



8113 W. GRANDRIDGE BLVD., KENNEWICK, WASHINGTON 99336-7166
TELEPHONE 509-734-4500 FACSIMILE 509-737-9803
www.cngc.com

February 3, 2026

Scott Rukke – Pipeline Safety Director
Washington Utilities and Transportation Commission
621 Woodland Square Loop SE
Lacey, WA 98503

Subject: CNGC response to Probable Violation RE: Natural Gas Standard Records and Field Inspection from April 8, 2025 through April 24, 2025 (Insp. No. 8998).

Dear Mr. Rukke,

This letter is follow up to the response Cascade Natural Gas Corporation (CNGC) submitted on June 20, 2025 in response to the Washington Utilities and Transportation Commission's (WUTC) notice of probable violation dated May 19, 2025, stemming from a Standard Records and Field Inspection of Cascade Natural Gas Corporation's (CNGC) Bremerton District from April 8, 2025, through April 24, 2025.

PROBABLE VIOLATIONS

I. WAC 480-93-186 Leak evaluation.

(3) The gas pipeline company must check the perimeter of the leak area with a combustible gas indicator. The gas pipeline company must perform a follow-up inspection on all leak repairs with residual gas remaining in the ground as soon as practical, but not later than thirty days following the repair.

Finding(s):

- (1) 629 Highlands, Bremerton had a missed leak survey follow-up after residual gas was remaining on 5/12/2022. The follow up occurred on 1/20/2023.
- (2) 1140 Marine Drive, Bremerton had a missed leak survey follow-up after residual gas was remaining on 7/14/2023. The follow up occurred on 9/12/2023.

Cascade Response

CNGC acknowledges the findings brought forth by the WUTC stated above. CNGC's Quality Control department conducted an evaluation of 293 *Leak Investigation Record* forms for all districts. As a result, *OPS 617 – Outside Leak Investigation, Pinpointing, and Grading* has been revised to further enhance the tracking process for follow-up leak investigations. The following revisions were included:

- Added requirement to submit the 293 Leak Investigation Record form to Field Operations Management as soon as possible but no later than the next business day.
- Added requirement to create a work order in Maximo (i.e. electronic work order) to track and document follow-up leak investigations.

Training on the revisions was conducted January 22 and January 28, 2026. Revised *OPS 617* implemented January 29, 2026 (see Exhibit A).

Please contact Josh Sanders at (701) 222-7773 with questions or comments.

Respectfully Submitted,

A handwritten signature in black ink that reads "Pat Darras".

Pat Darras
Vice President, Engineering & Operations Services
Cascade Natural Gas Corporation

Exhibit A

Cascade Natural Gas Corporation
Great Plains Natural Gas Co.
Intermountain Gas Company
Montana-Dakota Utilities Co.

POLICY STATEMENT **Outside Leak Investigation,** **Pinpointing, and Grading**

OPS 617
Status: Released
Revision Date: January 29, 2026
OPSMOC-2308
Page 1 of 30

PURPOSE

Provides procedure for the investigation, pinpointing, and grading of natural gas and propane leaks on MDU Utilities Group (MDUG) pipelines and facilities.

REFERENCES

External References:

GM Appendix G-192-11-5 Leak Investigation and Classification
GM Appendix G-192-11-7 Pinpointing

Internal References:

OPS 501 – Equipment Calibration, Maintenance, and Testing
OPS 611 – Line Locating and Marking
OPS 613 – Gas Emergency Response Plan

Forms:

CNG 293 – Leak Investigation Record
MDUG 23030 – Leak Investigation Record (IGC/MDU/GPNG)

TRAINING AND QUALIFICATION

Safety and Technical Training (S&TT) is responsible for the development and execution of training required for personnel who perform leak investigations. Only personnel who are trained and operator qualified may perform leak investigations.

RECORD RETENTION

Record	Retention Period	Storage Location
CNG 293	For the life of the pipeline.	Hard copy in district files; Scan to SharePoint
IGC 23030	For the life of the pipeline.	SharePoint
MDU/GP 23030	For the life of the pipeline.	SharePoint

DEFINITIONS

Refer to OPS 3 Master Glossary

SCOPE

This procedure applies to above, and below ground, leaks on jurisdictional pipelines and facilities including those located inside or under buildings and structures.

PROCEDURE

1. GENERAL

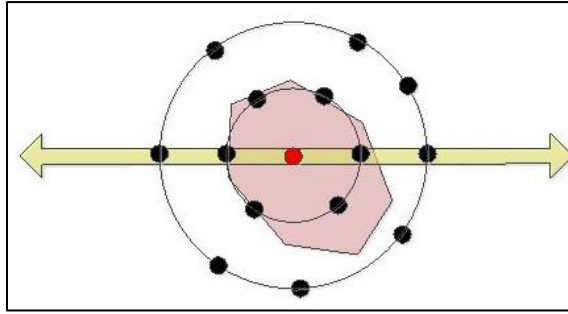
- 1.1. When indications of a leak are present, an investigation shall be conducted by qualified personnel to determine the location, extent, and potential hazard of the leak. Leak indications may include the following:
 - 1.1.1. Odor complaints.
 - 1.1.2. Reports of dead or discolored vegetation.
 - 1.1.3. Positive readings from leak detection equipment.
- 1.2. If an inside leak is suspected or if migration into a structure is suspected, immediately contact the MDUG Customer Experience Team (CXT) or local District Office to request a First Responder.

-
- 1.2.1. If the person performing the leak survey is a qualified Service Mechanic, Service Technician, District Representative, or Serviceperson, or other qualified individual, refer to the *Inside Leak Odor (G-ILEAK) Response Responsibilities and Actions* section of [OPS 613 – Gas Emergency Response Plan](#).
 - 1.3. Prompt action shall be taken as necessary to protect life, then property, and the environment. Life includes all MDUG employees and contractors, the general public, and emergency responders.
 - 1.4. Leak indications may originate from the following:
 - 1.4.1. Scheduled leak surveys.
 - 1.4.2. Line patrols.
 - 1.4.3. Customer reports.
 - 1.4.4. Reports from the general public.
 - 1.4.5. Above ground leaks discovered doing routine maintenance.
 - 1.4.5.1. If qualified, repair the leak.
 - 1.4.5.1.1. Non-hazardous above ground leaks that can be repaired by tightening component(s) without disassembly and non-hazardous leaks on valves that can be repaired with grease (e.g., injecting lubricant or sealant), do not need to be reported. Other leak types require an order to be generated for tracking and permanent record.
 - 1.4.5.2. If not qualified or additional personnel is required, refer to qualified personnel to grade the leak and schedule repair.
 - 1.4.5.3. Personnel shall not leave a Grade 1 leak until either downgraded or repaired.
 - 1.5. After completing a thorough investigation, the leak shall be graded. Refer to [Section 4 Leak Grading and Action Criteria](#).
 - 1.6. Employee(s) shall not leave the location of the investigation until either the leak has been identified and repaired as appropriate, the employee determines that the location is non-hazardous, or the employee is relieved by qualified personnel.
 - 1.7. Leaks shall be investigated using approved gas detection equipment. Refer to the [Utilities Group Approved Gas Detection Instruments List](#) on the Policy & Procedures (P&P) SharePoint site under Guides and Resources.
 - 1.7.1. Above ground leaks may be investigated using other approved methods (e.g., soap solution).
 - 1.8. Equipment shall be calibrated per the requirements of [OPS 501- Equipment Calibration, Maintenance, and Testing](#).
2. INVESTIGATION
- 2.1. For leaks reported outside, all possible leak sources shall be checked to determine if a leak exists:
 - 2.1.1. Meter and riser.
 - 2.1.2. Along the building foundation.
 - 2.1.3. Along the service line from the meter to the main tie-in point.
 - 2.1.4. Along the main(s), utilizing cracks in the pavement, manholes, sewer openings, etc.
 - 2.1.5. High Pressure Service Set (HPSS).
 - 2.1.6. Farm Tap.
 - 2.1.7. Regulator Station.
 - 2.2. Above Ground Leak Investigation:
 - 2.2.1. Using leak detection soap or approved gas detection equipment, pass over aboveground piping and appurtenances; mechanical fittings, meter stops, caps, valves, and other areas that have potential to leak.

-
- 2.2.2. When leaks are suspected or found above ground, employees shall verify there are no additional leaks below ground.
 - 2.3. Below Ground Leak Investigation:
 - 2.3.1. By bar holing with a CGI, or by using an approved gas detection tool (e.g., PMD, RMLD, etc.), complete a comprehensive leak survey:
 - 2.3.1.1. At the meter riser.
 - 2.3.1.2. Multiple points along each foundation wall.
 - 2.3.1.3. Along the service line(s) from the riser to the main tie-in point.
 - 2.3.1.4. Along the main(s).
 - 2.3.1.4.1. The extent of the survey shall take into consideration factors such as wind direction, pipeline components, known pipeline repairs, quantity of odor calls, etc.
 - 2.3.2. When leaks are identified below ground verify there are no additional leaks and no migrating gas.
 - 2.4. If the source of odor cannot be located after checking the reported structure/property or area, check for the presence of gas by bar holing with a CGI, or by using an approved gas detection tool (e.g., PMD, RMLD, etc.), at:
 - 2.4.1. Nearby adjacent structures beside, in front of, and behind if present.
 - 2.4.1.1. If a hazardous condition cannot be ruled out and access cannot be gained, notify the supervisor to assist in coordinating property access. This will likely involve emergency services (e.g., Police and/or Fire Departments).
 - 2.4.2. Along the main(s), utilizing cracks in the pavement, manholes, sewer openings, etc.
 - 2.4.3. Based on circumstances, additional checks may need to expand beyond 2.4.1 to ensure the investigation is thorough.
 - 2.4.4. Refer to [Appendix 1](#) for leak investigation examples.
 - 2.5. Adverse weather conditions (e.g., rain, snow, frost cap, sleet, etc.) can affect leak detection equipment. The following shall be considered when performing leak investigation in adverse weather conditions:
 - 2.5.1. Where there is standing water or saturated soil, readings should be taken where gas is likely to vent (e.g., higher ground or at the edge of the water).
 - 2.5.2. Conduct a surface scan near above and below ground structures adjacent to the reported odor area.
 - 2.5.3. Check available openings (e.g., storm drains, utility boxes, etc.) with a CGI.
 - 2.5.4. Where there is puddling or ponding, expand the perimeter of the leak investigation.
 - 2.5.5. If a leak is suspected but the source cannot be immediately identified and access cannot be obtained to all area structures to check for gas readings, consider contacting the local power company to disconnect power.
 - 2.5.6. Notify the Fire Department to assist in removing potential ignition sources.
 - 2.5.7. When there is flooding or severe wet weather conditions that prevent investigation, consider evacuation and/or shutting down the section of main until such time readings can be taken to confirm that a hazard does not exist.
3. PINPOINTING
- 3.1. Once a leak has been detected, use the following methods to pinpoint the source of the leak.
 - 3.2. Bar hole in the area of indication along, and adjacent to, operator's mains and service lines, paying close attention to valves, service tees, fittings, stubs, connections, risers, or service entry points to buildings.
 - 3.2.1. Refer to [Appendix 2: Bar Hole Guidelines](#) as needed.
 - 3.3. Bar holing of an underground leak indication should be done in a uniform manner. Bar holes should be placed to the same depth and distance to adequately define the leak area. Once the area of the leak indication is determined, bar hole and sample with the CGI (in bar hole mode

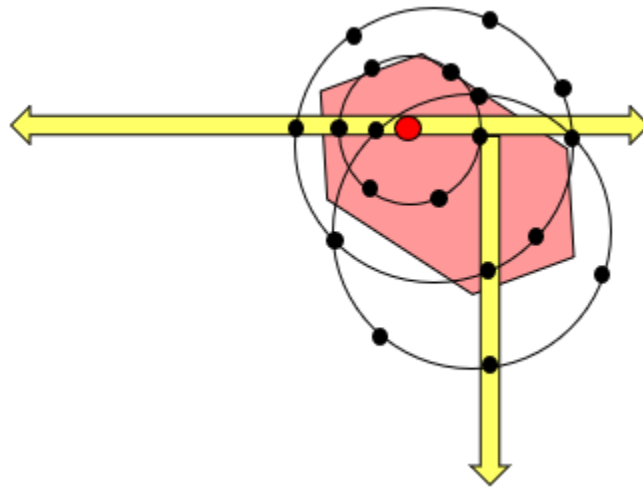
with probe attached) in all directions (e.g., 360 degrees) from the approximate center of the leak until zero gas readings are detected.

- 3.3.1. If the leak migrates to the outside wall of a structure, the leak investigation shall continue to the inside. Refer to the *Inside Leak Odor (G-ILEAK) Response Responsibilities and Actions* section of [OPS 613 – Gas Emergency Response Plan](#).



The yellow arrow represents the gas pipeline, and the red dot is the suspect leak location (e.g., highest bar hold read). Gas migration is represented in pink.

Note: This is not an exact representation of location or quantity of bar holes.



The yellow arrow represents the gas pipeline, and the red dot is the suspect leak location (e.g., highest bar hold read). Gas migration is represented in pink.

Note: This is not an exact representation of location or quantity of bar holes.

- 3.4. Document bar hole readings, including zero gas readings, as 'Initial' (IN) on CNG 293 - Leak Investigation Record or IGC/MDU/GP [23030 - Leak Investigation Record](#).
- 3.5. Look for indications of construction activity that may have contributed to the leak.
- 3.6. Check available openings in the area of leak detection, manholes, sewer openings, etc.
- 3.7. Check for migration along other buried utilities that may allow gas to migrate.
- 3.8. Check underground conduit structures (e.g., electric, telephone, cable).
- 3.9. Aspirator tools (e.g., COPUS, Evacuators, etc.) may be used to aid in leak pinpointing. The aspirator can be used near the suspected source of leakage to draw gas out of the soil. Once the soil is drawn down to lower levels of gas concentration, the bar holes can be checked at intervals to detect which ones are closest to the source of gas.

4. LEAK GRADING AND ACTION CRITERIA

4.1. Grade 1 Leaks:

GRADE 1 LEAK	ACTION CRITERIA	EXAMPLES
<p><u>DEFINITION:</u> A leak that represents an existing, or probable, hazard to persons, or property, and requires immediate repair or continuous action until the conditions are no longer hazardous.</p>	<p><u>REPAIR CRITERIA:</u> Requires prompt action to protect life and property, and continuous action until the conditions are no longer hazardous. Contact the CXT or the District Office immediately to create the appropriate emergency work order (e.g., G-OLEAK). Follow the requirements per the Outside Leak Odor Response section of OPS 613 -Gas Emergency Response Plan. Personnel not qualified to perform the requirements shall request additional qualified personnel.</p> <p><u>DOWNGRADE CRITERIA:</u> Grade 1 leaks can only be downgraded once to a Grade 2 or Grade 3 leak without a physical repair. After a leak has been downgraded once, the maximum repair time for that leak is 15 months from the date the leak was identified.</p>	<ol style="list-style-type: none"> 1. Any leak which, in the judgment of operating personnel at the scene, is regarded as an immediate hazard. 2. Escaping gas that has ignited. 3. Any indication of gas which has migrated into or under a building, or into a tunnel. 4. Any reading at the outside wall of a building or where gas could potentially migrate to an outside wall of a building. 5. Any reading of 80% LEL, or greater, in a confined space for natural gas. 6. Any reading of 80% LEL for natural gas, or greater, in small substructures (other than gas associated substructures) from which gas could potentially migrate to the outside wall of a building. 7. Any aboveground, or belowground, leak that can be seen, heard, or felt, and which is in a location that may endanger the general public or property.

4.2. Grade 2 Leaks:

GRADE 2 LEAK	ACTION CRITERIA	EXAMPLES
<p><u>DEFINITION:</u> A leak that is recognized as being non-hazardous at the time of detection, but justifies scheduled repair based</p>	<p><u>REPAIR CRITERIA:</u> Must be repaired or cleared within 6 (six) months from the date the leak was identified. In determining the repair priority, criteria such as the following should be considered: Amount and migration of gas. Proximity of gas to buildings and subsurface structures.</p>	<p>A. Leaks Requiring Action Ahead of Ground Freezing or Other Adverse Changes in Venting Conditions:</p> <ol style="list-style-type: none"> 1. Any leak which, under frozen or other adverse soil conditions, could potentially migrate to the outside wall of a building. <p>B. Leaks Requiring Action Within Six (6) Months:</p>

POLICY STATEMENT
Outside Leak Investigation,
Pinpointing, and Grading

<p>on probable future hazard.</p>	<p>Extent of pavement.</p> <p>Soil type and soil conditions (such as frost cap, moisture, and natural venting).</p> <p><u>REEVALUATION CRITERIA:</u></p> <p>At a minimum, Grade 2 leaks shall be reevaluated at least once every six (6) months until repaired or cleared. For WA, Grade 2 leaks shall be repaired or cleared within 15 months from the date the leak was reported. If a Grade 2 leak occurs on a segment of pipeline that is under consideration for replacement, an additional six months may be added to the fifteen months maximum time for repair provided above.</p> <p>Propane: Grade 2 leaks shall be reevaluated once every three (3) months until repaired or cleared.</p> <p>The location and magnitude of the leakage condition should determine the frequency of reevaluation.</p> <p>Document the reevaluation as 'RE-EVAL' (RV) on Form 293/23030. The form shall be submitted to Field Operations Management as soon as possible, but no later than the next business day. Field Operations Management shall review and sign off on each re-evaluation within 10 business days of completion of the re-evaluation.</p> <p>If a reasonable explanation is found for gas accumulation post repair (naturally forming gasses, for example), the Region Director may approve the cessation of Follow-up Investigations. These instances will be reviewed on a case-by-case basis. The explanation must be documented on the 293/23030 and it must be signed by the Region Director.</p> <p><u>DOWNGRADE CRITERIA</u></p> <p>Grade 2 leaks can only be downgraded once to a Grade 3 leak without a physical repair. After a leak has been downgraded once, the maximum repair time for that leak is 15 months from the date the leak was identified.</p> <p>NOTE: Grade 2 leaks may vary greatly in</p>	<ol style="list-style-type: none"> 1. Any reading of 40% LEL, or greater, under a sidewalk in a wall-to-wall paved area that does not qualify as a Grade 1 leak. 2. Any reading of 100% LEL, or greater, under a street in a wall-to-wall paved area that has significant gas migration and does not qualify as a Grade 1 leak. 3. Any reading less than 80% LEL for natural gas in small substructures (other than gas associated substructures) from which gas could potentially migrate creating a probable future hazard. 4. Any reading between 20% LEL and 80% LEL in a confined space for natural gas. 5. Any reading on a pipeline operating at 30% SMYS, or greater, in a Class 3 or 4 Location, which does not qualify as a Grade 1 leak. 6. Any reading of 80% LEL, or greater, in gas associated substructures. 7. Any leak which, in the judgment of operating personnel at the scene, is of sufficient magnitude to justify scheduled repair.
-----------------------------------	--	--

POLICY STATEMENT
Outside Leak Investigation,
Pinpointing, and Grading

	<p>degree of potential hazard. Some Grade 2 leaks when evaluated by the above criteria may justify scheduled repair within the next five (5) working days. Others will justify repair within 30 days. During the working day on which the leak is discovered, these situations should be brought to the attention of the individual responsible for scheduling leak repair.</p> <p>On the other hand, many Grade 2 leaks because of their location and magnitude can be scheduled for repair on a normal routine basis with periodic re-inspection, as necessary.</p>	
--	---	--

4.3. Grade 3 Leaks:

GRADE 3 LEAK	ACTION CRITERIA	EXAMPLES
<p><u>DEFINITION:</u> A leak that is non-hazardous at the time of detection and can be reasonably expected to remain non-hazardous.</p>	<p><u>REPAIR CRITERIA:</u> Must be repaired or cleared within 15 months from the date the leak was identified.</p> <p><u>REEVALUATION CRITERIA:</u> At a minimum, leaks must be reevaluated during the next scheduled survey or within 15 months of the date identified, whichever occurs first, until the leak is repaired, or no longer results in a reading.</p> <p>Document the reevaluation as 'RE-EVAL' (RV) on Form 293/23030. The form shall be submitted to Field Operations Management as soon as possible, but no later than the next business day. Field Operations Management shall review and sign off on each re-evaluation within 10 business days of completion of the re-evaluation.</p> <p>If a reasonable explanation is found for gas accumulation post repair (naturally forming gasses, for example), the Region Director may approve the cessation of Follow-up Investigations. These instances will be reviewed on a case-by-case basis. The explanation must be documented on the 293/23030 and it must be signed by the Region Director.</p>	<ol style="list-style-type: none"> 1. Any reading of less than 80% LEL in small gas associated substructures (e.g., vault, enclosed regulator station). 2. Any reading under a street in areas without wall-to-wall paving where it is unlikely the gas could migrate to the outside wall of a building. 3. Any reading of less than 20% LEL in a confined space for natural gas.

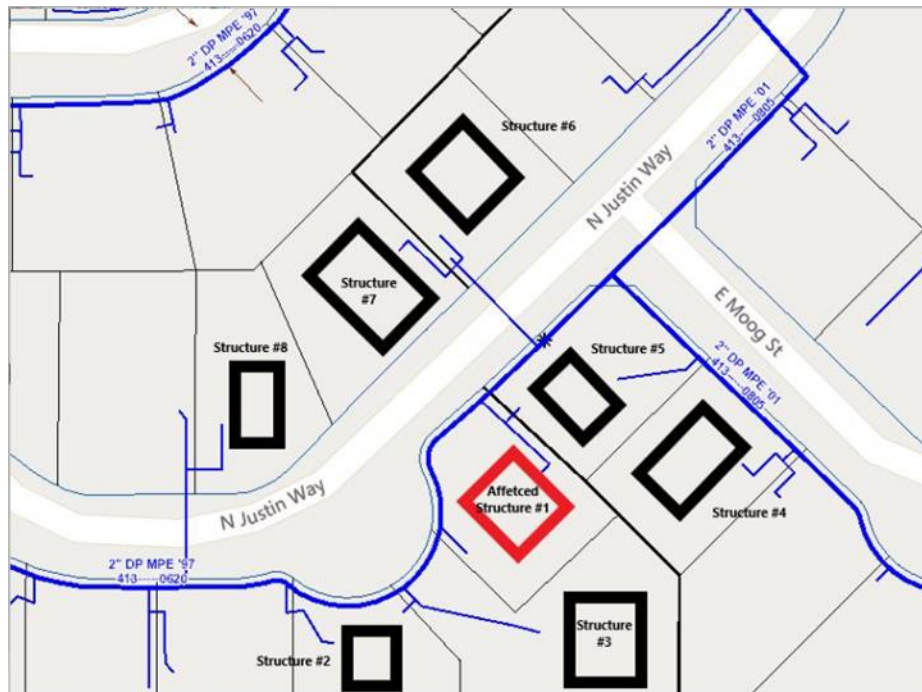
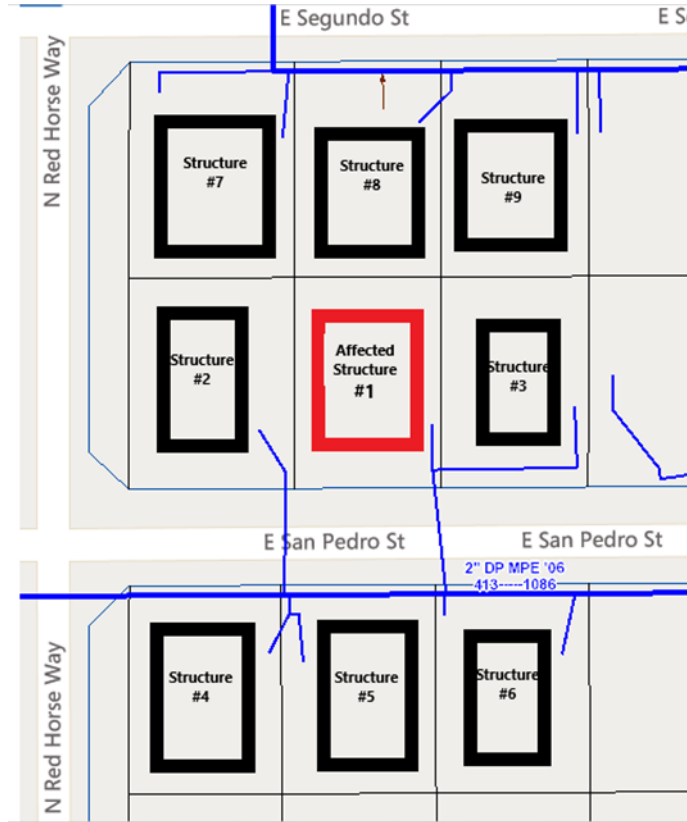
5. FOLLOW-UP INVESTIGATION

- 5.1. Excavation damage shall have a Post-Damage Leak Survey (PDLS) directly following repair, including damages with a tripped excess flow valve (EFV). If the repair is temporary, a PDLS shall be performed after temporary repair and after the permanent repair. When conducting a PDLS:
 - 5.1.1. If the damage was to a service line, survey from the repair to the tee.
 - 5.1.2. If the damage was to a main, survey a minimum of 50 feet in each direction from the repair.
 - 5.1.3. If a leak survey instrument is unavailable, PDLS can be completed by bar holing.
 - 5.1.4. If a PDLS indicates there is no gas present in the soil, no further action is needed, and the order can be closed.
 - 5.1.4.1. Washington and Oregon shall document findings on Form 293.
 - 5.1.4.2. The form shall be submitted to Field Operations Management as soon as possible, but no later than the next business day.
 - 5.1.4.3. Field Operations Management shall review and sign off on the form.
 - 5.1.4.4. The completed form shall be uploaded to SharePoint as soon as possible but not later than 10 business days from completion of the PDLS.
 - 5.1.5. If a PDLS indicates gas is present in the soil:
 - 5.1.5.1. Document the findings on Form 293/[23030](#).
 - 5.1.5.2. The form shall be submitted to Field Operations Management as soon as possible, but no later than the next business day.
 - 5.1.5.3. Field Operations Management, or designee, shall create a Gas Leak Repair Follow Up Investigation (JP10000367) work order in Maximo.
 - 5.1.5.4. A follow up investigation shall be performed per section 5.2.
- 5.2. For belowground leaks, perform an initial Follow-up Investigation as follows:
 - 5.2.1. The Follow-up Investigation shall be completed following the repair, prior to leaving the site to ensure the leak repair was effective, no other leaks exist, and residual gas in the ground would not create a hazardous situation as it dissipates.
 - 5.2.2. Utilize existing bar hole locations, with the CGI (in bar hole mode with probe attached), established during the leak investigation, including bar hole locations with a read of zero (0). Document the bar hole readings as 'Follow-up' (FOL) on Form 293/[23030](#).
 - 5.2.2.1. If unable to utilize existing bar hole locations due to adverse weather conditions refer to [Section 2.5](#).
 - 5.2.2.2. Document on the 293/[23030](#) the reason for not utilizing bar hole locations established during the leak investigation.
 - 5.2.3. Check any pipeline exposed during the repair process with a CGI prior to backfill. This shall eliminate the need to bar hole locations that were disturbed due to excavation associated with the repair. For these locations, write "CGI - #%" for samples taken on the exposed pipeline. Additional serial numbers shall be recorded if using multiple tools.
- 5.3. If the Follow-up Investigation does not indicate gas is present in the soil, the leak repair and investigation can be closed.
 - 5.3.1. Form 293/[23030](#) shall be submitted to Field Operations Management as soon as possible, but no later than the next business day.
 - 5.3.2. Field Operations Management shall review and sign off on the form.
 - 5.3.3. The completed form shall be uploaded to SharePoint as soon as possible but not later than 10 business days from completion of the follow-up investigation.
- 5.4. If the Follow-up Investigation does indicate gas is present in the soil:
 - 5.4.1. Form 293/[23030](#) shall be submitted to Field Operations Management as soon as possible, but no later than the next business day.
 - 5.4.2. Field Operations Management shall review and sign off on the form.

-
- 5.4.3. Field Operations Management, or designee, shall create a Gas Leak Repair Follow Up Investigation (JP10000367) work order in Maximo.
 - 5.4.4. The subsequent Follow-up Investigation shall be scheduled based upon the hazards and consequences specific to the area.
 - 5.4.5. Follow-up Investigations shall continue until zero (0) gas is detected with a maximum allowable interval of 30 days in between Follow-up Investigations.
 - 5.4.6. Document all Follow-up Investigations on Form 293/[23030](#).
 - 5.4.6.1. The form shall be submitted to Field Operations Management for review and sign off after each follow-up investigation. The form shall be submitted as soon as practicable but no later than the next business day.
 - 5.4.6.2. Field Operations Management shall review and sign off on each follow-up investigation within 10 business days from the completion of the investigation.
 - 5.5. Aspirator tools (e.g., COPUS, Evacuators, etc.) may be used to draw out residual gas after leak repair.
 - 5.6. A leak investigation may only be closed out upon 0% gas readings during a Follow-up Investigation.
 - 5.6.1. Form 293/[23030](#) shall be submitted to Field Operations Management as soon as possible, but no later than the next business day.
 - 5.6.2. Field Operations Management shall review and sign off on the form.
 - 5.6.3. The completed form shall be uploaded to SharePoint as soon as possible but not later than 10 business days from completion of the follow-up investigation.
 - 5.6.4. If a reasonable explanation is found for gas accumulation post repair (naturally forming gasses, for example), the Region Director may approve the cessation of Follow-up Investigations. These instances will be reviewed on a case-by-case basis. The explanation shall be documented on the 293/[23030](#) and it shall be signed by the Region Director.
 - 5.7. If additional leaks are detected or suspected during Follow-up Investigations, a new leak order shall be created, and a leak investigation shall be initiated for each detected, or suspected, leak. All associated leak investigations shall remain open until gas is no longer detected.
6. LEAK MANAGEMENT
- 6.1. Field Operations is responsible for managing leaks, coordinating and/or scheduling repair by the specified time frames in [Section 4](#) of this procedure.

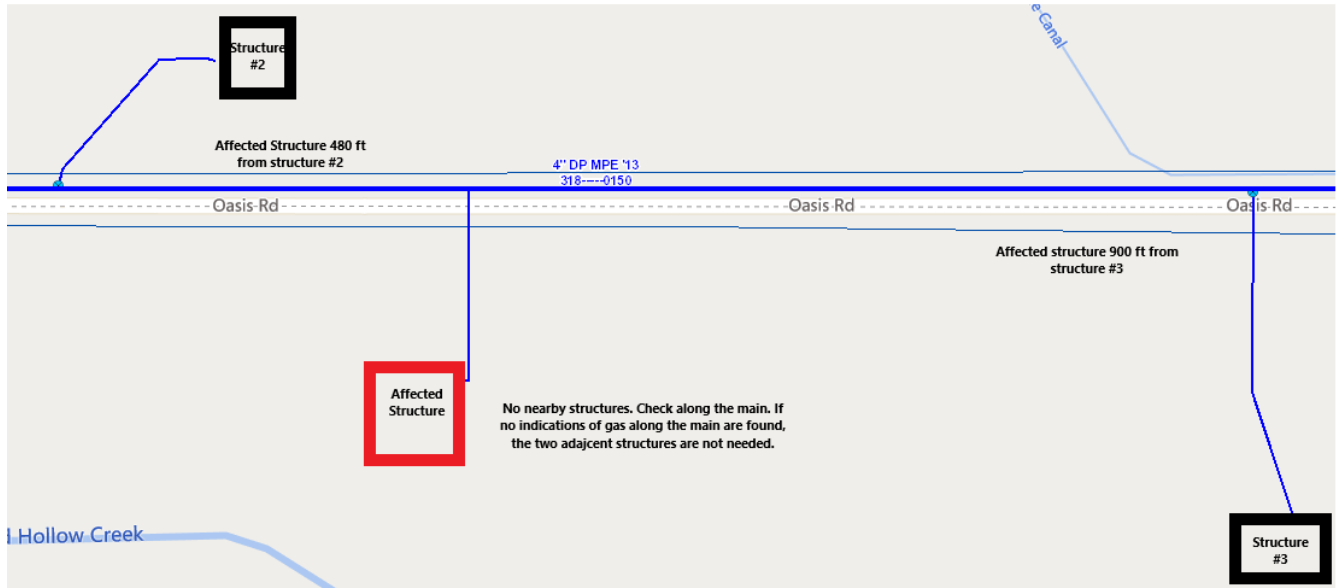
APPENDIX 1: LEAK INVESTIGATION EXAMPLES

Structures beside, in front of, and behind. Investigate structures 1-9 and check along the main(s).



Structures beside, in front of, and behind. Investigate structures 1-8 and check along the main(s).

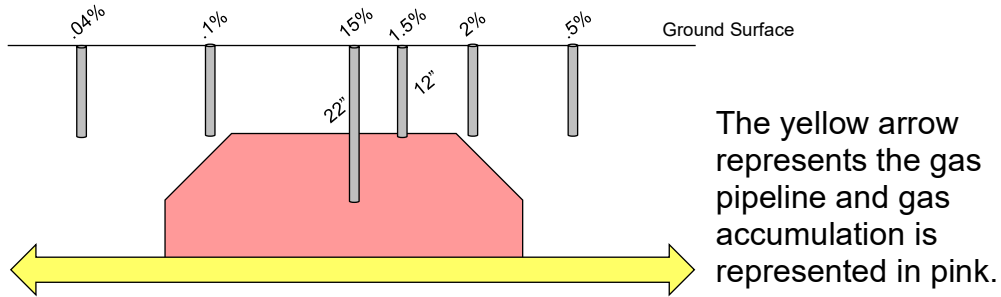
POLICY STATEMENT Outside Leak Investigation, Pinpointing, and Grading



APPENDIX 2: BAR HOLING GUIDELINES

BAR HOLING (PROBING) is used to test belowground levels of gas with a CGI (with underground probe attachment).

1. OREGON DIG LAW REQUIREMENTS- A locate request, per [OPS 611 – Line Locating and Marking](#), is required to be called in prior to bar holing in the state of Oregon. Operating under the emergency exemption by requesting emergency locates and proceeding with caution is permitted.
2. WASHINGTON DIG LAW REQUIREMENTS- A locate request is not required in the state of Washington. Operating under the emergency exemption is permitted provided bar holes are less than 12 inches in depth in non-emergency situations. No depth limitations are prescribed when performing emergency leak investigations.
3. IDAHO DIG LAW REQUIREMENTS- A locate request is not required in the state of Idaho prior to bar holing during an emergency.
4. MONTANA DIG LAW REQUIREMENTS – A locate request is not required in the state of Montana prior to bar holing during an emergency.
5. WYOMING DIG LAW REQUIREMENTS – A locate request is not required in the state of Wyoming prior to bar holing during an emergency.
6. NORTH DAKOTA DIG LAW REQUIREMENTS - A locate request is not required in the state of North Dakota prior to bar holing during an emergency.
7. SOUTH DAKOTA DIG LAW REQUIREMENTS - A locate request is not required in the state of South Dakota prior to bar holing during an emergency.
8. MINNESOTA DIG LAW REQUIRMENTS – A locate request is not required in the state of Minnesota prior to bar holing during an emergency.
9. Bar holes shall not be driven within two (2') feet of a non-MDUG locate mark, unless the facilities have been pot-holed, or windowed, to confirm the locate mark accuracy. This does not apply to vertical joint trench configurations where gas is the shallowest utility (e.g., gas is above other utilities).
10. Bar holes can be driven by hand in most soils. Do not break pavement if there are acceptable soil locations. Use of power tools should be limited to breaking the pavement to avoid damage to underground structures.
11. Bar holes for an investigation shall be of the same approximate size and depth. This limits variability in the readings. Two (2) size classes are typical: on-half ($\frac{1}{2}$ ") inch to three-fourths ($\frac{3}{4}$ ") inch driver, one (1") inch to one and one-half ($1 \frac{1}{2}$ ") inch driver. The one (1") inch to one and one-half ($1 \frac{1}{2}$ ") inch size is less susceptible to collapsing.
12. Once the locations of underground utilities have been identified, bar holes can be driven at a depth deeper than 12 inches to ensure that the appropriate leak grade is assigned. See example below.

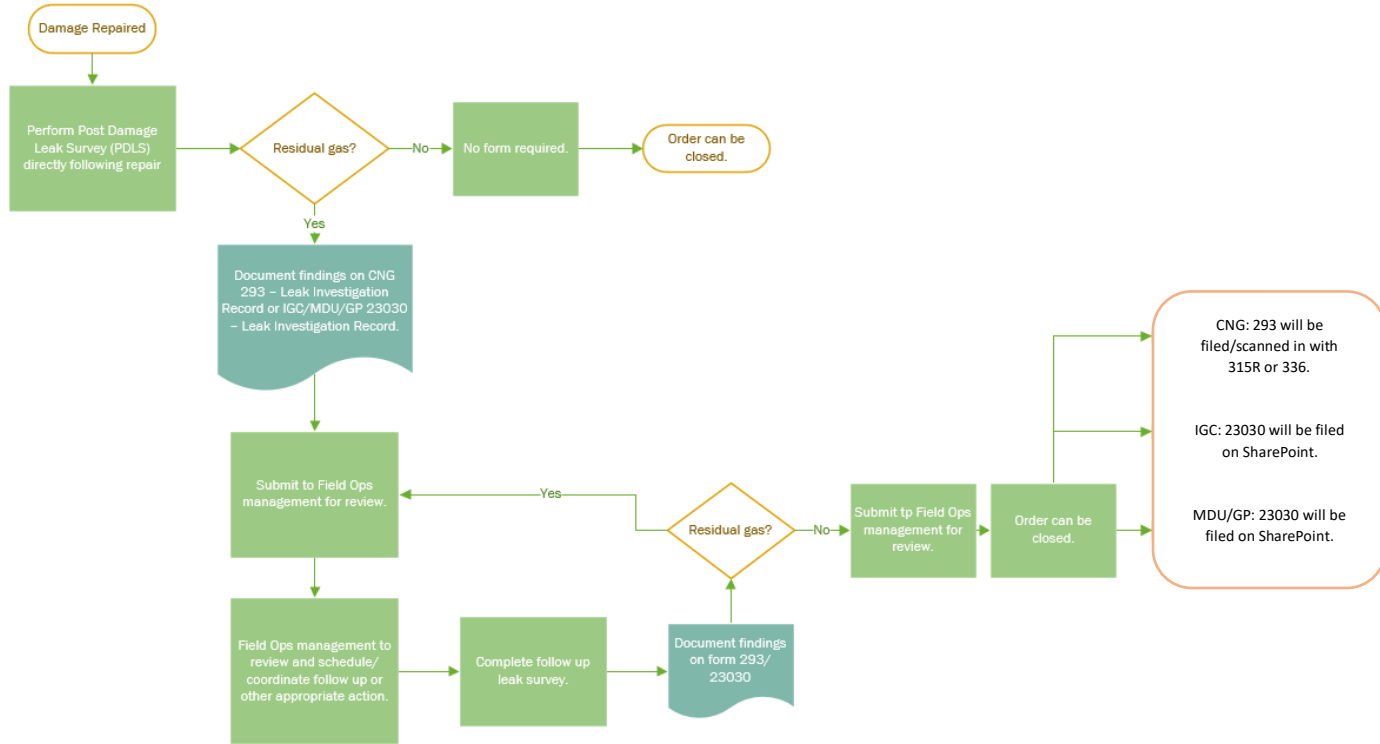


Note: This is not an exact representation of location or quantity of bar holes.

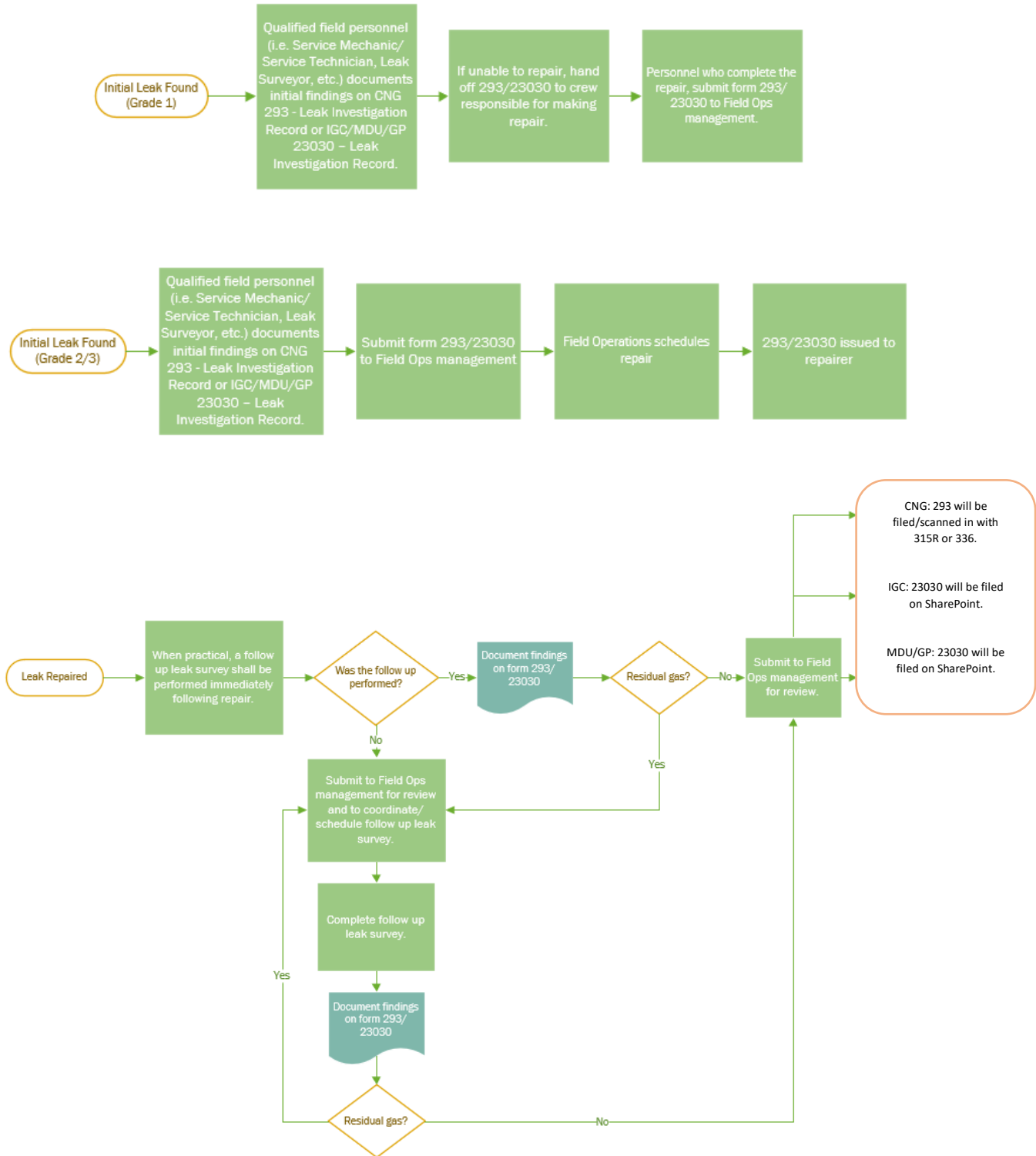
13. Document only sustained reading(s) provided by approved CGI instrument(s).

NOTE: If the temperature is above 104° Fahrenheit, bar holing shall be performed using the Sensit PMD or the Sensit Trak-It III.

APPENDIX 3: Form 293/23030 Post Damage Leak Survey Workflow



APPENDIX 3: Form 293/23030 Post Repair Leak Survey Workflow



APPENDIX 4: Leak Investigation Records (293/23030)

CNG 293 Leak Investigation Record

Standard Leak

CNG 293 EXAMPLE Page 1 of 2	CASCADE NATURAL GAS CORPORATION LEAK INVESTIGATION RECORD	Work Order # 123456			
Standard Leak					
GENERAL INFORMATION					
LOCATION	ADDRESS 123 A Street	CITY /STATE Bend/Oregon			
REPORTED BY	NAME P. Homeowner	IF OTHER THAN CNG INCLUDE PHONE NUMBER AND ADDRESS 541-567-7494 123 A Street Bend/Oregon			
DETECTED/REPORTED	DATE 7/17/17	TIME 9:00			
INVESTIGATED	DATE 7/17/17	TIME 9:20			
LEAK STOP	<input type="checkbox"/> N/A No Leak				
	DATE 7/17/17	TIME 9:45			
SKETCH – INCLUDE PHYSICAL FEATURES OF SITE AND PIPELINE. DETAIL INVESTIGATION AND PERIMETER OF SUSPECTED LEAK(S).					
LEAK INVESTIGATION RESULTS – DETAIL BARHOLE LOCATIONS IN SKETCH. HIGHLIGHT POST DAMAGE LEAK SURVEY EXTENTS IN SKETCH					
ACTION CODES:	IN = INITIAL	RV = RE-EVAL	RP = REPAIR	POLS = POST DAMAGE LEAK SURVEY	FOL = FOLLOW-UP
ACTION TAKEN	IN	RP	FOL		
DATE	7/17/17	7/17/17	7/17/17		
TIME	9:20	10:30	11:00		
PERFORMED BY	A. Gasman	A. Gasman	A. Gasman		
INST. SERIAL #	12345		12345		
CAL. DATE	07/01/17		07/01/17		
BARHOLE READING AT SAMPLE LOCATION (READINGS ARE SUSTAINED % GAS UNLESS NOTED)	A	0%		CGI – 0%	
	B	10%		CGI – 0%	
	C	35%		0%	
	D	50%		0%	
	E	10%		0%	
	F	0%		0%	
	G	2%		0%	
	H	0%		0%	
	I	0.8%		0%	
	J	0%		0%	
	K	0%		0%	
	L	0%		0%	
	M	0%		0%	
	N	0%		0%	
	O	0%		0%	
	P				
INDICATION OF GAS	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> NA	<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> NA	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> NA	<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> NA	<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> NA
MANAGEMENT REVIEW					
MANAGER INITIAL & DATE	AB 7/17/17	AB 7/17/17	AB 7/17/17		

POLICY STATEMENT
Outside Leak Investigation,
Pinpointing, and Grading

CNG 293
 EXAMPLE
 Page 2 of 2

CASCADE NATURAL GAS CORPORATION
LEAK INVESTIGATION RECORD

Work Order #
 123456

Standard Leak

LEAK GRADE – INITIAL GRADE REQUIRED, RE-GRADE ONLY AS CONDITIONS CHANGE				<input type="checkbox"/> N/A No Leak
INITIAL GRADE	LEAK GRADE (1,2,3)	GRADED BY	DATE	
	1	A. Gasman	07/17/2017	
RE-GRADE				
RE-GRADE				

PIPELINE ASSESSMENT				<input type="checkbox"/> N/A No Exposure
PIPE CLASS	MATERIAL	PIPE CONDITION		CATHODIC PROTECTION
<input checked="" type="checkbox"/> SERVICE <input type="checkbox"/> MAIN <input type="checkbox"/> TRANSMISSION	<input checked="" type="checkbox"/> STEEL <input type="checkbox"/> PE <input type="checkbox"/> OTHER	AS FOUND <input type="checkbox"/> GOOD <input checked="" type="checkbox"/> FAIR <input type="checkbox"/> POOR	AS LEFT <input checked="" type="checkbox"/> GOOD <input type="checkbox"/> FAIR <input type="checkbox"/> POOR	<input type="checkbox"/> N/A PE <input type="checkbox"/> N/A NO STEEL EXPOSED <input checked="" type="checkbox"/> LOW - SEE CNG 650 Low CP # 32-061
PIPE SIZE	DEPTH	INSTALL DATE		METER # 1234567 HALF CELL # 1234567
3/4 IN	30 IN	07/10/1967		

LEAK ASSESSMENT		<input type="checkbox"/> N/A No Leak
LEAK CAUSE – INDICATE THE LEAK CAUSE TYPE AND NUMBER OF LEAK(S) OBSERVED FOR EACH TYPE.		COMPONENT(S) THAT LEAKED
<input checked="" type="checkbox"/> A. CORROSION 1	<input checked="" type="checkbox"/> E. MATERIAL OR WELD 1	<input checked="" type="checkbox"/> PIPE
<input type="checkbox"/> B. NATURAL FORCES	<input type="checkbox"/> F. EQUIPMENT FAILURE	<input type="checkbox"/> WELD
<input type="checkbox"/> C. EXCAVATION DAMAGE	<input type="checkbox"/> G. INCORRECT OPERATION	<input type="checkbox"/> VALVE
<input type="checkbox"/> D. OTHER OUTSIDE FORCE	<input type="checkbox"/> H. OTHER – DESCRIBE BELOW	<input type="checkbox"/> REGULATOR
		<input type="checkbox"/> FITTING
		<input type="checkbox"/> TAP CONNECTION
		<input type="checkbox"/> OTHER – DESCRIBE BELOW

LEAK DESCRIPTION AND DETAIL – DESCRIBE LEAK(S) AND DETAIL LOCATION OF LEAK(S) IN DRAWING.

1) Found corrosion leak 20 feet from foundation of 123 A St.

2) Found leaking Weld at 90.

REPAIR		<input type="checkbox"/> N/A No Repair
REPAIR TYPE	REPAIR DESCRIPTION	
MINOR OR TEMPORARY LEAK REPAIR: <input type="checkbox"/> TIGHTEN / LUBE / ADJUST <input type="checkbox"/> TEMPORARY LEAK REPAIR RECONDITION: <input type="checkbox"/> WELD (API 1104 WELDS ONLY) <input type="checkbox"/> COMPONENT <input type="checkbox"/> PERMANENT SPLIT SLEEVE <input type="checkbox"/> OTHER REPAIR – DESCRIBE	REPLACE / RETIRE: <input checked="" type="checkbox"/> PIPE <input type="checkbox"/> PIPELINE COMPONENT <input type="checkbox"/> HPSS / METER SET / REG STATION DOCUMENT REPLACEMENTS AND RETIREMENTS ON AS BUILT. <input checked="" type="checkbox"/> SEE CNG 315R <input type="checkbox"/> ENGINEERED <input type="checkbox"/> SEE CNG 336 <input type="checkbox"/> AS BUILT	
	Replaced entire service line with PE	

POST REPAIR LEAK TEST				<input type="checkbox"/> N/A No Leak
<input checked="" type="checkbox"/> PERFORMED SOAP TEST AT OPERATING PRESSURE	NAME	A. Gasman	<input checked="" type="checkbox"/> PASS	
<input checked="" type="checkbox"/> PERFORMED PRESSURE TEST ON NEW AND/OR REINSTATED PIPELINE (SEE AS BUILT)	NAME	A. Gasman	<input checked="" type="checkbox"/> PASS	

ADMINISTRATIVE			
NOTIFIABLE INCIDENT	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	IF YES, INCIDENT REPORTED TO:	<input type="checkbox"/> WUTC <input type="checkbox"/> OPUC <input type="checkbox"/> PHMSA
WERE COMPANY PROCEDURES AND OQ EFFECTIVE?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	If NO, notify Region Director and initiate an MOC.	

DISTRICT MANAGEMENT	DATE
<SIGNATURE>	7/17/17

See OPS 327

POLICY STATEMENT
Outside Leak Investigation,
Pinpointing, and Grading

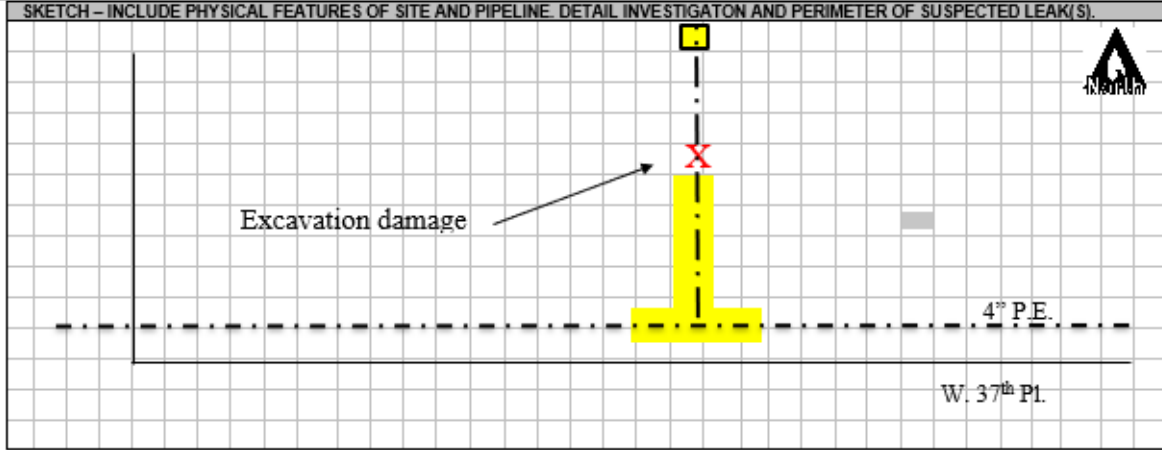
Excavation Damage - No Leak

CNG 293
 Rev. 06/18
 Page 1 of 2

CASCADE NATURAL GAS CORPORATION
LEAK INVESTIGATION RECORD

Work Order #
 123456

GENERAL INFORMATION								
LOCATION	ADDRESS 8108 W. 37 th Pl			CITY / STATE Kennewick, WA				
REPORTED BY	NAME S. Hamilton		IF OTHER THAN CNG INCLUDE PHONE NUMBER AND ADDRESS 8113 W. Grandridge Blvd, Kennewick, WA 509-522-1130					
DETECTED/ REPORTED	DATE	TIME	INVESTIGATED	DATE	TIME	LEAK STOP	DATE	TIME
	10/01/2019	9:15 A.M.		10/01/2019	9:35 A.M.	<input checked="" type="checkbox"/> N/A No Leak		



LEAK INVESTIGATION RESULTS - DETAIL BARHOLE LOCATIONS IN SKETCH. HIGHLIGHT POST DAMAGE LEAK SURVEY EXTENTS IN SKETCH						
ACTION CODES:	IN = INITIAL	RV = RE-EVAL	RP = REPAIR	PDLS = POST DAMAGE LEAK SURVEY	FOL = FOLLOW-UP	
ACTION TAKEN	IN	RV	RP	PDLS		
DATE	10/01/2019	10/01/2019	10/01/2019			
TIME	9:35 A.M.	10:50 A.M.	11:35 A.M.			
PERFORMED BY	S. Hamilton	S. Hamilton	S. Hamilton			
INST. SERIAL #	7966		7966			
CAL. DATE	10/01/2019		10/01/2019			
BARHOLE READING AT SAMPLE LOCATION (READINGS ARE SUSTAINED % GAS UNLESS NOTED)	A					
	B					
	C					
	D					
	E					
	F					
	G					
	H					
	I					
	J					
	K					
	L					
	M					
	N					
	O					
	P					
INDICATION OF GAS	<input checked="" type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> NA	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> NA	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> NA	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> NA	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> NA	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> NA
MANAGEMENT REVIEW						
MANAGER INITIAL & DATE	G.M. 10/03/2019	G.M. 10/03/2019	G.M. 10/03/2019			

SEE SUPPLEMENTAL INVESTIGATION SHEET

POLICY STATEMENT
Outside Leak Investigation,
Pinpointing, and Grading

Excavation Damage to Service Line - Blowing Gas

CNG 283
 Rev. 08/18
 Page 1 of 2

CASCADE NATURAL GAS CORPORATION
LEAK INVESTIGATION RECORD

Work Order #
 123456

GENERAL INFORMATION									
LOCATION	ADDRESS 620 W. Kennewick Ave					CITY / STATE Kennewick, WA			
REPORTED BY	NAME S. Hamilton			IF OTHER THAN CNG INCLUDE PHONE NUMBER AND ADDRESS 8113 W. Grandridge BLVD, Kennewick WA					
DETECTED/REPORTED	DATE 2/12/2019	TIME 1:10 p.m.	INVESTIGATED	DATE 2/12/2019	TIME 1:35 p.m.	LEAK STOP <input type="checkbox"/> N/A No Leak	DATE 2/12/2019	TIME 1:55 p.m.	
SKETCH - INCLUDE PHYSICAL FEATURES OF SITE AND PIPELINE. DETAIL INVESTIGATION AND PERIMETER OF SUSPECTED LEAK(S).									
LEAK INVESTIGATION RESULTS - DETAIL BARHOLE LOCATIONS IN SKETCH. HIGHLIGHT POST DAMAGE LEAK SURVEY EXTENTS IN SKETCH									
ACTION CODES:		IN = INITIAL	RV = RE-EVAL	RP = REPAIR	PDLs = POST DAMAGE LEAK SURVEY		FOL = FOLLOW-UP		
ACTION TAKEN	IN	RP	PDLs						
DATE	2/12/19	2/12/19	2/12/19						
TIME	1:35 p.m.	2:38 p.m.	3:46 p.m.						
PERFORMED BY	S. Hamilton	C. Lundstrom	C. Lundstrom						
INST. SERIAL #	7985		7954						
CAL. DATE	2/01/2019		2/01/2019						
BARHOLE READING AT SAMPLE LOCATION (READINGS ARE SUSTAINED % GAS UNLESS NOTED)	A	Blowing gas							
	B								
	C								
	D								
	E								
	F								
	G								
	H								
	I								
	J								
	K								
	L								
	M								
	N								
	O								
	P								
INDICATION OF GAS	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> NA	<input type="checkbox"/> YES <input type="checkbox"/> NO <input checked="" type="checkbox"/> NA	<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> NA	<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> NA	<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> NA	<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> NA	<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> NA	<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> NA	<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> NA
MANAGEMENT REVIEW									
MANAGER INITIAL & DATE	G. Miller 2/15/19	G. Miller 2/15/19	G. Miller 2/15/19						

SEE SUPPLEMENTAL INVESTIGATION SHEET

POLICY STATEMENT
Outside Leak Investigation,
Pinpointing, and Grading

CNG 293 Rev. 06/18 Page 2 of 2		CASCADE NATURAL GAS CORPORATION LEAK INVESTIGATION RECORD		Work Order # 123456	
LEAK GRADE – INITIAL GRADE REQUIRED, RE-GRADE ONLY AS CONDITIONS CHANGE <input type="checkbox"/> N/A No Leak					
INITIAL GRADE		LEAK GRADE (1,2,3)	GRADED BY	DATE	
		1	S. Hamilton	08/22/19	
RE-GRADE					
RE-GRADE					
PIPELINE ASSESSMENT – COMPLETE IF PIPELINE IS EXPOSED <input type="checkbox"/> N/A No Exposure					
PIPE CLASS		MATERIAL	PIPE CONDITION		CATHODIC PROTECTION
<input checked="" type="checkbox"/> SERVICE		<input type="checkbox"/> STEEL	<u>AS FOUND</u>		<input checked="" type="checkbox"/> N/A PE
<input type="checkbox"/> MAIN		<input checked="" type="checkbox"/> PE	<input checked="" type="checkbox"/> GOOD		<input type="checkbox"/> N/A NO STEEL EXPOSED
<input type="checkbox"/> TRANSMISSION		<input type="checkbox"/> OTHER	<input type="checkbox"/> FAIR		<input type="checkbox"/> LOW - SEE CNG 650
PIPE SIZE		DEPTH	INSTALL DATE		METER #
5/8 IN		24 IN	8/17/2001		HALF CELL #
DOCUMENT PIPE FOUND IN FAIR OR POOR CONDITION ON THE CNG 826 FORM.					
LEAK ASSESSMENT <input type="checkbox"/> N/A No Leak					
LEAK CAUSE – INDICATE THE LEAK CAUSE TYPE AND NUMBER OF LEAK(S) OBSERVED FOR EACH TYPE.					COMPONENT(S) THAT LEAKED
<input type="checkbox"/> A. CORROSION		<input type="checkbox"/> E. MATERIAL OR WELD		<input checked="" type="checkbox"/> PIPE	
<input type="checkbox"/> B. NATURAL FORCES		<input type="checkbox"/> F. EQUIPMENT FAILURE		<input type="checkbox"/> WELD	
<input checked="" type="checkbox"/> C. EXCAVATION DAMAGE 1		<input type="checkbox"/> G. INCORRECT OPERATION		<input type="checkbox"/> VALVE	
<input type="checkbox"/> D. OTHER OUTSIDE FORCE		<input type="checkbox"/> H. OTHER – DESCRIBE BELOW		<input type="checkbox"/> REGULATOR	
				<input type="checkbox"/> FITTING	
				<input type="checkbox"/> TAP CONNECTION	
				<input type="checkbox"/> OTHER – DESCRIBE BELOW	
LEAK DESCRIPTION AND DETAIL – DESCRIBE LEAK(S) AND DETAIL LOCATION OF LEAK(S) IN DRAWING.					
1. Leak from excavation damage 8' from main.					
REPAIR <input type="checkbox"/> N/A No Repair					
REPAIR TYPE			REPAIR DESCRIPTION		
MINOR OR TEMPORARY LEAK REPAIR: <input type="checkbox"/> TIGHTEN / LUBE / ADJUST <input type="checkbox"/> TEMPORARY LEAK REPAIR RECONDITION: <input type="checkbox"/> WELD (API 1104 WELDS ONLY) <input type="checkbox"/> COMPONENT <input type="checkbox"/> PERMANENT SPLIT SLEEVE <input type="checkbox"/> OTHER REPAIR – DESCRIBE			REPLACE / RETIRE: <input checked="" type="checkbox"/> PIPE <input type="checkbox"/> PIPELINE COMPONENT <input type="checkbox"/> HPSS / METER SET / REG STATION DOCUMENT REPLACEMENTS AND RETIREMENTS ON AS BUILT. <input checked="" type="checkbox"/> SEE CNG 315 <input type="checkbox"/> ENGINEERED AS BUILT <input type="checkbox"/> SEE CNG 336		
			Cut out damaged pipe and installed 2' of 5/8" P.E.		
POST REPAIR LEAK TEST <input type="checkbox"/> N/A No Leak					
<input checked="" type="checkbox"/> PERFORMED SOAP TEST AT OPERATING PRESSURE			NAME C. Lundstrom		<input checked="" type="checkbox"/> PASS
<input checked="" type="checkbox"/> PERFORMED PRESSURE TEST ON NEW AND/OR REINSTATED PIPELINE (SEE AS BUILT)			NAME C. Lundstrom		<input checked="" type="checkbox"/> PASS
ADMINISTRATIVE					
NOTIFIABLE INCIDENT		<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO	IF YES, INCIDENT REPORTED TO: <input type="checkbox"/> WUTC <input type="checkbox"/> OPUC <input type="checkbox"/> PHMSA	
WERE COMPANY PROCEDURES AND OQ EFFECTIVE?		<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		IF NO, notify Region Director and initiate an MOC.	
DISTRICT MANAGEMENT		G. Miller			DATE 2/15/2019

POLICY STATEMENT
Outside Leak Investigation,
Pinpointing, and Grading

Excavation Damage to Main – Blowing Gas

CNG 293
 EXAMPLE
 Page 1 of 2

CASCADE NATURAL GAS CORPORATION
LEAK INVESTIGATION RECORD

Work Order #
 123458

Excavation Damage - Blowing Gas

GENERAL INFORMATION							
LOCATION	ADDRESS 123 A Street			CITY/STATE Bend/Oregon			
REPORTED BY	NAME S. Excavator		IF OTHER THAN CNG INCLUDE PHONE NUMBER AND ADDRESS 509-734-7783 5000 W 9 th Pl, Bend, OR 99336				
DETECTED/REPORTED	DATE 7/17/17	TIME 9:00	INVESTIGATED	DATE 7/17/17	TIME 9:20	LEAK STOP <input type="checkbox"/> N/A No Leak	DATE 7/17/17
SKETCH – INCLUDE PHYSICAL FEATURES OF SITE AND PIPELINE. DETAIL INVESTIGATION AND PERIMETER OF SUSPECTED LEAK(S).							
LEAK INVESTIGATION RESULTS – DETAIL BARHOLE LOCATIONS IN SKETCH. HIGHLIGHT POST DAMAGE LEAK SURVEY EXTENTS IN SKETCH							
ACTION CODES:	IN = INITIAL	RV = RE-EVAL	RP = REPAIR	POLS = POST DAMAGE LEAK SURVEY	FOL = FOLLOW-UP		
ACTION TAKEN	IN	RP	POLS				
DATE	7/17/17	7/17/17	7/17/17				
TIME	9:20	10:55	11:15				
PERFORMED BY	M. Gasman	M. Gasman	M. Gasman				
INST. SERIAL #	12345		6789				
CAL. DATE	7/01/17		7/01/17				
BARHOLE READING AT SAMPLE LOCATION (READINGS ARE SUSTAINED % GAS UNLESS NOTED)	A	Blowing					
	B						
	C						
	D						
	E						
	F						
	G						
	H						
	I						
	J						
	K						
	L						
	M						
	N						
	O						
	P						
INDICATION OF GAS	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> NA	<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> NA	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> NA	<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> NA	<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> NA	<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> NA	<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> NA
MANAGEMENT REVIEW							
MANAGER INITIAL & DATE	AB 7/17/17	AB 7/17/17	AB 7/17/17				

POLICY STATEMENT
Outside Leak Investigation,
Pinpointing, and Grading

CNG 293
 EXAMPLE
 Page 2 of 2

**Excavation Damage -
 Blowing Gas**

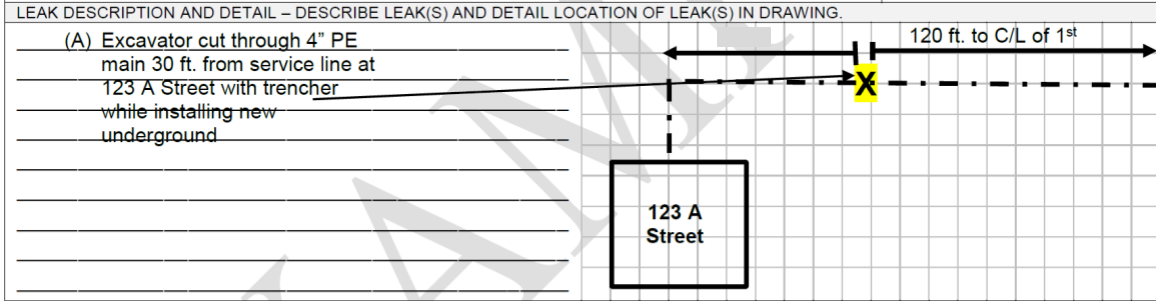
CASCADE NATURAL GAS CORPORATION
LEAK INVESTIGATION RECORD

Work Order #
 123458

LEAK GRADE – INITIAL GRADE REQUIRED, RE-GRADE ONLY AS CONDITIONS CHANGE <input type="checkbox"/> N/A No Leak			
	LEAK GRADE (1,2,3)	GRADED BY	DATE
INITIAL GRADE	1	M. Gasman	7/17/17
RE-GRADE			
RE-GRADE			

PIPELINE ASSESSMENT <input type="checkbox"/> N/A No Exposure				
PIPE CLASS		MATERIAL	PIPE CONDITION	CATHODIC PROTECTION
<input type="checkbox"/> SERVICE		<input type="checkbox"/> STEEL	AS FOUND	<input checked="" type="checkbox"/> N/A PE
<input checked="" type="checkbox"/> MAIN		<input checked="" type="checkbox"/> PE	<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> N/A NO STEEL EXPOSED
<input type="checkbox"/> TRANSMISSION		<input type="checkbox"/> OTHER	<input type="checkbox"/> FAIR	<input type="checkbox"/> LOW - SEE CNG 650
			<input type="checkbox"/> POOR	Low CP # _____
PIPE SIZE	DEPTH	INSTALL DATE	DOCUMENT PIPE FOUND IN FAIR OR POOR CONDITION ON THE CNG 625 FORM.	
4 IN	40 IN	6/16/2016	METER #	N/A
			HALF CELL #	N/A

LEAK ASSESSMENT <input type="checkbox"/> N/A No Leak			
LEAK CAUSE – INDICATE THE LEAK CAUSE TYPE AND NUMBER OF LEAK(S) OBSERVED FOR EACH TYPE.			COMPONENT(S) THAT LEAKED
<input type="checkbox"/> A. CORROSION	_____	<input type="checkbox"/> E. MATERIAL OR WELD	_____
<input type="checkbox"/> B. NATURAL FORCES	_____	<input type="checkbox"/> F. EQUIPMENT FAILURE	_____
<input checked="" type="checkbox"/> C. EXCAVATION DAMAGE	1	<input type="checkbox"/> G. INCORRECT OPERATION	_____
<input type="checkbox"/> D. OTHER OUTSIDE FORCE	_____	<input type="checkbox"/> H. OTHER – DESCRIBE BELOW	_____
			<input checked="" type="checkbox"/> PIPE
			<input type="checkbox"/> WELD
			<input type="checkbox"/> VALVE
			<input type="checkbox"/> REGULATOR
			<input type="checkbox"/> FITTING
			<input type="checkbox"/> TAP CONNECTION
			<input type="checkbox"/> OTHER – DESCRIBE BELOW



REPAIR <input type="checkbox"/> N/A No Repair	
REPAIR TYPE	REPAIR DESCRIPTION
MINOR OR TEMPORARY LEAK REPAIR: <input type="checkbox"/> TIGHTEN / LUBE / ADJUST <input type="checkbox"/> TEMPORARY LEAK REPAIR RECONDITION: <input type="checkbox"/> WELD (API 1104 WELDS ONLY) <input type="checkbox"/> COMPONENT <input type="checkbox"/> PERMANENT SPLIT SLEEVE <input type="checkbox"/> OTHER REPAIR – DESCRIBE	REPLACE / RETIRE: <input checked="" type="checkbox"/> PIPE <input type="checkbox"/> PIPELINE COMPONENT <input type="checkbox"/> HPSS / METER SET / REG STATION DOCUMENT REPLACEMENTS AND RETIREMENTS ON AS BUILT. <input type="checkbox"/> SEE CNG 315R <input type="checkbox"/> ENGINEERED AS BUILT <input checked="" type="checkbox"/> SEE CNG 336
	Replaced damaged main with 2 feet of new 4" PE pipe

POST REPAIR LEAK TEST <input type="checkbox"/> N/A No Leak	
<input checked="" type="checkbox"/> PERFORMED SOAP TEST AT OPERATING PRESSURE	NAME: M. Gasman <input checked="" type="checkbox"/> PASS
<input checked="" type="checkbox"/> PERFORMED PRESSURE TEST ON NEW AND/OR REINSTATED PIPELINE (SEE AS BUILT)	NAME: M. Gasman <input checked="" type="checkbox"/> PASS

ADMINISTRATIVE			
NOTIFIABLE INCIDENT	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	IF YES, INCIDENT REPORTED TO:	<input type="checkbox"/> WUTC <input type="checkbox"/> OPUC <input type="checkbox"/> PHMSA
WERE COMPANY PROCEDURES AND OQ EFFECTIVE?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	If NO, notify Region Director and initiate an MOC.	

DISTRICT MANAGEMENT	<SIGNATURE>	DATE	7/17/17
----------------------------	-------------	------	---------

POLICY STATEMENT
Outside Leak Investigation,
Pinpointing, and Grading

IGC/MDU/GP 23030 Leak Investigation Record

Standard Leak

23030 (Rev. DRAFT)

MDU Utilities Group
 Leak Investigation Record



GENERAL INFORMATION:

Location/Address:	123 A Street, Boise ID
Reported By:	P. Homeowner
Detected By:	A. Gasman
Detected Date:	1/12/2021
Detected Time:	10:00am

LEAK INVESTIGATION RESULTS: Detail Barhole Locations in Sketch on page 2.

Action Codes: IN = Initial RV = Re-Eval RP = Repair PDLS = Post Damage Leak Survey FOL = Follow UP

Action Taken	IN	RP	FOL			
Date	1/12/2021	1/12/2021	1/12/2021			
Time	10:15am	10:45am	11:00am			
Performed By	A. Gasman	A. Gasman	A. Gasman			
Instr. Serial #	12345		12345			
Calibration Date	12/15/2020		12/15/2020			
BARHOLE READING AT SAMPLE LOCATION (READINGS ARE SUSTAINED % GAS UNLESS NOTED)	A	0%		0%		
	B	10%		0%		
	C	35%		0%		
	D	50%		0%		
	E	10%		0%		
	F	0%		0%		
	G	2%		0%		
	H	0%		0%		
	I	.8%		0%		
	J	0%		0%		
	K	0%		0%		
	L	0%		0%		
	M	0%		0%		
N	0%		0%			
P	0%		0%			
Leak Classification	2		Repaired			
PCAD Order #	MDUG-2021-12345					
Supervisor Initial and Date	DM 1/12/2021	DM 1/12/2021	DM 1/12/2021			

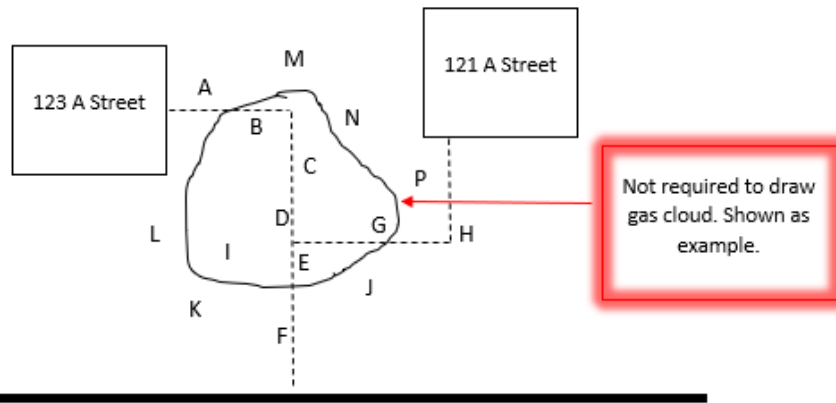
23030 (Rev. DRAFT)

MDU Utilities Group
Leak Investigation Record



REMARKS: Small pin hole leak found on service line. Performed follow up survey after repair. No additional leaks detected.

DRAWING:



Field Operations Management Signature: _____

Date: _____

POLICY STATEMENT
Outside Leak Investigation,
Pinpointing, and Grading

Standard Leak Requiring Reevaluation

23030 (Rev. DRAFT)

MDU Utilities Group
Leak Investigation Record



GENERAL INFORMATION:

Location/Address:	123 A Street, Boise ID
Reported By:	P. Homeowner
Detected By:	A. Gasman
Detected Date:	1/12/2021
Detected Time:	10:00am

LEAK INVESTIGATION RESULTS: Detail Barhole Locations in Sketch on page 2.

Action Codes: IN = Initial RV = Re-Eval RP = Repair PDLS = Post Damage Leak Survey FOL = Follow UP

Action Taken	IN	Re-Eval	RP	FOL		
Date	1/12/2021	3/1/2021	4/15/2021	4/15/2021		
Time	10:15am	11:00am	12:00pm	12:15pm		
Performed By	A. Gasman	A. Gasman	A. Gasman	A. Gasman		
Instr. Serial #	12345	12345		12345		
Calibration Date	12/15/2020	2/15/2021		2/15/2021		
BARHOLE READING AT SAMPLE LOCATION (READINGS ARE SUSTAINED % GAS UNLESS NOTED)	A	0%	0%		0%	
	B	10%	11%		0%	
	C	35%	37%		0%	
	D	50%	55%		0%	
	E	10%	10%		0%	
	F	0%	0%		0%	
	G	2%	0%		0%	
	H	0%	0%		0%	
	I	.8%	0.8%		0%	
	J	0%	0%		0%	
	K	0%	0%		0%	
	L	0%	0%		0%	
	M	0%	0%		0%	
	N	0%	0%		0%	
	P	0%	0%		0%	
	Leak Classification	2	2	Repaired	Repaired	
PCAD Order #	MDUG-2021-12345					
Supervisor Initial and Date	DM 1/12/2021	DM 3/1/2021	DM 4/15/2021	DM 4/15/2021		

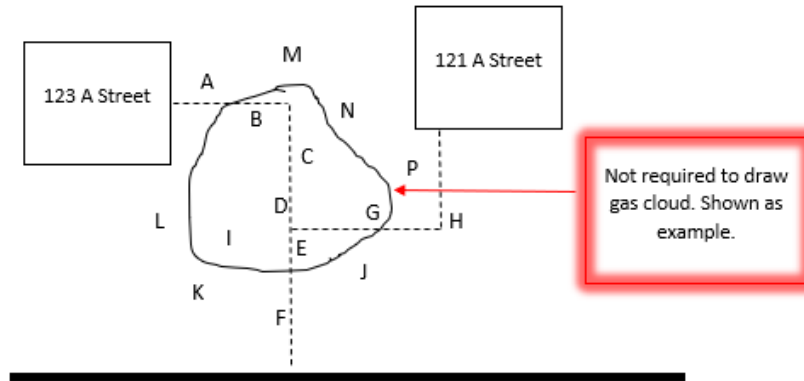
POLICY STATEMENT
Outside Leak Investigation,
Pinpointing, and Grading

MDU Utilities Group
Leak Investigation Record



REMARKS: 1/12/2021 Grade 2 leak found on service line.
3/1/2021 Rechecked leak. Still grade 2. No migration.
4/15/2021 Leak repaired. Verified no additional leaks present.

DRAWING:



Field Operations Management Signature: _____

Date: _____

POLICY STATEMENT
Outside Leak Investigation,
Pinpointing, and Grading

Post Damage Leak Survey – Residual Gas in Soil

23030 (Rev. DRAFT)

MDU Utilities Group
 Leak Investigation Record



GENERAL INFORMATION:

Location/Address:	123 A Street, Boise ID
Reported By:	P. Homeowner
Detected By:	A. Gasman
Detected Date:	1/12/2021
Detected Time:	10:00am

LEAK INVESTIGATION RESULTS: Detail Barhole Locations in Sketch on page 2.

Action Codes: IN = Initial RV = Re-Eval RP = Repair PDLS = Post Damage Leak Survey FOL = Follow UP

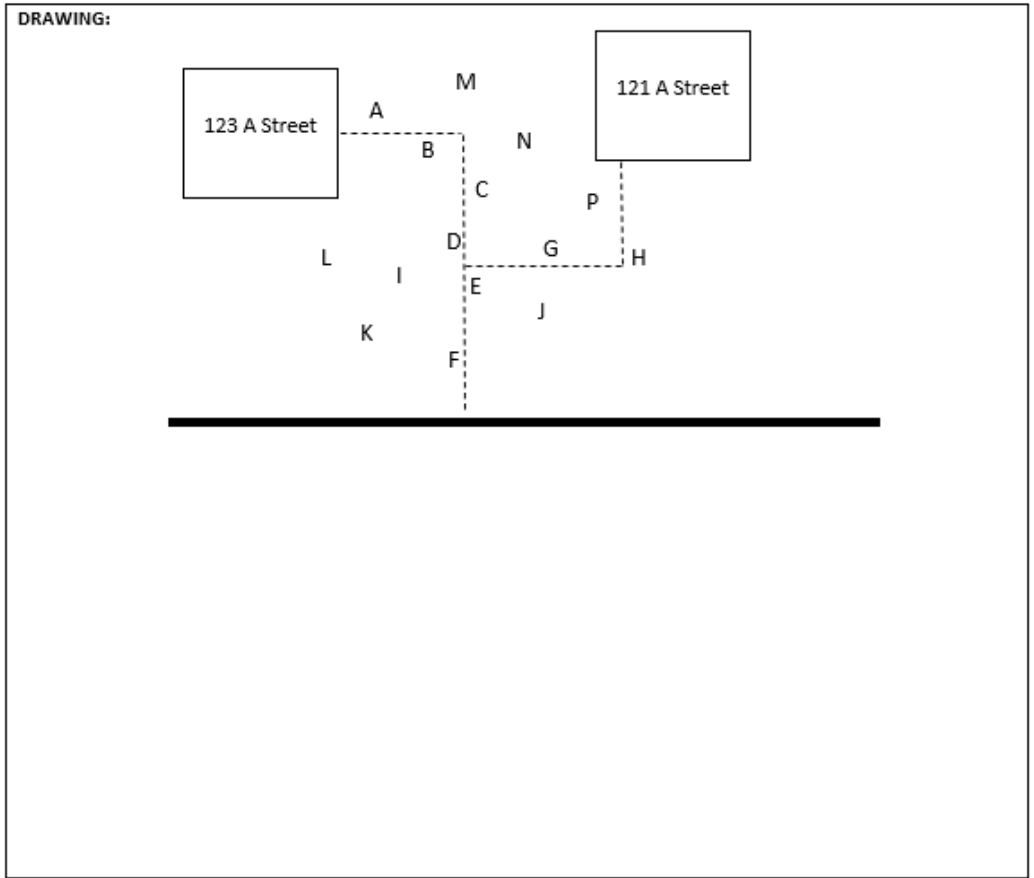
Action Taken	RP	PDLS	FOL			
Date	1/12/2021	1/12/2021	1/18/2021			
Time	10:15am	10:20am	11:00am			
Performed By	A. Gasman	A. Gasman	A. Gasman			
Instr. Serial #	12345	12345	12345			
Calibration Date	12/15/2020	12/15/2020	12/15/2020			
BARHOLE READING AT SAMPLE LOCATION (READINGS ARE SUSTAINED % GAS UNLESS NOTED)	A	0%	0%			
	B	10%	0%			
	C	35%	0%			
	D	50%	0%			
	E	10%	0%			
	F	0%	0%			
	G	2%	0%			
	H	0%	0%			
	I	.8%	0%			
	J	0%	0%			
	K	0%	0%			
	L	0%	0%			
	M	0%	0%			
N	0%	0%				
P	0%	0%				
Leak Classification	1	3	Repaired			
PCAD Order #	MDUG-2021-12345					
Supervisor Initial and Date	DM 1/12/2021	DM 1/12/2021	DM 1/18/2021			

23030 (Rev. DRAFT)

MDU Utilities Group
Leak Investigation Record



REMARKS: 1/12/21 Performed PDLS. Gas present in the soil after repair. Ensured not migrating.
1/18/21 Performed follow up survey. No gas is present. No leaks found.



Field Operations Management Signature: _____

Date: _____

ADMINISTRATION

The Vice President Distribution Engineering, Operations Services, & Compliance of the MDU Utilities Group is responsible for establishing this policy. Administration of this policy is the responsibility of the Director, Compliance, Process Improvement, & Procurement.

Reviewed: 
 Director, Compliance, Process Improvement, & Procurement

Date: 2-19-21

Approved: 
 Vice President Distribution Engineering, Operations Services, & Compliance

Date: 2-22-21

REVISIONS

Major Revision Summary	MOC	Date
Initial procedure. Supersedes CNG CP 750 and MDU/GP GDS Page 141-142 Pinpointing and Page 142 Outside Gas Leaks.	OPSMOC-495	3/1/2021

Minor Revision Summary	MOC	Date
Update storage for IGC 23030. Added section 2.5. to outline steps to consider for adverse weather conditions. Added clarification language to section 3.3. Added language to grade 2 and 3 leak re-eval. Added clarification to section 5.1. for performing PDLs. Added sections 5.2.3.1 and 5.2.3.2. Added section 3.9. & 5.5. Aspirator tools (e.g., COPUS, Evacuators, etc.). Add 293/23030 example from guidance document into procedure appendices. PDLs questions will be added to the pipe inspection and test report in PCAD for MDU/GP.	OPSMOC-1513	2/2/2024
2024 Annual Procedure Review: Revised section 3.3. Added clarification to section 3.4. -Added requirement to submit 293/23030 forms to Field Operations Management as soon as possible but no later than the next business day. Added requirement for completed 293/23030 forms to be uploaded to SharePoint within 10 days. Added requirement to track follow up leak investigations with Maximo. A job plan will be created in Maximo for the tracking of follow-up leak investigations. Added reevaluation criteria to grade 2 leak for WA.	OPSMOC-2038	1/29/2026