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October 29, 2010

David Lykken  
 Director of Pipeline Safety Program  
 State of Washington Utilities and Transportation Commission  
 1300 S. Evergreen Park Dr. SW  
 P.O. Box 47250  
 Olympia, WA 98504-7250

RECEIVED via e-mail  
 OCT 29 2010  
 WUTC  
 Pipeline Safety Division

**Subject: Response to Docket PG-100043**

Dear Mr. Lykken;

This letter is intended to address all probable state and federal safety code violations and noted areas of concern. We specifically are addressing how and when we plan to bring the probable violations into full compliance. We also are covering our plan to address the areas of concern noted by your inspector, Ms. Zuehlke, during June 28<sup>th</sup>-July 1<sup>st</sup>, 2010 through July 6-8<sup>th</sup>, 2010.

The following is in response to the six probable violations noted by your inspectors as probable violations:

1. **WAC 480-93-180 Plans and procedures.**  
 (1) *Each gas pipeline company must have and follow a gas pipeline plan and procedure manual (manual) for operation, maintenance, inspection, and emergency response activities that is specific to the gas pipeline company's system. The manual must include plans and procedures for meeting all applicable requirements of 49 CFR §§ 191, 192 and chapter 480-93 WAC, and any plans or procedures used by a gas pipeline company's associated contractors.*

**Finding(s):**  
 CNG did not follow their procedures (CP 755) when electrical isolation tests and/or inspections indicated that a possible shorted condition existed (a casing read more negative than -0.73) between a casing and a pipeline located at the railroad crossing at Hawley St. east of North Wenatchee for the following:

	Date	Pipe-to-Soil Potentials		Tinker-Razor Pass/Fail
		Casing	Carrier	
a.	04.24.08	-1.175	Not recorded	Not recorded
b.	04.29.09	-1.240	Not recorded	Not recorded
c.	04.21.10	-1.170	Not recorded	Not recorded

**Cascade Response**

The focus of this audit was to review records for previous audit 2007 through 2009. We addressed the 2010 reading according to our procedure and no short was found on June 30<sup>th</sup>, 2010. See attached Exhibit A and B, therefore we would not considered the 4.21.10 pipe to soil

read a violation at all because we addressed it in accordance with the regulation and time frames specified by our CP 755. CNGC admits to WUTC we didn't follow our procedure exactly in 2008 and 2009 and this would appear to be a probable violation based on code and contradictory to our CP 755. However CNGC General Manager SG was advised by Corrosion Technician J.M. that the read issue was not a result of a short but rather an interference issue per his investigation and he advised GM SG that a tinker raser did not need to be performed as per our CP required. According to WAC 480-93-110 (d) Whenever a short exists between a line pipe and casing, the gas pipeline company must perform a leak survey within ninety days of discovery and at least twice annually thereafter, but not to exceed seven and one-half months between leak surveys until the shorted condition is eliminated. CNGC GM SG has been prudent about maintaining safety in his district he continued to have this area patrolled for leaks on the quarterly patrol to ensure public safety and minimize risk. See attached Exhibit C through C-30 to show that leak patrols were completed in this area to ensure public safety and exceeding the required leak survey of twice annually. Also the investigation of this area again reiterates that interference is the cause of the high reads in this area and that the casing is in fact not shorted. CNGC staff have been advised to follow all instructions according to our CP 755, Exhibit A CNGC recognizes we didn't follow our procedure exactly, however investigative action was taken and we believe that we are not violating the code but exceeding the requirements.

2. **WAC 480-93-170 Tests and reports for pipelines.**

(7) *Each gas pipeline company must keep records of all pressure tests performed for the life of the pipeline and must document the following information:*

- (a) *Gas pipeline company's name;*
- (b) *Employee's name;*
- (c) *Test medium used;*
- (d) *Test pressure;*
- (e) *Test duration;*
- (f) *Line pipe size and length;*
- (g) *Dates and times; and.*
- (h) *Test results.*

**Finding(s):**

Pressure test documentation for 1030' of 4" PE main installed at 4000 Peninsula Dr., Moses Lake, did not include the name of the employee that completed the test.

**Cascade Response**

Cascade Natural Gas Corporation acknowledges that the pressure test documentation for the above mentioned install had CNG written on the form. See Exhibit D however CNGC knows that S.K. the individual listed as constructed by was the same individual performing and overseeing the pressure testing process. As you know it takes more than one person to accomplish these tests and that is why CNG was placed on the form. Furthermore, this is a practice we have had throughout the company in former years and no mention has been made that this was a violation or indication we should reconsider this practice. It is our understanding this is a requirement that hasn't changed recently. I have attached former installations diagrams

that would have been viewed in former audits. See Exhibit E & F. CNGC is confident we know exactly who completed the pressure test by the name of the individual listed under constructed by on CNG 336. We do agree with the WUTC that this does lead to some clarity being needed with who exactly completed the pressure test as we know that our present practice may not be clear to those outside our organization. Therefore action was taken to ensure managers know that documenting CNG is not acceptable in the pressure test line area of form CNG 336, that the name of the individual must be listed as shown on Exhibit G to ensure its clarity to all individuals that may be viewing these forms outside our company.

3. **49 CFR §192.479 Atmospheric corrosion control; General.**

- (a) *Each operator must clean and coat each pipeline or portion of pipeline that is exposed to the atmosphere, except pipelines under paragraph (c) of this section.*
- (b) *Coating material must be suitable for the prevention of atmospheric corrosion.*
- (c) *Except portions of pipelines in offshore splash zones or soil-to-air interfaces, the operator need not protect from atmospheric corrosion any pipeline for which the operator demonstrates by test, investigation, or experience appropriate to the environment of the pipeline that corrosion will-*
  - (1) *Only be a light surface oxide; or*
  - (2) *Not affect the safe operation of the pipeline before the next scheduled inspection.*

**Finding(s):**

CNG did not provide adequate protection at the soil-to-air interface at the following locations:

- a. 221 W. Broadway, Moses Lake
- b. Meter # 618654, Moses Lake
- c. Meter # 609127, Moses Lake
- d. Meter # 123100, Moses Lake
- e. Alley W. of 112 E. 3<sup>rd</sup>, Moses Lake
- f. 113 W. Broadway, Moses Lake

**Cascade Response**

This is an issue we have been addressing as it comes to our attention on our atmospheric corrosion control. We realize this is an issue and we are continuing to address them within the parameters of 192.481 with frequency of inspection focusing on the 3 calendar years but with intervals not exceeding 39 months. In addition the code 49 CFR 192.481 subpart (c) notes: If atmospheric corrosion is found during an inspection the operator must provide protection against the corrosion as required by §192.479. Attached are the pictures of the pipe to soil interfaces noted above. They have all been dug out, cleaned and wrapped the day they were found. See Exhibits H-L. Please note the address (f.) 113 W. Broadway, Moses Lake does not exist in our system the closest address to this area was 117 W. Broadway which we took a photo of and is attached as Exhibit M.

4. **49 CFR §192.616 Public Awareness .**
- (a) *Except for an operator of a master meter or petroleum gas system covered under paragraph (j) of this section, each pipeline operator must develop and implement a written continuing public education program that follows the guidance provided in the American Petroleum Institute's (API) Recommended Practice (RP) 1162 (incorporated by reference, see §192.7).*
  - (e) *The program must include activities to advise affected municipalities, school districts, businesses, and residents of pipeline facility locations.*
  - (f) *The program and the media used must be as comprehensive as necessary to reach all areas in which the operator transports gas.*
  - (h) *Operators in existence on June 20, 2005, must have completed their written programs no later than June 20, 2006. The operator of a master meter or petroleum gas system covered under paragraph (j) of this section must complete development of its written procedure by June 13, 2008. Upon request, operators must submit their completed programs to PHMSA or, in the case of an intrastate pipeline facility operator, the appropriate State agency.*

**Finding(s):**

CNG failed to complete an evaluation of their Public Awareness Program for effectiveness within four years.

**Cascade Response**

At the time of the inspection we advised Ms. Zuehlke we indeed had completed an evaluation of the Public Awareness Program related to our affected public through Central Surveys, Inc. and that we had not received the final documentation yet. Attached you will find 3 pages including Exhibit N the cover page showing the company, address, contact information, and evaluation dates. Furthermore see Executive Summary Exhibit O & O-2 from the 70 page survey completed June 6<sup>th</sup>, 2010. Furthermore as members of PAPA-Pipeline Association for Public Awareness, evaluation for the Public Awareness Programs for Excavators, Public Officials and Emergency responders had been completed in 2007 and 2010 by Behavioral Research Center, Inc. These documents can be viewed on line at the following links and were shown to Ms. Zuehlke during the inspection.

- <http://173.201.26.189/www/wp-content/uploads/2010/03/Emergency-Responders-Summary-Report.pdf> (2007 evaluation)
- <http://173.201.26.189/www/wp-content/uploads/2010/07/Emergency-Responders-Study-2010.pdf> (2010 evaluation)
- <http://173.201.26.189/www/wp-content/uploads/2010/03/Excavator-Survey-Summary-Report.pdf> (2007 evaluation)
- <http://173.201.26.189/www/wp-content/uploads/2010/07/Excavator-Study-2010.pdf> (2010 evaluation)
- <http://173.201.26.189/www/wp-content/uploads/2010/03/Public-Officials-Summary-Report.pdf> (2007 evaluation)
- <http://173.201.26.189/www/wp-content/uploads/2010/07/Public-Officials-Study-2010.pdf> (2010 evaluation)

5. **49 CFR §192.739 Pressure limiting and regulating stations: Inspection and testing.**  
*(a) Each pressure limiting station, relief device (except rupture discs), and pressure regulating station and its equipment must be subjected at intervals not exceeding 15 months, but at least once each calendar year, to inspections and tests to determine that it is-*
- (1) In good mechanical condition;*
  - (2) Adequate from the standpoint of capacity and reliability of operation for the service in which it is employed;*
  - (3) Except as provided in paragraph (b) of this section, set to control or relieve at the correct pressure consistent with the pressure limits of §192.201(a); and*
  - (4) Properly installed and protected from dirt, liquids, or other conditions that might prevent proper operation.*

**Finding(s):**

Regulator Station R-19 located at El Oro Feedlot in the Wenatchee District was not protected from conditions which may have prevented its proper operation. The relief stack weather cap was found stuck in a closed position during staff inspection on June 30, 2010.

**Cascade Response**

We have installed the new style of 1" weather cap on the relief stack at El ORO feed lot. It is made out of aluminum and the rim goes over the pipe by about 1/8", we believe this will take care of the problem. On a higher level we have identified there to be discrepancy between the operator qualifications required for our meter inspectors and service mechanics that could be contributing to some irregular maintenance issues found in several of our more recent audits. We are addressing that issue by changing the OQ tasks for meter inspectors. See Exhibit P and P-2

6. **49 CFR §199.241 Training for supervisors.**  
*Each operator shall ensure that persons designated to determine whether reasonable suspicion exists to require a covered employee to undergo alcohol testing under §199.225(b) receive at least 60 minutes of training on the physical, behavioral, speech, and performance indicators of probable alcohol misuse.*

**Finding(s):**

Documentation of the training was not available.

**Cascade Response**

Key personnel who normally provide this documentation were on vacation during the inspection period. See attached Exhibit Q-Certificate of completion by GM SG for Drug and Alcohol training dated August 29<sup>th</sup>, 2007.

The following is in response to the area of concern noted by your inspector:

1. **WAC 480-93-018 Records.**  
 Records of employee qualifications reported in their Energy World database (which is used to track and maintain operator qualification records) did not match CNG's actual test records.
- a. 1020DOT Manual Heater Plate Fusion 6242 Evaluation for employee M. W.
  - b. 2000DOT Visual Weld Inspection 10826 for employee A. K.

**Cascade Response**

Area of concern noted under subheading a.) See attached Exhibit R and R-2 for employee M.W. regarding 1020 DOT Manual Heater Plate Fusion of the Energy World Activity Report. Exhibit S through S-8 documents M.W.'s present Energy World Task Status Report. See Exhibit T, for Heater Plate Fusion Permit. CNGC does not see any discrepancies between Energy World and the Welding program however it is true the two programs are tracked differently and do intertwine in a couple places such as the Manual Heater Plate Fusion certification. Area of concern regarding subheading b.) See attached Exhibit U and U-2 for employee A.K. regarding 2000 DOT Visual Weld Inspection of the Energy World Activity Report. Exhibit V through V-8 documents A.K.'s Energy World Task Status Report. This is an online class through Energy World that is completed by the employee but not tracked through the welding permit documentation.

2. **WAC 480-93-018 Records.**  
 Pressure reads recorded during annual regulator station maintenance do not adequately identify the system and did not match the actual reads noted during inspection. (Table: *First* number is pressure recorded on annual maintenance forms/*Second* number is pressure documented during inspection field testing).
- 
- Staff identified similar issues as an area of concern in a previous violation report under a joint letter for Dockets PG-030438/PG-030435.
- | Item | Regulator Station # | Operating Regulator Set Point | Standby Regulator Set Point | Relief Valve Set Point | MAOP Inlet | MAOP Outlet | Station Pressure Inlet | Station Pressure Outlet |
|------|---------------------|-------------------------------|-----------------------------|------------------------|------------|-------------|------------------------|-------------------------|
| a.   | R-11                | 55/56                         | 52/50                       | 60/60                  | 500        | 60          | 460/460                | 52/52                   |
| b.   | R-14*               | 78/125                        |                             | 85/133                 | 230/250    | 74/125      | 232/230                | 75/74                   |
| c.   | R-16                | 54/43                         |                             | 60/60                  | 250        | 60          | 247/247                | 54/44                   |
| d.   | R-19                | 11/11                         | 12/11                       | 15/11                  | 150/150    | 60/60       | 120/120                | 10/11                   |
| e.   | R-33                | 58/50                         | 55/45                       | 63/55                  | 500        | 60          | 495/495                | 58/50                   |
| f.   | R-43                | 56/56                         | 55/55                       | 61/61                  | 250/250    | 60/60       | 230/230                | 56/54                   |
| g.   | R-47                | 53/56                         |                             | 57/57                  | 250/250    | 60/60       | 239/239                | 50/48                   |
| h.   | R-57*               | 58/58                         | 53/No lock-up               | 63/63                  | 250/250    | 60/60       | 231/231                | 52/50                   |

**\* NOTE:**

- b. **R-14:** The annual regulator station maintenance form CNG 287A dated June 23, 2009 for R-14 located at J.R. Simplot – Fry Plant, Moses Lake, incorrectly identified the system MAOP Inlet & Outlet, Station Pressure Inlet & Outlet, Operating regulator lockup, and Relief valve set points. And, CNG failed to identify abnormal operating conditions in this report - both the regulator lock-up and relief valve set points identified on the form exceeded the MAOP outlet pressure identified on the form.
  
- h. **R-57:** The annual regulator station maintenance form CNG 287A dated May 3, 2010 for R-57 located at Basic American Foods, Moses Lake, incorrectly identified the system MAOP Inlet & Outlet and the Station Pressure Outlet.

**Cascade Response**

R-14 shows that we obviously did fill out paperwork wrong and failed to notice the written record was not properly documented. However the system was not operating out of acceptable parameters established by engineering. But CNGC has taken action to address the actual process of documentation when performing annual regulator maintenance within our compliance conference calls and keys issues were identified and rectified. Also to address some of the variations within the pressure gauges it has been decided to purchase digital gauges for use when completing annual maintenance.

**3. WAC 480-93-140 Service regulators.**

A service regulator vent was found placed in a horizontal orientation which has the potential to allow moisture to accumulate in the regulator in the Alley S. of W. Broadway Meter # 226883.

**Cascade Response**

This again has been an ongoing issue with CNGC. It appears that our CP's primary focus is to identify and correct, with more of an emphasis being placed on new installations being downward facing to protect from water accumulation. We are addressing this issue as well by changing the OQ tasks and training, this will be effective the first of the year through MEA. Furthermore, we have been conducting company-wide compliance conference calls to discuss the issues in the field such as the vent orientation issues and directing staff to company procedures. See Exhibit W a picture of the vent mentioned above placed in a downward fashion at Meter #226883.

4. **WAC 480-93-188 Gas leak surveys.**

CNG's Othello (field) leak survey maps and the leak survey key map (office) identified the Business District east perimeter in different locations resulting in an incomplete annual leak survey. During this inspection, CNG leak surveyed the missed section, thereby completing their survey within the NTE 15 month timeframe on July 7, 2010. Staff identified this same issue under Docket PG-090002.

**Cascade Response**

Cascade acknowledges this is an area we must improve on and agree this is an area of concern for us as well. We are seeking improvement in documentation and detection by incorporating new technologies which should expedite our improvement process. We believe we have complied with the rule presently in this district and hope to exceed the regulatory requirements with new technologies being incorporated as we move forward in all other districts in 2011. A pilot project was implemented using technologies from Inmaps see Exhibit X through X-11 and Gas Technology Institute out of Des Plaines, Illinois. Further information is available regarding implementation summary if deemed necessary by the WUTC.

5. **49 CFR §192.201 Required capacity of pressure relieving and limiting stations.**

- (a) *Each pressure relief station or pressure limiting station or group of those stations installed to protect a pipeline must have enough capacity, and must be set to operate, to insure the following:*
- (1) *In a low pressure distribution system, the pressure may not cause the unsafe operation of any connected and properly adjusted gas utilization equipment.*
  - (2) *In pipelines other than a low pressure distribution system:*
    - (i) *If the maximum allowable operating pressure is 60 p.s.i. (414 kPa) gage or more, the pressure may not exceed the maximum allowable operating pressure plus 10 percent or the pressure that produces a hoop stress of 75 percent of SMYS, whichever is lower;*
    - (ii) *If the maximum allowable operating pressure is 12 p.s.i. (83 kPa) gage or more, but less than 60 p.s.i. (414 kPa) gage, the pressure may not exceed the maximum allowable operating pressure plus 6 p.s.i. (41 kPa) gage; or*
    - (iii) *If the maximum allowable operating pressure is less than 12 p.s.i. (83 kPa) gage, the pressure may not exceed the maximum allowable operating pressure plus 50 percent.*

**Finding(s):**

Staff reviewed records indicating that CNG adjusts the set-points of some pressure relieving devices above the MAOP of the system. Staff also reviewed the regulator set points list which indicates relief device maximum set-points within 1-3 psig of the MAOP plus the maximum amount allowed for build-up in an emergency condition. This practice may not allow for proper build-up without potentially exceeding the MAOP plus the amount allowed for operation of the pressure-relieving device in an emergency condition. Pressure relieving devices must be set to operate to ensure that the pressure in the pipeline does not exceed the MAOP plus allowable buildup.

In addition, staff identified similar issues in a previous violation report under Docket PG-010113 and UG-020706. Please provide details regarding your relief device set point review that you identified would be completed prior to December 31, 2001, in response to Docket PG-010113. Also, please provide details regarding your relief device set point review and set point adjustments performed in response to UG-020706 wherein you identified that set point adjustments would be completed by June 30, 2003.



5. Continued

	<u>Regulator Station</u>	<u>MAOP</u>	<u>Maximum Relief Set point</u>
a.	R-03	47 psig	52 psig
b.	R-07	50 psig	53 psig
c.	R-09	60 psig	63 psig
d.	R-11	60 psig	63 psig
e.	R-15	60 psig	63 psig
f.	R-16	60 psig	63 psig
g.	R-17	60 psig	63 psig
h.	R-22	125 psig	135 psig
i.	R-25	60 psig	63 psig
j.	R-26	150 psig	164 psig
k.	R-28	60 psig	63 psig
l.	R-29	60 psig	63 psig
m.	R-30	60 psig	63 psig
n.	R-33	60 psig	63 psig
o.	R-36	60 psig	63 psig
p.	R-40	60 psig	63 psig
q.	R-43	60 psig	63 psig
r.	R-44	60 psig	65 psig
s.	R-45	60 psig	63 psig
t.	R-46	250 psig	272 psig
u.	R-47	60 psig	65 psig

Cascade Response

We agree this has been an ongoing issue noted in previous Dockets including PG-010113, UG 020706 and PG-010113 our present practice of setting MAOP and Maximum Relief Set Points was established based on discussion and engineering along with the WUTC. If WUTC philosophy needs have changed then we would like to enter into further discussion regarding expectations and engineering practices specifically to understand the change in interpretation of the code.

6. **49 CFR §192.605 Procedural manual for operations, maintenance, and emergencies.**  
 The CNG-Wenatchee manual did not contain the most recent procedure revisions. CP 647 Excess Flow Valves was dated May 29, 2008, and marked as "CP 647 DRAFT". The most recent copy CNG-provided to the Commission was on October 27, 2009, is dated November 7, 2008. The Commission copy is not marked as a draft.

Cascade Response

As the WUTC is aware Cascade Natural Gas has an electronic copy of our CP's on our company shared drive, this is the most up to date copy of our CP's and is predominantly what our staff

utilize as we have moved into the electronic age. A new approach to our manual updates has been developed which would include a once a year review and replacement of all hard copy manuals with movement towards strictly using the online electronic files in the future. In the meantime, prior to new approach we have already incorporated a Company Procedures Review Sign Off to hold individual districts accountable to review CP changes and ensure they have been replaced in their manuals. See Exhibit Y.

7. **49 CFR §192.616 Public Awareness.**  
 CNG did not maintain baseline activity message records for residents along the local distribution system prior to 2009.

Cascade Response

See Exhibit Z, this is a pamphlet that was sent out to our customers in 2007 in the customer bills. We are researching the exact date this mailer was sent out to identify the exact mailing audience. This brochure provides the messaging that was provided to our customers directly.

8. **49 CFR §192.739 Pressure limiting and regulating stations: Inspection and testing.**  
 Regulator Stations R-03 operating regulator and R-57 stand-by regulator did not achieve lock-up due to the presence of slag in the regulator boot. More frequent inspections, additional inspections, or other means may be required as a result of construction, abnormal changes in operating conditions, or unusual flows or velocities.

Item	Regulator Station #	Operating Regulator Set Point	Standby Regulator Set Point	Relief Valve Set Point	MAOP Inlet	MAOP Outlet	Station Pressure Inlet	Station Pressure Outlet
a.	R-3	45/No lock-up	42/42	52/52	250	47	238/238	45/45
b.	R-57	58/58	53/No lock-up	63/63	250/250	60/60	231/231	52/50

Cascade Response

49 CFR 192.739 Pressure limiting and regulating stations: Inspection and testing reads (a) Each pressure limiting station, relief device (except rupture discs), and Pressure regulating station and its equipment must be subjected at intervals not exceeding 15 months, but at least once each calendar year, to inspections and tests to determine that it is-In good mechanical condition; (2) Adequate from the standpoint of capacity and reliability of operation for the service in which it is employed; (3) Except as provided in paragraph (b) of this section, set to control or relieve at the correct pressure consistent with the pressure limits of §192.201(a); and (4) Properly installed and protected from dirt, liquids, or other conditions that might prevent proper operation. Cascade recognized that we did not achieve lock up on these two regulators during our inspection, however these are the types of situations we perform testing and

maintenance on to detect and rectify. We have followed the code and completed inspection and testing within the required intervals, when finding issues such as slag we have corrected them. You can also see that we do special regulator maintenance above our annual maintenance. Therefore we believe we are in full compliance in this Moses Lake/Wenatchee. If there are further questions or clarifications that are needed feel free to contact us.

Sincerely,  
Cascade Natural Gas Corporation



Tim Clark  
Vice President of Operations

cc

Sam Grant  
Steve Kessie  
Mike Clapp  
Brion Beaver  
Tina Beach



**Beach, Tina**

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**From:** Miller, Greg  
**Sent:** Wednesday, June 30, 2010 3:03 PM  
**To:** Grant, Sam  
**Cc:** Beach, Tina; Miller, Greg  
**Subject:** Wenatchee Casing

Hi Sam,

Scott and I completed the field investigation of the suspected shorted casing on Miller Ave at the train tracks. This does not appear to be directly shorted to the carrier pipe. The casing has elevated potentials (-1.100) but still has approximately a 200 mv differential between the carrier. The casing is located in close proximity to an electrical substation and our ground bed, both of these could contribute to the high potentials on the casing. There could also be debris in the old vent tube creating a path from casing to carrier. On previous surveys this casing has past the Tinker and sniff test consistently. As I understand it this casing is still subject to the quarterly patrol and shows no indication of percentage of gas.

I have asked Scott going forward to make sure he follows all instructions on the casing survey in the future and to perform the additional tests whenever he gets an indication of high potentials on a casing. I believe the quarterly patrol coincides with the casing survey, so a sniff test would have been performed at this location during this period of time to confirm no gas. If you have any questions please feel free to call.

Thank you,  
Greg

Greg Miller  
Corrosion Control Technologist  
Cascade Natural Gas Corporation  
A Subsidiary of MDU Resources Group Inc.  
(Cell) 1-509-728-4662  
(Office) 1-509-457-5905

# SERVICE REQUEST - PAGE 1 of 2

CASCADE NATURAL GAS CORPORATION

CNG-WENA 7/1/10 15:13

ROUTE	ACCOUNT	CYCLE	READ ORDER	RATE	CLASS	SIC	TAX	TOWN NAME	TOWN	ORDER NO			
			0				N	WENATCHEE	47931	9170647802			
TYPE OF ORDER			DATE ORDERED	TIME TAKEN	TAKEN BY	DATE WANTED					SERVICE REQUESTED BY AND PHONE		
[REDACTED]													
[REDACTED]													
NM-OTHER	07/01/10	10.31	VALDEZM	07/01/10	Sam								
Holly St 2" Casing R/R crossing													
TIME ARRIVED	TIME COMPLETED	DATE COMPLETED	EMPLOYER SIGNATURE				EMPL CD	DATE LAST READ					
8:10	8:35	7-1-10	<i>Scott Hillen</i>				SM						
NEW METER	COMPANY NO.	MFR'S NUMBER	MANUFACTURER	SIZE	ERTID#	DEL PRESSURE(LBS)	DIALS TC	INDEX READING					
METER	472564511						0						
INSTRUCTIONS / COMMENTS								PREV INDEX	INDEX DIFF				
TINKERED CASING (2" MAIN) AT RR CROSSING - OK								0					
CHECKED VENT PIPE WITH SENSIT #4744 - OK													
ADDRESS	SERVICE ADDRESS					PIPE CONDITION		ODORANT PERCEPTIBLE		ESTIMATED			
	Virtual Premise					GOOD	FAIR	POOR	N/A	YES	NO	N/A	READ?
	CUSTOMER NAME 1					METER LOCATION & READER INSTRUCTIONS							
	No Active Account					OK to Enter? N							
	CUSTOMER NAME 2					EPV	APPLIED ONLINE CSODATE						
MAILING ADDRESS					BY	DATE	TIME						
CITY, STATE & ZIP CODE													
OTHER INFO / REFERENCE							CREDIT CODE	RECNT	COLL				
CASING - 1.170							DEPOSIT AMOUNT						
CARRIER - 1.300													
SEARCH NAME 1 (LAST, FIRST)				SOCIAL SECURITY NO.		DRIVERS'S LICENSE NO.							
No Active Account													
HOME PHONE			EMPLOYER NAME AND PHONE				HOW LONG EMP						
SEARCH NAME 2 (LAST, FIRST)				SOCIAL SECURITY NO.		DRIVERS'S LICENSE NO.							
HOME PHONE			EMPLOYER NAME AND PHONE				HOW LONG EMP						
PREV. CUST.	WHEN	PREVIOUS ADDRESS OR ACCOUNT NUMBER				NO. FAM. BLDG.		CURRENTLY					
YES	NO							OWN					
CLO APPL. CD	CER GOOD CR	METER DIFF						DATE					
YES	NO												
APPLIANCE	DESCRIPTION	COUNT	SIZE & QTY	MANUFACTURER	MODEL/SERIAL	Status							
	O & B												

Virtual Premise

07/01/10 9170647802

Continued on next page.

EXHIBIT B

# CASCADE NATURAL GAS CORPORATION SYSTEM SURVEILLANCE RECORD

DISTRICT Wenatchee TOWN Wenatchee DATE 3/5/07

- PUBLIC BUILDING INSPECTION -  N/A
- QUARTERLY PATROL: QUARTER:  1st,  2nd,  3rd,  4th  
(ATTACH COPY OF QUARTERLY PATROL LOG)
- LEAK SURVEY INSIDE PRINCIPAL BUSINESS AREA (SECTION 1) -  N/A
- LEAK SURVEY OUTSIDE PRINCIPAL BUSINESS AREA  
SECTION:  2,  3,  4,  5,  6,  All

HIGH PRESSURE LINE LEAK SURVEY:  1st 6 MONTHS,  2nd 6 MONTHS

LATERAL - FROM \_\_\_\_\_ TO \_\_\_\_\_

HIGH PRESSURE LINE NO. \_\_\_\_\_ OPERATING PSIG \_\_\_\_\_

HIGH PRESSURE LINE NAME \_\_\_\_\_

PIPE SIZE AND LENGTH \_\_\_\_\_

REMARKS:

DITCH TRENCH \_\_\_\_\_

RIVER CROSSING \_\_\_\_\_

BRIDGE CROSSING \_\_\_\_\_

CONTROL VALVES \_\_\_\_\_

EROSION \_\_\_\_\_

VEGETATION \_\_\_\_\_

LEAK SURVEY \_\_\_\_\_

PIPELINE SIGNS \_\_\_\_\_

C.G.I.,  F.I.: MAKE Sensit MODEL Gold SERIAL NO. 4744

COMMENTS (INCLUDE OPERATION AND MAINTENANCE WORK REQUEST (CNG #330) Calibrated 3/1/07  
NUMBERS FOR NECESSARY REPAIRS): Patrolled all locations on attached  
log. No leaks found. See O#M #17299.

Scott Keller  
Surveyed By

Superintendent

Warren Rose  
Manager

ORIGINAL - ENGINEERING

COPY - DISTRICT

EXHIBIT C

## Quarterly Patrol Log

17299

<b>District</b>	Wenatchee - Wenatchee				<b>Date Completed</b>	
<b>Quarter</b>	<input checked="" type="checkbox"/> 1 <sup>st</sup>	<input type="checkbox"/> 2 <sup>nd</sup>	<input type="checkbox"/> 3 <sup>rd</sup>	<input type="checkbox"/> 4 <sup>th</sup>	Year 2007	

Location	Size	Pressure	Condition <small>(Indicate Good or Explain Status, Work Orders, etc.)</small>
----------	------	----------	--

RR - Hawley St	2"	55	Good
RR - Hawley St	8"	55	Good
RR Bridge, S end Wenatchee River	6"	55	Good
RR Bridge - Wen River	6"	55	Good
RR - Euclid & Penny Rd	2"	55	Good
RR - Euclid @ Dovex.	2"	55	Good
RR - Naumes	4"	55	Good
RR - Tree Top Inc	6"	55	Good
RR - Chamberlain Dist	4"	55	Good
Chelan Hwy & Goodfellows	6"	55	Good
Chelan Hwy & Stemilt	2"	55	Good
Hwy 2/97A @ Cascade Analytical	6"	55	Good
Pine St & Gunn Ditch	2"	55	Good
Worthen & Thurston St Substation	8"	55	Good
Ped Bridge - West Side	8"	55	Good



# CASCADE NATURAL GAS CORPORATION SYSTEM SURVEILLANCE RECORD

DISTRICT Wenatchee TOWN Wenatchee DATE 6/4/07

- PUBLIC BUILDING INSPECTION -  N/A
- QUARTERLY PATROL: QUARTER:  1st,  2nd,  3rd,  4th  
(ATTACH COPY OF QUARTERLY PATROL LOG)
- LEAK SURVEY INSIDE PRINCIPAL BUSINESS AREA (SECTION 1) -  N/A
- LEAK SURVEY OUTSIDE PRINCIPAL BUSINESS AREA
- SECTION:  2,  3,  4,  5,  6,  All

HIGH PRESSURE LINE LEAK SURVEY:  1st 6 MONTHS,  2nd 6 MONTHS

LATERAL - FROM \_\_\_\_\_ TO \_\_\_\_\_

HIGH PRESSURE LINE NO. \_\_\_\_\_ OPERATING PSIG \_\_\_\_\_

HIGH PRESSURE LINE NAME \_\_\_\_\_

PIPE SIZE AND LENGTH \_\_\_\_\_

REMARKS:

DITCH TRENCH \_\_\_\_\_

RIVER CROSSING \_\_\_\_\_

BRIDGE CROSSING \_\_\_\_\_

CONTROL VALVES \_\_\_\_\_

EROSION \_\_\_\_\_

VEGETATION \_\_\_\_\_

LEAK SURVEY \_\_\_\_\_

PIPELINE SIGNS \_\_\_\_\_

C.G.I.,  F.I.: MAKE Trak-it MODEL III SERIAL NO. 1856

COMMENTS (INCLUDE OPERATION AND MAINTENANCE WORK REQUEST (CNG #330) calibrated 6/1/07

NUMBERS FOR NECESSARY REPAIRS): Patrolled all locations on attached log. No leaks found. See O & M #17449. Noted: needs sign replaced at south end of Worthen/Thurston sub-station, Pedestrian Bridge is showing some rust-needs paint.

Andi F. Kunkel

Surveyed By

Superintendent

A. W. Kars

Manager

ORIGINAL - ENGINEERING

COPY - DISTRICT

### Quarterly Patrol Log

<b>District</b>	Wenatchee - Wenatchee				<b>Date Completed</b>	6/4/07
<b>Quarter</b>	<input type="checkbox"/> 1 <sup>st</sup>	<input checked="" type="checkbox"/> 2 <sup>nd</sup>	<input type="checkbox"/> 3 <sup>rd</sup>	<input type="checkbox"/> 4 <sup>th</sup>	<b>Year</b>	2007

Location	Size	Pressure	Condition <small>(Indicate Good or Explain Status, Work Orders, etc.)</small>
----------	------	----------	--

RR - Hawley St	2"	55	Good
RR - Hawley St	8"	55	"
RR Bridge, S end Wenatchee River	6"	55	"
RR Bridge - Wen River	6"	55	"
RR - Euclid & Penny Rd	2"	55	"
RR - Euclid @ Dovex.	2"	55	"
RR - Naumes	4"	55	"
RR - Tree Top Inc	6"	55	"
RR - Chamberlain Dist	4"	55	"
Chelan Hwy & Goodfellows	6"	55	"
Chelan Hwy & Stemilt	2"	55	"
Hwy 2/97A @ Cascade Analytical	6"	55	"
Pine St & Gunn Ditch	2"	55	"
Worthen & Thurston St Substation	8"	55	Needs Sign on South End Replaced (Graffiti)
Ped Bridge - West Side	8"	55	Good / Needs paint

# CASCADE NATURAL GAS CORPORATION SYSTEM SURVEILLANCE RECORD

DISTRICT Wenatchee TOWN Wenatchee DATE 9/12/07

- PUBLIC BUILDING INSPECTION -  N/A
- QUARTERLY PATROL: QUARTER:  1st,  2nd,  3rd,  4th  
(ATTACH COPY OF QUARTERLY PATROL LOG)
- LEAK SURVEY INSIDE PRINCIPAL BUSINESS AREA (SECTION 1) -  N/A
- LEAK SURVEY OUTSIDE PRINCIPAL BUSINESS AREA  
SECTION:  2,  3,  4,  5,  6,  All

HIGH PRESSURE LINE LEAK SURVEY:  1st 6 MONTHS,  2nd 6 MONTHS

LATERAL - FROM \_\_\_\_\_ TO \_\_\_\_\_

HIGH PRESSURE LINE NO. \_\_\_\_\_ OPERATING PSIG \_\_\_\_\_

HIGH PRESSURE LINE NAME \_\_\_\_\_

PIPE SIZE AND LENGTH \_\_\_\_\_

REMARKS:

DITCH TRENCH \_\_\_\_\_

RIVER CROSSING \_\_\_\_\_

BRIDGE CROSSING \_\_\_\_\_

CONTROL VALVES \_\_\_\_\_

EROSION \_\_\_\_\_

VEGETATION \_\_\_\_\_

LEAK SURVEY \_\_\_\_\_

PIPELINE SIGNS \_\_\_\_\_

C.G.I.,  P.I.: MAKE Sensit MODEL Gold SERIAL NO. 4744

COMMENTS (INCLUDE OPERATION AND MAINTENANCE WORK REQUEST (CNG #330) Calibrated 9/3/07  
NUMBERS FOR NECESSARY REPAIRS): Completed patrol. No leaks  
found. See O & M # 17607

Scott Hillier  
Surveyed By

\_\_\_\_\_  
Superintendent

J. Morehouse  
Manager

ORIGINAL - ENGINEERING

COPY - DISTRICT

## Quarterly Patrol Log

<b>District</b>	Wenatchee - Wenatchee				<b>Date Completed</b>	9-10-07
<b>Quarter</b>	<input type="checkbox"/> 1 <sup>st</sup>	<input type="checkbox"/> 2 <sup>nd</sup>	<input checked="" type="checkbox"/> 3 <sup>rd</sup>	<input type="checkbox"/> 4 <sup>th</sup>	<b>Year</b>	2007

Location	Size	Pressure	Condition <small>(Indicate Good or Explain Status, Work Orders, etc.)</small>
RR - Hawley St	2"	55	GOOD
RR - Hawley St	8"	55	GOOD
RR Bridge, S end Wenatchee River	6"	55	GOOD
RR Bridge - Wen River	6"	55	GOOD
RR - Euclid & Penny Rd	2"	55	GOOD
RR - Euclid @ Dovex.	2"	55	GOOD
RR - Naumes	4"	55	GOOD
RR - Tree Top Inc	6"	55	GOOD
RR - Chamberlain Dist	4"	55	GOOD
Chelan Hwy & Goodfellows	6"	55	GOOD
Chelan Hwy & Stemilt	2"	55	GOOD
Hwy 2/97A @ Cascade Analytical	6"	55	GOOD
Pine St & Gunn Ditch	2"	55	GOOD
Worthen & Thurston St Substation	8"	55	GOOD
Ped Bridge - West Side	8"	55	GOOD

CASCADE NATURAL GAS CORPORATION  
SYSTEM SURVEILLANCE RECORD

DISTRICT Wenatchee TOWN Wenatchee DATE 12/05/07

- PUBLIC BUILDING INSPECTION -  N/A
- QUARTERLY PATROL: QUARTER:  1st,  2nd,  3rd,  4th  
(ATTACH COPY OF QUARTERLY PATROL LOG)
- LEAK SURVEY INSIDE PRINCIPAL BUSINESS AREA (SECTION 1) -  N/A
- LEAK SURVEY OUTSIDE PRINCIPAL BUSINESS AREA
- SECTION:  2,  3,  4,  5,  6,  All

HIGH PRESSURE LINE LEAK SURVEY:  1st 6 MONTHS,  2nd 6 MONTHS

LATERAL - FROM \_\_\_\_\_ TO \_\_\_\_\_

HIGH PRESSURE LINE NO. \_\_\_\_\_ OPERATING PSIG \_\_\_\_\_

HIGH PRESSURE LINE NAME \_\_\_\_\_

PIPE SIZE AND LENGTH \_\_\_\_\_

REMARKS:

DITCH TRENCH \_\_\_\_\_

RIVER CROSSING \_\_\_\_\_

BRIDGE CROSSING \_\_\_\_\_

CONTROL VALVES \_\_\_\_\_

EROSION \_\_\_\_\_

VEGETATION \_\_\_\_\_

LEAK SURVEY \_\_\_\_\_

PIPELINE SIGNS \_\_\_\_\_

C.G.I.,  F.I.: MAKE Sensit MODEL Gold SERIAL NO. 4744

COMMENTS (INCLUDE OPERATION AND MAINTENANCE WORK REQUEST (CNG #330) Calibrated 12/03/07  
NUMBERS FOR NECESSARY REPAIRS): Completed patrol. Need to remove  
Pine St & Gunn ditch from patrol. No longer exposed.  
No Leaks found. See O&M #17715.

Scott Allen \_\_\_\_\_ John Morckus

Surveyed By Superintendent Manager

ORIGINAL - ENGINEERING

COPY - DISTRICT

## Quarterly Patrol Log

<b>District</b>	Wenatchee - Wenatchee				<b>Date Completed</b>	Dec. 5, 2007	
<b>Quarter</b>	<input type="checkbox"/> 1 <sup>st</sup>	<input type="checkbox"/> 2 <sup>nd</sup>	<input type="checkbox"/> 3 <sup>rd</sup>	<input checked="" type="checkbox"/> 4 <sup>th</sup>	<b>Year</b>	2007	

Location	Size	Pressure	Condition <small>(Indicate Good or Explain Status, Work Orders, etc.)</small>
RR - Hawley St	2"	55	GOOD
RR - Hawley St	8"	55	GOOD
RR Bridge, S end Wenatchee River	6"	55	GOOD
RR Bridge - Wen River	6"	55	GOOD
RR - Euclid & Penny Rd	2"	55	GOOD
RR - Euclid @ Dovex.	2"	55	GOOD
RR - Naumes	4"	55	GOOD
RR - Tree Top Inc	6"	55	GOOD
RR - Chamberlain Dist	4"	55	GOOD
Chelan Hwy & Goodfellows	6"	55	GOOD
Chelan Hwy & Stemilt	2"	55	GOOD
Hwy 2/97A @ Cascade Analytical	6"	55	GOOD
Pine St & Gunn Ditch	2"	55	NEW ROAD - PIPE NOT EXPOSED - REMOVE FROM LIST -
Worthen & Thurston St Substation	8"	55	GOOD
Ped Bridge - West Side	8"	55	GOOD

# ISCADENATURAL GAS SYSTEM SURVEILLANCE RECORD

DISTRICT Wenatchee TOWN Wenatchee

QUARTERLY PATROL: QUARTER: 1<sup>st</sup> , 2<sup>nd</sup> , 3<sup>rd</sup> , 4<sup>th</sup>   
(ATTACH COPY OF QUARTERLY PATROL LOG)

SPECIAL LEAK SURVEY

LEAK SURVEY INSIDE PRINCIPAL BUSINESS AREA (SECTION 1) N/A

LEAK SURVEY OUTSIDE PRINCIPAL BUSINESS AREA  
SECTION: 2  3  4  5  6  All

TRANSMISSION LINE LEAK SURVEY  1st 6 MONTHS,  2nd 6 MONTHS  
 HIGH PRESSURE LINE LEAK SURVEY

LATERAL - FROM \_\_\_\_\_ TO \_\_\_\_\_

LINE NAME \_\_\_\_\_

LINE NO. OPERATING PSIG \_\_\_\_\_

PIPE SIZE AND LENGTH \_\_\_\_\_

USE ADDITIONAL SHEETS IF NECESSARY

CONSTRUCTION ACTIVITY NONE

RIVER CROSSING OK

NEW HIGH OCCUPANCY STRUCTURES NONE

CONDITION OF ABOVE GROUND FACILITIES Good

EROSION N/A

RIGHT-OF-WAY CONDITION Good

PIPELINE SIGNS/MARKERS OK

F.I.: MAKE Sensit MODEL Gold SERIAL NO. 4744

CALIBRATION TEST DATE (S): 03/03/2008

COMMENTS: INCLUDE OPERATION AND MAINTENANCE WORK REQUEST NUMBERS (CNG #330) FOR NECESSARY REPAIRS.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Surveyed By Scott Miller Start Date 3-4-08 End Date 3-5-08  
General Manager Ronald Lutz Date 3-7-08

Corrected copy 3/18/08

## Quarterly Patrol Log

<b>District</b>	Wenatchee - Wenatchee				<b>Date Completed</b>	3-5-08
<b>Quarter</b>	<input checked="" type="checkbox"/> 1 <sup>st</sup>	<input type="checkbox"/> 2 <sup>nd</sup>	<input type="checkbox"/> 3 <sup>rd</sup>	<input type="checkbox"/> 4 <sup>th</sup>	<b>Year</b>	2008

Location	Size	Pressure	Condition <small>(Indicate Good or Explain Status, Work Orders, etc.)</small>
----------	------	----------	--

RR - Hawley St	2"	55	GOOD
RR - Hawley St	8"	55	GOOD
RR Bridge, S end Wenatchee River	6"	55	GOOD
RR Bridge - Wen River	6"	55	GOOD
RR - Euclid & Penny Rd	2"	55	GOOD
RR - Euclid @ Dovex.	2"	55	GOOD
RR - Naumes	4"	55	GOOD
RR - Tree Top Inc	6"	55	GOOD
RR - Chamberlain Dist	4"	55	GOOD
Chelan Hwy & Goodfellows	6"	55	GOOD
Chelan Hwy & Stemilt	2"	55	GOOD
Hwy 2/97A @ Cascade Analytical	6"	55	GOOD
Worthen & Thurston St Substation	8"	55	GOOD
Ped Bridge - West Side	8"	55	GOOD
RR - Bridge St & Ped Bridge	8"	55	GOOD
Malaga Hwy & Rock St	1"	25	GOOD



# ISCADENATURAL GAS SYSTEM SURVEILLANCE RECORD

DISTRICT Wenatchee TOWN Wenatchee

QUARTERLY PATROL: QUARTER: 1<sup>st</sup> , 2<sup>nd</sup> , 3<sup>rd</sup> , 4<sup>th</sup>   
(ATTACH COPY OF QUARTERLY PATROL LOG)

SPECIAL LEAK SURVEY

LEAK SURVEY INSIDE PRINCIPAL BUSINESS AREA (SECTION 1) N/A

LEAK SURVEY OUTSIDE PRINCIPAL BUSINESS AREA  
SECTION: 2  3  4  5  6  All

TRANSMISSION LINE LEAK SURVEY  1st 6 MONTHS,  2nd 6 MONTHS  
 HIGH PRESSURE LINE LEAK SURVEY

LATERAL - FROM \_\_\_\_\_ TO \_\_\_\_\_

LINE NAME \_\_\_\_\_

LINE NO. OPERATING PSIG \_\_\_\_\_

PIPE SIZE AND LENGTH \_\_\_\_\_

USE ADDITIONAL SHEETS IF NECESSARY

CONSTRUCTION ACTIVITY \_\_\_\_\_

RIVER CROSSING \_\_\_\_\_

NEW HIGH OCCUPANCY STRUCTURES \_\_\_\_\_

CONDITION OF ABOVE GROUND FACILITIES \_\_\_\_\_

EROSION \_\_\_\_\_

RIGHT-OF-WAY CONDITION \_\_\_\_\_

PIPELINE SIGNS/MARKERS \_\_\_\_\_

C.G.T. MAKE Sensit MODEL \_\_\_\_\_ SERIAL NO. 4744

CALIBRATION TEST DATE (S): 6/2/2008

COMMENTS: INCLUDE OPERATION AND MAINTENANCE WORK REQUEST NUMBERS (CNG #330) FOR NECESSARY REPAIRS.  
n/a

Surveyed By Scott Miller Start Date 6-6-08 End Date 6-9-08  
General Manager John M. ... Date 6-9-08

## Wenatchee Quarterly Patrol Log

<b>District</b>	Wenatchee				<b>Date Completed</b>	6-6-08
<b>Quarter</b>	<input type="checkbox"/> 1 <sup>st</sup>	<input checked="" type="checkbox"/> 2 <sup>nd</sup>	<input type="checkbox"/> 3 <sup>rd</sup>	<input type="checkbox"/> 4 <sup>th</sup>	<b>Year</b> 20 <u>08</u>	

<b>Location</b>	<b>Size</b>	<b>Pressure</b>	<b>Condition</b> <small>(Indicate Good or Explain Status, Work Orders, etc.)</small>
RR Crossing at Hawley St	2"	55	Good
RR Crossing at Hawley St	8"	55	Good
RR Bridge at South End of Wenatchee River	6"	55	Good
RR Bridge at Wenatchee River	6"	55	Good
RR Crossing at Euclid Ave & Penny Rd	2"	55	Good
RR Crossing at Euclid Ave at Dovex Fruit	2"	55	Good
RR Crossing at Naumes, 3907 Chelan Hwy	4"	55	Good
RR Crossing at Tree Top, 3981 Chelan Hwy	6"	55	Good
RR Crossing at Chamberlin Dist., 4151 Chelan Hwy	4"	55	Good
Chelan Hwy Crossing at Goodfellow Bros, 3591 Chelan Hwy	6"	55	Good
Chelan Hwy Crossing at Sternlt Growers, Warehouse Rd	4"	55	Good
Hwy 2/97A Crossing at Cascade Analytical, 3019 GS Center	6"	55	Good
Casing at PUD Substation, Worthen & Thurston St	8"	55	Good
Pedestrian Foot Bridge - West Side	8"	55	Good
RR Crossing at Bridge St & Pedestrian Foot Bridge	8"	55	Good
Malaga Hwy Crossing at Rock St	1"	55	Good
S Wenatchee Ave Crossing at Beuzer St	6"	55	Good
Canal Crossing at Rosewood & Brookside Way	2"	55	Good
Canal Crossing at Millerdale & Appleland Dr	2"	55	Good
Canal Crossing in 1200 Blk, S Miller St	2"	55	Good
Canal Crossing in 1400 Blk Cherry St	2"	55	Good
Canal Crossing at Red Apple Rd & Vista Pl	2"	55	Good

# SCADE NATURAL GAS SYSTEM SURVEILLANCE RECORD

DISTRICT Wenatchee TOWN Wenatchee

QUARTERLY PATROL: QUARTER: 1<sup>st</sup> , 2<sup>nd</sup> , 3<sup>rd</sup> , 4<sup>th</sup>   
(ATTACH COPY OF QUARTERLY PATROL LOG)

SPECIAL LEAK SURVEY

LEAK SURVEY INSIDE PRINCIPAL BUSINESS AREA (SECTION 1) N/A

LEAK SURVEY OUTSIDE PRINCIPAL BUSINESS AREA  
SECTION: 2  3  4  5  6  All

TRANSMISSION LINE LEAK SURVEY  1st 6 MONTHS,  2nd 6 MONTHS  
 HIGH PRESSURE LINE LEAK SURVEY

LATERAL - FROM \_\_\_\_\_ TO \_\_\_\_\_

LINE NAME \_\_\_\_\_

LINE NO. OPERATING PSIG \_\_\_\_\_

PIPE SIZE AND LENGTH \_\_\_\_\_

USE ADDITIONAL SHEETS IF NECESSARY

CONSTRUCTION ACTIVITY \_\_\_\_\_

RIVER CROSSING \_\_\_\_\_

NEW HIGH OCCUPANCY STRUCTURES \_\_\_\_\_

CONDITION OF ABOVE GROUND FACILITIES \_\_\_\_\_

EROSION \_\_\_\_\_

RIGHT-OF-WAY CONDITION \_\_\_\_\_

PIPELINE SIGNS/MARKERS \_\_\_\_\_

<sup>CGI</sup> MAKE Sensit MODEL Gold SERIAL NO. 4744

CALIBRATION TEST DATE (S): 9/2/08

COMMENTS: INCLUDE OPERATION AND MAINTENANCE WORK REQUEST NUMBERS (CNG #330) FOR NECESSARY REPAIRS.  
n/a

Surveyed By Scott Miller Start Date 9-2-08 End Date 9-2-08  
General Manager \_\_\_\_\_ Date \_\_\_\_\_

## Wenatchee Quarterly Patrol Log

District	Wenatchee			Date Completed	9-2-08
Quarter	<input type="checkbox"/> 1 <sup>st</sup>	<input type="checkbox"/> 2 <sup>nd</sup>	<input checked="" type="checkbox"/> 3 <sup>rd</sup>	<input type="checkbox"/> 4 <sup>th</sup>	Year 20 08

Location	Size	Pressure	Condition <small>(Indicate Good or Explain Status, Work Orders, etc.)</small>
RR Crossing at Hawley St	2"	55	Good
RR Crossing at Hawley St	8"	55	Good
RR Bridge at South End of Wenatchee River	6"	55	Good
RR Bridge at Wenatchee River	6"	55	Good
RR Crossing at Euclid Ave & Penny Rd	2"	55	Good
RR Crossing at Euclid Ave at Dovex Fruit	2"	55	Good
RR Crossing at Naumes, 3907 Chelan Hwy	4"	55	Good
RR Crossing at Tree Top, 3981 Chelan Hwy	6"	55	Good
RR Crossing at Chamberln Dist., 4151 Chelan Hwy	4"	55	Good
Chelan Hwy Crossing at Goodfellow Bros, 3591 Chelan Hwy	6"	55	Good
Chelan Hwy Crossing at Stemilt Growers, Warehouse Rd	4"	55	Good
Hwy 2/97A Crossing at Cascade Analytical, 3019 GS Center	6"	55	Good
Casing at PUD Substation, Worthen & Thurston St	8"	55	Good
Pedestrian Foot Bridge - West Side	8"	55	Good
RR Crossing at Bridge St & Pedestrian Foot Bridge	8"	55	Good
Malaga Hwy Crossing at Rock St	1"	55	Good
S Wenatchee Ave Crossing at Beuzer St	6"	55	Good
Canal Crossing at Rosewood & Brookside Way	2"	55	Good
Canal Crossing at Millerdale & Appleland Dr	2"	55	Good
Canal Crossing in 1200 Blk, S Miller St	2"	55	Good
Canal Crossing in 1400 Blk Cherry St	2"	55	Good
Canal Crossing at Red Apple Rd & Vista Pl	2"	55	Good

# ASCAD N A T U R A L G A S

## S Y S T E M S U R V E I L L A N C E R E C O R D

DISTRICT Wenatchee TOWN Wenatchee

QUARTERLY PATROL: QUARTER: 1<sup>st</sup> , 2<sup>nd</sup> , 3<sup>rd</sup> , 4<sup>th</sup>   
(ATTACH COPY OF QUARTERLY PATROL LOG)

SPECIAL LEAK SURVEY

LEAK SURVEY INSIDE BUSINESS AREA (SECTION 1)

LEAK SURVEY OUTSIDE PRINCIPAL BUSINESS AREA  
SECTION: 2  3  4  5  6  All

TRANSMISSION LINE LEAK SURVEY  1st 6 MONTHS,  2nd 6 MONTHS  
 HIGH PRESSURE LINE LEAK SURVEY

LATERAL - FROM \_\_\_\_\_ TO \_\_\_\_\_

LINE NAME \_\_\_\_\_

LINE NO. OPERATING PSIG \_\_\_\_\_

PIPE SIZE AND LENGTH \_\_\_\_\_

USE ADDITIONAL SHEETS IF NECESSARY

CONSTRUCTION ACTIVITY \_\_\_\_\_

RIVER CROSSING OK \_\_\_\_\_

NEW HIGH OCCUPANCY STRUCTURES \_\_\_\_\_

CONDITION OF ABOVE GROUND FACILITIES \_\_\_\_\_

EROSION \_\_\_\_\_

RIGHT-OF-WAY CONDITION \_\_\_\_\_

PIPELINE SIGNS/MARKERS \_\_\_\_\_

F.I.: MAKE SENSIT MODEL GOLD SERIAL NO. 4744

CALIBRATION TEST DATE (S): DEC 1, 2008

COMMENTS: INCLUDE OPERATION AND MAINTENANCE WORK REQUEST NUMBERS (CNG #330) FOR NECESSARY REPAIRS.

Surveyed By Scott Gies Start Date Dec 2, 2008 End Date Dec 2, 2008  
General Manager Mark Cheek Date 12-7-08

Original-Safety & Compliance Copy-District

## Wenatchee Quarterly Patrol Log

<b>District</b>	Wenatchee	<b>Date Completed</b>	12-2-08	
<b>Quarter</b>	<input type="checkbox"/> 1 <sup>st</sup> <input type="checkbox"/> 2 <sup>nd</sup> <input type="checkbox"/> 3 <sup>rd</sup> <input checked="" type="checkbox"/> 4 <sup>th</sup>	<b>Year</b> 20 <u>08</u>		

Location	Size	Pressure	Condition <small>(Indicate Good or Explain Status, Work Orders, etc.)</small>
RR Crossing at Hawley St	2"	55	GOOD
RR Crossing at Hawley St	8"	55	GOOD
RR Bridge at South End of Wenatchee River	6"	55	GOOD
RR Bridge at Wenatchee River	6"	55	GOOD
RR Crossing at Euclid Ave & Penny Rd	2"	55	GOOD
RR Crossing at Euclid Ave at Dovex Fruit	2"	55	GOOD
RR Crossing at Naumes, 3907 Chelan Hwy	4"	55	GOOD
RR Crossing at Tree Top, 3981 Chelan Hwy	6"	55	GOOD
RR Crossing at Chamberlin Dist., 4151 Chelan Hwy	4"	55	GOOD
Chelan Hwy Crossing at Goodfellow Bros, 3591 Chelan Hwy	6"	55	GOOD
Chelan Hwy Crossing at Stemilt Growers, Warehouse Rd	4"	55	GOOD
Hwy 2/97A Crossing at Cascade Analytical, 3019 GS Center	6"	55	GOOD
Casing at PUD Substation, Worthen & Thurston St	8"	55	GOOD
Pedestrian Foot Bridge – West Side	8"	55	GOOD
RR Crossing at Bridge St & Pedestrian Foot Bridge	8"	55	GOOD
Malaga Hwy Crossing at Rock St	1"	55	GOOD
S Wenatchee Ave Crossing at Beuzer St	6"	55	GOOD
Canal Crossing at Rosewood & Brookside Way	2"	55	GOOD
Canal Crossing at Millerdale & Appleland Dr	2"	55	GOOD
Canal Crossing in 1200 Blk, S Miller St	2"	55	GOOD
Canal Crossing in 1400 Blk Cherry St	2"	55	GOOD
Canal Crossing at Red Apple Rd & Vista Pl	2"	55	GOOD

# CASCADE NATURAL GAS SYSTEM SURVEILLANCE RECORD

DISTRICT Wenatchee TOWN Wenatchee

QUARTERLY PATROL: QUARTER: 1<sup>st</sup> , 2<sup>nd</sup> , 3<sup>rd</sup> , 4<sup>th</sup>   
(ATTACH COPY OF QUARTERLY PATROL LOG)

SPECIAL LEAK SURVEY

LEAK SURVEY INSIDE BUSINESS AREA (SECTION 1)

LEAK SURVEY OUTSIDE PRINCIPAL BUSINESS AREA  
SECTION: 2  3  4  5  6  All

TRANSMISSION LINE LEAK SURVEY  1st 6 MONTHS,  2nd 6 MONTHS  
 HIGH PRESSURE LINE LEAK SURVEY

LATERAL - FROM \_\_\_\_\_ TO \_\_\_\_\_

LINE NAME \_\_\_\_\_

LINE NO. OPERATING PSIG \_\_\_\_\_

PIPE SIZE AND LENGTH \_\_\_\_\_

USE ADDITIONAL SHEETS IF NECESSARY

CONSTRUCTION ACTIVITY n/a

RIVER CROSSING n/a

NEW HIGH OCCUPANCY STRUCTURES n/a

CONDITION OF ABOVE GROUND FACILITIES n/a

EROSION n/a

RIGHT-OF-WAY CONDITION n/a

PIPELINE SIGNS/MARKERS 1 will be replaced - all others good

F.I.: MAKE Sensit. Gold MODEL EX-00 SERIAL NO. C03827  
Trak-U SERIAL NO. 1856

CALIBRATION TEST DATE (S): 3/2/09  
3/2/09

COMMENTS: INCLUDE OPERATION AND MAINTENANCE WORK REQUEST NUMBERS (CNG #330) FOR NECESSARY REPAIRS.

Will replace pipeline sign at S. Wenatchee Ave & Benzer St.  
on o.s.m. # 18143.

Surveyed By [Signature] Start Date 3/6/09 End Date 3/9/09  
General Manager [Signature] Date 3-9-09

Original-Safety & Compliance Copy-District

## Wenatchee Quarterly Patrol Log

District	Wenatchee	Date Completed	3/9/09		
Quarter	<input checked="" type="checkbox"/> 1 <sup>st</sup> <input type="checkbox"/> 2 <sup>nd</sup> <input type="checkbox"/> 3 <sup>rd</sup> <input type="checkbox"/> 4 <sup>th</sup>	Year 20 <u>09</u>			

Location	Size	Pressure	Condition <small>(Indicate Good or Explain Status, Work Orders, etc.)</small>
----------	------	----------	--

RR Crossing at Hawley St	2"	55	Good
RR Crossing at Hawley St	8"	55	"
RR Bridge at South End of Wenatchee River	6"	55	"
RR Bridge at Wenatchee River	6"	55	"
RR Crossing at Euclid Ave & Penny Rd	2"	55	"
RR Crossing at Euclid Ave at Dovex Fruit	2"	55	"
RR Crossing at Naumes, 3907 Chelan Hwy	4"	55	"
RR Crossing at Tree Top, 3981 Chelan Hwy	6"	55	"
RR Crossing at Chamberlin Dist., 4151 Chelan Hwy	2" * ?	55	"
Chelan Hwy Crossing at Goodfellow Bros, 3591 Chelan Hwy	6"	55	"
Chelan Hwy Crossing at Stemilt Growers, Warehouse Rd	2" * ?	55	"
Hwy 2/97A Crossing at Cascade Analytical, 3019 GS Center	6"	55	"
Casing at PUD Substation, Worthen & Thurston St	8"	55	"
Pedestrian Foot Bridge -- West Side	8"	55	"
RR Crossing at Bridge St & Pedestrian Foot Bridge	8"	55	"
Malaga Hwy Crossing at Rock St	1"	24 55	"
S Wenatchee Ave Crossing at Beuzer St	6"	215 55 ?	OK - Needs new sign
Canal Crossing at Rosewood & Brookside Way	2"	55	Good
Canal Crossing at Millerdale & Appleland Dr	2"	55	"
Canal Crossing in 1200 Blk, S Miller St	2"	55	"
Canal Crossing in 1400 Blk Cherry St	2"	55	"
Canal Crossing at Red Apple Rd & Vista Pl	2"	55	"
R.R. Crossing @ Rock st	1"	24	"



CNG 286  
Rev. 01/08

# ASCADENATURAL GAS

## SYSTEM SURVEILLANCE RECORD

DISTRICT Wenatchee TOWN Wenatchee

QUARTERLY PATROL: QUARTER: 1<sup>st</sup> , 2<sup>nd</sup> , 3<sup>rd</sup> , 4<sup>th</sup>   
(ATTACH COPY OF QUARTERLY PATROL LOG)

SPECIAL LEAK SURVEY

LEAK SURVEY INSIDE PRINCIPAL BUSINESS AREA (SECTION 1) N/A

LEAK SURVEY OUTSIDE PRINCIPAL BUSINESS AREA  
SECTION: 2  3  4  5  6  All

TRANSMISSION LINE LEAK SURVEY  1st 6 MONTHS,  2nd 6 MONTHS  
 HIGH PRESSURE LINE LEAK SURVEY

LATERAL - FROM \_\_\_\_\_ TO \_\_\_\_\_

LINE NAME \_\_\_\_\_

LINE NO. OPERATING PSIG \_\_\_\_\_

PIPE SIZE AND LENGTH \_\_\_\_\_

USE ADDITIONAL SHEETS IF NECESSARY

CONSTRUCTION ACTIVITY NONE

RIVER CROSSING Good

NEW HIGH OCCUPANCY STRUCTURES NONE

CONDITION OF ABOVE GROUND FACILITIES Good

EROSION NONE

RIGHT-OF-WAY CONDITION Good

PIPELINE SIGNS/MARKERS Good

F.I.: MAKE SENSIT MODEL \_\_\_\_\_ SERIAL NO. 4744

CALIBRATION TEST DATE (S): 6-1-09

COMMENTS: INCLUDE OPERATION AND MAINTENANCE WORK REQUEST NUMBERS (CNG #330) FOR NECESSARY REPAIRS.

Patrolled 22 Locations. No leaks found.

Surveyed By Scott Hillman Start Date 6-5-09 End Date 6-5-09  
General Manager Maria Valdez Date 6-10-09

## Wenatchee Quarterly Patrol Log

<b>District</b>	Wenatchee			<b>Date Completed</b>	6-5-09
<b>Quarter</b>	<input type="checkbox"/> 1 <sup>st</sup>	<input checked="" type="checkbox"/> 2 <sup>nd</sup>	<input type="checkbox"/> 3 <sup>rd</sup>	<input type="checkbox"/> 4 <sup>th</sup>	Year 20 <u>09</u>

Location	Size	Pressure	Condition <small>(Indicate Good or Explain Status, Work Orders, etc.)</small>
----------	------	----------	--

RR Crossing at Hawley St	2"	55	Good
RR Crossing at Hawley St	8"	55	Good
RR Bridge at South End of Wenatchee River	6"	55	Good
RR Bridge at Wenatchee River	6"	55	Good
RR Crossing at Euclid Ave & Penny Rd	2"	55	Good
RR Crossing at Euclid Ave at Dovex Fruit	2"	55	Good
RR Crossing at Naumes, 3907 Chelan Hwy	4"	55	Good
RR Crossing at Tree Top, 3981 Chelan Hwy	6"	55	Good
RR Crossing at Chamberlin Dist., 4151 Chelan Hwy	4"	55	Good
Chelan Hwy Crossing at Goodfellow Bros, 3591 Chelan Hwy	6"	55	Good
Chelan Hwy Crossing at Stemilt Growers, Warehouse Rd	4"	55	Good
Hwy 2/97A Crossing at Cascade Analytical, 3019 GS Center	6"	55	Good
Casing at PUD Substation, Worthen & Thurston St	8"	55	Good
Pedestrian Foot Bridge - West Side	8"	55	Good
RR Crossing at Bridge St & Pedestrian Foot Bridge	8"	55	Good
Malaga Hwy Crossing at Rock St	1"	55	Good
S Wenatchee Ave Crossing at Beuzer St	6"	55	Good
Canal Crossing at Rosewood & Brookside Way	2"	55	Good
Canal Crossing at Millerdale & Appleland Dr	2"	55	Good
Canal Crossing in 1200 Blk, S Miller St	2"	55	Good
Canal Crossing in 1400 Blk Cherry St	2"	55	Good
Canal Crossing at Red Apple Rd & Vista Pl	2"	55	Good

# CASCADE NATURAL GAS SYSTEM SURVEILLANCE RECORD

DISTRICT Wenatchee TOWN Wenatchee

QUARTERLY PATROL: QUARTER: 1<sup>st</sup> , 2<sup>nd</sup> , 3<sup>rd</sup> , 4<sup>th</sup>   
(ATTACH COPY OF QUARTERLY PATROL LOG)

SPECIAL LEAK SURVEY

LEAK SURVEY INSIDE PRINCIPAL BUSINESS AREA (SECTION 1) N/A

LEAK SURVEY OUTSIDE PRINCIPAL BUSINESS AREA  
SECTION: 2  3  4  5  6  All

TRANSMISSION LINE LEAK SURVEY  1st 6 MONTHS,  2nd 6 MONTHS  
 HIGH PRESSURE LINE LEAK SURVEY

LATERAL - FROM \_\_\_\_\_ TO \_\_\_\_\_

LINE NAME \_\_\_\_\_

LINE NO. OPERATING PSIG \_\_\_\_\_

PIPE SIZE AND LENGTH \_\_\_\_\_

USE ADDITIONAL SHEETS IF NECESSARY

CONSTRUCTION ACTIVITY NONE

RIVER CROSSING NONE

NEW HIGH OCCUPANCY STRUCTURES NONE

CONDITION OF ABOVE GROUND FACILITIES Good

EROSION NONE

RIGHT-OF-WAY CONDITION Good

PIPELINE SIGNS/MARKERS Good

F.I.: MAKE Sensit MODEL Gold SERIAL NO. 11684

CALIBRATION TEST DATE (S): 09/01/2009

COMMENTS: INCLUDE OPERATION AND MAINTENANCE WORK REQUEST NUMBERS (CNG #330) FOR NECESSARY REPAIRS.  
Surveyed 22 Locations. See attached.

Surveyed By Scott Gledhill Start Date 9-1-09 End Date 9-1-09  
General Manager Mark Wadley Date 9-4-09

## Wenatchee Quarterly Patrol Log

District	Wenatchee			Date Completed	9-1-09
Quarter	<input type="checkbox"/> 1 <sup>st</sup>	<input type="checkbox"/> 2 <sup>nd</sup>	<input checked="" type="checkbox"/> 3 <sup>rd</sup>	<input type="checkbox"/> 4 <sup>th</sup>	Year 20 <u>09</u>

Location	Size	Pressure	Condition <small>(Indicate Good or Explain Status, Work Orders, etc.)</small>
RR Crossing at Hawley St	2"	55	Good
RR Crossing at Hawley St	8"	55	Good
RR Bridge at South End of Wenatchee River	6"	55	Good
RR Bridge at Wenatchee River	6"	55	Good
RR Crossing at Euclid Ave & Penny Rd	2"	55	Good
RR Crossing at Euclid Ave at Dovex Fruit	2"	55	Good
RR Crossing at Naumes, 3907 Chelan Hwy	4"	55	Good
RR Crossing at Tree Top, 3981 Chelan Hwy	6"	55	Good
RR Crossing at Chamberlin Dist., 4151 Chelan Hwy	4"	55	Good
Chelan Hwy Crossing at Goodfellow Bros, 3591 Chelan Hwy	6"	55	Good
Chelan Hwy Crossing at Stemilt Growers, Warehouse Rd	4"	55	Good
Hwy 2/97A Crossing at Cascade Analytical, 3019 GS Center	6"	55	Good
Casing at PUD Substation, Worthen & Thurston St	8"	55	Good
Pedestrian Foot Bridge - West Side	8"	55	Good
RR Crossing at Bridge St & Pedestrian Foot Bridge	8"	55	Good
Malaga Hwy Crossing at Rock St	1"	55	Good
S Wenatchee Ave Crossing at Beuzer St	6"	55	Good
Canal Crossing at Rosewood & Brookside Way	2"	55	Good
Canal Crossing at Millerdale & Appleland Dr.	2"	55	Good
Canal Crossing in 1200 Blk, S Miller St	2"	55	Good
Canal Crossing in 1400 Blk Cherry St	2"	55	Good
Canal Crossing at Red Apple Rd & Vista Pl	2"	55	Good

# CASCADE NATURAL GAS SYSTEM SURVEILLANCE RECORD

DISTRICT Wenatchee TOWN Wenatchee

QUARTERLY PATROL: QUARTER: 1<sup>st</sup> , 2<sup>nd</sup> , 3<sup>rd</sup> , 4<sup>th</sup>   
(ATTACH COPY OF QUARTERLY PATROL LOG)

SPECIAL LEAK SURVEY

LEAK SURVEY INSIDE PRINCIPAL BUSINESS AREA (SECTION 1) N/A

LEAK SURVEY OUTSIDE PRINCIPAL BUSINESS AREA  
SECTION: 2  3  4  5  6  All

TRANSMISSION LINE LEAK SURVEY  1st 6 MONTHS,  2nd 6 MONTHS  
 HIGH PRESSURE LINE LEAK SURVEY

LATERAL - FROM \_\_\_\_\_ TO \_\_\_\_\_

LINE NAME \_\_\_\_\_

LINE NO. OPERATING PSIG \_\_\_\_\_

PIPE SIZE AND LENGTH \_\_\_\_\_

USE ADDITIONAL SHEETS IF NECESSARY

CONSTRUCTION ACTIVITY NONE

RIVER CROSSING GOOD

NEW HIGH OCCUPANCY STRUCTURES NONE

CONDITION OF ABOVE GROUND FACILITIES GOOD

EROSION NONE

RIGHT-OF-WAY CONDITION GOOD

PIPELINE SIGNS/MARKERS GOOD

F.I.: MAKE Sensit MODEL Gold SERIAL NO. 4744

CALIBRATION TEST DATE (S): 12/01/09

COMMENTS: INCLUDE OPERATION AND MAINTENANCE WORK REQUEST NUMBERS (CNG #330) FOR NECESSARY REPAIRS.  
Completed patrol. No leaks found

Surveyed By Scott Mueller Start Date 12-2-09 End Date 12-2-09  
General Manager Mark [unclear] Date 12-2-09

## Wenatchee Quarterly Patrol Log

District	Wenatchee				Date Completed	12-2-09
Quarter	<input type="checkbox"/> 1 <sup>st</sup>	<input type="checkbox"/> 2 <sup>nd</sup>	<input type="checkbox"/> 3 <sup>rd</sup>	<input checked="" type="checkbox"/> 4 <sup>th</sup>	Year 2009	

Location	Size	Pressure	Condition <small>(Indicate Good or Explain Status, Work Orders, etc.)</small>
RR Crossing at Hawley St	2"	55	GOOD
RR Crossing at Hawley St	8"	55	GOOD
RR Bridge at South End of Wenatchee River	6"	55	GOOD
RR Bridge at Wenatchee River	6"	55	GOOD
RR Crossing at Euclid Ave & Penny Rd	2"	55	GOOD
RR Crossing at Euclid Ave at Dovex Fruit	2"	55	GOOD
RR Crossing at Naumes, 3907 Chelan Hwy	4"	55	GOOD
RR Crossing at Tree Top, 3981 Chelan Hwy	6"	55	GOOD
RR Crossing at Chamberlin Dist., 4151 Chelan Hwy	4"	55	GOOD
Chelan Hwy Crossing at Goodfellow Bros, 3591 Chelan Hwy	6"	55	GOOD
Chelan Hwy Crossing at Stemilt Growers, Warehouse Rd	4"	55	GOOD
Hwy 2/97A Crossing at Cascade Analytical, 3019 GS Center	6"	55	GOOD
Casing at PUD Substation, Worthen & Thurston St	8"	55	GOOD
Pedestrian Foot Bridge - West Side	8"	55	GOOD
RR Crossing at Bridge St & Pedestrian Foot Bridge	8"	55	GOOD
Malaga Hwy Crossing at Rock St	1"	55	GOOD
S Wenatchee Ave Crossing at Beuzer St	6"	55	GOOD
Canal Crossing at Rosewood & Brookside Way	2"	55	GOOD
Canal Crossing at Millerdale & Appleland Dr	2"	55	GOOD
Canal Crossing in 1200 Blk, S Miller St	2"	55	GOOD
Canal Crossing in 1400 Blk Cherry St	2"	55	GOOD
Canal Crossing at Red Apple Rd & Vista Pl	2"	55	GOOD

# CASCADE NATURAL GAS SYSTEM SURVEILLANCE RECORD

DISTRICT Wenatchee TOWN Wenatchee

QUARTERLY PATROL: QUARTER: 1<sup>st</sup> , 2<sup>nd</sup> , 3<sup>rd</sup> , 4<sup>th</sup>   
(ATTACH COPY OF QUARTERLY PATROL LOG)

SPECIAL LEAK SURVEY

LEAK SURVEY INSIDE PRINCIPAL BUSINESS AREA (SECTION 1) N/A

LEAK SURVEY OUTSIDE PRINCIPAL BUSINESS AREA  
SECTION: 2  3  4  5  6  All

TRANSMISSION LINE LEAK SURVEY  1st 6 MONTHS,  2nd 6 MONTHS  
 HIGH PRESSURE LINE LEAK SURVEY

LATERAL - FROM \_\_\_\_\_ TO \_\_\_\_\_

LINE NAME \_\_\_\_\_

LINE NO. OPERATING PSIG \_\_\_\_\_

PIPE SIZE AND LENGTH \_\_\_\_\_

USE ADDITIONAL SHEETS IF NECESSARY

CONSTRUCTION ACTIVITY None

RIVER CROSSING Good

NEW HIGH OCCUPANCY STRUCTURES None

CONDITION OF ABOVE GROUND FACILITIES Good

EROSION None

RIGHT-OF-WAY CONDITION Good

PIPELINE SIGNS/MARKERS Good

F.I.: MAKE Sensit MODEL Gold SERIAL NO. 11684

CALIBRATION TEST DATE (S): 03/01/2010

COMMENTS: INCLUDE OPERATION AND MAINTENANCE WORK REQUEST NUMBERS (CNG #330) FOR NECESSARY REPAIRS.

Surveyed on WO#18510. No leaks found.

Surveyed By [Signature] Start Date 3-2-10 End Date 3-2-10  
General Manager [Signature] Date 3-12-10

## Wenatchee Quarterly Patrol Log

District	Wenatchee				Date Completed	3-2-10
Quarter	<input checked="" type="checkbox"/> 1 <sup>st</sup>	<input type="checkbox"/> 2 <sup>nd</sup>	<input type="checkbox"/> 3 <sup>rd</sup>	<input type="checkbox"/> 4 <sup>th</sup>	Year 20 <u>10</u>	

Location	Size	Pressure	Condition <small>(Indicate Good or Explain Status, Work Orders, etc.)</small>
----------	------	----------	--

RR Crossing at Hawley St	2"	55	Good
RR Crossing at Hawley St	8"	55	
RR Bridge at South End of Wenatchee River	6"	55	
RR Bridge at Wenatchee River	6"	55	
RR Crossing at Euclid Ave & Penny Rd	2"	55	
RR Crossing at Euclid Ave at Dovex Fruit	2"	55	
RR Crossing at <sup>KEYES</sup> <del>Naumes</del> , 3907 Chelan Hwy	4"	55	
RR Crossing at Tree Top, 3981 Chelan Hwy	6"	55	
RR Crossing at Chamberlin Dist., 4151 Chelan Hwy	4"	55	
Chelan Hwy Crossing at Goodfellow Bros, 3591 Chelan Hwy	6"	55	
Chelan Hwy Crossing at Stemilt Growers, Warehouse Rd	4"	55	
Hwy 2/97A Crossing at Cascade Analytical, 3019 GS Center	6"	55	
Casing at PUD Substation, Worthen & Thurston St	8"	55	
Pedestrian Foot Bridge - West Side	8"	55	
RR Crossing at Bridge St & Pedestrian Foot Bridge	8"	55	
Malaga Hwy Crossing at Rock St	1"	55	
S Wenatchee Ave Crossing at Beuzer St	6"	<del>55</del> 2/0	
Canal Crossing at Rosewood & Brookside Way	2"	55	
Canal Crossing at Millerdale & Appleland Dr	2"	55	
Canal Crossing in 1200 Blk, S Miller St	2"	55	
Canal Crossing in 1400 Blk Cherry St	2"	55	
Canal Crossing at Red Apple Rd & Vista Pl	2"	55	



CNG 286  
Rev. 01/08

# CASCADE NATURAL GAS SYSTEM SURVEILLANCE RECORD

DISTRICT Wenatchee TOWN Wenatchee

QUARTERLY PATROL: QUARTER: 1<sup>st</sup> , 2<sup>nd</sup> , 3<sup>rd</sup> , 4<sup>th</sup>   
(ATTACH COPY OF QUARTERLY PATROL LOG)

SPECIAL LEAK SURVEY

LEAK SURVEY INSIDE PRINCIPAL BUSINESS AREA (SECTION 1) N/A

LEAK SURVEY OUTSIDE PRINCIPAL BUSINESS AREA  
SECTION: 2  3  4  5  6  All

TRANSMISSION LINE LEAK SURVEY  1st 6 MONTHS,  2nd 6 MONTHS  
 HIGH PRESSURE LINE LEAK SURVEY

LATERAL - FROM \_\_\_\_\_ TO \_\_\_\_\_

LINE NAME \_\_\_\_\_

LINE NO. OPERATING PSIG \_\_\_\_\_

PIPE SIZE AND LENGTH \_\_\_\_\_

USE ADDITIONAL SHEETS IF NECESSARY

CONSTRUCTION ACTIVITY NONE

RIVER CROSSING Good

NEW HIGH OCCUPANCY STRUCTURES NONE

CONDITION OF ABOVE GROUND FACILITIES Good

EROSION NONE

RIGHT-OF-WAY CONDITION Good

PIPELINE SIGNS/MARKERS All Good

F.I.: MAKE Sensit MODEL Gold SERIAL NO. 4744

CALIBRATION TEST DATE (S): 06/01/2010

COMMENTS: INCLUDE OPERATION AND MAINTENANCE WORK REQUEST NUMBERS (CNG #330) FOR NECESSARY REPAIRS.

Surveyed all 22 Location. All OK. WO# 18570.  
See attached log.

Surveyed By Just Helms Start Date 6-3-10 End Date 6-3-10  
General Manager Maui Colby Date 6-8-10

## Wenatchee Quarterly Patrol Log

District	Wenatchee				Date Completed	6-3-10
Quarter	<input type="checkbox"/> 1 <sup>st</sup>	<input checked="" type="checkbox"/> 2 <sup>nd</sup>	<input type="checkbox"/> 3 <sup>rd</sup>	<input type="checkbox"/> 4 <sup>th</sup>	Year 20 <u>10</u>	

Location	Size	Pressure	Condition <small>(Indicate Good or Explain Status, Work Orders, etc.)</small>
----------	------	----------	--

RR Crossing at Hawley St	2"	55	Good
RR Crossing at Hawley St	8"	55	Good
RR Bridge at South End of Wenatchee River	6"	55	Good
RR Bridge at Wenatchee River	6"	55	Good
RR Crossing at Euclid Ave & Penny Rd	2"	55	Good
RR Crossing at Euclid Ave at Dovex Fruit	2"	55	Good
RR Crossing at Naumes, 3907 Chelan Hwy	4"	55	Good
RR Crossing at Tree Top, 3981 Chelan Hwy	6"	55	Good
RR Crossing at Chamberlin Dist., 4151 Chelan Hwy	4"	55	Good
Chelan Hwy Crossing at Goodfellow Bros, 3591 Chelan Hwy	6"	55	Good
Chelan Hwy Crossing at Stermitt Growers, Warehouse Rd	4"	55	Good
Hwy 2/97A Crossing at Cascade Analytical, 3019 GS Center	6"	55	Good
Casing at PUD Substation, Worthen & Thurston St	8"	55	Good
Pedestrian Foot Bridge - West Side	8"	55	Good
RR Crossing at Bridge St & Pedestrian Foot Bridge	8"	55	Good
Malaga Hwy Crossing at Rock St	1"	55	Good
S Wenatchee Ave Crossing at Beuzer St	6"	55	Good
Canal Crossing at Rosewood & Brookside Way	2"	55	Good
Canal Crossing at Millerdale & Appleland Dr	2"	55	Good
Canal Crossing in 1200 Blk, S Miller St	2"	55	Good
Canal Crossing in 1400 Blk Cherry St	2"	55	Good
Canal Crossing at Red Apple Rd & Vista Pl	2"	55	Good

## CASCADE NATURAL GAS SYSTEM SURVEILLANCE RECORD

DISTRICT <u>Wenatchee</u>		TOWN <u>Wenatchee</u>	
<input checked="" type="checkbox"/> PATROL: QUARTER: 1 <sup>st</sup> <input type="checkbox"/> 2 <sup>nd</sup> <input type="checkbox"/> 3 <sup>rd</sup> <input checked="" type="checkbox"/> 4 <sup>th</sup> <input type="checkbox"/> ATTACH PATROL LOG			
<input type="checkbox"/> SPECIAL LEAK SURVEY		DESCRIBE	
<input type="checkbox"/> LEAK SURVEY INSIDE BUSINESS AREA (SECTION 1)			
<input type="checkbox"/> LEAK SURVEY OUTSIDE PRINCIPAL BUSINESS AREA SECTION: 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> All <input type="checkbox"/>			
<input type="checkbox"/> TRANSMISSION OR HP LINE LEAK SURVEY			
LINE NO.	LINE NAME		
LEAKS		<input checked="" type="checkbox"/> NO LEAKS	<input type="checkbox"/> LEAKS DETECTED
ATTACH LEAK LOCATIONS ON CNG 295 LEAK SURVEY DETECTION LOG			
INSPECTIONS		LEAK SURVEY - ATTACH AOC LOCATIONS ON CNG 297 LEAK SURVEY AOC LOG PATROL - SPECIFY FINDINGS ON PATROL LOG	
CONSTRUCTION ACTIVITY	<input checked="" type="checkbox"/> NO AOC	<input type="checkbox"/> AOC	
EXPOSED PIPE CONDITIONS	<input checked="" type="checkbox"/> NO AOC	<input type="checkbox"/> AOC	
PIPELINE SIGNS/MARKERS	<input checked="" type="checkbox"/> NO AOC	<input type="checkbox"/> AOC	
EROSION	<input checked="" type="checkbox"/> NO AOC	<input type="checkbox"/> AOC	
RIGHT-OF-WAY CONDITION	<input checked="" type="checkbox"/> NO AOC	<input type="checkbox"/> AOC	
NEW HIGH OCCUPANCY STRUCTURES	<input checked="" type="checkbox"/> NO AOC	<input type="checkbox"/> AOC	
OTHER	<input checked="" type="checkbox"/> NO AOC	<input type="checkbox"/> AOC	
INSTRUMENT ACCURACY TESTS ATTACH CNG 353 LEAK SURVEY TEST LOGS FOR EACH INSTRUMENT USED, OR WRITE TEST DATES AND SERIAL NUMBER IN COMMENTS.			
COMMENTS: <u>Completed quarterly patrol - no leaks found.</u> <u>Sensit # 4744</u>			
Surveyed By		Start Date	End Date
<u>Scott Hillen</u>		<u>9-2-10</u>	<u>9-3-10</u>
Manager		Date	
<u>Marc Walden</u>		<u>9-15-10</u>	

## Wenatchee Quarterly Patrol Log

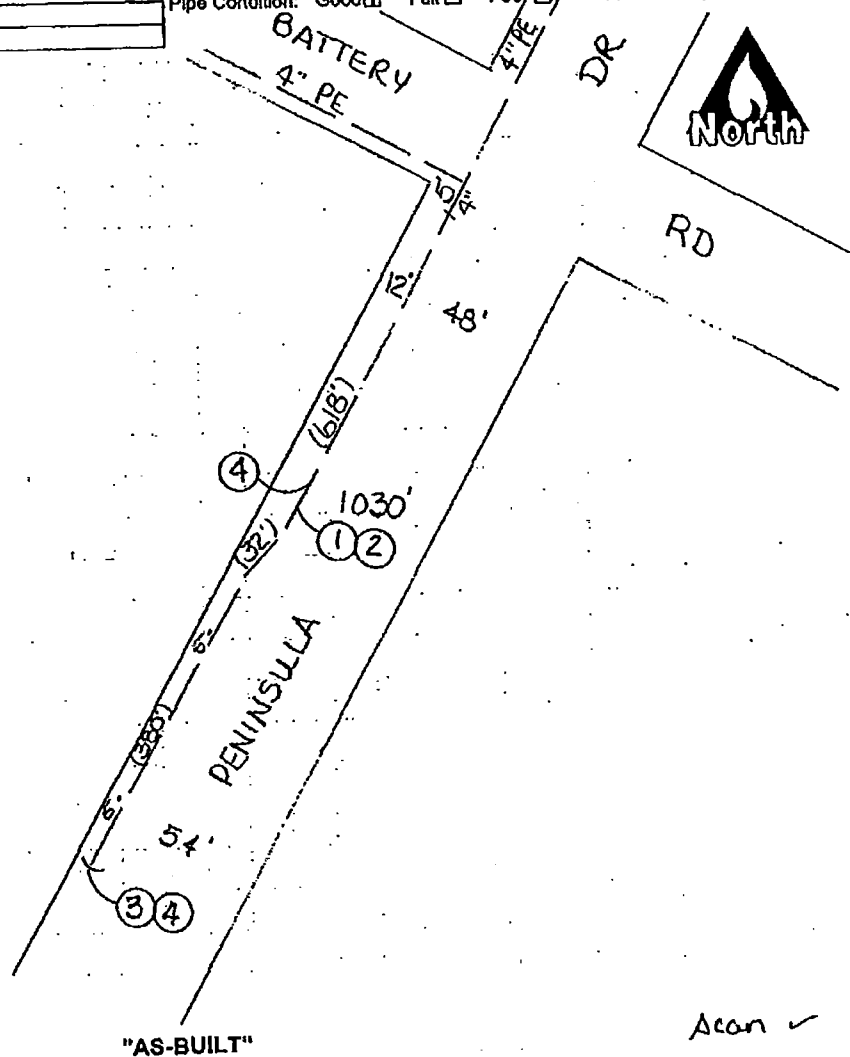
<b>District</b>	Wenatchee				<b>Date Completed</b>	9-3-10
<b>Quarter</b>	<input type="checkbox"/> 1 <sup>st</sup>	<input type="checkbox"/> 2 <sup>nd</sup>	<input checked="" type="checkbox"/> 3 <sup>rd</sup>	<input type="checkbox"/> 4 <sup>th</sup>	<b>Year</b> 20 <u>10</u>	

Location	Size	Pressure	Condition <small>(Indicate Good or Explain Status, Work Orders, etc.)</small>
----------	------	----------	--

RR Crossing at Hawley St	2"	55	Good
RR Crossing at Hawley St	8"	55	Good
RR Bridge at South End of Wenatchee River	6"	55	Good
RR Bridge at Wenatchee River	6"	55	Good
RR Crossing at Euclid Ave & Penny Rd	2"	55	Good
RR Crossing at Euclid Ave at Dovex Fruit	2"	55	Good
RR Crossing at Naumes, 3907 Chelan Hwy	4"	55	Good
RR Crossing at Tree Top, 3981 Chelan Hwy	6"	55	Good
RR Crossing at Chamberlin Dist., 4151 Chelan Hwy	4"	55	Good
Chelan Hwy Crossing at Goodfellow Bros, 3591 Chelan Hwy	6"	55	Good
Chelan Hwy Crossing at Stemilt Growers, Warehouse Rd	4"	55	Good
Hwy 2/97A Crossing at Cascade Analytical, 3019 GS Center	6"	55	Good
Casing at PUD Substation, Worthen & Thurston St	8"	55	Good
Pedestrian Foot Bridge - West Side	8"	55	Good
RR Crossing at Bridge St & Pedestrian Foot Bridge	8"	55	Good
Malaga Hwy Crossing at Rock St	1"	55	Good
S Wenatchee Ave Crossing at Beuzer St	6"	55	Good
Canal Crossing at Rosewood & Brookside Way	2"	55	Good
Canal Crossing at Millerdale & Appleland Dr	2"	55	Good
Canal Crossing in 1200 Blk, S Miller St	2"	55	Good
Canal Crossing in 1400 Blk Cherry St	2"	55	Good
Canal Crossing at Red Apple Rd & Vista Pl	2"	55	Good

### DISTRIBUTION LINE REPORT

MATERIAL LIST				DESCRIPTION		
Item No.	Quantity		Stock Code	Description	WIR No.	Project No.
	Proposed	"As-Built"				
1		1030'	24091	4" PE PIPE	325052	00084647
2		1120'	24133	TRACER WIRE	00001677	
3		1	349	4" PE CAP (USED)	City: MOSES LAKE State: WA	Grid No. 3-V
4		2	10413	LOCATE STAKES	Blacktop: Concrete	'Gravel, Rock
5		7	32854	BURIAL KIT CONNECTOR	Initiated by: ARNIE GARZA	'Sod, Dirt
6		7	32995	DIRECT BURIAL KIT	Prepared by: LORI SHIMEK	Date: 6/30/08
7					Approved by: SAM GARALT	Date: 12/8/08
8					Constructed by: STEVE RUITSON	Date: 6/30/08
9					Test Pressure: 100	Duration: 2 HR
10					"As-Built" by: LORI SHIMEK	Date: 12/8/08
11					Checked by: Matt DeWz	Date: 12-8-08
12					Const. problems: 50' - 4" SCRAP	
13					Pipe P.O. No. 65460	1-17-08 0003 Wire/Soil Pot. -.850 VDC
14					Locate No.	Start Date
15						Time
16					FOR GENERAL OFFICE USE ONLY	
17					Tax Code No.	Date
18					Posted: Op. Print <input type="checkbox"/>	Orig. <input type="checkbox"/>
19					Grid <input type="checkbox"/>	CR <input type="checkbox"/>
20					Pipe Condition: Good <input checked="" type="checkbox"/>	Fair <input type="checkbox"/>
21					Poor <input type="checkbox"/>	Prism: OK <input checked="" type="checkbox"/>
22					Notified <input type="checkbox"/>	



Acari ✓

# DISTRIBUTION LINE REPORT

Item No.	Quantity		Stock Code	Description
	Proposed	*As-Built*		
1	850	707	24075 (PPE-205)	1" P.E. Pipe
2			25619	2" P.E. Pipe (Stick)
3	1800	1750	24083 (PPE-350)	2" P.E. Pipe (Roll)
4	12	13	315 (PCA-205)	1" P.E. Cap (3-used)
5	3	3	331 (PCA-350)	2" P.E. Cap
6			2824 (PEL-351)	2" 90° P.E. el.
7			2329 (EL-360)	2" 90° Weld el.
8			6528 (SP-352)	2" Weld Line Stopper
9			6569 (SP-356)	2" Weld Line Stopper (Top Tap)
10			6585 (SP-358)	2" Weld Line Stopper (Btm Out)
11			7260 (TE-363)	2" Service Tee
12	2	0	6296 (PSA-340)	2" x 2" P.E. Branch Saddle
13			7682 (PTE-205)	1" x 1" x 1" P.E. Tee
14		3	7690 (PTE-350)	2" x 2" x 2" P.E. Tee
15		8	7724 (PTE-353)	2"x1" Plastic Tapping Tee
16			7740 (PTE-381)	2" Plastic Tapping Tee
17		13	10355 (H-99)	Utility Marker (6-used)
18		3	10413 (H-105)	Cathodic Test Station
19			10454 (H-109)	2" Transition Fitting
20	2650	2900	24133 (H-115)	Tracer Wire
21	12	16	10744 (H-145)	Direct Burial Kit
22	3	0	12732 (H-760)	Round Locate Coupon

W/R No. 305895 Project No. 00078921  
W/O No. 00001049 & 00001050  
City MOSES LAKE State WA Grid No. 4-U & (3-U)  
Blacktop \_\_\_\_\_ Concrete \_\_\_\_\_ Gravel, Rock \_\_\_\_\_ Sod, Dirt \_\_\_\_\_  
Initiated by GREG WRISTEN Date 10/12/05  
Prepared by LORI SHIMEK Date 10/24/05  
Approved by GREG WRISTEN Date 10/12/05  
Constructed by MIKE WEST Date 10/17/05  
Test Pressure 100 # Duration 68 HR By CNG  
\*As-Built\* by LORI SHIMEK Date 10/27/05  
Checked by KIMMORHOUSE Date 10-27-05  
Const. problems 33'-7" SCRAP  
Pipe P.O. No. F639 6/14-04 0902 Wire/Soil Pot. -1.120 VDC  
Locate No. \_\_\_\_\_ Start Date \_\_\_\_\_ Time \_\_\_\_\_

FOR GENERAL OFFICE USE ONLY

Tax Code No. \_\_\_\_\_ Date \_\_\_\_\_ By \_\_\_\_\_  
Posted: Op. Print  Orig.  Grid  CR  DA   
Pipe Condition: Good  Fair  Poor  Prism: OK  Notified



23	9'	9'		Consists of: - 1" P.E. Pipe 1 - 1" P.E. Cap 1 - 2"x1" Plastic Tapping Tee - Tracer Wire 1 - Direct Burial Kit 1 - Round Locate Coupon
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24				Consists of: - 1" P.E. Pipe 2 - 1" P.E. Cap 1 - 1" x 1" x 1" P.E. Tee 1 - 2"x1" Plastic Tapping Tee - Tracer Wire 2 - Direct Burial Kit 2 - Round Locate Coupon
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25		1	5900	2"x1" PE Reducer
26		1	7807	4"x2" Tapping Tee
27		4	7781	4"x1" Tapping Tee
28		27	10728	Sm. Direct Burial Kit

SEE ATTACHED AS-BUILT

Proposal Scanned: \_\_\_\_\_ Eng Notified: \_\_\_\_\_ Materials: 10/27/05 WO Closed: 10/27/05 Posted: 10/27/05 As-Built Scanned: 10/27/05

"AS-BUILT"

# DISTRIBUTION LINE REPORT

Item No.	Quantity		Stock Code	Description	W/R No.		Project No.	
	Proposed	*As-Built*			263951	00081702		
1		262'	24075 (PPE-205)	1" P.E. Pipe	W/O No.	00001416 & 00001417	City	MOSES LAKE State WA Grid No. (3-4) & 4-4
2			25619	2" P.E. Pipe (Stick)	Blacktop	Concrete Gravel, Rock Sod, Dirt	Initiated by	ARNIE GARZA Date 01/26/07
3		2209'	24083 (PPE-350)	2" P.E. Pipe (Roll)	Prepared by	ARNIE GARZA Date 01/26/07	Approved by	SAM GRANT Date 01/26/07
4			315 (PCA-205)	1" P.E. Cap	Constructed by	STEVE KNUTSON Date 05/30/07	Test Pressure	100 Duration 8 HR By CNG
5	4		331 (PCA-350)	2" P.E. Cap	*As-Built* by	LORI SHIMEK Date 08/31/07	Checked by	KIMOROSE Date 9-4-07
6	2		2824 (PEL-351)	2" 90° P.E. ell.	Const. problems		Pipe P.O. No.	SEE BACK Wire/Soll Pot. -1.140 VDC
7			2329 (EL-360)	2" 90° Weld ell.	Locate No.		Start Date	
8			8528 (SP-352)	2" Weld Line Stopper	FOR GENERAL OFFICE USE ONLY			
9			6569 (SP-356)	2" Weld Line Stopper (Top Tap)	Tax Code No.		Date	
10			8585 (SP-358)	2" Weld Line Stopper (Btm Out)	Posted: Op. Print <input type="checkbox"/>	Orig. <input type="checkbox"/>	Grid <input type="checkbox"/>	CR <input type="checkbox"/>
11			7260 (TE-363)	2" Service Tee	Pipe Condition: Good <input checked="" type="checkbox"/>	Fair <input type="checkbox"/>	Poor <input type="checkbox"/>	Prism: OK <input checked="" type="checkbox"/>
12			6296 (PSA-340)	2" x 2" P.E. Branch Saddle				
13			7682 (PTE-205)	1" x 1" x 1" P.E. Tee				
14	5	5	7690 (PTE-350)	2" x 2" x 2" P.E. Tee				
15			7724 (PTE-353)	2"x1" Plastic Tapping Tee				
16			7740 (PTE-361)	2" Plastic Tapping Tee				
17	4	4	10355 (H-99)	Utility Marker				
18	2	2	10413 (H-105)	Cathodic Test Station				
19			10454 (H-109)	2" Transition Fitting				
20			24133 (H-116)	Tracer Wire				
21			10744 (H-145)	Direct Burial Kit				
22			12732 (H-780)	Round Locate Coupon				

23		4		Consists of:
				- 1" P.E. Pipe
				1 - 1" P.E. Cap
				1 - 2"x1" Plastic Tapping Tee
				- Tracer Wire
				1 - Direct Burial Kit
				1 - Round Locate Coupon

24				Consists of:
				- 1" P.E. Pipe
				2 - 1" P.E. Cap
				1 - 1" x 1" x 1" P.E. Tee
				1 - 2"x1" Plastic Tapping Tee
				- Tracer Wire
				2 - Direct Burial Kit
				2 - Round Locate Coupon

25	1	1	1610	2" ELF Coupling
26	1	1	25981	4"x2" ELF Service Tee
27	22	22	32789 32854	Wire Connector

SEE ATTACHED AS-BUILT

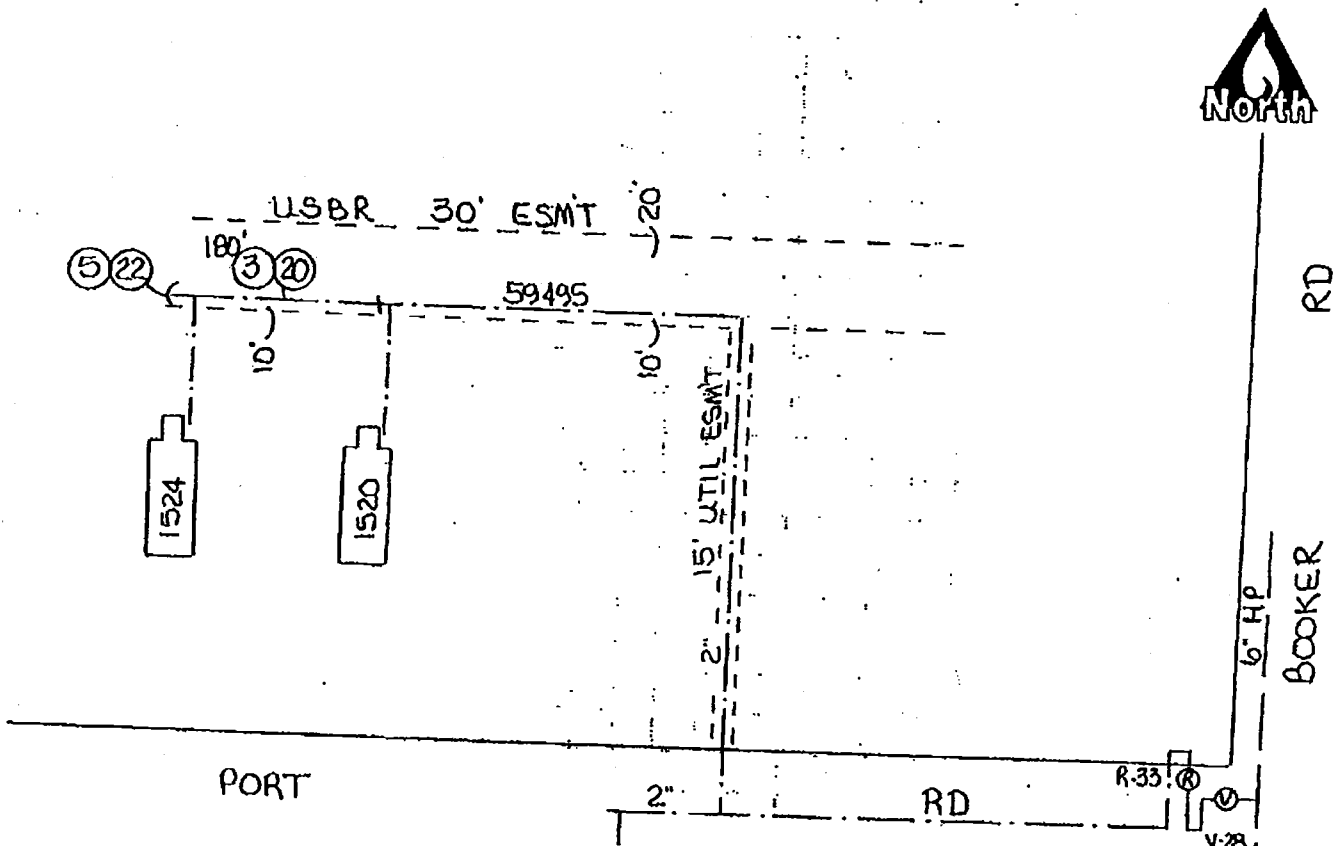


Proposal Scanned:	Eng Notified:	Materials: <input checked="" type="checkbox"/>	WO Closed: <input checked="" type="checkbox"/>	Posted: <input checked="" type="checkbox"/>	As-Built Scanned:
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"AS-BUILT"

# DISTRIBUTION LINE REPORT

Item No.	Quantity		Stock Code	Description	DESCRIPTION	
	Proposed	As-Built			W/O No.	City
1			24075 (PPE-205)	1" P.E. Pipe	175840	OTHELLO
2		6'	25619	2" P.E. Pipe (Sbck)	WA	OTHELLO TRANSMISSION
3		174'	24083 (PPE-350)	2" P.E. Pipe (Roll)	Grid No.	Loop Line, Sheet No. 12
4			316 (PCA-205)	1" P.E. Cap	Blacktop	Concrete Gravel, Rock Sod, Dirt
5			331 (PCA-350)	2" P.E. Cap	Initiated by	ARNIE GARZA Date 6/03/2010
6			2824 (PEL-351)	2" 90° P.E. ell.	Prepared by	ARNIE GARZA Date 6/03/2010
7			2329 (EL-360)	2" 90° Weld ell.	Approved by	MICKY WEST Date 6/07/2010
8			8528 (SP-352)	2" Weld Line Stopper	Constructed by	MICKY WEST Date 7/16/2010
9			8569 (SP-356)	2" Weld Line Stopper (Top Tap)	Test Pressure	90# Duration 1 HR By MICKY WEST
10			6585 (SP-358)	2" Weld Line Stopper (Blm Out)	Pressure Test Method	AIR Date/Time 7/16/2010 1150
11			7260 (TE-383)	2" Service Tee	"As-Built" by	JORI SHIMEK Date 7/28/2010
12			6286 (PSA-340)	2" x 2" P.E. Branch Saddle	Checked by	MICKY WEST Date 8/18/2010
13			7682 (PTE-205)	1" x 1" x 1" P.E. Tee	Const. problems	20' - 30' GAP 2" PE
14			7690 (PTE-350)	2" x 2" x 2" P.E. Tee	Pipe P.O. No.	R-5931 09/10/08 009
15			7724 (PTE-353)	2" x 1" Plastic Tepping Tee	Locate No.	N/A - OPEN TRENCH
16			26967 (PTE-365)	2" x 2" Electrofusion Tap Tee	Start Date	
17			10355 (H-89)	Utility Marker	Time	
18			10413 (H-105)	Cathodic Test Station	Ext. Pipe Condition:	Good <input checked="" type="checkbox"/> Fair <input type="checkbox"/> Poor <input type="checkbox"/> Prism: OK <input checked="" type="checkbox"/>
19			10454 (H-108)	2" Transition Fitting	Int. Pipe Condition:	Good <input checked="" type="checkbox"/> Fair <input type="checkbox"/> Poor <input type="checkbox"/> N/A <input type="checkbox"/> Notified <input type="checkbox"/>
20		210'	24133 (H-115)	Tracer Wire	FOR GENERAL OFFICE USE ONLY	
21		2	H-1030/H-1040	Direct Burial Kit	Tax Code No.	
22		1	12732 (H-760)	Round Locate Coupon	Posted: Op. Print <input type="checkbox"/> Orig. <input type="checkbox"/> Grid <input type="checkbox"/> CR <input type="checkbox"/> DA <input type="checkbox"/>	



Proposal Scanned:	Eng Notified:	Materials:	WO Closed:	Posted:	As-Built Scanned:
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"AS-BUILT"



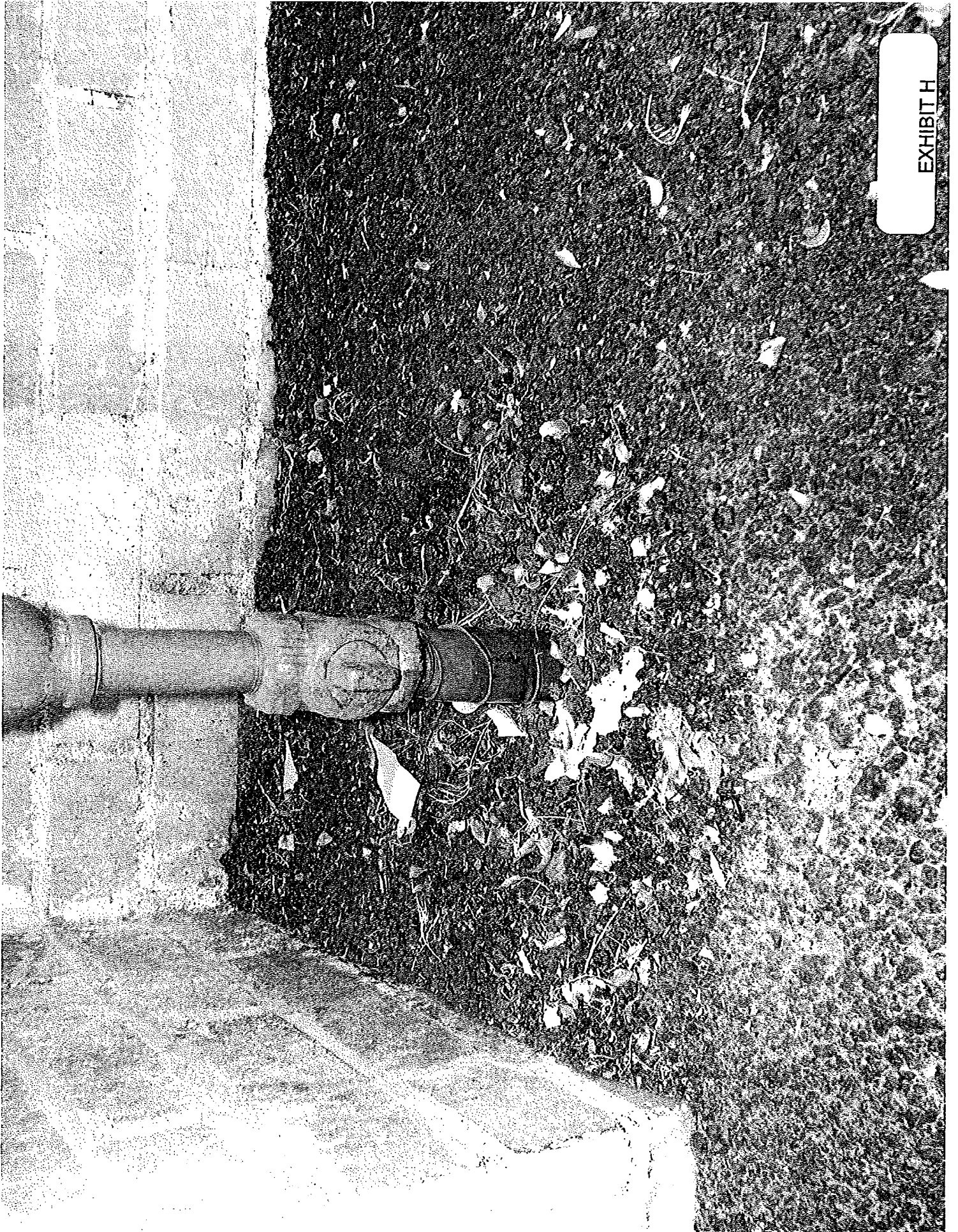
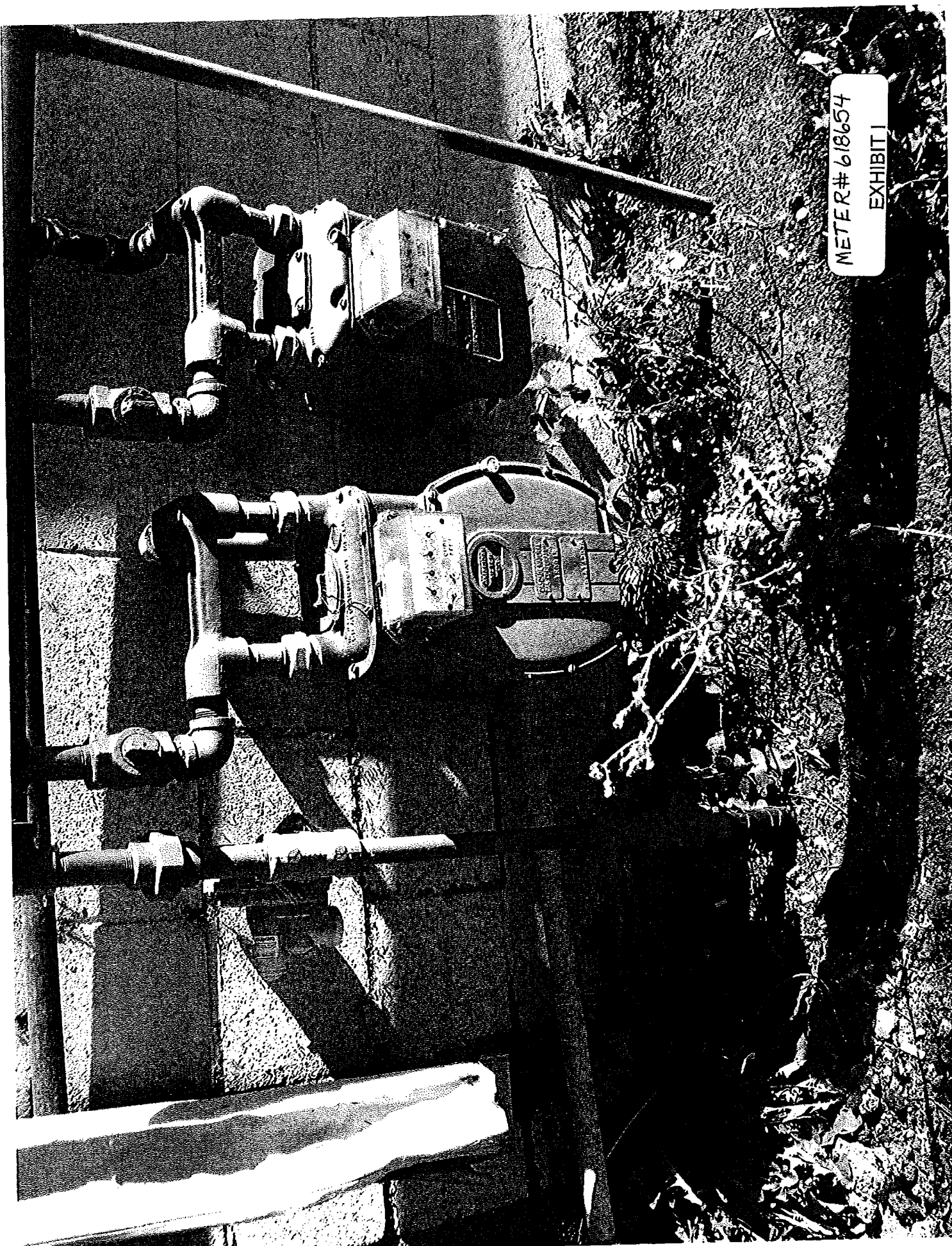
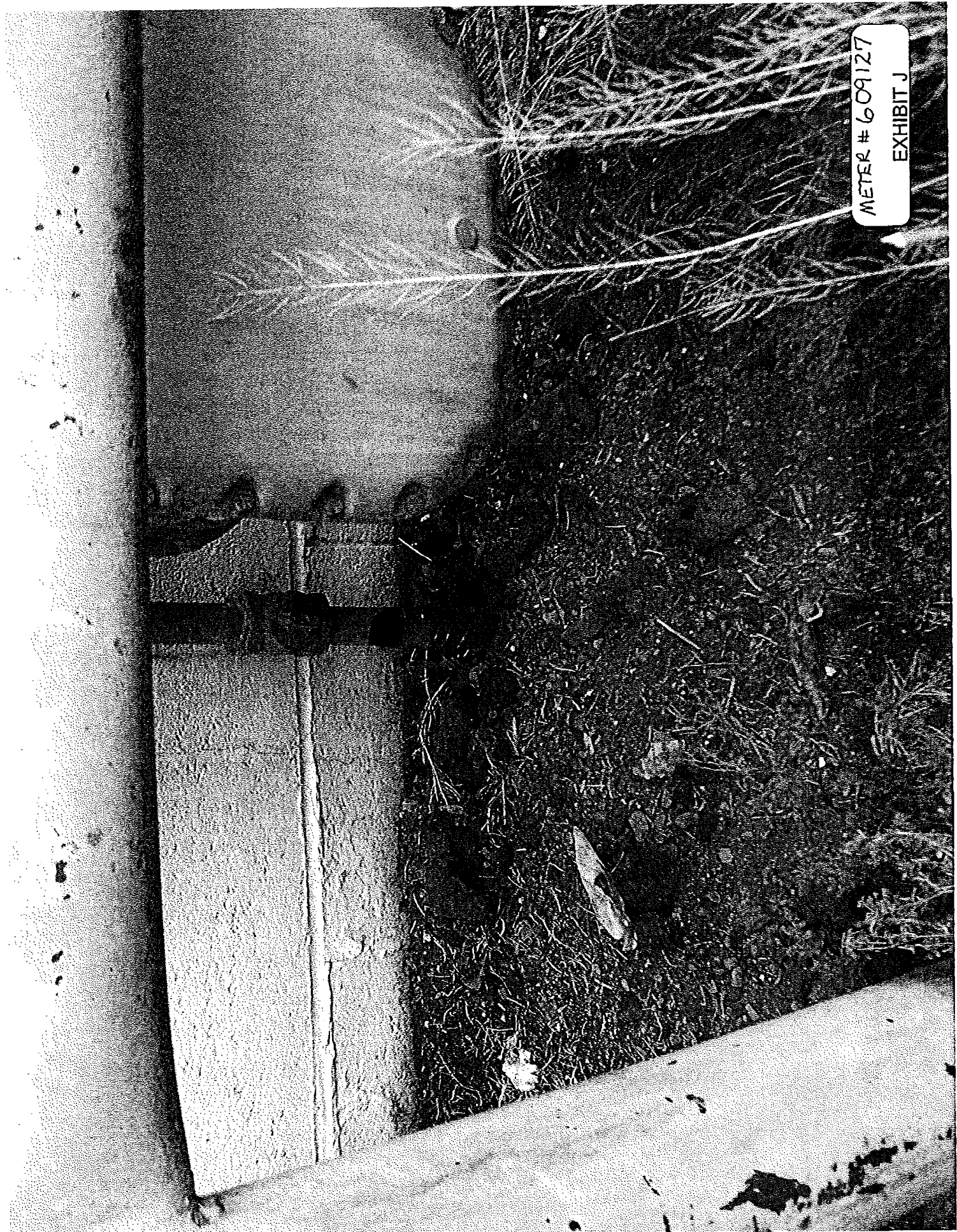


EXHIBIT H

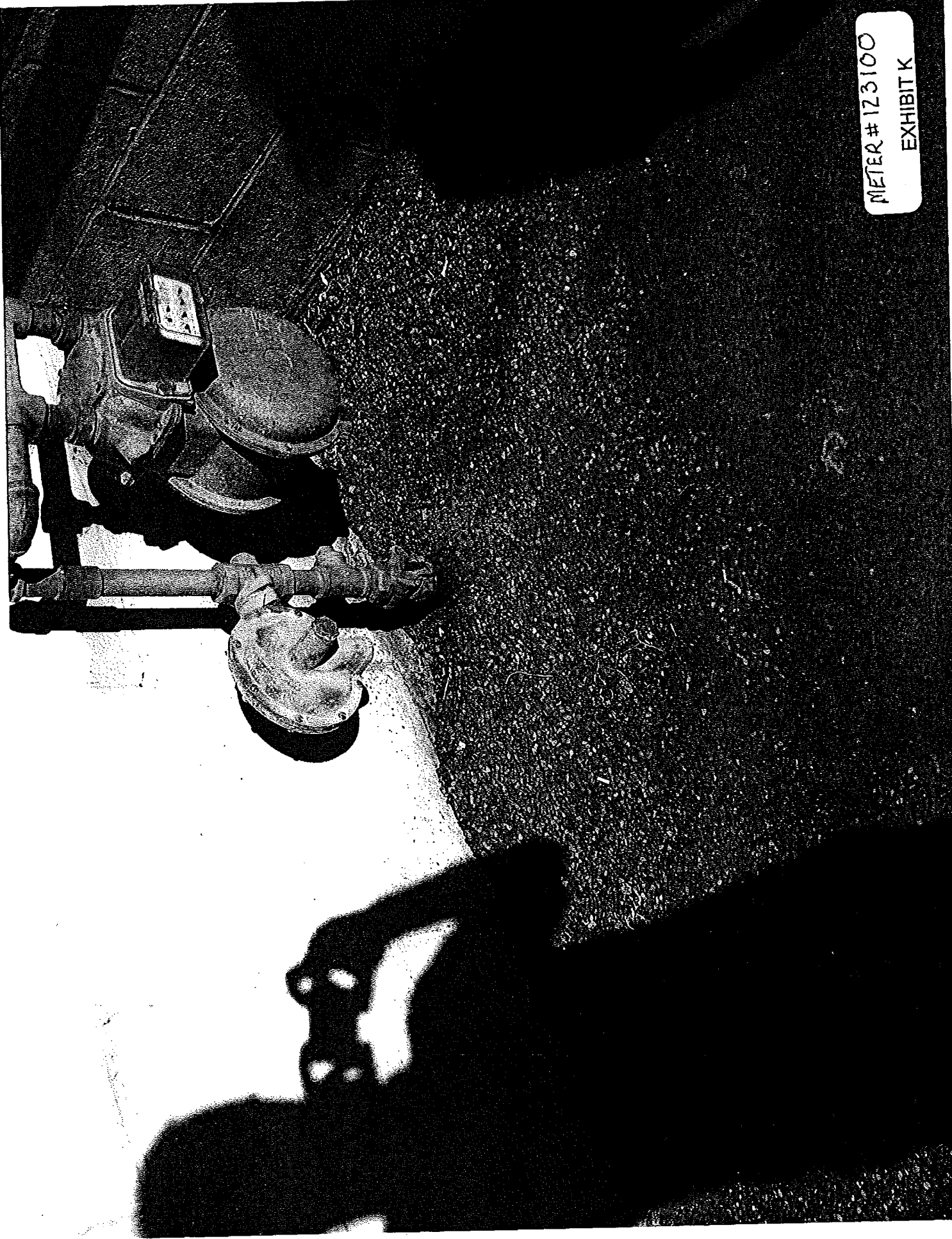
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EXHIBIT I



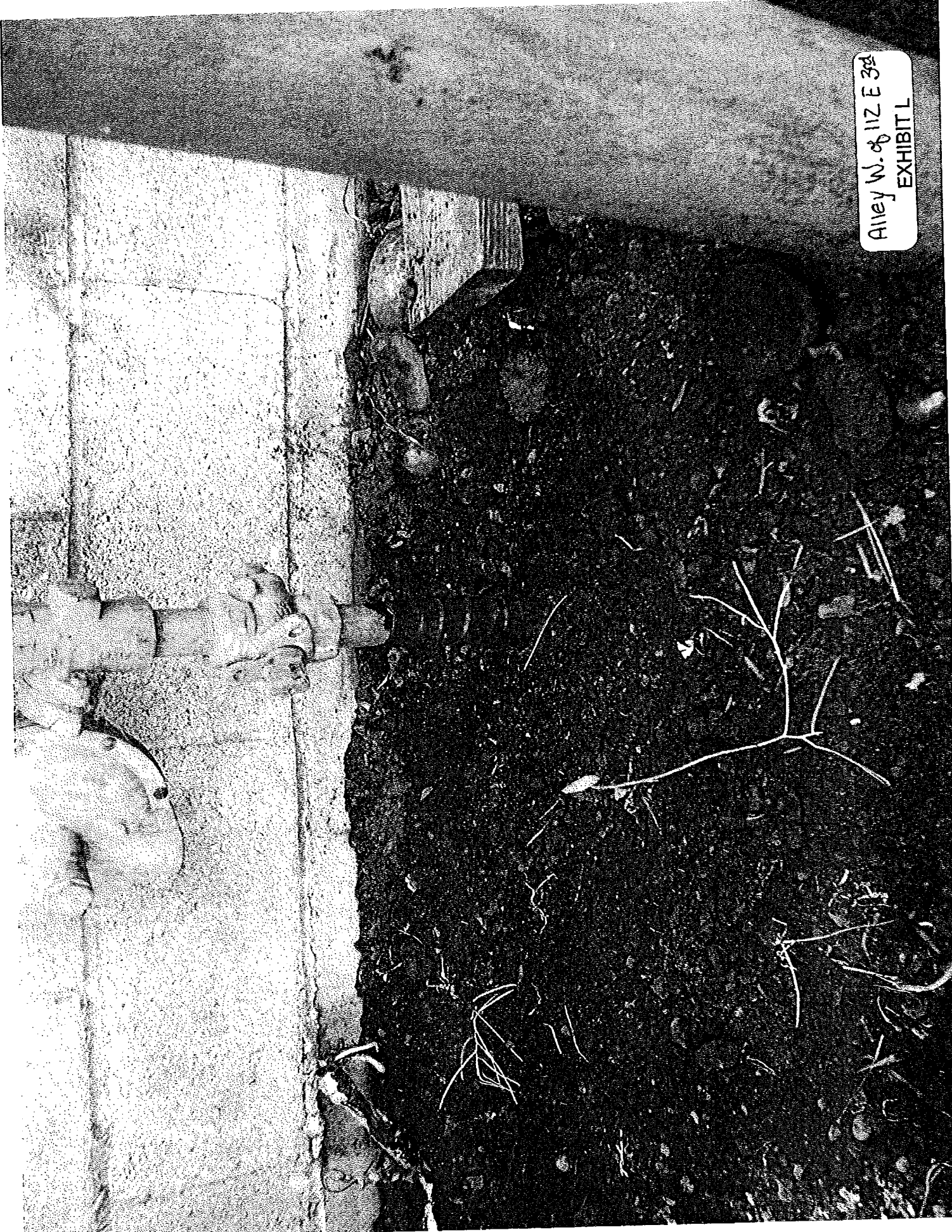
METER # 609127  
EXHIBIT J



METER # 123100  
EXHIBIT K



Alley W. of 112 E 3rd  
EXHIBIT L





117 W. Broadway  
EXHIBIT M



## CENTRAL SURVEYS, INC.

P.O. BOX 100 • 111 NORTH ELM STREET  
SHENANDOAH, IOWA 51601

PHONE: 712-246-1630

FAX: 712-246-5420

E-MAIL: [csinc@centralsurveys.com](mailto:csinc@centralsurveys.com)

### CASCADE NATURAL GAS

*Gas Pipeline Safety Awareness (RP1162)*

*Summary of (Mail) Survey Findings*

*Received at CSI: 4/19 - 6/4, 2010*

"Helping people to understand people...since 1937"

[www.centralsurveys.com](http://www.centralsurveys.com)

EXHIBIT N

## EXECUTIVE SUMMARY

The table below summarizes findings on key questions about pipeline safety, showing responses based on the Affected Public survey for Cascade Gas and comparing answers to the Central Surveys Average based on similar surveys. Shaded areas in the table indicate differences that are statistically significant at the 95 percent confidence level.

		CSI Average	Cascade Gas
		(%)	(%)
Q.1:	Aware of information about pipeline safety from gas utility	27	30
Q.4:	Have discussed information about pipeline safety	22	21
Q.5:	Have tried to obtain information about pipeline safety	8	7
Q.9:	What would you do if you were the first to notice damage to a natural gas pipeline such as a pipeline break or gas leak? <sup>2</sup>		
	Call 911	45	80
	Call local natural gas company/pipeline operator	64	55
	Warn the neighbors	15	50
	Flee the area/leave the house	26	43
	Call the fire department	12	31
Q.10:	What action would you take, if any, before digging holes for fence posts or to plant a tree on your property?		
	Call ONE CALL/"Call Before You Dig"/811	43	30
	Call the local gas utility	42	44
Q.11:	Aware of ONE CALL	73	32
Q.12:	Know where to find ONE CALL number	46	26
Q.13:	Have called ONE CALL	38	14

<sup>2</sup> Differences on Question 9 may be due to differences in survey administration when comparing Cascade Gas findings with the Central Surveys Average.



		CSI Average	Cascade Gas
		(%)	(%)
Q.14:	Have reported digging or suspicious or worrisome activity near a pipeline	6	7
Q.15:	Have encountered a damaged pipeline	11	9
Q.16:	How would you rate your local gas utility for keeping the public informed about pipeline safety?		
	Excellent or good (5,4)	47	28
	Adequate or neutral (3)	29	34
	Not so good or poor (2,1)	17	33
	Don't know or no answer	8	5
Q.17:	What would be the best way for a natural gas utility to get information to you about pipeline safety?		
	Bill insert/pamphlet/brochure	54	61
	TV	43	54
	Newspaper	20	30
	Radio	16	27
	Telephone call	10	11
	E-mail	7	17
	Billboard	6	8
	In-person visit with utility employee	6	13
	Internet/web site	5	10
	Mailings, letters separate from bill	10	2

Cascade Gas is rated significantly less favorably than the Central Surveys Average for other natural gas utilities for keeping the public informed (Q.16). The survey results should provide direction for more effectively communicating with customers about pipeline safety.

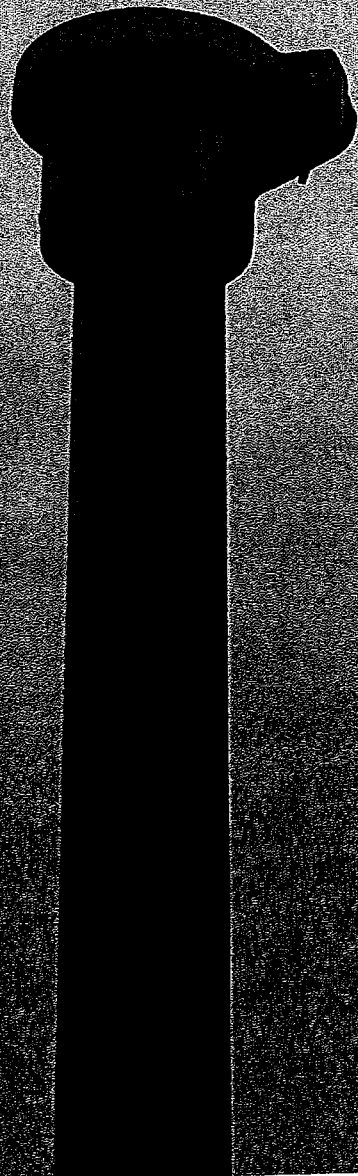


EXHIBIT P

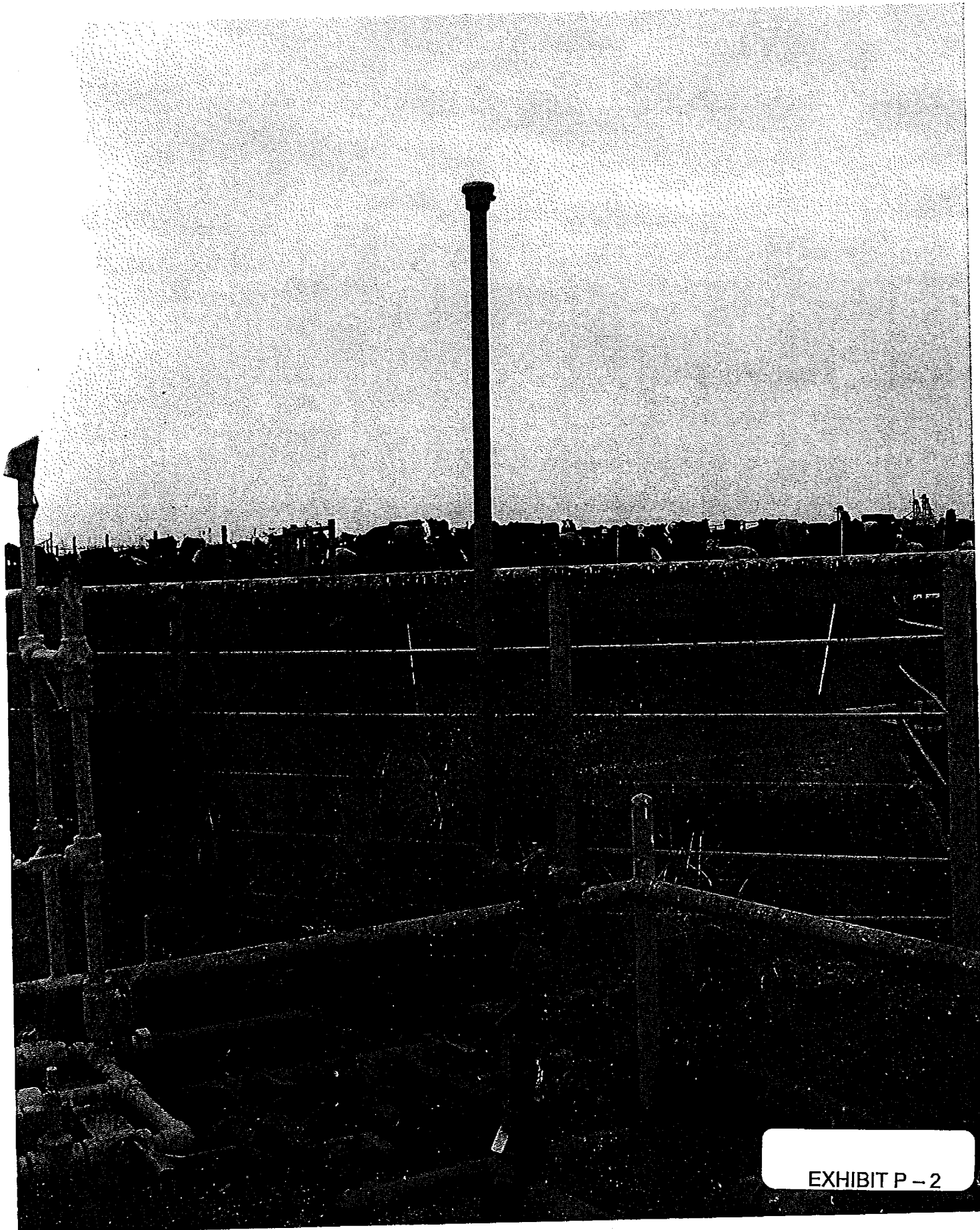


EXHIBIT P - 2

First Choice Health™

Healthy Employees. Healthy Companies.™

Employee Assistance Program

# Certificate of Completion

Sam Grant of Cascade Natural Gas  
Department of Transportation Drug & Alcohol Training

Completed on August 29, 2007

Authorized Signature



Director, First Choice Health

Employee Assistance Program

FirstChoiceEap.com

800 777 4114



▶ Welcome ▶ Admin ▶ Reports ▶ All Admin Reports ▶ Activity Report

**Select Employees** Save Report Export to MS-Word Export to Excel

Facilities (Users Assigned): **MOSES LAKE (6)**

Groups (Users Assigned): **- Filter by Groups -**

User Status: **Active**

Language: **Both**

Select Employees: **EDSON, LAURENCE, GRANT, SAM, KNUTSON, STEVEN, MOODY, JASON, NICHOLAS, CLIFFORD, WEST, MICKEY.**

Press Ctrl + Click to select multiple employees

Show: **Cascade Natural Gas Corporation Evals**

Select Evaluation Type: **All Evaluations**

Select Evaluations: **- Select All Evaluations -**  
 6238 - 1010DOT - Remote Emergency Shutdown - KB Pipeline  
 6239 - 1011DOT - Remote Operation of PGE Meter Set - KB Pipeline  
 6240 - 1012DOT - Remote Operation of NNG Meter Set - KB Pipeline  
 6241 - 1015DOT - KB Pipeline - Epoxy Coating Application  
**6242 - 1020DOT - Manual Heater Plate Fusion**  
 6243 - 1022DOT - Hydraulic Heater Plate Fusion  
 6245 - 1025DOT - Electrofusion  
 10411 - 1030DOT - Mechanical Joints of Steel Pipe  
 6247 - 1040DOT - Mechanical Joints of Plastic Pipe

Press Ctrl + Click to select multiple evaluations

Report Date Range: From: **04/28/2007** To: **10/28/2010**

Status: **All Qualifications/Trainings**

Evaluator / Proctor: **- Select All -**

**Run Report**

• WEST, MICKEY

**Activity during 04/28/2007 - 10/28/2010**



Title - ID	Type	Date	Status	Score	Certificate	Evaluator / Proctor	Test Sheet
1020DOT - Manual Heater Plate Fusion - 6242	P/E	2/14/2008	Passed	100		DANKO, WILLIAM N	N/A
1020DOT - Manual Heater Plate Fusion - 6242	P/E	1/26/2009	Passed	100		CLEMENSON, WINFRED	N/A

\* = 3rd. Party Evaluator

*Activity Report*

EXHIBIT R

10/28/2010

1020DOT - Manual Heater Plate Fusion - 6242	P/E	12/14/2009	Passed	100		CLEMENSON, WINFRED	N/A
1020DOT - Manual Heater Plate Fusion - 6242	P/E	8/9/2010	Passed	100		CLEMENSON, WINFRED	N/A

 Back 

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# WEST, MICKEY

1020DOT - MAN HEATER PLATE FUSION (Contact DIV)				Qualified
Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified
Cascade - Performance	1020DOT - Manual Heater Plate Fusion - 6242	8/9/2010	8/9/2011	OV

1025DOT - ELECTROFUSION (Contact DIV)				Qualified
Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified
Cascade - Performance	1025DOT - Electrofusion - 6245	8/9/2010	8/9/2011	OV

1030DOT - MECHANICAL JOINTS OF STEEL PIPE (Classroom)				Qualified
Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified
Cascade - Performance	1030DOT - Mechanical Joints of Steel Pipe - 10411	2/23/2010	2/23/2013	OV

1040DOT - MECHANICAL JOINTS OF PE PIPE (Online - GM PE)				Qualified
Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified
Cascade - Performance	1040DOT - Mechanical Joints of Plastic Pipe - 6247	9/8/2010	9/8/2011	OV
Cascade - Written	1040DOT - Mechanical Joints of Plastic Pipe - 10106	2/2/2010	2/2/2013	OV

1080DOT - REPAIR OF DAMAGED PIPE (Classroom)				Qualified
Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified
Cascade - Performance	1080DOT - Repair of Damaged Pipe - 6249	2/23/2010	2/23/2013	OV

1100DOT - PIPE SUPPORT IN EXCAVATIONS ((Online - No PE))				Qualified
Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified
Cascade - Performance	1100DOT - Pipe Support in Excavations - 6250	3/27/2007	Expired	OV

OR

Cascade - Written	1100DOT - Pipe Support in Excavations - 11185	2/24/2010	2/24/2013	OV
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1180DOT - MINIMUM COVER AND CLEARANCES FOR INSTALLED PIPE ((Online - No PE))				Qualified
Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified
Cascade - Performance	1180DOT - Minimum Cover and Clearances for Installed Pipe - 6254	3/27/2007	3/27/2011	OV

OR

Cascade - Written	1180DOT - Minimum Cover and Clearances for	9/23/2008	9/23/2012	OV
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Installed Pipe - 11188

**1200DOT - METER LOC/CLEARANCES FROM STRUCTURES (Online - No PE)** Qualified

Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified
Cascade - Written	1200DOT - Meter Location and Clearance From Other Structures - 9961	3/6/2007	3/6/2011	OV

**1260DOT - COATING PROTECTION OF ABOVE GROUND STRUCTURES ((Online - No PE))** Qualified

Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified
Cascade - Written	1260DOT - Coating Protection of Above Ground Structures - 11075	9/23/2008	9/23/2013	OV

OR

Cascade - Performance	1260DOT - Coating Protection of Above Ground Structures - 6258	3/27/2007	3/27/2012	OV
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**1280DOT - COLD APPLIED TAPE (Online - GM PE)** Qualified

Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified
Cascade - Performance	1280DOT - Cold Applied Tape - 6259	3/4/2010	3/4/2013	OV
Cascade - Written	1280DOT - Cold Applied Tape - 9991	2/2/2010	2/2/2013	OV

**1320DOT - PIPE TO SOIL READS ((Online - No PE))** Qualified

Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified
Cascade - Written	1320DOT - Pipe to Soil Reads - 11084	9/26/2008	9/26/2012	OV

OR

Cascade - Performance	1320DOT - Pipe to Soil Reads - 6261	3/28/2007	3/28/2011	OV
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**1340DOT - CATHODIC PROTECTION TEST LEADS TO PIPE LINES (Classroom)** Qualified

Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified
Cascade - Performance	1340DOT - Cathodic Protection Test Leads to Pipe Lines - 6262	3/27/2007	3/27/2012	OV

**1385DOT - ID OF CORROSION - ABOVE GROUND (Online - No PE)** Qualified

Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified
Cascade - Written	1385DOT - Identification of Corrosion - Above Ground - 9735	10/25/2010	10/25/2014	OV

**1390DOT - ID OF CORROSION - BELOW GROUND (Online - No PE)** Qualified



Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified
Cascade - Written	1390DOT - Identification of Corrosion - Below Ground - 9727	3/8/2007	3/8/2011	OV
<b>1420DOT - TESTING OF NEW AND REPLACEMENT LINES (Classroom)</b>			Qualified	
Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified
Cascade - Performance	1420DOT - Testing of New and Replacement Lines - 6265	3/27/2007	3/27/2011	OV
<b>1440DOT - LOCATING AND MARKING LINES (Classroom)</b>			Qualified	
Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified
Cascade - Performance	1440DOT - Locating and Marking Lines - 6266	9/27/2007	9/27/2012	OV
<b>1460DOT - INSPECTION OF EXCAVATING NEAR LINES ((Online - GM PE))</b>			Qualified	
Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified
Cascade - Performance	1460DOT - Inspection of Excavating Near Lines (GM Sign-Off Form) - 10352	3/27/2007	Non Expiring	OV
Cascade - Written	1460DOT - Inspection of Excavating Near Lines - 11082	9/26/2008	9/26/2012	OV
<b>OR</b>				
Cascade - Performance	1460DOT - Inspection of Excavating Near Lines - 6267	3/26/2007	3/26/2011	OV
Cascade - Performance	1460DOT - Inspection of Excavating Near Lines (GM Sign-Off Form) - 10352	3/27/2007	Non Expiring	OV
<b>1480DOT - ODORIZATION - INJECTION (Contact GAS MSMNT)</b>			Qualified	
Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified
Cascade - Performance	1480DOT - Odorization, Injection - 6268	7/22/2010	7/22/2015	OV
<b>1500DOT - ODORIZATION - BYPASS (Contact GAS MSMNT)</b>			Qualified	
Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified
Cascade - Performance	1500DOT - Odorization, By-Pass - 6269	7/22/2009	7/22/2014	OV
<b>1520DOT - ODORIZATION - SNIFF TESTS (Contact GAS MSMNT)</b>			Qualified	
Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified
Cascade - Performance	1520DOT - Odorization, Sniff Tests - 6270	7/22/2009	7/22/2014	OV

**1540DOT - QUALIF FOR TAPPING BY DIST AND CONTRACTORS** Qualified  
 (Online - DIV PE)

Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified
Cascade - Performance	1540DOT - Qualification for Tapping by Districts and Contractors - 8369	6/29/2009	6/29/2012	OV
Cascade - Written	1540DOT - Qualification for Tapping by Districts and Contractors - 9359	6/11/2009	6/11/2012	OV

**1580DOT - CLEANING, PURGING AND PACKING LINES** Qualified  
 (Classroom)

Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified
Cascade - Performance	1580DOT - Cleaning, Purging and Packing Lines - 6273	2/23/2010	2/23/2013	OV

**1600DOT - LINE PATROLLING AND LEAK SURVEYS (Classroom)** Qualified

Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified
Cascade - Performance	1600DOT - Line Patrolling, Leakage Surveys, Flame Pack - 6274	5/7/2007	5/7/2012	OV

**1610DOT - LEAK INVESTIGATION (Classroom)** Qualified

Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified
Cascade - Performance	1610DOT - Leak Investigation - 6307	2/23/2010	2/23/2013	OV

**1620DOT - ANNUAL INSP & RESP TO REGS & BLOWING RLF** Qualified  
 (Classroom)

Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified
Cascade - Performance	1620DOT - Annual Inspection & Response to Blowing Regs. and Reliefs - 6276	4/27/2010	4/27/2013	OV

**1625DOT - BYPASSING REGULATORS (Classroom)** Qualified

Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified
Cascade - Performance	1625DOT - Bypassing Regulators - 6277	2/2/2009	2/2/2014	OV

**1635DOT - 10 YEAR REG REBUILD (Classroom)** Qualified

Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified
Cascade - Performance	1635DOT - 10 Year Regulator Rebuild - 6279	4/27/2010	4/27/2013	OV

**1640DOT - TRANSMISSION AND DISTRIBUTION VALVE MAINT** Qualified  
 (Classroom)

Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified
Cascade - Performance	1640DOT - Transmission	2/23/2010	2/23/2013	OV

and Distribution Valve  
Maintenance - 6280

**1660DOT - VAULT INSPECTION (Classroom)**

Qualified

Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified
Cascade - Performance	1660DOT - Vault Inspection - 6281	2/23/2010	2/23/2013	OV

**1910DOT - PIPE-PIT GAGE USE (Online - GM PE)**

Qualified

Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified
Cascade - Written	1910DOT - Pipe Pit Gage Use - 9927	2/8/2007	2/8/2012	OV
Cascade - Performance	1910DOT - Pipe Pit Gage Use - 9933	12/7/2009	12/7/2014	OV

**2000DOT - VISUAL INSP OF PROD WELDS (Online - No PE)**

Qualified

Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified
Cascade - Written	2000DOT - Visual Inspection of Production Welds - 10826	9/24/2008	9/24/2011	OV

**3005CNG - COMPETENT PERSON (Online - GM PE)**

Qualified

Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified
Cascade - Performance	3005CNG - Competent Person - 6289	5/26/2010	5/26/2013	OV
Cascade - Written	3005CNG - Competent Person - 10020	2/2/2010	2/2/2013	OV

**3010CNG - PROPERTIES OF CARBON MONOXIDE (Classroom)**

Qualified

Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified
Cascade - Performance	3010CNG - Properties of Carbon Monoxide - 6290	5/13/2008	5/13/2013	OV

**3015CNG - CARBON MONOXIDE INVESTIGATION (Classroom)**

Qualified

Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified
Cascade - Performance	3015CNG - Carbon Monoxide Investigation - 6291	5/13/2008	5/13/2013	OV

**3020CNG - CARBON MONOXIDE DETECTORS - RESIDENTIAL (Classroom)**

Qualified

Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified
Cascade - Performance	3020CNG - Carbon Monoxide Detectors/ Residential - 6292	5/13/2008	5/13/2013	OV

**3030CNG - COMBUSTION AIR REGULATIONS (Classroom)**

Qualified

Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified
Cascade - Performance	3030CNG - Combustion Air Regulations - 6293	12/3/2008	12/3/2013	OV

<b>3040CNG - THERMOCOUPLE, POWER UNITS AND HOT SURF IGN (Classroom)</b>					Qualified
Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified	
Cascade - Performance	3040CNG - Thermocouple, Power Units and Hot Surface Ignitors - 6294	12/3/2008	12/3/2013	OV	
<b>3070CNG - PROPERTIES OF NATURAL GAS (Classroom)</b>					Qualified
Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified	
Cascade - Performance	3070CNG - Properties of Natural Gas - 6297	6/21/2006	6/21/2011	OV	
<b>3100CNG - CLOCKING METERS / APPLIANCES BTU INPUT (Classroom)</b>					Qualified
Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified	
Cascade - Performance	3100CNG - Clocking Meters / Appliances BTU Input - 6300	12/3/2008	12/3/2013	OV	
<b>3110CNG - IS-100.PW BASIC INCDNT CMD SYS (Contact GM)</b>					Qualified
Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified	
Cascade - Performance	3110CNG - IS-100.PW Basic Incident Command System - 6301	7/29/2010	7/29/2015	OV	
<b>3120CNG - SUPPLIED AIR TRAINING (Classroom and FIT TEST PE)</b>					Qualified
Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified	
Cascade - Performance	3120CNG - Supplied Air Classroom Training - 6303	4/27/2010	4/27/2011	OV	
Cascade - Performance	3120CNG - Supplied Air Medical Certificate - 8691	7/1/2001	Non Expiring	OV	
Cascade - Performance	3120CNG - Supplied Air Fit Test - 9354	4/27/2010	4/27/2011	OV	
<b>3140CNG - BACKHOE OPERATION (Online - DIV PE)</b>					Qualified
Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified	
Cascade - Written	Backhoe Operation Part 1 - 6091	10/7/2009	10/7/2012	OV	
Cascade - Written	Backhoe Operations Part 2 - 6092	10/7/2009	10/7/2012	OV	
Cascade - Written	Backhoe Operations Part 3 - 6093	10/8/2009	10/8/2012	OV	
Cascade - Performance	3140CNG - Backhoe Operation - 6305	11/24/2009	11/24/2012	OV	
<b>3150CNG - FORKLIFT OPERATION (Online - DIV PE)</b>					Qualified
Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified	

Cascade - Performance	3150CNG - Forklift Operation - 6306	11/24/2009	11/24/2012	OV
Cascade - Written	3150CNG - Forklift Operation - 9399	10/8/2009	10/8/2012	OV
<b>3170CNG - DRIVING INSTRUCTION (Contact GM-GM PE)</b>				Qualified
Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified
Cascade - Performance	3170CNG - Driving Instruction - 6308	6/28/2007	Non Expiring	OV
<b>3180CNG - CDL QUALIFICATION (Contact GM)</b>				Qualified
Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified
Cascade - Performance	3180CNG - CDL Qualification - 6309	4/9/2009	4/9/2013	OV
Cascade - Performance	3180CNG - CDL Medical Certificate - 8692	4/9/2009	4/9/2011	OV
<b>3200CNG - TRAFFIC CONTROL FLAGGING AND SIGNAGE CERTIF (Contact GM)</b>				Qualified
Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified
Cascade - Performance	3200CNG - Traffic Control Flagging and Signage Certification - 6310	1/25/2010	1/25/2013	OV
<b>3500CNG - FIRST AID AND CPR CERTIF (Contact GM)</b>				Qualified
Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified
Cascade - Performance	3500CNG - First Aid and CPR Certification - 6312	6/10/2009	6/10/2012	OV

**CASCADE NATURAL GAS CORPORATION  
FUSION PERMIT**

Qual. Date: **Aug 9, 2010**

Expir. Date: **Aug 9, 2011**

Name: **Mickey West**

Test due: Jun 10, 2011

District/Contractor: **Wenatchee**

Qual. Type:  **Heater Plate**       **Electrofusion**

Weld Test Supervisor

*Winfred H. Chavira*

CNG 192  
1/00

For use only by Cascade Natural Gas Corporation  
Not for identification or proof of qualification

### Qualifying Tests

#### Heater Plate Fusion

5/8" Butt Fusion  
1" Butt Fusion  
2" Butt Fusion  
4" Butt Fusion  
1" on 2" Tee Sidewall Fusion  
2" on 2" Tee Sidewall Fusion

Note: This qualifies the fuser on plastic pipe and fittings up to and including 4" diameter.

#### Electrofusion

2" Coupling Butt Fusion  
1" on 2" Tee Sidewall Fusion

Note: This qualifies the fuser on all sizes of plastic pipe and types of fittings.

Date mailed: **Oct 28, 2010**



>Welcome > Admin > Reports > All Admin Reports > Activity Report

**Select Employees**

[Save Report](#)   [Export to MS-Word](#)   [Export to Excel](#)

Facilities (Users Assigned): WENATCHEE (5)

Groups (Users Assigned): - Filter by Groups -

User Status: Active

Language: Both

Select Employees: GILLIN, SCOTT,  
GOETZINGER, ERNEST,  
**KUNKEL, ANDREW,**  
SHIMEK, LORA,  
VALDEZ, MARI,

Press Ctrl + Click to select multiple employees

Show: Cascade Natural Gas Corporation Evals

Select Evaluation Type: All Evaluations

Select Evaluations: - Select All Evaluations -  
6238 - 1010DOT - Remote Emergency Shutdown - KB Pipeline  
6239 - 1011DOT - Remote Operation of PGE Meter Set - KB Pipeline  
6240 - 1012DOT - Remote Operation of NNG Meter Set - KB Pipeline  
6241 - 1015DOT - KB Pipeline - Epoxy Coating Application  
6242 - 1020DOT - Manual Heater Plate Fusion  
6243 - 1022DOT - Hydraulic Heater Plate Fusion  
6245 - 1025DOT - Electrofusion  
10411 - 1030DOT - Mechanical Joints of Steel Pipe  
6247 - 1040DOT - Mechanical Joints of Plastic Pipe

Press Ctrl + Click to select multiple evaluations

Report Date Range: From: 04/28/2007 To: 6/28/2010

Status: All Qualifications/Trainings

Evaluator / Proctor: - Select All -

**Run Report**



• KUNKEL, ANDREW

Activity during 04/28/2007 - 6/28/2010

Title - ID	Type	Date	Status	Score	Certificate	Evaluator / Proctor	Test Sheet
2000DOT - Visual Inspection of Production Welds - 10826	W/E	9/24/2007 6:15:50 PM	Failed	75	N/A	N/A	
2000DOT - Visual Inspection of Production Welds - 10826	W/E	9/25/2007 11:29:32 AM	Failed	67	N/A	N/A	

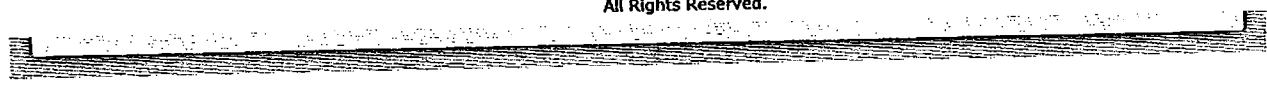
\* = 3rd. Party Evaluator

Activity Report  
EXHIBIT U  
6/28/2010

2000DOT - Visual Inspection of Production Welds - 10826	W/E	9/26/2007 10:14:37 AM	Passed	83		N/A	
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[Back](#)

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# KUNKEL, ANDREW

## 1020DOT - MAN HEATER PLATE FUSION (Contact DIV) Qualified

Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified
Cascade - Performance	1020DOT - Manual Heater Plate Fusion - 6242	8/10/2009	8/10/2010	OV

## 1025DOT - ELECTROFUSION (Contact DIV) Qualified

Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified
Cascade - Performance	1025DOT - Electrofusion - 6245	8/10/2009	8/10/2010	OV

## 1030DOT - MECHANICAL JOINTS OF STEEL PIPE (Classroom) Qualified

Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified
Cascade - Performance	1030DOT - Mechanical Joints of Steel Pipe - 10411	3/18/2010	3/18/2013	OV

## 1040DOT - MECHANICAL JOINTS OF PE PIPE (Online - GM PE) Qualified

Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified
Cascade - Performance	1040DOT - Mechanical Joints of Plastic Pipe - 6247	9/24/2009	9/24/2010	OV
Cascade - Written	1040DOT - Mechanical Joints of Plastic Pipe - 10106	1/11/2010	1/11/2013	OV

## 1080DOT - REPAIR OF DAMAGED PIPE (Classroom) Qualified

Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified
Cascade - Performance	1080DOT - Repair of Damaged Pipe - 6249	3/18/2010	3/18/2013	OV

## 1100DOT - PIPE SUPPORT IN EXCAVATIONS ((Online - No PE)) Qualified

Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified
Cascade - Performance	1100DOT - Pipe Support in Excavations - 6250	3/27/2007	Expired	OV

OR

Cascade - Written	1100DOT - Pipe Support in Excavations - 11185	2/17/2010	2/17/2013	OV
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## 1180DOT - MINIMUM COVER AND CLEARANCES FOR INSTALLED PIPE ((Online - No PE)) Qualified

Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified
Cascade - Performance	1180DOT - Minimum Cover and Clearances for Installed Pipe - 6254	3/27/2007	3/27/2011	OV
<b>OR</b>				
Cascade - Written	1180DOT - Minimum Cover and Clearances for Installed Pipe - 11188	Not Completed	Not Completed	OV
<b>1200DOT - METER LOC/CLEARANCES FROM STRUCTURES (Online - No PE)</b>			Qualified	
Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified
Cascade - Written	1200DOT - Meter Location and Clearance From Other Structures - 9961	3/12/2007	3/12/2011	OV
<b>1260DOT - COATING PROTECTION OF ABV GROUND STRUCTURES ((Online - No PE))</b>			Qualified	
Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified
Cascade - Written	1260DOT - Coating Protection of Above Ground Structures - 11075	Not Completed	Not Completed	OV
<b>OR</b>				
Cascade - Performance	1260DOT - Coating Protection of Above Ground Structures - 6258	3/27/2007	3/27/2012	OV
<b>1280DOT - COLD APPLIED TAPE (Online - GM PE)</b>			Qualified	
Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified
Cascade - Performance	1280DOT - Cold Applied Tape - 6259	12/16/2009	12/16/2012	OV
Cascade - Written	1280DOT - Cold Applied Tape - 9991	12/15/2009	12/15/2012	OV
<b>1320DOT - PIPE TO SOIL READS ((Online - No PE))</b>			Qualified	
Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified
Cascade - Written	1320DOT - Pipe to Soil Reads - 11084	Not Completed	Not Completed	OV
<b>OR</b>				
Cascade -	1320DOT - Pipe to Soil	3/28/2007	3/28/2011	OV

Performance

Reads - 6261

**1340DOT - CATHODIC PROTECTION TEST LEADS TO PIPE LINES (Classroom)** Qualified

Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified
Cascade - Performance	1340DOT - Cathodic Protection Test Leads to Pipe Lines - 6262	3/27/2007	3/27/2012	OV

**1385DOT - ID OF CORROSION - ABOVE GROUND (Online - No PE)** Qualified

Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified
Cascade - Written	1385DOT - Identification of Corrosion - Above Ground - 9735	12/8/2009	12/8/2013	OV

**1390DOT - ID OF CORROSION - BELOW GROUND (Online - No PE)** Qualified

Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified
Cascade - Written	1390DOT - Identification of Corrosion - Below Ground - 9727	12/15/2006	12/15/2010	OV

**1420DOT - TESTING OF NEW AND REPLACEMENT LINES (Classroom)** Qualified

Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified
Cascade - Performance	1420DOT - Testing of New and Replacement Lines - 6265	3/27/2007	3/27/2011	OV

**1440DOT - LOCATING AND MARKING LINES (Classroom)** Qualified

Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified
Cascade - Performance	1440DOT - Locating and Marking Lines - 6266	10/10/2007	10/10/2012	OV

**1460DOT - INSPECTION OF EXCAVATING NEAR LINES ((Online - GM PE))** Qualified

Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified
Cascade - Performance	1460DOT - Inspection of Excavating Near Lines (GM Sign-Off Form) - 10352	3/27/2007	Non Expiring	OV
Cascade - Written	1460DOT - Inspection of Excavating Near Lines - 11082	12/10/2009	12/10/2013	OV

**OR**

Cascade - Performance	1460DOT - Inspection of Excavating Near Lines - 6267	3/26/2007	3/26/2011	OV
Cascade - Performance	1460DOT - Inspection of Excavating Near Lines (GM Sign-Off Form) - 10352	3/27/2007	Non Expiring	OV

**1480DOT - ODORIZATION - INJECTION (Contact GAS MSMNT)** Not Qualified

Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified
Cascade - Performance	1480DOT - Odorization, Injection - 6268	Not Completed	Not Completed	OV

**1500DOT - ODORIZATION - BYPASS (Contact GAS MSMNT)** Qualified

Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified
Cascade - Performance	1500DOT - Odorization, By-Pass - 6269	9/20/2006	9/20/2011	OV

**1520DOT - ODORIZATION - SNIFF TESTS (Contact GAS MSMNT)** Qualified

Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified
Cascade - Performance	1520DOT - Odorization, Sniff Tests - 6270	8/8/2006	8/8/2011	OV

**1540DOT - QUALIF FOR TAPPING BY DIST AND CONTRACTORS (Online - DIV PE)** Qualified

Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified
Cascade - Performance	1540DOT - Qualification for Tapping by Districts and Contractors - 8369	6/25/2009	6/25/2012	OV
Cascade - Written	1540DOT - Qualification for Tapping by Districts and Contractors - 9359	5/19/2009	5/19/2012	OV

**1580DOT - CLEANING, PURGING AND PACKING LINES (Classroom)** Qualified

Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified
Cascade - Performance	1580DOT - Cleaning, Purging and Packing Lines - 6273	3/18/2010	3/18/2013	OV

**1600DOT - LINE PATROLLING AND LEAK SURVEYS (Classroom)**

Qualified

Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified
Cascade - Performance	1600DOT - Line Patrolling, Leakage Surveys, Flame Pack - 6274	5/9/2007	5/9/2012	OV

**1610DOT - OUTSIDE LEAK INVESTIGATION (Classroom)**

Qualified

Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified
Cascade - Performance	1610DOT - Outside Leak Investigation - 6307	2/5/2009	2/5/2012	OV

**1620DOT - ANNUAL INSP & RESP TO REGS & BLOWING RLF (Classroom)**

Qualified

Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified
Cascade - Performance	1620DOT - Annual Inspection & Response to Blowing Regs. and Reliefs - 6276	12/3/2008	12/3/2011	OV

**1625DOT - BYPASSING REGULATORS (Classroom)**

Qualified

Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified
Cascade - Performance	1625DOT - Bypassing Regulators - 6277	6/13/2006	6/13/2011	OV

**1635DOT - 10 YEAR REG REBUILD (Classroom)**

Qualified

Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified
Cascade - Performance	1635DOT - 10 Year Regulator Rebuild - 6279	4/29/2010	4/29/2013	OV

**1640DOT - TRANSMISSION AND DISTRIBUTION VALVE MAINT (Classroom)**

Qualified

Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified
Cascade - Performance	1640DOT - Transmission and Distribution Valve Maintenance - 6280	3/18/2010	3/18/2013	OV

**1660DOT - VAULT INSPECTION (Classroom)**

Qualified

Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified
Cascade - Performance	1660DOT - Vault Inspection - 6281	3/18/2010	3/18/2013	OV

**1910DOT - PIPE PIT GAGE USE (Online - GM PE)**

Qualified

Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified

Cascade - Written	1910DOT - Pipe Pit Gage Use - 9927	12/15/2006	12/15/2011	OV
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Cascade - Performance	1910DOT - Pipe Pit Gage Use - 9933	12/16/2009	12/16/2014	OV
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**2000DOT - VISUAL INSP OF PROD WELDS (Online - No PE) Qualified**

Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified
Cascade - Written	2000DOT - Visual Inspection of Production Welds - 10826	9/26/2007	9/26/2010	OV

**3005CNG - COMPETENT PERSON (Online - GM PE) Qualified**

Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified
Cascade - Performance	3005CNG - Competent Person - 6289	3/24/2010	3/24/2013	OV
Cascade - Written	3005CNG - Competent Person - 10020	1/12/2010	1/12/2013	OV

**3010CNG - PROPERTIES OF CARBON MONOXIDE (Classroom) Qualified**

Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified
Cascade - Performance	3010CNG - Properties of Carbon Monoxide - 6290	6/22/2006	6/22/2011	OV

**3015CNG - CARBON MONOXIDE INVESTIGATION (Classroom) Qualified**

Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified
Cascade - Performance	3015CNG - Carbon Monoxide Investigation - 6291	6/22/2006	6/22/2011	OV

**3020CNG - CARBON MONOXIDE DETECTORS - RESIDENTIAL (Classroom) Qualified**

Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified
Cascade - Performance	3020CNG - Carbon Monoxide Detectors/ Residential - 6292	6/22/2006	6/22/2011	OV

**3030CNG - COMBUSTION AIR REGULATIONS (Classroom) Qualified**

Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified
Cascade - Performance	3030CNG - Combustion Air Regulations - 6293	12/3/2008	12/3/2013	OV

**3040CNG - THERMOCOUPLE, POWER UNITS AND HOT SURF IGN (Classroom) Qualified**

Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified
Cascade - Performance	3040CNG - Thermocouple, Power Units and Hot Surface Ignitors - 6294	12/3/2008	12/3/2013	OV
<b>3070CNG - PROPERTIES OF NATURAL GAS (Classroom)</b>			Qualified	
Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified
Cascade - Performance	3070CNG - Properties of Natural Gas - 6297	6/22/2006	6/22/2011	OV
<b>3100CNG - CLOCKING METERS / APPLIANCES BTU INPUT (Classroom)</b>			Qualified	
Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified
Cascade - Performance	3100CNG - Clocking Meters / Appliances BTU Input - 6300	12/3/2008	12/3/2013	OV
<b>3110CNG - IS-100.PW BASIC INCDNT CMD SYS (Contact GM)</b>			Qualified	
Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified
Cascade - Performance	3110CNG - IS-100.PW Basic Incident Command System - 6301	8/18/2005	8/18/2010	OV
<b>3120CNG - SUPPLIED AIR TRAINING (Classroom and FIT TEST PE)</b>			Qualified	
Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified
Cascade - Performance	3120CNG - Supplied Air Classroom Training - 6303	4/28/2010	4/28/2011	OV
Cascade - Performance	3120CNG - Supplied Air Medical Certificate - 8691	7/1/2001	Non Expiring	OV
Cascade - Performance	3120CNG - Supplied Air Fit Test - 9354	4/28/2010	4/28/2011	OV
<b>3140CNG - BACKHOE OPERATION (Online - DIV PE)</b>			Qualified	
Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified
Cascade - Written	Backhoe Operation Part 1 - 6091	11/6/2009	11/6/2012	OV
Cascade - Written	Backhoe Operations Part 2 - 6092	11/6/2009	11/6/2012	OV
Cascade - Written	Backhoe Operations Part 3 - 6093	11/6/2009	11/6/2012	OV

Cascade - Performance	3140CNG - Backhoe Operation - 6305	12/2/2009	12/2/2012	OV
<b>3150CNG - FORKLIFT OPERATION (Online - DIV PE)</b>			Qualified	
Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified
Cascade - Performance	3150CNG - Forklift Operation - 6306	12/2/2009	12/2/2012	OV
Cascade - Written	3150CNG - Forklift Operation - 9399	10/12/2009	10/12/2012	OV
<b>3170CNG - DRIVING INSTRUCTION (Contact GM-GM PE)</b>			Qualified	
Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified
Cascade - Performance	3170CNG - Driving Instruction - 6308	5/12/2004	Non Expiring	OV
<b>3180CNG - CDL QUALIFICATION (Contact GM)</b>			Qualified	
Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified
Cascade - Performance	3180CNG - CDL Qualification - 6309	10/21/2008	10/21/2012	OV
Cascade - Performance	3180CNG - CDL Medical Certificate - 8692	10/21/2008	10/21/2010	OV
<b>3200CNG - TRAFFIC CONTROL FLAGGING AND SIGNAGE CERTIF (Contact GM)</b>			Qualified	
Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified
Cascade - Performance	3200CNG - Traffic Control Flagging and Signage Certification - 6310	2/9/2010	2/9/2013	OV
<b>3500CNG - FIRST AID AND CPR CERTIF (Contact GM)</b>			Qualified	
Qualification Type	Evaluations	Evaluation Date	Expiration Date	Verified
Cascade - Performance	3500CNG - First Aid and CPR Certification - 6312	2/27/2009	2/27/2012	OV



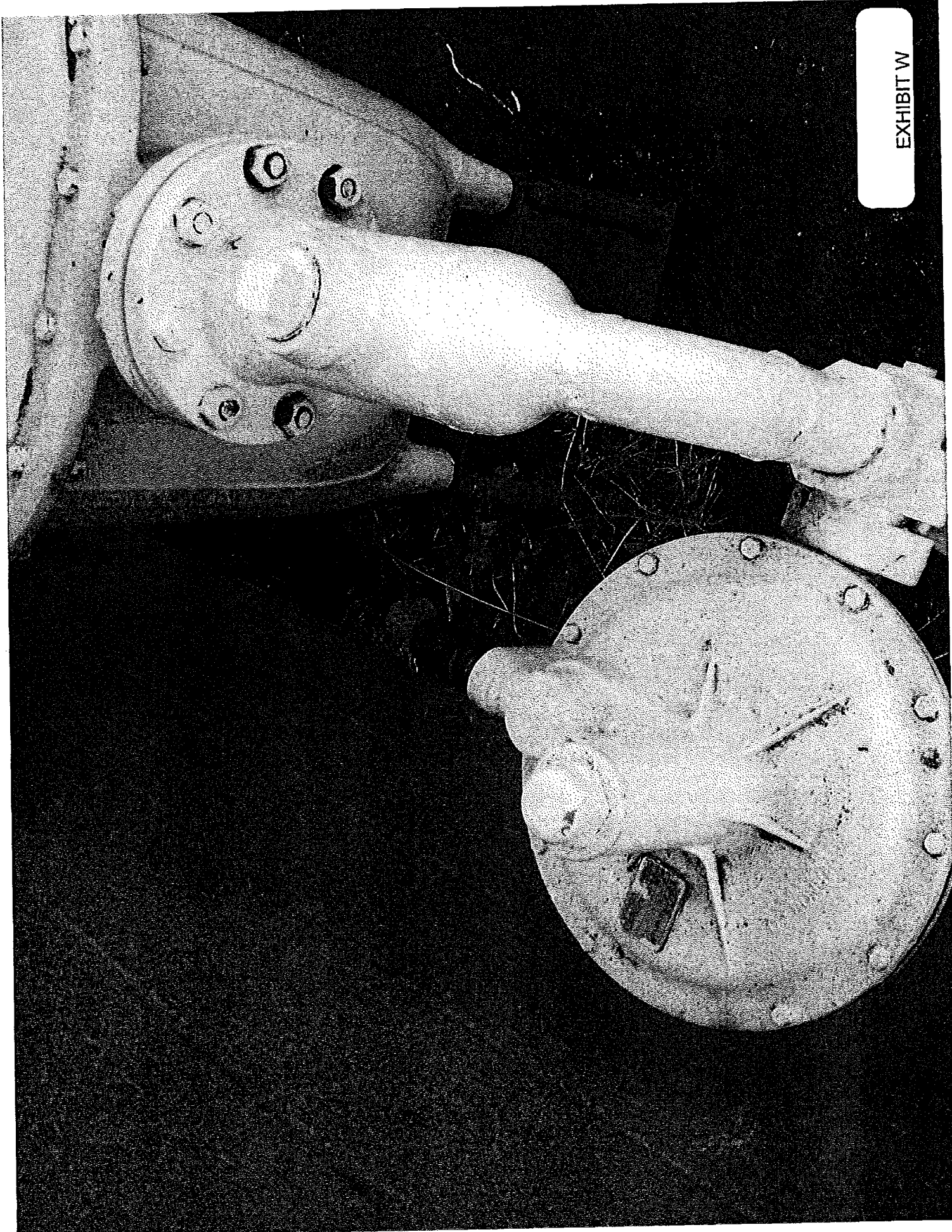


EXHIBIT W



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# GPS-Enabled Leak Surveying and Pinpointing

## Proof-of-Concept, Field Trial Results

*23 February 2010*

The contents of this proposal are Proprietary and Confidential and are intended only for use by InMaps and GTI.

  
[www.inmaps.com](http://www.inmaps.com)

EXHIBIT X

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## 1. Overview

### 1.1 Introduction

Under a co-funding agreement with GTI, InMaps created a GPS-enabled Leak Survey and Pinpointing application that could be deployed on a handheld device. InMaps then evaluated the device in field trials at Intermountain Gas Company in Boise, Idaho.

This document reviews the objective and industry need, summarizes the initial requirements, discusses the application design and hardware, and then covers the field trial findings.

### 1.2 Objective

The objective of this project was to develop a device to automate the leak surveying and pinpointing process through the use of GPS receivers, electronic leak reports, and electronic capture of leak readings. The device was to be compatible with commercially available leak detection equipment and do four things:

1. Improve the quality of collected data including obtaining GPS coordinates of leaks
2. Reduce the time required to both perform leak surveys and relocate leaks
3. Reduce the back-office operations associated with entering and geocoding leak data
4. Provide data to prove compliance to both internal auditors and external regulators.

### 1.3 Industry Need

Current leak survey and pinpointing processes typically consist of the following steps:

1. Routing – Leak surveyors use a paper map with facilities to survey and sometimes routes to follow.

*At IGC, paper maps are used; separate sheets list customer in address number order*

2. Leak Survey – Crews walk routes or areas using leak detection equipment. The route walked is manually recorded on the paper route map and detected leaks are recorded on a paper leak sheets.

*At IGC, above ground and underground leaks are handled with different (paper-based) processes.*

3. Data Entry and Storage – The paper routes are stored with past records and leak reports are manually entered into an electronic system by an office clerk.

*At IGC, address lists are also entered into the CIS for tracking purposes.*

4. Work Order Generation – Work orders are manually generated from the results of the leak survey.



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5. Leak Pinpointing – Leaks are pinpointed and repaired if necessary. Follow-up inspections may be required, depending on the class of the leak.

*At IGC, leaks are pinpointed by the leak surveyor, if possible.*

6. GIS Integration – The location of leaks may be manually entered into a GIS for tracking, trending and modeling purposes.

This process is time consuming, inefficient, and subject to user error at several steps.

*At IGC, the most time-consuming part for the leak surveyors is cross checking the address lists. This takes four to eight hours per week (needs to be verified), and then these sheets need to be entered into the CIS.*

Additionally, documenting and proving compliance with regulations regarding leak surveying can be problematic and slow with paper records.



## 2. Proof-of-Concept

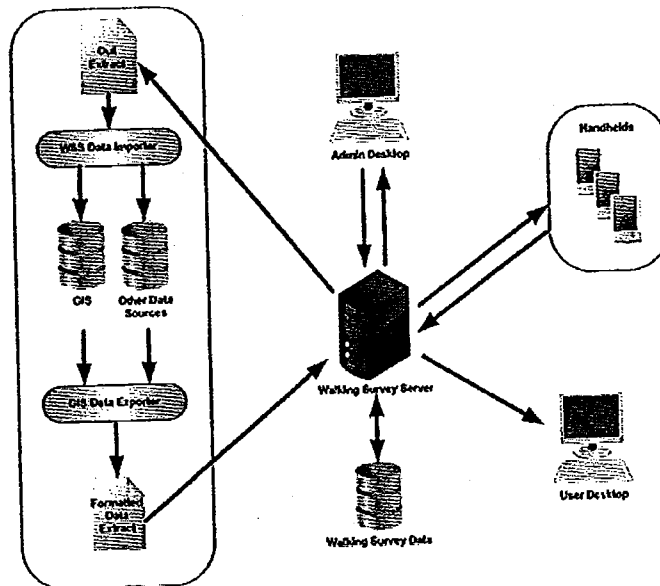
### 2.1 Requirements

To meet industry needs, the following requirements were developed.

1. Device: handheld, durable, touch screen, 10-hour battery, Bluetooth, Wi-Fi, GPS
2. Software: Ease of use, display mapping, capture structured data (e.g., leak sheet), supported by back-end server that can interface to other systems.
3. Development environment: Ability to evolve the application, and for customers to configure specific elements
4. Sync: Wi-Fi based synchronization to a central server; support for incremental updates

### 2.2 Application Design

Prior to this project, InMaps developed a methodology to automate the tracking of leak surveys. In addition, InMaps built the no system for integration from the ground up, knowing that interfaces would be required to a variety of back-office systems (e.g., work management, leak survey, customer service). Finally, InMaps created a mechanism to extract GIS data to the central server, allowing the application to be used with any GIS.



#### 2.2.1 Automatic Tracking

To automate the tracking of a survey requires three components:

1. Creating "survey objects," shapes that cover facilities and create targets for GPS locations.
2. Using GPS to automatically "tag" survey objects as surveyed when the surveyor's position goes inside the survey object



3. Providing a means for the surveyor to adjust the automatic results to compensate for errors in both GPS and mapping

InMaps implemented these components in the proof-of-concept application.

### **2.2.2 Integration**

InMaps uses a central server that manages each handheld but also provides interface points for back office systems. The server can be managed either inside or outside the utility's data center, and will have connectors for leak management, work management, and other back-office systems.

### **2.2.3 GIS Independence**

The InMaps server is designed to receive an annual extract of facility data from a utility's existing GIS. Surveys are created, sent to the field, and completed from this data. Leaks, field notes, and the "breadcrumb trail" followed by each surveyor can be imported back into the GIS for visualization and analysis.

### **2.3 Handheld Hardware**

InMaps evaluated Windows Mobile devices and smart phones. The initial trial was conducted using a Trimble Juno device. InMaps will also evaluate the Juniper Systems Archer device, and the Trimble Nomad.

The Juno may be inadequate in areas with extreme freezing weather.

### **2.4 Application Functionality**

The handheld application has several screens as described below:

1. Sign-in screen – Users sign in with a username and password
2. A Menu Screen – All the functionality is accessed through this screen
3. The Map Screen – This shows facilities, the current location, and indicates which facilities have been surveyed



### 3. Field Trial at Intermountain Gas

In February 2010 an InMaps/GTI team traveled to Boise, Idaho to conduct field trials of the new system.



Roger Phillips, Alicia Farag, Tim Wold, Theresa Browne, Hart Gilchrist, Brad Achorn, Lance Elroy, Langley Willauer, and Tom Laursen

#### 3.1 Regulatory Questions

Because the system will be recording values directly from a gas detector to a database, some questions were raised. For example, is having a record of a leak that does not get fixed a potential problem with regulators? How should the application record situations that today are considered safe, even if a detector can sense gas (tiny above-ground leaks on very cold days, for example)?

#### 3.2 Manual Survey

The application allows a surveyor to manually tag survey objects as "surveyed." This raised two questions:

1. Should the reason be captured (e.g., inaccessible, could not get inside, etc.)?
2. Is a mechanism to flag facilities to be surveyed by other means?

Although built-up areas were not tested, because of poor GPS performance in urban canyons, the manual survey mechanism will be needed for these areas.

#### 3.3 Viewing Data

Because the handheld screen is small, it is impractical to use for looking at large areas for planning work. To see maps on a laptop, the server needs to be able to produce web-based maps with this information. This has been listed as an enhancement.





### 3.4 Bar Hole Mapping

The application only captured one bar hole reading, however the screen where multiple readings could be collected will need to be expanded to collect many readings.

It may be possible to post-process the GPS points captured for bar holes, thereby making them much more accurate.

### 3.5 Camera

The built-in camera was used, although this is not integrated with the application. An enhancement would be to allow one or more images to be automatically associated with a leak record. The time stamp of the image may be able to be used to make this association on the server.

### 3.6 Leak Tracking

The team determined that the handheld device was useful for capturing and pinpointing leaks:

1. For above ground leaks, collect a meter number and a location that is "snapped" to a service pipe. This allows the GIS connection to be made on import. Include this information with the electronic service order.
2. For below ground leaks, create a process that mimics the current Form 457.

### 3.7 Field Notes

The team determined that Field Notes would be useful. For example, a surveyor could capture information normally done by special patrols:

1. Can't find, Abandoned
2. Have built over
3. Meter inside
4. Stub
5. Vacant lot
6. Riser pipe bent over to ground
7. Riser buried underground
8. Cap missing
9. Oxidation
10. Unsafe condition

Field notes would also have a GPS coordinate associated with them, and could be exported to a GIS.

### 3.8 Screen Graphics

The icon indicating current position was the same color as facilities surveyed. These colors will need to be adjusted. Similarly, surveyors need feedback when the device is not surveying, so that they know to press "Start."

A request was made for street names; however, because the GPS places the surveyor on the map, street names are not critical.



### **3.9 GPS Information**

The GPS devices had several issues:

1. The antenna was blocked by the surveyor's hand or body, leading to lower accuracy fixes.
2. When the GPS was inaccurate, the position indicator changed color. This may also need a system "beep" to alert the surveyor.
3. To eliminate spurious points, filter them based on change in speed and change in angle. Another method is to require more than one point in a survey object to consider it surveyed.

### **3.10 Survey Objects**

On the first day of the field trails, survey objects we set wide and 90' long. On the second day, different sizes and thicknesses were tried. Ultimately a medium width and 45' lengths were chosen.

### **3.11 Types of Surveys**

Four surveys were created that simulated four different annual cycles. A fifth survey simulated a business district that required visits annually. Users wanted the ability to do two surveys at one time.

### **3.12 Truck Finder**

Because surveyors walk large areas, they sometime lose track of where they parked. A "Truck Finder" capability may be added as a way for surveyors to find their way home. This could be implemented as a geographic bookmark, complete with the ability to zoom to the combination of the current location and the bookmark.

### **3.13 GPS Calibrate**

One feature of the application allows a surveyor to indicate where they are relative to the map, even if the GPS says otherwise. This sets an offset in the GPS information for a fixed distance and direction. This feature did not work correctly and had insufficient feedback, but it appears to be repairable.

One idea for feedback would be to draw a "leash" from the current corrected position to the actual position. This would give the surveyor feedback about the current calibration values.

### **3.14 Driving Performance**

Although not part of the planned functionality, the device worked well when propped on the dashboard of a survey vehicle. Speeds of 30 MPH worked well.

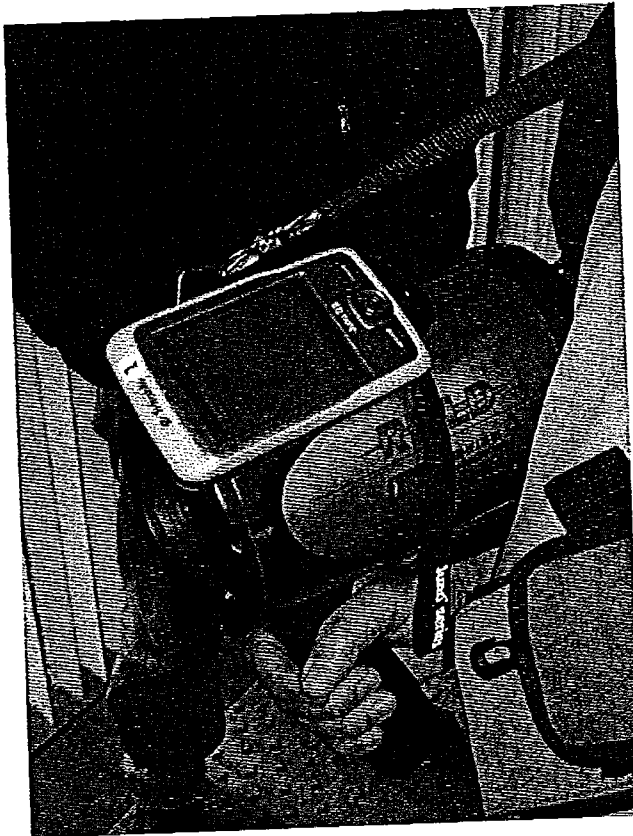
### **3.15 Batteries**

Some testing was done to see how the device performed after a battery failure. Initial tests showed that there were no issues. Surveyors may need to carry a spare battery and swap midday.



### 3.16 *Ergonomics*

InMaps tried both mounting the handheld on the RMLD transponder and simulating a bracket on the battery pack.



### 3.17 *System Synergies*

Testers noted that the application would lend itself well to other field activities, such as atmospheric corrosion surveys and value inspection programs.



## 4. Conclusion

The original objectives for the project are listed below with the actual outcomes from this project:

1. Improve the quality of collected data including obtaining GPS coordinates of leaks

The comparison here is between hand-highlighted paper maps and filling out customer lists, versus having this done passively. To determine the savings take the current effort and subtract any effort required to use the new application:

Hours per week doing paper work	<i>minus</i>	Additional hours per week using the Walking Survey application ("unsurvey," "manual survey")	<i>equals</i>	Total hours saved per week
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As for *quality* it is still to be determined if the digital record is more accurate than the final results of the paper-based process.

GPS coordinates of leaks *may* improve the quality of the data, however, to be useful the data may need to be post processed.

2. Reduce the time required to both perform leak surveys and relocate leaks

The time to perform leak surveys is mostly a matter of walking speed. At first, we expect the surveys to take slightly *longer* as the surveyor needs to interact with the application. However, this effort is expected to be small with respect to the overall savings.

It is not clear given business processes what the value of relocating leaks would be.

3. Reduce the back-office operations associated with entering and geocoding leak data

Currently address sheets are entered into the CIS, however, this process is currently very efficient. That being said, this whole step will be eliminated by the new application.

Similarly, detected leaks will be directly importable into the GIS, a process that could be made automatic.

4. Provide data to prove compliance to both internal auditors and external regulators

The current collected data *shows* compliance. The application *proves* compliance, as the GPS fixes, time stamps, and instrument readings are all recorded automatically.

The Proof-of-Concept was successful. The device was usable by existing field staff, and despite some issues with GPS inaccuracy, the basic functionality worked well. Because of the heavy burden of the existing paper process, field surveyors are highly motivated to adopt this technology.



# Company Procedures Review Sign-off

District supervisors will notify all employees of updates. Copies will be given to all individuals that have a binder that needs one. A copy should be posted for all employees regardless of classification. All employees will sign below to confirm they have read the changes and placed a copy in their books.

District Wenatchee  
Company Procedure 750  
Date of new CP 7/30/2010

Scott Green  
Sam Anderson  
Andy Kurkel by LG  
office copy - mari

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EXHIBIT Y

## Committed to the Community

Cascade has served the Northwest for over 50 years with safe and reliable natural gas. Throughout our service area, we are an integral part of the community with a firm commitment to being there when you need us. Through our friendly and dedicated employees and the services we provide, you will find that we are in the community to serve.

Natural gas pipelines have a long history of safely serving the public. The Department of Transportation Office of Pipeline Safety oversees compliance with tough federal safety standards for all the pipes that bring gas to your home. The states of Washington and Oregon also continuously monitor pipeline safety through the Washington Utilities and Transportation Commission and the Oregon Public Utility Commission. This oversight includes regulating pipe materials, design, construction, testing, operation, maintenance, and employee training. Pipes are designed, constructed, and tested to withstand pressures much higher than would ever be experienced. Strict maintenance schedules and procedures are closely followed to assure pipeline integrity. Cascade Natural Gas employees periodically receive training and we continually monitor their performance. Cascade is proud to have one of the best-trained and most experienced natural gas workforces in the Northwest.

## How to get additional information

If you have a question or concern, our Customer Service desk is ready to help 24 hours a day.

Additional information about pipeline safety can be found at the following internet sites:

Cascade's website:

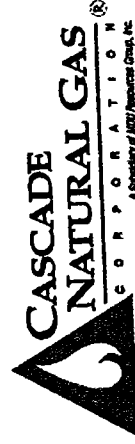
[www.cngc.com/Pipeline\\_safety](http://www.cngc.com/Pipeline_safety)

Washington Utilities and Transportation Commission:

[www.wutc.wa.gov](http://www.wutc.wa.gov)

Oregon Public Utilities Commission: [www.puc.state.or.us](http://www.puc.state.or.us)

# NATURAL GAS SAFETY

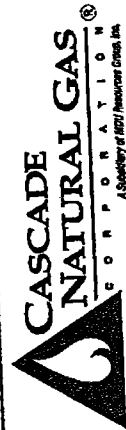


*In the Community to Serve*

[www.cngc.com](http://www.cngc.com)

For Emergency and/or Service Call:

1-888-522-1130



*In the Community to Serve*

## Natural Gas Safety - Be Aware

Pipelines have a good safety record relative to the tremendous volumes of products they carry. And we strive to have the best trained and dedicated workforce to ensure that our design, construction, and maintenance activities ensure we have the safe and efficient natural gas delivery system you expect, but leaks and pipeline accidents can and sometimes do occur. Natural gas is flammable, non-toxic, and lighter than air. A specific mixture of natural gas with air is necessary for ignition. If there's too much air, or too little gas, it will not ignite. Properly used and controlled, it is safe and reliable. The potential consequences of an uncontrolled gas release can be harmful, and even deadly.

## You Can Help Detect Leaks

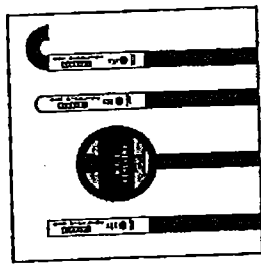
The following may indicate a natural gas leak:

- A blowing, whistling, or hissing sound.
- A patch of dry ground in an otherwise damp or wet area.
- A patch of discolored soil or dead vegetation.
- Dry (or moist) dirt being blown into the air.
- Water bubbling or spraying into the air in a mud puddle or wet area.
- A sign of fire floating on the ground or around a pipe.
- An odor similar to rotten eggs or the smell of a skunk. If you are not familiar with the smell of natural gas, call our local office and we will be happy to send you a scratch and sniff card. Scratching the indicated spot will release a sample of the odorant if you are located in an area subject to the odors of processes such as pulp mills or oil refineries. Oftentimes, those types of facilities release odors, which can be mistaken for natural gas.

## Bringing Natural Gas to Your Home

At city gate stations, the pressure of the gas is reduced for transport within town, and to your home. Within town, the natural gas is no longer in transmission pipelines, but in pipes called "mains". Mains are located under the streets, like water or sewer pipes. Connected to the mains are service lines, which run underground from the street to your home. When the service line reaches your house, the pressure is reduced once more so that your appliances function properly.

## Pipeline Location Markers



The US Department of Transportation operates a website that has maps that show major pipeline locations in your State. Go to:

National Pipeline Mapping System:

[www.npms.phmsa.dot.gov/](http://www.npms.phmsa.dot.gov/) for more information

Washington residents can also go to:

[www.wutc.wa.gov/publicsafety](http://www.wutc.wa.gov/publicsafety) and click on Pipeline Maps.

Please remember, government maps must not be used to plan or perform excavations. Always Call Before you Dig.

## Natural Gas Pipelines - Safe, Sound, and Uninterrupted

The United States has the largest natural gas pipeline system in the world. This underground pipeline system transports natural gas in the safest and most efficient manner from natural gas wells to consumers, like you. The alternative to underground pipelines, transporting energy products via trucks and trains, would result in a huge increase in the number of trucks and railroad cars traveling through the hearts of our cities and towns. Natural gas pipelines are the safest, most cost effective system of transporting natural gas to run industrial plants, generate electricity, and heat homes, institutions, hospitals, and businesses in our growing region.

## Bringing Natural Gas to Your Town

Large "transmission" pipelines, which transport gas from state to state and from town to town, are a key part of the natural gas transportation system. These lines transport the large volumes of high-pressure natural gas to our industrial, commercial, and residential customers. The transmission pipelines are placed underground, away from populated areas, except to deliver gas to a city or town. This delivery to a city or town occurs at key distribution points known as "city gate stations"

## Access is Essential to Everyone's Safety

Working on gas pipeline easements or rights-of-way inhibits our ability to reduce excavation damage events, survey a pipeline, and perform routine maintenance. In order to perform these critical activities, our maintenance personnel must be able to access the entire easement or right-of-way, as provided in negotiated easement agreements with property owners.

For our customers and neighbors, we will periodically enter your property to perform required maintenance on our equipment and underground pipe. We need to work together. Cascade can inspect and maintain our pipes, meters, and equipment in safe and proper working order. If you have concerns about our access, we want to work with you to find a mutual solution. Please call our Customer Service number if you have a question or concern.

For our larger pipelines, the area must be cleared of trees, shrubs, buildings, fences, structures or any other encroachments that might interfere with our access to our pipeline. You can identify pipeline rights-of-way when you see pipeline location markers. Not all of our rights-of-way and easements have pipeline location markers, though. If you're not sure, the best thing to do is call our Customer Service number to ask. Please respect the easement or right-of-way by not placing obstructions or encroachments within the right-of-way. If you are planning property changes, improvements, or excavations, you should Call Before You Dig at least two business days ahead so we can locate our pipes for you.

## Pipeline Location Markers

Some Cascade Natural Gas pipes have yellow markers that say CAUTION GAS PIPELINE. If you see a marker, it is there for a reason. It is a warning to everyone that gas pipelines are below. These are placed as a warning where we have pipe but you might not think utilities would be. These markers do not indicate the exact location of the pipe. If you need to dig in those areas, please contact the Call Before You Dig number on the sign.