench Condition	Type of Longitudinal Seam			
Weld Elec.	10	Steel	18					
Cathodic Protection	Location of Girth Welds	No. of Wrinkle Bends	Previous Leak Clamps	Previous Leak Repair Other				
			0	0				
Existing Coating Cond.	Coat. Cond. Bond Top	Coat. Cond. Bond Side	Coat. Cond. Bond Bottom	Coat. Cond. Dam. Top	Coat. Cond. Dam. Side	Coat. Cond. Dam. Bottom		
Coat. Cond. Dist. Top	Coat. Cond. Dist. Side	Coat. Cond. Dist. Bottom	Coat. Cond. Brittle Top	Coat. Cond. Brittle Side	Coat. Cond. Brittle Bottom			
Pipe Damage	Damage Location	Cause of Damage	Leak Grade	Defect Inspection Type				
None								
Damage Result	Current/Latent	Anomaly Orientation						
Ext. Corr. Kind	Ext. Corr. Loc. Top	Ext. Corr. Loc. Side	Ext. Corr. Loc. Bottom	Ext. Corr. % Exposed	Ext. Corr. Deepest Pit	Ext. Corr. Corroded Len.		
General	No	No	No		0	0		

Line Hit

Reason for Line Hit	Know who caused the damage?	One Call Ticket Called In?	Responsible Party	Contact Name	Contact Phone	Contact Address			

Internal Corrosion

Checked Internal Corrosion?	Int. Corr. Kind	Int. Corr. Least Wall Thickness	Int. Corr. Location Top	Int. Corr. Location Side	Int. Corr. Location Bottom	Int. Corr. Corroded Length
No						
Int. Corr. Adj. Pipe	Corrosion Tech	Distance To Nearest Girth Welds		Orientation of Exist. Long. Seam		
				1		
Fluid In Pipe?	Corrosion Type	Remarks				

Soil Information

Was Soil Reading or Sample Taken?	UT Meter Calibrated?	Soil Resistivity	Soil Resistivity Test Type	pH of Soil Next To Pipe	pH of Soil in Ditch	pH of Fluid Under Coating	MIC Sample Taken?	pH Sample Taken?

Action Taken

Action Taken	Repair Schedule	Date of Action	Leak Detected By	Detection Method	% LEL	% Gas	No. of Clamps	Discovery Pressure
Pipe Repl.		Sep 20, 2008						
Repair Pressure	Pipe Repl. Mat'l	Isolated?	Pipe Repl. Coating	Repl. Footing Installed	From Line Plus	To Line Plus		
Testing Duration	Test Pressure Min.	Test Pressure Max.	Test Report No.	New Pipe Coating Cond. Acceptable?		Check Holiday Detail and Repair?		
Repl. Pipe Mfg.	Repl. Pipe O. D.	Repl. Pipe Wall	Repl. Pipe Grade	MAOP	No. Leaks Repaired	Test Stations Installed		
				340				
Actual Anode No.	Add'l 2 Ft. Exposed?	Hole Size	No. of Holes	Work Performed By	Contractor Name	Anode Attached?		
	Yes							
No. of Bonds	Wrinkle Bends Removed	Girth Welds Reinforced	Girth Welds Removed	Fab. Welds Repaired	Pipe Mfg. Date	Mill Test Report		
Backfill Type	Orient. of New Long. Seam	Component Type	CMS ID					

Encroachment

Encroachment Type	Aerial No.	Canopy Desc.	Contact Person	Contact Phone	Alternate Phone	Contractor/Landowner	Investigation Complete?	Excavated 10 FT.?	Monitored Activity?
Follow Up Required?	New Building Address		Structure Type	Dwelling Number	Contact St. Address	Contact City	Contact State	Contact Zip	

Erosion

Erosion Type	Reassessment Date	Erosion Activity	Action Taken

Gas Loss

Did gas escape?	Blowdown or Purge?	Business Function	Pipe Run Diameter (Nominal)	Blowdown Pipe Length	Blowdown Temp.
Purge Diameter	Purge Time	Leak Date	Leak Duration		

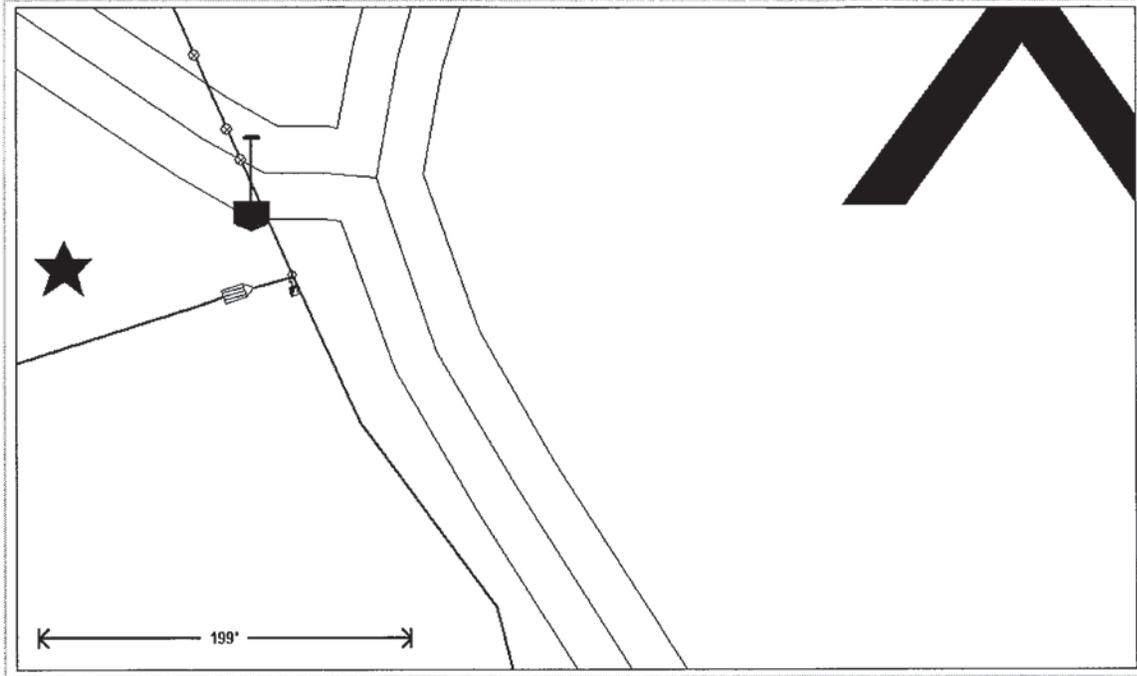
Attachment

Attachment ID	Incident ID	Attachment	Attachment Type	Attachment Desc	Hyperlink

Sketch



Sketch



Jan 9, 2009

- 1 -

8:33:19 AM



Dominion®

TFIR By Report Number

TFIR 36971

Common Section:

TFIR Report No.	Inspection Date	Resp. Center	County	Township	TFIR User ID	Co. One Call Ticket No.	Ext. One Call Ticket No.	Facility in HCA?
36971	8/29/08	Bridgeport Station	Marshall	Franklin	jose415	2380341		No
Foreign/Company Facility		Facility Type	Facility Class	*	Pipeline Number	Class Location		
		Pipeline	Transmission	TL	558	Class 1		
Reason For Report	Bellhole Type	Defect Type	Discovered By	Pipe Cover	Soil Type			
In-House Construction				Soil	Earth			
SAMS Sys ID	Survey Station	Physical Location	GPS Latitude	GPS Longitude	Dist. to Nearest Structure			
		TAYLOR RIDGE	39.83879	-80.77055				
Damage Description	Property Damage	Reportable Incident Type	Report Number	WBS Type	WBS Number			
					39066.1.2			
Remarks								
TL558 PRE EVALUATION OF PIPING FOR HOT TAP								

Detailed Pipe Inspection:

Did you observe bare pipe?	CorrEval Filled Out?	CorrEval No.	Line Location			
Yes	No		Under Ground			
Outside Diameter	Remaining Wall Thickness	Original Wall Thickness	Existing Pipe Grade	Existing Coating	Existing Joint Coating	
6	0.28	Unknown	UNKNOWN	None	None	
Existing Joint	Footage Exposed	Material	Cover Amount	Trench Condition	Type of Longitudinal Seam	
Weld Elec.	10	Steel	45			
Cathodic Protection	Location of Girth Welds	No. of Wrinkle Bends	Previous Leak Clamps	Previous Leak Repair Other		
			0	0		
Existing Coating Cond.	Coat. Cond. Bond Top	Coat. Cond. Bond Side	Coat. Cond. Bond Bottom	Coat. Cond. Dam. Top	Coat. Cond. Dam. Side	Coat. Cond. Dam. Bottom
Coat. Cond. Dist. Top	Coat. Cond. Dist. Side	Coat. Cond. Dist. Bottom	Coat. Cond. Brittle Top	Coat. Cond. Brittle Side	Coat. Cond. Brittle Bottom	
Pipe Damage	Damage Location	Cause of Damage	Leak Grade	Defect Inspection Type		
None						
Damage Result	Current/Latent	Anomaly Orientation				
Ext. Corr. Kind	Ext. Corr. Loc. Top	Ext. Corr. Loc. Side	Ext. Corr. Loc. Bottom	Ext. Corr. % Exposed	Ext. Corr. Deepest Pit	Ext. Corr. Corroded Len.
General	Yes	Yes	No		30	

Line Hit

Reason for Line Hit	Know who caused the damage?	One Call Ticket Called In?	Responsible Party	Contact Name	Contact Phone	Contact Address			

Internal Corrosion

Checked Internal Corrosion?	Int. Corr. Kind	Int. Corr. Least Wall Thickness	Int. Corr. Location Top	Int. Corr. Location Side	Int. Corr. Location Bottom	Int. Corr. Corroded Length
No						
Int. Corr. Adj. Pipe	Corrosion Tech	Distance To Nearest Girth Welds		Orientation of Exist. Long. Seam		
				1		
Fluid In Pipe?	Corrosion Type	Remarks				

Soil Information

Was Soil Reading or Sample Taken?	UT Meter Calibrated?	Soil Resistivity	Soil Resistivity Test Type	pH of Soil Next To Pipe	pH of Soil in Ditch	pH of Fluid Under Coating	MIC Sample Taken?	pH Sample Taken?

Action Taken

Action Taken	Repair Schedule	Date of Action	Leak Detected By	Detection Method	% LEL	% Gas	No. of Clamps	Discovery Pressure
Pipe Repl.		Sep 20, 2008						
Repair Pressure	Pipe Repl. Mat'l	Isolated?	Pipe Repl. Coating	Repl. Footing Installed	From Line Plus	To Line Plus		
Testing Duration	Test Pressure Min.	Test Pressure Max.	Test Report No.	New Pipe Coating Cond. Acceptable?		Check Holiday Detail and Repair?		
Repl. Pipe Mfg.	Repl. Pipe O. D.	Repl. Pipe Wall	Repl. Pipe Grade	MAOP	No. Leaks Repaired	Test Stations Installed		
				320				
Actual Anode No.	Add'l 2 Ft. Exposed?	Hole Size	No. of Holes	Work Performed By	Contractor Name	Anode Attached?		
	Yes							
No. of Bonds	Wrinkle Bends Removed	Girth Welds Reinforced	Girth Welds Removed	Fab. Welds Repaired	Pipe Mfg. Date	Mill Test Report		
Backfill Type	Orient. of New Long. Seam	Component Type	CMS ID					

Encroachment

Encroachment Type	Aerial No.	Canopy Desc.	Contact Person	Contact Phone	Alternate Phone	Contractor/Landowner	Investigation Complete?	Excavated 10 FT.?	Monitored Activity?
Follow Up Required?	New Building Address		Structure Type	Dwelling Number	Contact St. Address	Contact City	Contact State	Contact Zip	

Erosion

Erosion Type	Reassessment Date	Erosion Activity	Action Taken

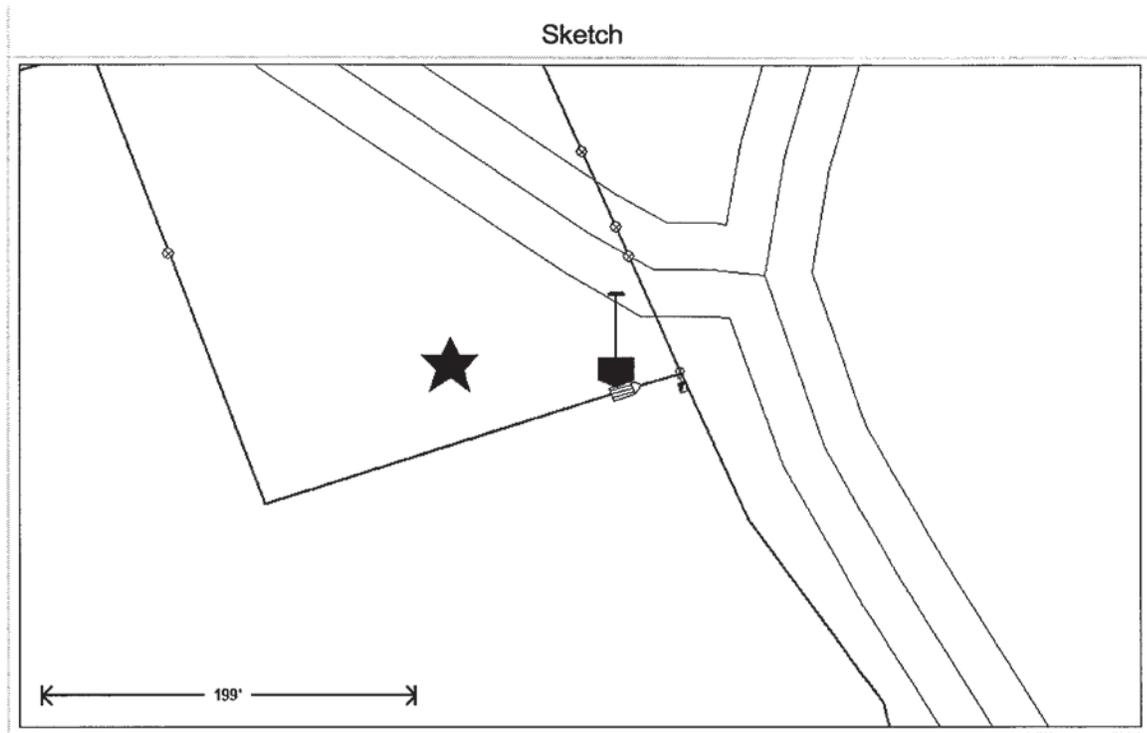
Gas Loss

Did gas escape?	Blowdown or Purge?	Business Function	Pipe Run Diameter (Nominal)	Blowdown Pipe Length	Blowdown Temp.
Purge Diameter	Purge Time	Leak Date	Leak Duration		

Attachment

Attachment ID	Incident ID	Attachment	Attachment Type	Attachment Desc	Hyperlink

Sketch



Jan 9, 2009

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Dominion®

TFIR By Report Number

TFIR 36976

Common Section:

TFIR Report No.	Inspection Date	Resp. Center	County	Township	TFIR User ID	Co. One Call Ticket No.	Ext. One Call Ticket No.	Facility in HCA?
36976	10/24/08	Bridgeport Transmission	Marshall	Franklin	jose415	2900038		No
Foreign/Company Facility		Facility Type	Facility Class	* Pipeline Number	Class Location			
		Pipeline	Transmission	H 197	Class 1			
Reason For Report		Bellhole Type	Defect Type	Discovered By	Pipe Cover	Soil Type		
In-House Construction					Soil	Earth		
SAMS Sys ID	Survey Station	Physical Location	GPS Latitude	GPS Longitude	Dist. to Nearest Structure			
		TAYLORS RIDGE	39.83880	-80.77061				
Damage Description	Property Damage	Reportable Incident Type	Report Number	WBS Type	WBS Number			
					39066.1.2			
Remarks								
H197 HOT TAP INSTALL [FULL SADDLE] TO TIE IN TL558								

Detailed Pipe Inspection:

Did you observe bare pipe?	CorrEval Filled Out?	CorrEval No.	Line Location					
Yes	No		Under Ground					
Outside Diameter	Remaining Wall Thickness	Original Wall Thickness	Existing Pipe Grade	Existing Coating	Existing Joint Coating			
12	0.29	0.312	Grade B	None	None			
Existing Joint	Footage Exposed	Material	Cover Amount	Trench Condition	Type of Longitudinal Seam			
Weld Elec.	10	Steel	18					
Cathodic Protection	Location of Girth Welds	No. of Wrinkle Bends	Previous Leak Clamps	Previous Leak Repair Other				
			0	0				
Existing Coating Cond.	Coat. Cond. Bond Top	Coat. Cond. Bond Side	Coat. Cond. Bond Bottom	Coat. Cond. Dam. Top	Coat. Cond. Dam. Side	Coat. Cond. Dam. Bottom		
Coat. Cond. Dist. Top	Coat. Cond. Dist. Side	Coat. Cond. Dist. Bottom	Coat. Cond. Brittle Top	Coat. Cond. Brittle Side	Coat. Cond. Brittle Bottom			
Pipe Damage	Damage Location	Cause of Damage	Leak Grade	Defect Inspection Type				
None								
Damage Result	Current/Latent	Anomaly Orientation						
Ext. Corr. Kind	Ext. Corr. Loc. Top	Ext. Corr. Loc. Side	Ext. Corr. Loc. Bottom	Ext. Corr. % Exposed	Ext. Corr. Deepest Pit	Ext. Corr. Corroded Len.		
General	No	No	No					

Line Hit

Reason for Line Hit	Know who caused the damage?	One Call Ticket Called In?	Responsible Party	Contact Name	Contact Phone	Contact Address

Internal Corrosion

Checked Internal Corrosion?	Int. Corr. Kind	Int. Corr. Least Wall Thickness	Int. Corr. Location Top	Int. Corr. Location Side	Int. Corr. Location Bottom	Int. Corr. Corroded Length
No						
Int. Corr. Adj. Pipe	Corrosion Tech	Distance To Nearest Girth Welds	Orientation of Exist. Long. Seam			
			1			
Fluid In Pipe?	Corrosion Type	Remarks				

Soil Information

Was Soil Reading or Sample Taken?	UT Meter Calibrated?	Soil Resistivity	Soil Resistivity Test Type	pH of Soil Next To Pipe	pH of Soil in Ditch	pH of Fluid Under Coating	MIC Sample Taken?	pH Sample Taken?

Action Taken

Action Taken	Repair Schedule	Date of Action	Leak Detected By	Detection Method	% LEL	% Gas	No. of Clamps	Discovery Pressure
Component Repl.		Oct 24, 2008						
Repair Pressure	Pipe Repl. Mat'l	Isolated?	Pipe Repl. Coating	Repl. Footing Installed	From Line Plus	To Line Plus		
250								
Testing Duration	Test Pressure Min.	Test Pressure Max.	Test Report No.	New Pipe Coating Cond. Acceptable?		Check Holiday Detail and Repair?		
Repl. Pipe Mfg.	Repl. Pipe O. D.	Repl. Pipe Wall	Repl. Pipe Grade	MAOP	No. Leaks Repaired	Test Stations Installed		
				340				
Actual Anode No.	Add'l 2 Ft. Exposed?	Hole Size	No. of Holes	Work Performed By	Contractor Name	Anode Attached?		
	Yes							
No. of Bonds	Wrinkle Bends Removed	Girth Welds Reinforced	Girth Welds Removed	Fab. Welds Repaired	Pipe Mfg. Date	Mill Test Report		
Backfill Type	Orient. of New Long. Seam	Component Type	CMS ID					

Encroachment

Encroachment Type	Aerial No.	Canopy Desc.	Contact Person	Contact Phone	Alternate Phone	Contractor/Landowner	Investigation Complete?	Excavated 10 FT.?	Monitored Activity?
Follow Up Required?	New Building Address		Structure Type	Dwelling Number	Contact St. Address	Contact City	Contact State	Contact Zip	

Erosion

Erosion Type	Reassessment Date	Erosion Activity	Action Taken

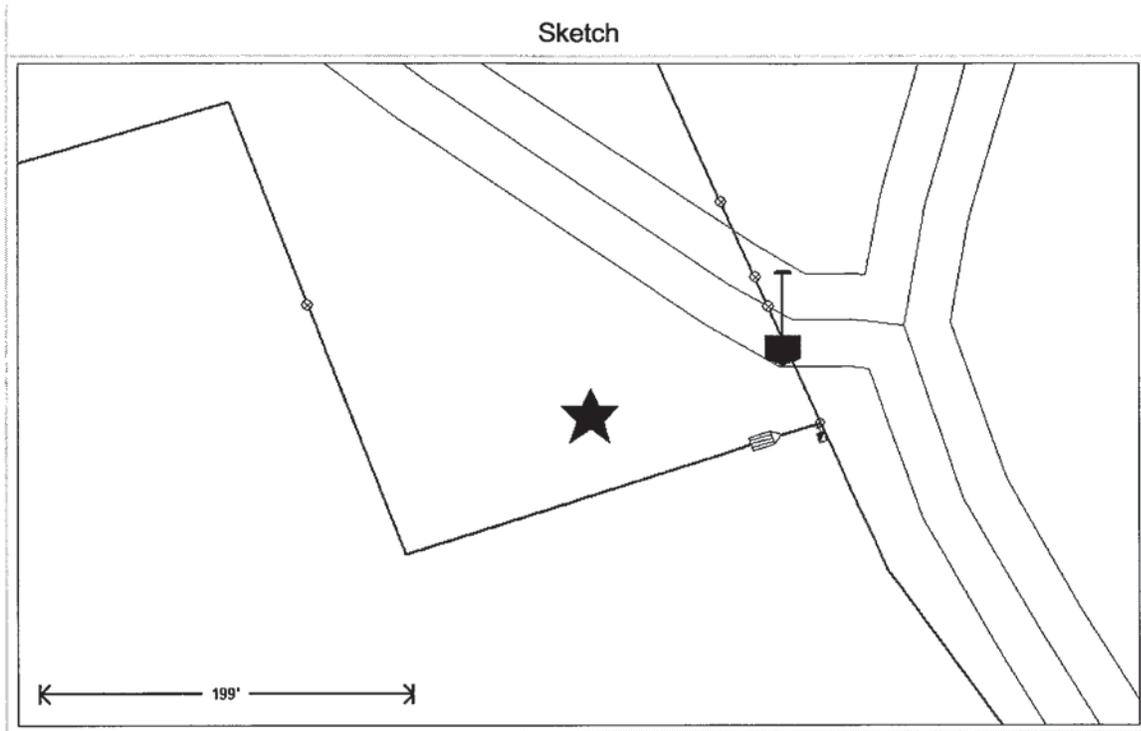
Gas Loss

Did gas escape?	Blowdown or Purge?	Business Function	Pipe Run Diameter (Nominal)	Blowdown Pipe Length	Blowdown Temp.
Purge Diameter	Purge Time	Leak Date	Leak Duration		

Attachment

Attachment ID	Incident ID	Attachment	Attachment Type	Attachment Desc	Hyperlink

Sketch



Jan 9, 2009

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Dominion®

TFIR By Report Number

TFIR 36986

Common Section:

TFIR Report No.	Inspection Date	Resp. Center	County	Township	TFIR User ID	Co. One Call Ticket No.	Ext. One Call Ticket No.	Facility in HCA?
36986	10/24/08	Bridgeport Transmission	Marshall	Franklin	jose415	2900038		No
Foreign/Company Facility		Facility Type	Facility Class	*	Pipeline Number	Class Location		
		Pipeline	Transmission	TL	558	Class 1		
Reason For Report	Bellhole Type	Defect Type	Discovered By	Pipe Cover	Soil Type			
In-House Construction				Soil	Earth			
SAMS Sys ID	Survey Station	Physical Location	GPS Latitude	GPS Longitude	Dist. to Nearest Structure			
		TAYLORS RIDGE	39.83884	-80.77061				
Damage Description	Property Damage	Reportable Incident Type	Report Number	WBS Type	WBS Number			
					39066.1.2			
Remarks								
TL558 HOT TAP INSTALL [FULL SADDLE]								

Detailed Pipe Inspection:

Did you observe bare pipe?	CorrEval Filled Out?	CorrEval No.	Line Location			
Yes	No		Under Ground			
Outside Diameter	Remaining Wall Thickness	Original Wall Thickness	Existing Pipe Grade	Existing Coating	Existing Joint Coating	
6	0.28	.280	Grade B	None	None	
Existing Joint	Footage Exposed	Material	Cover Amount	Trench Condition	Type of Longitudinal Seam	
Weld Elec.	12	Steel	45			
Cathodic Protection	Location of Girth Welds	No. of Wrinkle Bends	Previous Leak Clamps	Previous Leak Repair Other		
			0	0		
Existing Coating Cond.	Coat. Cond. Bond Top	Coat. Cond. Bond Side	Coat. Cond. Bond Bottom	Coat. Cond. Dam. Top	Coat. Cond. Dam. Side	Coat. Cond. Dam. Bottom
Coat. Cond. Dist. Top	Coat. Cond. Dist. Side	Coat. Cond. Dist. Bottom	Coat. Cond. Brittle Top	Coat. Cond. Brittle Side	Coat. Cond. Brittle Bottom	
Pipe Damage	Damage Location	Cause of Damage	Leak Grade	Defect Inspection Type		
None						
Damage Result	Current/Latent	Anomaly Orientation				
Ext. Corr. Kind	Ext. Corr. Loc. Top	Ext. Corr. Loc. Side	Ext. Corr. Loc. Bottom	Ext. Corr. % Exposed	Ext. Corr. Deepest Pit	Ext. Corr. Corroded Len.
General	Yes	Yes	No		30	1

Line Hit

Reason for Line Hit	Know who caused the damage?	One Call Ticket Called In?	Responsible Party	Contact Name	Contact Phone	Contact Address

Internal Corrosion

Checked Internal Corrosion?	Int. Corr. Kind	Int. Corr. Least Wall Thickness	Int. Corr. Location Top	Int. Corr. Location Side	Int. Corr. Location Bottom	Int. Corr. Corroded Length
No						
Int. Corr. Adj. Pipe	Corrosion Tech	Distance To Nearest Girth Welds	Orientation of Exist. Long. Seam			
			1			
Fluid In Pipe?	Corrosion Type	Remarks				

Soil Information

Was Soil Reading or Sample Taken?	UT Meter Calibrated?	Soil Resistivity	Soil Resistivity Test Type	pH of Soil Next To Pipe	pH of Soil in Ditch	pH of Fluid Under Coating	MIC Sample Taken?	pH Sample Taken?

Action Taken

Action Taken	Repair Schedule	Date of Action	Leak Detected By	Detection Method	% LEL	% Gas	No. of Clamps	Discovery Pressure
Component Repl.		Oct 24, 2008						
Repair Pressure	Pipe Repl. Mat'l	Isolated?	Pipe Repl. Coating	Repl. Footing Installed	From Line Plus	To Line Plus		
250								
Testing Duration	Test Pressure Min.	Test Pressure Max.	Test Report No.	New Pipe Coating Cond. Acceptable?		Check Holiday Detail and Repair?		
Repl. Pipe Mfg.	Repl. Pipe O. D.	Repl. Pipe Wall	Repl. Pipe Grade	MAOP	No. Leaks Repaired	Test Stations Installed		
				320				
Actual Anode No.	Add'l 2 Ft. Exposed?	Hole Size	No. of Holes	Work Performed By	Contractor Name	Anode Attached?		
	Yes							
No. of Bonds	Wrinkle Bends Removed	Girth Welds Reinforced	Girth Welds Removed	Fab. Welds Repaired	Pipe Mfg. Date	Mill Test Report		
Backfill Type	Orient. of New Long. Seam	Component Type	CMS ID					

Encroachment

Encroachment Type	Aerial No.	Canopy Desc.	Contact Person	Contact Phone	Alternate Phone	Contractor/Landowner	Investigation Complete?	Excavated 10 FT.?	Monitored Activity?
Follow Up Required?	New Building Address	Structure Type	Dwelling Number	Contact St. Address	Contact City	Contact State	Contact Zip		

Erosion

Erosion Type	Reassessment Date	Erosion Activity	Action Taken
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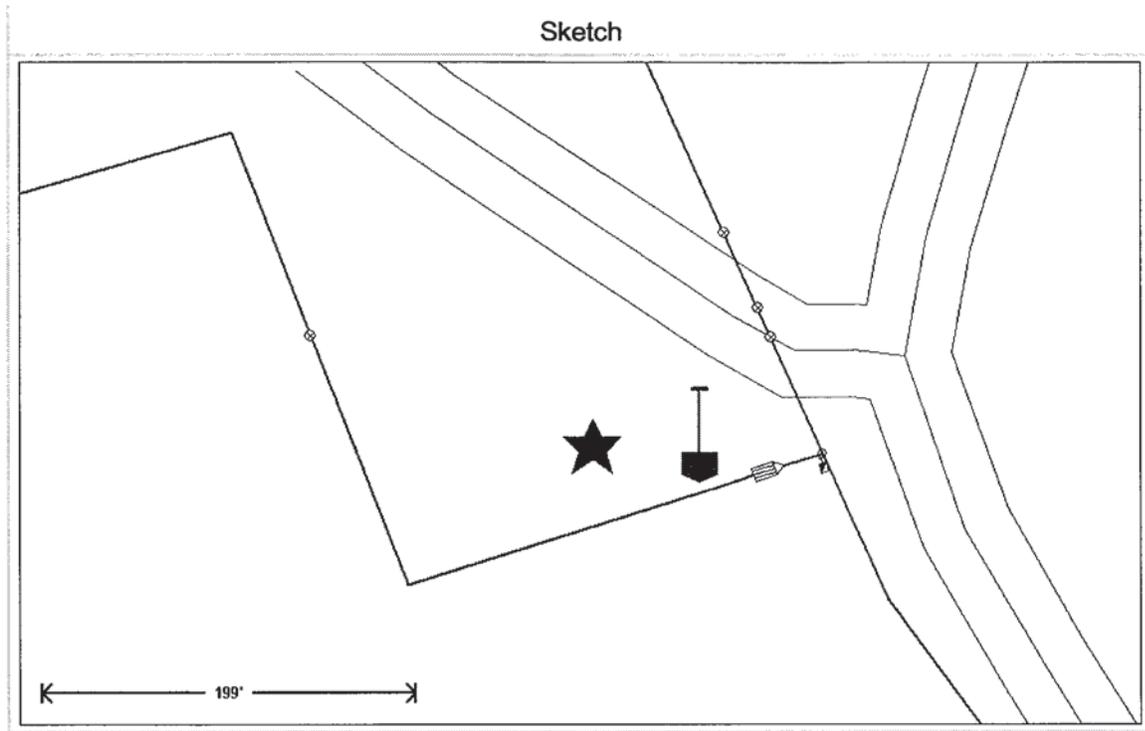
Gas Loss

Did gas escape?	Blowdown or Purge?	Business Function	Pipe Run Diameter (Nominal)	Blowdown Pipe Length	Blowdown Temp.
Purge Diameter	Purge Time	Leak Date	Leak Duration		

Attachment

Attachment ID	Incident ID	Attachment	Attachment Type	Attachment Desc	Hyperlink
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Sketch



Jan 9, 2009

8:29:28 AM



TFIR By Report Number

TFIR 37040

Common Section:

TFIR Report No.	Inspection Date	Resp. Center	County	Township	TFIR User ID	Co. One Call Ticket No.	Ext. One Call Ticket No.	Facility in HCA?
37040	10/24/08	Bridgeport Transmission	Marshall	Franklin	jose415	2900038		No
Foreign/Company Facility	Facility Type	Facility Class	* Pipeline	Pipeline Number	Class Location			
	Pipeline	Transmission	H	197	Class 1			
Reason For Report	Bellhole Type	Defect Type	Discovered By	Pipe Cover	Soil Type			
In-House Construction				Soil	Earth			
SAMS Sys ID	Survey Station	Physical Location	GPS Latitude	GPS Longitude	Dist. to Nearest Structure			
		TAYLORS RIDGE	39.83884	-80.77055				
Damage Description	Property Damage	Reportable Incident Type	Report Number	WBS Type	WBS Number			
					39066.1.2			
Remarks								
H197 2" TAP ON H197 12' NORTH OF TL558 XING								

Detailed Pipe Inspection:

Did you observe bare pipe?	CorrEval Filled Out?	CorrEval No.	Line Location					
Yes	No		Under Ground					
Outside Diameter	Remaining Wall Thickness	Original Wall Thickness	Existing Pipe Grade	Existing Coating	Existing Joint Coating			
12		0.312	Grade B	None	None			
Existing Joint	Footage Exposed	Material	Cover Amount	Trench Condition	Type of Longitudinal Seam			
Weld Elec.	10	Steel	18					
Cathodic Protection	Location of Girth Welds	No. of Wrinkle Bends	Previous Leak Clamps	Previous Leak Repair Other				
			0	0				
Existing Coating Cond.	Coat. Cond. Bond Top	Coat. Cond. Bond Side	Coat. Cond. Bond Bottom	Coat. Cond. Dam. Top	Coat. Cond. Dam. Side	Coat. Cond. Dam. Bottom		
Coat. Cond. Dist. Top	Coat. Cond. Dist. Side	Coat. Cond. Dist. Bottom	Coat. Cond. Brittle Top	Coat. Cond. Brittle Side	Coat. Cond. Brittle Bottom			
Pipe Damage	Damage Location	Cause of Damage	Leak Grade	Defect Inspection Type				
None								
Damage Result	Current/Latent	Anomaly Orientation						
Ext. Corr. Kind	Ext. Corr. Loc. Top	Ext. Corr. Loc. Side	Ext. Corr. Loc. Bottom	Ext. Corr. % Exposed	Ext. Corr. Deepest Pit	Ext. Corr. Corroded Len.		
General	No	No	No					

Line Hit

Reason for Line Hit	Know who caused the damage?	One Call Ticket Called In?	Responsible Party	Contact Name	Contact Phone	Contact Address

Internal Corrosion

Checked Internal Corrosion?	Int. Corr. Kind	Int. Corr. Least Wall Thickness	Int. Corr. Location Top	Int. Corr. Location Side	Int. Corr. Location Bottom	Int. Corr. Corroded Length
No						
Int. Corr. Adj. Pipe	Corrosion Tech	Distance To Nearest Girth Welds		Orientation of Exist. Long. Seam		
				1		
Fluid In Pipe?	Corrosion Type	Remarks				
		TAP FOUND				

Soil Information

Was Soil Reading or Sample Taken?	UT Meter Calibrated?	Soil Resistivity	Soil Resistivity Test Type	pH of Soil Next To Pipe	pH of Soil in Ditch	pH of Fluid Under Coating	MIC Sample Taken?	pH Sample Taken?

Action Taken

Action Taken	Repair Schedule	Date of Action	Leak Detected By	Detection Method	% LEL	% Gas	No. of Clamps	Discovery Pressure
Component Repl.		Oct 24, 2008						
Repair Pressure	Pipe Repl. Mat'l	Isolated?	Pipe Repl. Coating	Repl. Footing Installed	From Line Plus	To Line Plus		
250								
Testing Duration	Test Pressure Min.	Test Pressure Max.	Test Report No.	New Pipe Coating Cond. Acceptable?		Check Holiday Detail and Repair?		
Repl. Pipe Mfg.	Repl. Pipe O. D.	Repl. Pipe Wall	Repl. Pipe Grade	MAOP	No. Leaks Repaired	Test Stations Installed		
				340				
Actual Anode No.	Add'l 2 Ft. Exposed?	Hole Size	No. of Holes	Work Performed By	Contractor Name	Anode Attached?		
	Yes							
No. of Bonds	Wrinkle Bends Removed	Girth Welds Reinforced	Girth Welds Removed	Fab. Welds Repaired	Pipe Mfg. Date	Mill Test Report		
Backfill Type	Orient. of New Long. Seam		Component Type	CMS ID				

Encroachment

Encroachment Type	Aerial No.	Canopy Desc.	Contact Person	Contact Phone	Alternate Phone	Contractor/Landowner	Investigation Complete?	Excavated 10 FT.?	Monitored Activity?
Follow Up Required?	New Building Address		Structure Type	Dwelling Number	Contact St. Address	Contact City	Contact State	Contact Zip	

Erosion

Erosion Type	Reassessment Date	Erosion Activity	Action Taken

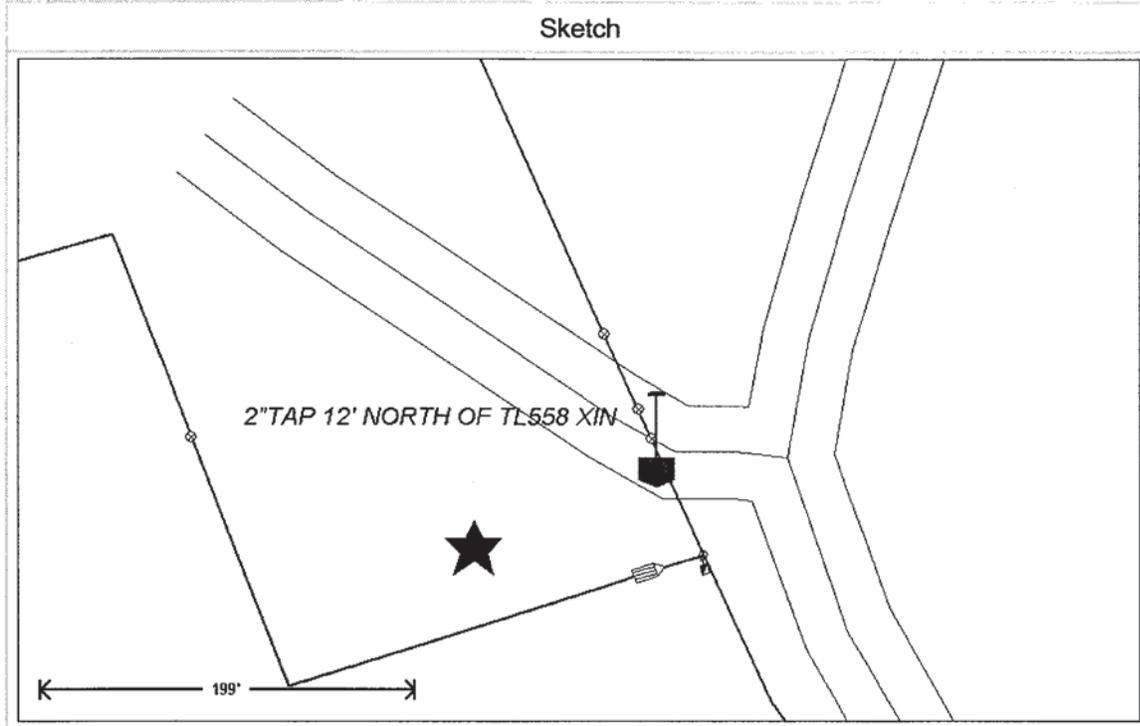
Gas Loss

Did gas escape?	Blowdown or Purge?	Business Function	Pipe Run Diameter (Nominal)	Blowdown Pipe Length	Blowdown Temp.
Purge Diameter	Purge Time	Leak Date	Leak Duration		

Attachment

Attachment ID	Incident ID	Attachment	Attachment Type	Attachment Desc	Hyperlink

Sketch



Jan 9, 2009

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OQ-040-GL

Dominion Transmission

DOT Operator Qualification

Work Procedure Number: OQ-040-GL

Work Procedure Description:
Excavating a Pipeline Facility Using Power
and/or Hand Equipment

Employee: _____

Local Person ID #: _____

Job Location: _____

Supervisor: _____

Evaluator: _____

Evaluator's Signature: _____

Rating (circle one): **Qualified** **NOT Qualified**

Date: _____

OQ-040-GL

Dominion Transmission

DOT Operator Qualification Qualifier Checklist for Hands-on Sessions

- _____ 1. Make sure the employee has the current Work Procedures Job Aid Manual or copy of the work procedure to be qualified. (See the SOP Work Procedures database on the intranet for the most current version of the Work Procedure.)
- _____ 2. Check that the employee is wearing the correct PPE (Personal Protective Equipment) for performing the procedure.
- _____ 3. Allow the employee to read through the procedure and answer any questions the employee has about the procedure before beginning the evaluation session. This includes physically walking through the task with the employee if he/she requests it.
- _____ 4. Inform the employee:
 - A. "You may use the written procedure during the qualification session."
 - B. "If you start to perform a step out of sequence that may cause an incident, the work procedure will be immediately stopped."
 - C. "If you perform the procedure in a manner that is unsafe, I will immediately stop the evaluation and document the events on the work procedure sheet."
 - D. "It is acceptable for you to perform the steps in a different order than they are written as long as the changed order does not present a safety hazard or interfere with the successful completion of the work procedure."
 - E. "I am not allowed to answer any questions or provide any direction, guidance, or assistance to complete the work procedure once you tell me you are ready to begin."
 - F. "I may ask you questions during the evaluation to verify your knowledge of why a step is performed."
 - G. "When you have completed all of the steps of a performance evaluation, I will say, 'The evaluation is over.' I will also tell you whether or not you are qualified or not qualified on the work procedure."
- _____ 5. When the employee states that he/she is ready to begin, start the qualification session.

OQ-040-GL

WORK PROCEDURE

DEPARTMENT: OPERATOR QUALIFICATION TASKS AND WORK PROCEDURES	WORK PROCEDURE NUMBER: OQ-040-GL DOT Operator Qualification: Covered Task: Yes	
PROCEDURE CATEGORY:	PROCEDURE SUBCATEGORY:	
TITLE: Excavating a Pipeline Facility Using Power and/or Hand Equipment DATE REVIEWED 11-04-2008	Date Approved: 12/20/2000 Section Sponsor Name: Michael G. Grose	Date Revised: 11/25/2008 Section Sponsor Name: James E. Parsons, Jr.
When Performed: When a pipeline facility (CFR 192 or 195) needs to be excavated for: operations & maintenance, replacement construction, new construction on existing right-of-way or facility site, and during & after tie-in on new "green field" construction. The above pertains to whether the facility is loaded OR NOT loaded with gas or liquids.		
Safety Precautions: Follow Safety's Job Task and Personal Protective Equipment requirements If you detect the odor of gas, contact your supervisor immediately. Report all equipment and/or pipeline damages to your immediate supervisor.		
Consequences of Inadequate Performance: Could lead to Abnormal Operating Conditions (See Task-Specific AOC's at the end of this procedure, See Work Procedure OQ-074-GL Recognizing and Responding to General Abnormal Operating Conditions, and SOP 020-01 Abnormal Operating Conditions)		
Tools and Equipment: Safety equipment as needed for items under "Safety Precautions" above Barring equipment (restricted use; refer to NOTE in step #4 below) Backhoe/sideboom Dozer Flatbed truck/trailer Boom truck		

OQ-040-GL

Trench box
Air compressors
Lights
Ditch pump
Pipe slings with capacity tags & proper rating
Oxygen meter
Combustible Gas Indicator (CGI)
Air mover
Proper breathing apparatus
Safety belts or harnesses
Lifelines
Warning vests
Standby emergency breathing apparatus
Barriers
Cable/wire
Ladder
Shovels
Lower Explosive Limit (LEL) meter

References:

Soil Classification Guidelines from 29 CFR 1926 - Subpart P - Appendix A
Competent Person Excavation Checklist (Found in the Excavation category of
Safety webpage)

SOP 020-01
SOP 090-01
SOP 185-23
SOP 360-25

INSTRUCTIONS

Complete a Job Safety Brief form prior to commencement of a job involving 2 or more personnel.

NOTE: Please refer to and follow the instructions in Work Procedure IMP-004-GL during the performance of this task.

NOTE: Barring added to the bucket teeth of power equipment may reduce the potential for puncture and other damage to the pipeline.

OQ-040-GL

Abnormal Operating Conditions (AOC's)

- _____ 1. Explain how to recognize AOC's that may be encountered while performing this procedure:
- Accidental ignition
 - Coating &/or pipe damaged during repair
 - Combustible gas mixture is present in atmosphere, pipe, or other equipment
 - Damage or defect or deterioration in pipe, fittings, equipment, components, etc.
 - Damaged cathodic protection components
 - Firm support under pipe not provided
 - Gas leakage
 - General corrosion or localized pitting of pipelines with remaining wall thickness less than required for MAOP
 - Insufficient cover
 - Land subsidence, earth slippage, soil erosion, extensive tree root growth, flooding
 - Loss of cover or excessive fill
 - Loss of segment support due to settlement or shifting of soil around the pipe
 - Noncompliance with procedures or standards
 - Pipe location inaccurately marked
 - Pipeline settlement
- _____ 2. Explain how to react to the AOC's that may be encountered while performing this procedure by:
- A. Initiating action to address the AOC
 - B. Initiating reporting requirements

Appendix 11 - MUWV 2380341 -127584.pdf

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SEQUENCE NUMBER 0048   CDC = CBA
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AC =VERIZON - CUS CBA=DTC-BRIDGEPORT HE =DOMINION-BRS RN MAC=MARSHALL PSD #4
 TEG=TX EAST TRANS GVD=GRANDVW-DLN PSD MH =AEP/WHELING-UTL

-----> Miss Utility of West Virginia Notice <-----

NOTICE: 2380341 -->ROUTINE Lead Time: 89

County: MARSHALL Town: CRESAP
 Street: 0 GATTS RIDGE RD
 Near Inter: TAYLORS RIDGE RD
 Excavation Length: 25 FT Excavation Direction: U
 Excavation Depth : 10FT Blasting: NO
 Work for: DOMINION TRANSMISSION CORP
 Type of Work: EXPOSING P/L & INSTL TAPS
 In St: On Sidewk:
 Other: P/L R/W
 On Prop Location: UNKNOWN
 Dig Site Marked in White ?: NO

Start Date: 29-AUG-08 Time: 0800
 DBLookup: PINPOINT GRIDS 37 Prepared By: JANE WADSWORTH

Remarks: Distance From Intersection: 2 MI Direction: S
 GATTS RIDGE RD AKA ROUTE 72. TAYLORS RIDGE RD AKA ROUTE 2/1.
 SITE IS 2MI S OF ABOVE INTER ON RGT SIDE OF GATTS RIDGE RD AT
 DOMINION TRANSMISSION FACILITY
 MARK 25FT RADIUS OF STAKE AT XS #2118

 Contractor: DOMINION TRANSMISSION CORPORATION
 Phone: 304-627-3098
 Address: RT 2 BOX 145; BRIDGEPORT WV 26330
 Contact: BILL EVERITT Contact Phone: 304-627-3098
 Alt Contact Phone: Fax: 304-627-3086
 Alt Contact: Alt Phone:
 Caller: TERRY NICHOLSON Prepared: 25-AUG-08@1446

Grids:
 39500-080462 39502-080462 39498-080464 39500-080464 39502-080464
 39496-080466 39498-080466 39496-080468 39492-080470 39494-080470
 39490-080472 39492-080472 39494-080472 39500080460A 39500080460C
 39502080460C 39498080462A 39498080462B 39498080462C 39496080464A
 39496080464B 39494080466A 39494080468A 39494080468B 39494080468C
 39498080468B 39498080468D 39488080470A 39490080470A 39490080470B
 39490080470C 39496080470B 39496080470C 39496080470D 39488080472A
 39488080472B 39496080472D

□

Ticket File: T2380341.CBA OCS Received: 08/25/2008

OCS Screening Ticket: T2380341.CBA CDC = CBA
 OCS Screening Comment: (APO) CONFLICT - IMPACT! Found on map.
 OCS Transmission To DTI Date: 08/25/2008 Time: 1450
 OCS Screened Lat/Long: -80.774124 39.832503 LineSegExported = 22

DOMINION TRANSMISSION INC

COMMENT: 08/26/08 06:34 Terry Nicholson - Assigned to terry79, Active Working, DTI Construction Work, Req. Notified=NO, Marked=NO, Flagged=NO, Staked=YES, In HCA=NO, Response=09,
 11/19/08 15:24 Terry Nicholson - Assigned to terry79, Completed, DTI Construction Work, Req. Notified=NO, Marked=NO, Flagged=NO, Staked=YES, In HCA=NO, Response=09, , TFIR#=36970

Appendix 12 - MUWV 2900038 -127584.pdf

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SEQUENCE NUMBER 0013 CDC = CBA
@@@@ @@@ @ @ @@@@@ @@@@@ @ @ @@@@@
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AC =VERIZON - CUS CBA=DTC-BRIDGEPORT HE =DOMINION-BRS RN MAC=MARSHALL PSD #4
 TEG=TX EAST TRANS GVD=GRANDVW-DLN PSD MH =AEP/WHELING-UTL

-----> Miss Utility of West Virginia Notice <-----

NOTICE: 2900038 -->ROUTINE Lead Time: 48

County: MARSHALL Town: CRESAP
 Street: 0 GATTS RIDGE RD
 Near Inter: TAYLORS RIDGE RD
 Excavation Length: 25 FT Excavation Direction: U
 Excavation Depth : 10FT Blasting: NO
 Work for: DOMINION TRANSMISSION CORP
 Type of Work: EXPOSING P/L & INSTL TAPS
 In St: On Sidewk:
 Other: P/L R/W
 On Prop Location: UNKNOWN
 Dig Site Marked in White ?: NO

Start Date: 20-OCT-08 Time: 0830
 DBLookup: PINPOINT GRIDS 37 Prepared By: ANNA MASAUD

Remarks: Distance From Intersection: 2 MI Direction: S
 GATTS RIDGE RD AKA ROUTE 72. TAYLORS RIDGE RD AKA ROUTE 2/1.
 SITE IS 2MI S OF ABOVE INTER ON RGT SIDE OF GATTS RIDGE RD AT
 DOMINION TRANSMISSION FACILITY
 MARK 25FT RADIUS OF STAKE AT XS #2118

 Contractor: DOMINION TRANSMISSION CORPORATION
 Phone: 304-627-3098
 Address: RT 2 BOX 145; BRIDGEPORT WV 26330
 Contact: BILL EVERITT Contact Phone: 304-627-3098
 Alt Contact Phone: Fax: 304-627-3086
 Alt Contact: Alt Phone:
 Caller: JEREMY SMITH Prepared: 16-OCT-08@0815

Grids:
 39500-080462 39502-080462 39498-080464 39500-080464 39502-080464
 39496-080466 39498-080466 39496-080468 39492-080470 39494-080470
 39490-080472 39492-080472 39494-080472 39500080460A 39500080460C
 39502080460C 39498080462A 39498080462B 39498080462C 39496080464A
 39496080464B 39494080466A 39494080468A 39494080468B 39494080468C
 39498080468B 39498080468D 39488080470A 39490080470A 39490080470B
 39490080470C 39496080470B 39496080470C 39496080470D 39488080472A
 39488080472B 39496080472D

□

Ticket File: T2900038.CBA OCS Received: 10/16/2008

OCS Screening Ticket: T2900038.CBA CDC = CBA
 OCS Screening Comment: (JAHIRT) CONFLICT - IMPACT! Found on map.
 OCS Transmission To DTI Date: 10/16/2008 Time: 0834
 OCS Screened Lat/Long: -80.776503 39.834244 LineSegExported = 21

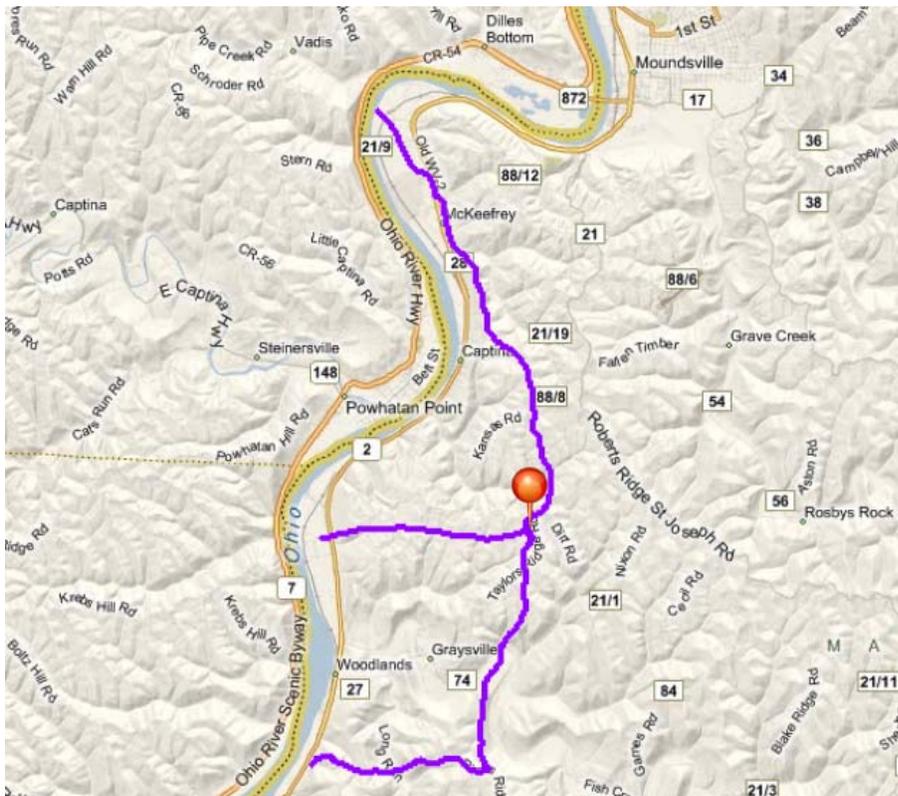
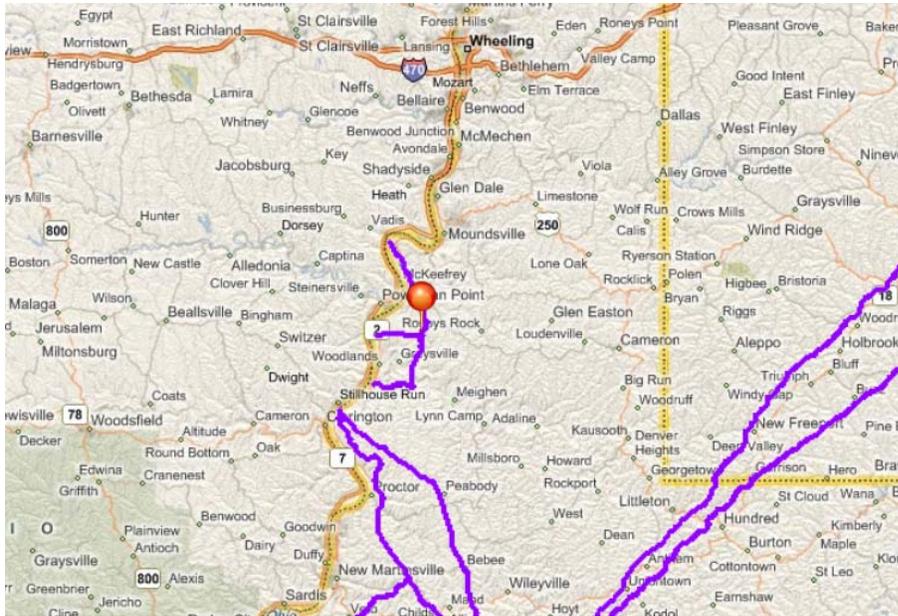
DOMINION TRANSMISSION INC

REQ. NOTIFIED: ___ MARKED: ___ FLAGGED: ___ STAKED: ___ IN HCA: ___ COMMENT: 10/17/08 06:40 Terry Nicholson - Assigned to terry79, Active Working, DTI Construction Work, Response=09, 11/19/08 15:26 Terry Nicholson - Assigned to terry79, Completed, DTI Construction Work, Response=09, 36986, 36976, TFIR#=37040

Incident Location

39.83884 N

80.77055 W



Appendix 13 - Incident Location -127584.pdf

