

COMMONWEALTH OF MASSACHUSETTS

OFFICE OF CONSUMER AFFAIRS AND BUSINESS REGULATION

**DEPARTMENT OF
TELECOMMUNICATIONS & ENERGY**

PIPELINE ENGINEERING AND SAFETY DIVISION

INCIDENT REPORT

9 Bonito Drive, Framingham, Massachusetts
May 24, 2002

INCIDENT REPORT:

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I. INTRODUCTION

A. Scope of this Investigation

The Pipeline Engineering and Safety Division of the Massachusetts Department of Telecommunications and Energy (“Department”), pursuant to G. L. c. 164, § 105A and G. L. c. 82, § 40 (“Dig Safe”) has investigated a natural gas (“gas”) explosion (“incident”) at 9 Bonito Drive, Framingham, that occurred on May 24, 2002. The incident resulted in an explosion and fire damaging the house at that address. NSTAR Gas Company (“NSTAR” or “Operator”), the operator of the pipeline, estimated the property damage to be \$150,000 (Exh. 1).

As for the Department’s investigation into compliance with the Dig Safe law, 220 C.M.R. §§ 99.00 et seq. establishes the procedures to determine the nature and extent of violations. In addition, these regulations set forth the standards used to determine the amount of civil penalties to be imposed. On August 22, 2002, the Department issued a Notice of Probable Violation (“NOPV”) to Pipeline Equipment & Supply, Inc. (“PE&S” or “Contractor”) (Exh. 2). A separate NOPV was issued to NSTAR on August 29, 2002 (Exh. 3). In both NOPVs, the Department alleged that a violation of the Dig Safe law occurred on May 24, 2002 on Bonito Drive, Framingham. NSTAR signed a Consent Order (Exh. 4) on September 23, 2002. PE&S did not respond to the NOPV. The Department issued a Remedial Order (Exh. 5) to PE&S on February 11, 2003.

As part of the Department’s annual certification process by the United States Department of Transportation (“DOT”), the Department must report to the DOT

“[e]ach accident or incident . . . involving a fatality, personal injury requiring hospitalization, of property damage of loss of more than an amount the Secretary establishes, any other accident the [Department] considers significant, and a summary of the investigation by the authority of the cause and

circumstances surrounding the accident or incident.”
See 49 U.S.C. § 60105(c)(1)(B).

The purpose of the report is to inform the DOT as to the circumstances surrounding and the cause of the incident.

The Department has established procedures for determining the nature and extent of the violations of codes and regulations pertaining to the safety of pipeline facilities and the transportation of gas, including, but not limited to, 220 C.M.R. §§ 101.00 through 113.00. See 220 C.M.R. §§ 69.00 et seq. The Department also enforces the DOT safety standards for gas pipeline systems and the drug and alcohol testing regulation as set forth in 49 C. F. R. §§192.00 et seq. and §§ 199.00 et seq. and 220 C.M.R. § 69.12.

B. Overview of the Incident

At approximately 8:50 a.m. on May 24, 2002, NSTAR telephoned the Department to report an explosion at 9 Bonito Drive, Framingham. NSTAR reported that its Contractor, PE&S, while working on a service line¹ to the house at that address, struck the service line with a backhoe.² The resulting failure, inside the foundation, caused an explosion in the house. The Department sent two investigators to the scene.

The backhoe struck and pulled a one-inch diameter, high pressure³ service line, owned and operated by NSTAR. The contact caused the line to break at the inlet of the service

1 A service line is a distribution line that transports gas from a common source of supply to (1) a customer meter . . . 49 C.F.R. §192.3: Definitions.

2 A backhoe is a wheel-mounted machine, usually diesel powered, with a hydraulic arm and bucket for excavating.

3 A high pressure system is a system in which the pressure in the main is higher than the pressure provided to the customer. 49 C.F.R. §192.3: Definitions.

regulator,⁴ located in the house basement. The line break allowed gas to enter the basement; an explosion and fire occurred shortly thereafter. The house was heavily damaged by the explosion and resulting fire. The ignition source is uncertain. However, a boiler and water heater were in the basement. Either one of these may have been the ignition source.

An NSTAR distribution technician (“technician”) evacuated three occupants from the house shortly before the explosion. As he was leaving the house, the explosion catapulted the technician through the front door. He landed, uninjured, on the front lawn.

The Department’s investigation finds that NSTAR and its contractor, PE&S, did not exercise caution while excavating in the vicinity of NSTAR’s underground facilities. The Dig Safe law requires that caution must be used when excavating around underground facilities.

II. THE DEPARTMENT’S INVESTIGATION

A. Description of the Site

Bonito Drive is a cul-de-sac located in a residential area of Framingham, running east from Concord Street. The houses are single family. The area is flat and spotted with mature trees.

The house at 9 Bonito Drive sat on a ¼-acre lot, located near the east end of the road. The lot borders the north side of Bonito Drive. The house was a one-story, raised contemporary, of wood-frame construction, with a half-basement.⁵

On the day of the incident, there were two live gas mains under Bonito Drive. One was

4 A service regulator is a valve which reduces the pressure in the service line from the pressure in the main to the pressure provided to the customer.

5 A half basement is a basement with a height of approximately 4 feet.

a two-inch diameter steel gas main, coated with X-Trucoat,⁶ installed in 1959. The newer main was a four-inch plastic gas main, installed in 2002. The newer main was installed to upgrade the gas distribution system with the intent of supplying gas to a nearby school. Both gas mains ran the length of Bonito Dr. (Exh. 6). The four-inch plastic main was 24 inches below grade. The two-inch steel main was 48 inches below grade. On the day of the incident, both mains were operating at approximately 56 pounds per square inch gauge (“psig”) (Exh. 7).

In 1959, Commonwealth Gas Company⁷ installed a one-inch diameter steel service line to 9 Bonito Drive (Exh. 8). The service line was connected to the two-inch diameter steel main on Bonito Drive (Exh. 9). Like the main, the service line was coated with X-Trucoat. The unsleeved service line entered the half-basement through the foundation’s south wall. Just inside the basement wall, upstream of the service regulator, was a service valve.⁸

B. Description of the Scene

On May 24, 2002 at about 10:20 a.m., two investigators from the Department’s Pipeline Engineering and Safety Division (“Division”) arrived at 9 Bonito Drive. They met with representatives from NSTAR, the Framingham Fire Department, and the Massachusetts Department of Public Safety.

The Division investigators observed that the house had suffered heavy fire damage to

6 X-Trucoat coating is a protective layer, applied at the factory, used to protect steel pipelines from external corrosion.

7 Commonwealth Gas Company is now known as NSTAR Gas Company.

8 A service valve is a manual valve used to shut off the flow of gas to the meter.

the half-basement level. The upper level of the house had smoke and soot damage. Windows and doors had been damaged and blown from the house (Exh. 10).

There was an open excavation in the street. Within the excavation, the investigators observed a bow in the pipe near the service connection to the two-inch diameter main (Exh. 25). The X-Trucoat coating on the service line was ripped, and there were scratch marks on the service line at the location of the bend (Exh. 25). The service line was 19 inches below the surface of the ground at this point (Exh. 11).

Inside the half-basement, the Department investigators observed that the gas meter had been separated from the service line. The meter appeared to have sustained damage from the explosion and fire. The Department investigators retrieved the gas meter (Exh. 12). The Department investigators observed that the service valve, service regulator, and fire valve⁹ were still attached to the service line in the basement (Exh. 13). They also observed a crack in the service line at the inlet connection to the service regulator (Exh. 13). The Department investigators impounded the service line segment inside the basement.

C. NSTAR Gas Company

The NSTAR technician arrived at the scene at about 8:00 a.m. on the day of the incident. He stated that, prior to his arrival, PE&S had already excavated and exposed the two mains, the service tee and a portion of the service line. The technician informed the contractor that an NSTAR crew was on its way to the site to shut off the service line attached to the older main (Exh. 14).

9 A fire valve is a valve that is designed to close and shut off the gas flow when exposed to the heat of a fire.

Minutes before the explosion, the technician asked the homeowner of #9 Bonito Drive if he could shut off the gas service. The homeowner accompanied the technician into the half-basement. While the technician was applying his wrench to the valve, the inside shutoff valve moved towards the basement wall, and gas began to flow into the half-basement. Recognizing the hazardous situation, the technician yelled for everyone to leave the house. As he followed the owner to the top of the cellar staircase, he saw two people exit the rear door. As the technician approached the front door, the explosion occurred, projecting him through the doorway onto the front lawn. He got up and called the NSTAR office for help (Exh. 14).

An NSTAR crew arrived a short while later, and NSTAR shut off the flow of gas by pinning off¹⁰ the service tee at 8:47 a.m., approximately 22 minutes after the explosion (Exh. 15). Normally, NSTAR would have stopped the gas flow by closing the curb valve.¹¹ However, when the backhoe pulled the service line, it displaced the curb valve horizontally, barring access to the curb valve through the curb box (Exh. 15). Later that day, NSTAR abandoned¹² the service line.

10 Pinning off a service tee is the process of inserting a steel pin into the tap hole on the main, removing the tee, and welding the steel pin to the main.

11 A curb valve is a manually operated valve on a service line located at or near the property line. Department regulations require that all high pressure service lines have a curb shutoff. 220 C.M.R. §101.06(14).

12 In 220 C.M.R. 107.03: Definitions, a service line is considered abandoned when:
(a) The service line is disconnected or cutoff at or as close as practical to the main; and
(b) Any opening in the main or the open end of the segment of the service line left thereto is sealed; and
(c) The service line is purged of gas, except when the volume of gas is so small that there is no potential hazard; and

NSTAR personnel conducted a leak survey of the area around the house and adjacent houses on the day of the incident. They found no leaking gas in the ground or in any of the houses (Exh. 16). NSTAR also checked the odorant level in the gas after the incident and reviewed the most recent odorization test records. Samples were taken and tested at three different locations near #9 Bonito Drive. The detection levels for the odorant were well within the level allowed by state regulations (Exh. 17).

D. The Contractor

The Contractor's four-man crew arrived at the site at about 7:15 a.m. The crew consisted of a foreman, a backhoe operator, a truck driver and a laborer. The crew began to expose the two gas mains and the service line. The laborer removed the asphalt with a jackhammer. Then, the backhoe operator exposed the new gas main at a depth of 24 inches (Exh. 18). The foreman then used a shovel to expose the old main at a depth of 48 inches (Exh. 19).

Next, the PE&S foreman told the backhoe operator to expose the rest of the service line, indicating that it resided at a depth of 48 inches (Exh. 20). After excavating¹³ to a depth

(...continued)

(d) The open end of the disconnected service line near the main and traversing to the premises is sealed.

13 The Dig Safe Law, G. L. C. 82, § 40, requires an excavator to use care when excavating near underground utilities. G. L. c. 82, § 40C, states in the relevant part: When excavating in close proximity to the underground facilities of any company when such facilities are to be exposed, non-mechanical means shall be employed, as necessary to avoid damage in locating such facility and any further excavating shall be performed employing reasonable precaution to avoid damage to the underground facilities, including but not limited to, . . .penetrating or destruction of any pipe. . .protective

(continued...)

of about 24 inches, the backhoe operator felt something catch on the bucket's teeth.¹⁴ He immediately stopped digging. A few seconds later, the house exploded. The foreman told the backhoe operator to pull the pipe out of the house. The operator tried to do this with the backhoe, but the pipe wouldn't move. The NSTAR technician then told the four PE&S crew to leave the area.¹⁵ NSTAR admits that the backhoe operator could not be confirmed as licensed according to the Massachusetts Department of Public Safety (Exh. 15).

E. Examination of the Pipe

Two sections of pipe were recovered from #9 Bonito Drive by the D.T.E.'s investigators. The first section consisted of the manual shutoff valve, a tee, an elbow, and a broken length of pipe. This section extended from the foundation wall to the service regulator inlet. The break occurred where the pipe was connected to the inlet of the service regulator (Exh. 22). The manual shutoff valve was pulled up against the foundation wall when the backhoe pulled on the service line (Exh. 23).

The second section of pipe consisted of the service regulator itself. A piece of pipe remained threaded into the inlet side of the regulator (Exh 24a). The exposed end of this piece had been fractured. The fracture surface closely matches the fracture surface of the downstream end of the pipe that is part of the first section (Exh. 24b).

(...continued)

coating thereof, or damage to any pipe. . . .

14 It was determined that the service line was 32 inches deep at the point where the backhoe struck it. The service line went from 50 inches deep at the main to 32 inches deep where it crossed over a drain line (Exh. 21).

15 Report of Joseph Palermo, Backhoe Operator, Pipeline Equipment and Supply Co. Inc., May 31, 2002.

The D.T.E. investigators also examined the gas meter and the bowed area of the service line struck by the backhoe. The gas meter was badly damaged in the explosion and subsequent fire (Exh. 12). The investigators were unable to read the meter.

The section of service line that was struck by the backhoe showed damage to the coating and scrape marks on the steel (Exh. 25). The service line was also bent in two places. There were no punctures in the pipe (Exh. 25).

It appears that the pipe fractured at the inlet connection to the service regulator. As the pipe was being pulled by the backhoe, it moved horizontally underground. Then, something, possibly the service regulator or the meter, was pulled up against the inner foundation wall. The pipe began to bend until it fractured at a stress concentration point, in this case, the regulator inlet connection.

F. Drug and Alcohol Testing

On the day of the incident, the NSTAR technician and the four employees of PE&S were tested for drugs and alcohol. Federal regulations require post-accident drug testing of any employee whose actions may have contributed to the accident. See 49 C.F.R. § 199.105(b). Operators are also required to test any employee that they suspect for alcohol. See 49 C.F.R. § 199.225(a).

On the day of the incident, NSTAR's Distribution Manager instructed the PE&S crew members to proceed directly to the drug/alcohol collection facility for testing. The inspector went to the collection facility after he was examined for injuries at the hospital (Exh. 15).

The distribution technician tested negative for drugs and alcohol. One member of the PE&S crew tested positive for drugs (Exh. 26). The other PE&S employees, including the

foreman and the backhoe operator, tested negative for drugs.¹⁶ All PE&S employees tested negative for alcohol.

III. FINDINGS AND CONCLUSIONS

A. Findings

- (1) Commonwealth Gas Company installed a two-inch diameter steel main under Bonito Drive, Framingham in May 1959.
- (2) Commonwealth Gas Company installed the service line to #9 Bonito Drive, Framingham, in June 1959.
- (3) A one-inch diameter service line connected the house at #9 Bonito Drive to the two-inch diameter steel main on Bonito Drive.
- (4) NSTAR installed a four-inch plastic main under Bonito Drive, Framingham, in 2002.
- (5) The service line had 48 inches of cover at the service tee connection to the two-inch main.
- (6) The service line had 32 inches of cover at the point where the backhoe struck it.
- (7) The service line was at a lesser depth at that point because it crossed over a drain line.
- (8) NSTAR was connecting existing customers to the new four-inch plastic main.
- (9) NSTAR notified Dig Safe on May 2, 2002 of the excavation.
- (10) The contractor was working for NSTAR.
- (11) The contractor's foreman told the backhoe operator to excavate the remaining portion of the service line.
- (12) One of the PE&S crew tested positive for drugs. Neither the foreman nor the backhoe operator tested positive for drugs or alcohol.
- (13) The backhoe operator was not licensed to operate the backhoe.
- (14) The contractor's backhoe struck the service line approximately 35 feet from the house.
- (15) The force exerted by the backhoe pulled the underground and basement sections of the service line horizontally.
- (16) The service line broke at the inlet to the service regulator in the basement of #9 Bonito Drive.
- (17) An NSTAR employee and the homeowner were in the basement when the backhoe struck the service line.
- (18) There were two other people in the house at the time of the incident.
- (19) The three occupants of the house were able to make it outside before the explosion occurred.

16 Letter from Timothy N. Cronin, Assistant General Counsel, NSTAR, to Chris Bourne, Public Utilities Engineer, Pipeline Engineering and Safety Division, Massachusetts Department of Telecommunications and Energy, December 20, 2002, and Drug Test Results.

- (20) The NSTAR employee was still in the house when the explosion occurred.
- (21) The NSTAR employee was blown through the front doorway of the house by the force of the explosion.
- (22) The explosion heavily damaged the house.
- (23) The odorant level in the gas met regulatory requirements.

B. Conclusions

- (1) The Department found NSTAR and PE&S to be in violation of the requirements of G. L. c. 82, § 40.
- (2) The backhoe displaced the service line horizontally,
- (3) The horizontal movement of the line caused the service line to fracture and the gas to leak.
- (4) The explosion was attributable to hazardous gas concentrations in the house.

IV. LIST OF EXHIBITS

- Exhibit 1:** U. S. Department of Transportation Incident Reporting Form.
- Exhibit 2:** NOPV sent to Pipeline Equipment and Supply, Inc.
- Exhibit 3:** NOPV sent to NSTAR Company.
- Exhibit 4:** Consent Order signed by NSTAR Company.
- Exhibit 5:** Remedial Order sent to Pipeline Equipment and Supply, Inc.
- Exhibit 6:** Four-inch diameter plastic main above and parallel to two-inch steel main. Note plug in tap hole on steel main.
- Exhibit 7:** Telemetry reports of pressure readings at locations near Bonito Drive at the time of the incident.
- Exhibit 8:** Installation records of the service line to #9 Bonito Drive.
- Exhibit 9:** Map of Bonito Drive, Framingham, showing location of two-inch diameter steel main.
- Exhibit 10a:** Front view of house showing damage from the explosion and fire.
- Exhibit 10b:** Side view of house showing damage from the explosion and fire.
- Exhibit 10c:** Rear view of house showing damage from the explosion and fire.
- Exhibit 11:** Depth of service line at the point where it was hit by the backhoe.
- Exhibit 12:** Gas meter damaged by explosion and fire.
- Exhibit 13:** The service valve and service regulator with crack at the regulator inlet.
- Exhibit 14:** Statement of William Gorman, NSTAR Distribution Technician, May 29, 2002.
- Exhibit 15:** Memo from Bill Hobart, NSTAR, to Don Bean, NSTAR, May 31, 2002.
- Exhibit 16:** Leak survey reports for the area around #9 Bonito Drive.
- Exhibit 17:** Odorant test results for the area around #9 Bonito Drive.
- Exhibit 18:** Plastic gas main recently installed at a depth of 24 inches below grade.

**Incident Report
9 Bonito Drive, Framingham (May 24, 2002)**

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- Exhibit 19:** Statement of Joseph Palermo, P.E.&S., May 31, 2002.
- Exhibit 20:** Answers to Questions for Joseph Palermo, P.E.&S., May 31, 2002.
- Exhibit 21:** Memo from D. W. Hobart, NSTAR, to D. K. Bean, NSTAR, June 3, 2002.
- Exhibit 22:** Close up view of crack in piping at the service regulator inlet.
- Exhibit 23:** Close up view of service valve pulled up against foundation wall.
- Exhibit 24a:** Close up view of downstream fracture surface on service line inside service regulator inlet fitting.
- Exhibit 24b:** Close up view of upstream fracture surface on service line.
- Exhibit 25:** Service line showing tears in coating and bends caused by the backhoe.
- Exhibit 26:** Post-incident drug test of one contractor employee showing a positive result.



NSTAR Gas
One NSTAR Way, Westwood, Massachusetts 02090-9230

(1)

May 31, 2002

Information Resources Manager, Office of Pipeline Safety
Research and Special Programs Administration
U. S. Department of Transportation, Room 7128
400 Seventh Street, SW.
Washington, DC 20590

To whom it may concern,

Enclosed you will find an Incident Report – Gas Distribution System, Form RSPA F 7100.1, regarding an incident which occurred in our distribution system on May 24, 2002 at 9 Bonito Drive, Framingham Massachusetts. The incident is being reported as a result of property damage exceeding \$50,000. This written report is being submitted as a follow up to the telephonic report made on May 24, 2002 at 09:23 a.m. to Ms. Jones.

Should you need further information regarding this report please feel free to contact my office.

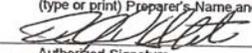
Sincerely,

A handwritten signature in black ink, appearing to read "Darrell W. Hobart".

Darrell W. Hobart
Manager Gas Distribution

Exhibit 1: U. S. Department of Transportation Incident Reporting Form (1 of 4)

NOTICE: This report is required by 49 CFR Part 191. Failure to report can result in a civil penalty not to exceed \$1,000 for each violation for each day that such violation persists except that the maximum civil penalty shall not exceed \$200,000 as provided in 49 USC 1678. Form Approved OMB No. 2137-0522

INCIDENT REPORT - GAS DISTRIBUTION SYSTEM		Report Date <u>5/31/02</u>
U.S. Department of Transportation Research and Special Programs Administration		No. <u>606148</u> (RSPA)
PART 1 - GENERAL REPORT INFORMATION *SEE INSTRUCTIONS*		
1. a. Operator's 5 digit Identification Number <u>10216521</u>	4. Reason for reporting <input type="checkbox"/> Fatality Number <u> </u> / <u> </u> / <u> </u> persons <input type="checkbox"/> Injury requiring inpatient hospitalization Number <u> </u> / <u> </u> / <u> </u> persons <input checked="" type="checkbox"/> Property damage/loss Estimate \$ <u>150,000</u> <input type="checkbox"/> Operator judgment/emergency action <input type="checkbox"/> Supplemental Report	
b. Name of Operator <u>NSTAR GAS</u>		
c. <u>ONE NSTAR WAY</u> Number and Street		
d. <u>WESTWOOD, MA 02090</u> City, County, State and Zip Code		
2. Location of Incident	5. Elapsed time until area was made safe <u> </u> / <u> </u> hr. <u>25</u> / <u> </u> min.	
a. <u>9 BONITO DRIVE</u> Number and Street	6. Telephone Report <u>0151</u> mo. <u>24</u> day <u>12</u> yr.	
b. <u>FRAMINGHAM MIDDLESEX</u> City and County	7. a. Estimated pressure at point and time of incident (PSIG) <u>55</u>	
c. <u>MASSACHUSETTS 01701</u> State and Zip Code	b. Maximum allowable operating pressure (MAOP)(PSIG) <u>60</u>	
d. Class location <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input checked="" type="checkbox"/> 4	c. MAOP established by: (1) Test pressure <u> </u> (PSIG) (2) 49 CFR § 192.619 (a)(3) <input checked="" type="checkbox"/>	
e. Incident on Federal land <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
3. Time and date of incident <u>0822</u> / <u>12</u> / <u>072</u> hr. mo. day yr.		
PART 2 - APPARENT CAUSE		
<input type="checkbox"/> Corrosion (Continue in Part A)	<input type="checkbox"/> Damage by Outside Forces (Continue in Part B)	<input type="checkbox"/> Construction/Operating error (Continue in Part C)
<input checked="" type="checkbox"/> Accidentally caused by operator (Continue in Parts B and/or C)		
PART 3 - NARRATIVE DESCRIPTION OF FACTORS CONTRIBUTING TO THE INCIDENT (Attach additional sheet(s) as necessary)		
SEE ATTACHED		
PART 4 - ORIGIN OF THE INCIDENT		
1. Part of system where incident occurred <input type="checkbox"/> Main <input type="checkbox"/> Meter Set Assembly <input checked="" type="checkbox"/> Service Line <input type="checkbox"/> Other <u> </u>	2. Component which failed a. Part <input type="checkbox"/> Body of pipe <input type="checkbox"/> Valve <input type="checkbox"/> Joint type <input type="checkbox"/> Regulator/meter <input type="checkbox"/> Fitting <input type="checkbox"/> Weld (Specify) <u> </u> (girth, longitudinal, fillet) <input type="checkbox"/> Drip/Riser <input checked="" type="checkbox"/> Other <u>THREADS ON PIPE AT REGULATOR</u>	
3. Material involved: <input checked="" type="checkbox"/> Steel <input type="checkbox"/> Cast iron <input type="checkbox"/> Polyethylene plastic <input type="checkbox"/> Other plastic: <u> </u> <input type="checkbox"/> Other <u> </u>	Nominal pipe size (NPS) <u>1</u> / <u>1</u> / <u>1</u> in. Wall thickness <u>1</u> / <u>2</u> / <u>5</u> in. 4. Specification <u> </u> Manufacturer <u> </u> Yr Manufactured <u> </u> / <u> </u> / <u> </u> Yr Installed <u>11</u> / <u>9</u> / <u>18</u>	
PART 5 - ENVIRONMENT		
Area of Incident <input checked="" type="checkbox"/> Within/Under bldg <input type="checkbox"/> Under pavement <input type="checkbox"/> Above ground <input type="checkbox"/> Under ground or Under water <input type="checkbox"/> Other <u> </u>		
PART 6 - PREPARER AND AUTHORIZED SIGNATURE		
<u>DARRELL W. HOBART, MANAGER GAS DISTRIBUTION</u> (type or print) Preparer's Name and Title		<u>508-305-6885</u> Area Code and Telephone Number
 Authorized Signature		<u>5/31/02</u> <u>508-305-6885</u> Date Area Code and Telephone Number

Form RSPA F 7100.1 (3-84)

Reproduction of this form is permitted.

Exhibit 1: U. S. Department of Transportation Incident Reporting Form (2 of 4)

PART A - CORROSION		
1. Where did the corrosion occur? <input type="checkbox"/> Internally <input type="checkbox"/> Externally	2. Visual Description <input type="checkbox"/> Localized pitting <input type="checkbox"/> General corrosion <input type="checkbox"/> Other _____	3. Cause <input type="checkbox"/> Galvanic <input type="checkbox"/> Other _____
4. Pipe coating information <input type="checkbox"/> Bare <input type="checkbox"/> Coated		
5. Was corroded part of pipeline considered to be under cathodic protection prior to discovering incident? <input type="checkbox"/> Yes Year protection started / / / / <input type="checkbox"/> No		
6. Additional Information:		
PART B - DAMAGE BY OUTSIDE FORCES		
1. Primary cause of incident <input checked="" type="checkbox"/> Damage resulted from action of operator or his agent. <input type="checkbox"/> Damage resulted from action by outside party/third party. <input type="checkbox"/> Damage by earth movement <input type="checkbox"/> Subsidence <input type="checkbox"/> Landslide/washout <input type="checkbox"/> Frost <input type="checkbox"/> Other _____ <input type="checkbox"/> Damage by lightning or fire		
2. Locating information (for damage resulting from action of outside party/third party)		
a. Did operator get prior notification that equipment would be used in the area? <input type="checkbox"/> Yes Date received / / / mo. / / / day / / / yr. <input type="checkbox"/> No		
b. Was pipeline location marked either as a result of notification or by markers already in place? <input type="checkbox"/> Yes <input type="checkbox"/> Permanent markers <input type="checkbox"/> Temporary stakes <input type="checkbox"/> Other _____ <input type="checkbox"/> No		
c. Does statute or ordinance require the outside party to determine whether underground facility (ies) exist? <input type="checkbox"/> Yes <input type="checkbox"/> No		
3. Additional Information: CONTRACTOR BACKHOE OPERATOR DID NOT USE CAUTION WHILE EXCAVATING AROUND SERVICE LINE.		
PART C - CONSTRUCTION DEFECT		
1. Cause <input type="checkbox"/> Poor workmanship during construction <input type="checkbox"/> Physical damage during construction		
<input type="checkbox"/> Operating procedure inappropriate <input type="checkbox"/> Error in operating procedure application <input type="checkbox"/> Other _____		
2. Additional Information:		
PART D - OTHER		
Brief Description:		

Form RSPA F 7100.1 (3-84)

Exhibit 1: U. S. Department of Transportation Incident Reporting Form (3 of 4)

Incident at 9 Bonito Drive, Framingham, Massachusetts

At approximately 08:21 a.m. on May 24, 2002 a backhoe operator employed by Pipeline Construction, a contractor for NSTAR Gas, inadvertently pulled a 1" steel service to 9 Bonito Drive, Framingham. The contract crew was excavating to perform a service tie-over from an existing 2" steel main to a new 4" plastic main. The service pulled through the cellar wall and broke at the threads under the service regulator. An NSTAR employee was in the cellar attempting to shut off the service line valve when the service was pulled. The NSTAR employee immediately attempted to evacuate three persons from the house. An explosion occurred in the house at approx. 08:22 a.m. Two persons were still in the house when the explosion occurred but escaped without major injury. One person reported minor scrapes on her wrist. The Framingham Fire Department was immediately notified by NSTAR and two gas company crews were dispatched to the site. The service tee was pinned off at 08:47 a.m. The Fire Department then extinguished the ensuing fire.

An NSTAR employee had previously properly marked the main and service lines on Bonito Drive. Depths of the main and services were unknown at the time the employee marked the lines. The service to #9 Bonito was 4' 2" deep at the service tee, which had been excavated prior to the incident. Approximately 3' from the existing 2" steel main, where the backhoe operator was excavating to make more room for the service tie-over when the incident occurred, the service line changed elevation to 2' 8" due to a drain line. During the investigation it was discovered that the backhoe operator believed he could excavate safely with the bucket to a depth of approximately 4' when he actually pulled the service line at 2' 8".



THE COMMONWEALTH OF MASSACHUSETTS
OFFICE OF CONSUMER AFFAIRS AND BUSINESS REGULATION

COPY

DEPARTMENT OF
TELECOMMUNICATIONS & ENERGY

ONE SOUTH STATION

BOSTON, MA 02110
(617) 305-3500

JANE SWIFT
GOVERNOR

JENNIFER DAVIS CAREY
DIRECTOR OF CONSUMER
AFFAIRS
AND BUSINESS REGULATION

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

PAUL B. VASINGTON
CHAIRMAN

JAMES CONNELLY, ESQ.
COMMISSIONER

W. ROBERT KEATING
COMMISSIONER

EUGENE J. SULLIVAN, JR.
COMMISSIONER

DEIRDRE K. MANNING
COMMISSIONER

August 22, 2002

Pipeline Equipment and Supply Inc.
P.O. Box 2261
Woburn, MA 01888

SUBJECT: NOTICE OF PROBABLE VIOLATION

To Whom It May Concern:

Based on information submitted to the Department of Telecommunications and Energy ("Department"), the Department has reason to believe that you performed excavations on or about May 24, 2002, on Bonito Drive, Framingham, without complying with the provisions of Chapter 82, Section 40 of the General Laws ("Dig Safe Law").

In a report submitted by NSTAR Gas and in a preliminary investigation, the Department finds that Pipeline Equipment and Supply Inc. failed to exercise precaution while excavating in an area of a marked natural gas line. G.L. c. 82 § 40C states in relevant part:

When excavating in close proximity to the underground facilities of any company when such facilities are to be exposed, non-mechanical means shall be employed, as necessary, to avoid damage in locating such facilities and further excavation shall be performed employing reasonable precautions to avoid damage to any underground utilities...

Pipeline Equipment and Supply Inc. was utilizing mechanized equipment when it damaged the gas service line to the residence on Bonito Drive, Framingham.

If you are found to have violated the Dig-Safe Law, you will be required to pay a civil penalty of \$500.00, being a first offense within the past 12-month period.

FAX: (617) 345-9101 TTY: (800) 323-3298
www.mass.gov/dpu

Exhibit 2: NOPV sent to Pipeline
Equipment and Supply, Inc. (1 of 6)

COPY

-2-

You have a right to appear before a Department Investigator in an informal conference on September 24, 2002 at 11:15 A.M., at the Department's offices at One South Station, 2nd floor, Boston. You have a right to be represented at the informal conference by an attorney or other person, and you have the right to present relevant documents to the Investigator at the conference. At the informal conference, the Investigator will make available to you any evidence which indicates that you may have violated the law, and you will have the opportunity to rebut this evidence.

If you wish to dispute the allegations in this notice but do not want to come to the informal conference, you may send to the Department at the above address a written reply to this notice. This written reply must be filed with the Department on or before September 24, 2002, and must be signed by you. The reply must include a complete statement of all relevant facts including a complete description of the precautions you took to protect the underlying facilities and why those precautions failed.

If you do not choose to dispute the violation alleged in this notice, you should sign and return the enclosed consent order. The consent order must be accompanied by a check or money order for \$500.00, being a first offense within the past 12-month period, made payable to the Commonwealth of Massachusetts, and mailed to the Department of Telecommunication and Energy, Pipeline Engineering and Safety Division, One South Station, 2nd floor, Boston, MA 02110.

If you do not respond to this notice, as specified above, by September 24, 2002, you will be deemed to have admitted the allegations and will be subject to statutory civil penalties.

If you have any questions concerning this notice, please direct your inquiries to Virgil Glenn at (617) 305-3537. Also direct all written responses to Mr. Glenn at the above address or you may fax your response to (617) 478-2589.

Very truly yours,



Robert F. Smallcomb
Director
Pipeline Engineering and Safety Division

RFS/dh
enc.

**Exhibit 2: NOPV sent to Pipeline
Equipment and Supply, Inc. (2 of 6)**



The Commonwealth of Massachusetts
 DEPARTMENT OF
 TELECOMMUNICATIONS AND ENERGY

COPY

CONSENT ORDER

1. This document is a Consent Order entered into between the Department of Telecommunications and Energy of the Commonwealth of Massachusetts ("Department") and Pipeline Equipment and Supply Inc. ("Respondent").

2. Pursuant to 220 C.M.R. § 99.11(1), this Consent Order need not constitute an admission by the Respondent that a violation occurred.

3. The Department, pursuant to the terms of this Consent Order, hereby imposes upon the Respondent a civil penalty of \$500.00, being a first offense within the past 12-month period, pursuant to G.L. c. 82 § 40A, § 40E, and 220 C.M.R. § 99.12. The Respondent hereby agrees, upon signing and returning this Consent Order to the Department, to attach payment of the penalty by check or money order payable to the Commonwealth of Massachusetts.

4. The Department and the Respondent also agree that this Consent Order shall constitute a final Order of the Department. The Respondent hereby expressly waives any and all right of appeal or right of judicial review that might otherwise attach to a final Order of the Department.

 Date

 Pipeline Equipment and Supply Inc.

 Date

 Robert F. Smallcomb
 Director
 Pipeline Engineering & Safety Division
 Department of Telecommunications and Energy



MASSACHUSETTS DEPARTMENT OF PUBLIC UTILITIES
PIPELINE ENGINEERING AND SAFETY DIVISION

COPY

Report of Dig-Safe Violations and/or
Damage to Underground Facilities

Date: May 24, 2002 NSTAR Gas File #: 200213052401

Reporting Party/Tel. No.: NSTAR GAS

Mailing Address: 157 Cordaville Road, Southborough, MA 01772

Person Reporting: Scott Alexander

Location, Date & Time of Incident: 9 Bonito Dr., Framingham, MA
May 24, 2002, 8:25AM.

Operator of Underground Facility: NSTAR GAS

Facility Siting: In a public way On private property
Injury Occurred: Yes No If so, describe: Homeowner was
treated for minor wound on wrist and gas inspector was sent to
hospital for precautionary reasons and released.

Damage Occurred: Yes No If so, provide a technical
description of the damaged facility to include: Type of facility
(svc., main, other), material, pressure/voltage, depth of cover,
repair costs and other pertinent data: 1" I.P. steel service
was bent resulting in damage to outside piping. D=2'8".

Year of installation (If less than 12 months provide month and date.)
1958

Description of activity causing damage, citing any lack of precaution:
Contractor was excavating 1" steel service to perform tie in to
new gas main.

Were marks within 18" of facility? Yes No

Were photographs taken? Yes No

Is the excavator being held liable for damages: Yes No

When was the incident reported and by whom: Bill Gorman at time of
incident.

Excavating Co: Pipeline Equipment and Supply Tel.No: 781-760-7409

Address: P.O. 2261, Woburn, MA Zip: 01888

Equipment /Reg. No.: N/A Operator: J. Palermo

Dig-Safe Number: 20021809201 (Attach D.S. Msg. if applicable).

If additional remarks are necessary to fully describe the disposition
of the above, please attach a separate sheet.

Please direct all inquiries to NSTAR GAS to:
John E. Dustin, Manager of Technical Services
(508)-305-6880

Exhibit 2: NOPV sent to Pipeline
Equipment and Supply, Inc. (4 of 6)

COPY

NSTAR Gas File# 200213052401

Date: 5/24/02

Incident Location: 9 Bonito Dr., Framingham, MA

SUPPLEMENTAL DIG-SAFE INFORMATION

1. Pictures-at least 6 photos-two close up shots from opposite sides of the damage and two wide area shots from opposite sides of the damage-two photos of the equipment causing the damage (try to get the registration # and company name for a total of 6 pictures-free to talk more.

2. How did you know who the damager was? (i.e. they were the only ones on the site, they admitted to the damage, their equipment was parked nearby, dig-safe, etc.)
They were at the site along with Nstar Gas. Co. inspector William Gorman

3. Is there any doubt in your mind who damaged the property? If so, why?
No

4. What were the weather conditions at the site? Sunny and warm

5. How deep was the excavation? 4' deep at the main. 2'8" at the service in the tree lawn.

6. List everyone present at the site. See detailed explanation on pg. 3 of report.

7. Is there any doubt that the facilities were correctly/incorrectly marked (circle the correct answer)

8. Does anyone claim to be injured at the site? Who and what actions were taken?
One of the homeowners received a small cut on her wrist and Nstar Gas Co. employee, William Gorman, was sent to the hospital for observation and released.

9. Is there any evidence that the damager was negligent in failing to maintain marks, using power equipment near the facilities, or being careless?
The backhoe operator did not exercise caution when excavating over the
gas service.

10. Indicate to the best of your knowledge what exactly happened. Did this cause a service interruption? See detailed explanation on page 3 of this report.

Exhibit 2: NOPV sent to Pipeline Equipment and Supply, Inc. (5 of 6)

COPY

PS Form 3811, August 2001
Domestic Return Receipt
102595-02-M-1035

2. Article Number
(Transfer from service label)
7002 0510 0001 7827 9498

1. Article Addressed to:
Pipeline Equipment and Supply Inc
P.O. Box 2261
Labrum, MA 01888

3. Service Type
 Certified Mail
 Express Mail
 Registered
 Insured Mail
 C.O.D.

4. Restricted Delivery? (Extra Fee)
 Yes

D. Is delivery address different from item 1? Yes No
If YES, enter delivery address below:

B. Received by (Printed Name)
C. Date of Delivery

A. Signature
 Addressee
 Agent

COMPLETE THIS SECTION ON DELIVERY

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

7002 0510 0001 7827 9498

OFFICIAL USE

Postage	\$
Certified Fee	\$
Return Receipt Fee (Endorsement Required)	\$
Restricted Delivery Fee (Endorsement Required)	\$
Total Postage & Fees	\$

Sent To: Pipeline Equipment and Supply Inc
Street, Apt. No. or PO Box No. P.O. Box 2261
City, State, ZIP+4 Labrum MA 01888

PS Form 3800, January 2001 See Reverse for Instructions

Exhibit 2: NOPV sent to Pipeline Equipment and Supply, Inc. (6 of 6)



JANE SWIFT
GOVERNOR

JENNIFER DAVIS CAREY
DIRECTOR OF CONSUMER
AFFAIRS
AND BUSINESS REGULATION

THE COMMONWEALTH OF MASSACHUSETTS
OFFICE OF CONSUMER AFFAIRS AND BUSINESS REGULATION

**DEPARTMENT OF
TELECOMMUNICATIONS & ENERGY**

ONE SOUTH STATION
BOSTON, MA 02110
(617) 305-3500

COPY

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

August 29, 2002

PAUL B. VASINGTON
CHAIRMAN

JAMES CONNELLY, ESQ.
COMMISSIONER

W. ROBERT KEATING
COMMISSIONER

EUGENE J. SULLIVAN, JR.
COMMISSIONER

DEIRDRE K. MANNING
COMMISSIONER

Mr. Samy H. Ibrahim
NSTAR Electric and Gas Company
One NSTAR Way, NE-350
Westwood, MA 02090-9230

SUBJECT: NOTICE OF PROBABLE VIOLATION

Dear Mr. Ibrahim:

Based on a preliminary investigation by the Department of Telecommunications and Energy ("Department"), the Department has reason to believe that NSTAR performed excavations on or about May 24, 2002, at 9 Bonito Drive, Framingham, without complying with the provisions of Chapter 82, Section 40 of the General Laws ("Dig Safe Law").

G.L. c. 82, sec. 40C states in relevant part:

When excavating in close proximity to the underground facilities of any company when such facilities are to be exposed, non-mechanical means shall be employed, as necessary, to avoid damage in locating such facility and any further excavation shall be performed employing reasonable precautions to avoid damage to any underground facilities including, but not limited to, any substantial weakening of structural or lateral support of such facilities, penetration or destruction of any pipe, main, wire or conduit or the protective coating thereof, or damage to any pipe, main, wire or conduit.

NSTAR employed mechanized equipment which caused damage and destruction to a pipeline supplying natural gas to 9 Bonito Drive, Framingham. This appears to be a violation of G.L. c. 82, sec. 40C ("Dig Safe Law").

FAX: (617) 345-9101 TTY: (800) 323-3298
www.mass.gov/dpu

Exhibit 3: NOPV sent to NSTAR Company. (1 of 6)

COPY

-2-

If you are found to have violated the Dig-Safe Law, you will be required to pay a civil penalty of \$3,000.00, being a repeat offense within the past 12-month period.

You have a right to appear before a Department Investigator in an informal conference on October 1, 2002 at 9:00 A.M., at the Department's offices at One South Station, 2nd floor, Boston. You have a right to be represented at the informal conference by an attorney or other person, and you have the right to present relevant documents to the Investigator at the conference. At the informal conference, the Investigator will make available to you any evidence which indicates that you may have violated the law, and you will have the opportunity to rebut this evidence.

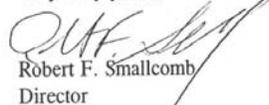
If you wish to dispute the allegations in this notice but do not want to come to the informal conference, you may send to the Department at the above address a written reply to this notice. This written reply must be filed with the Department on or before October 1, 2002, and must be signed by you. The reply must include a complete statement of all relevant facts including a complete description of the precautions you took to protect the underlying facilities and why those precautions failed.

If you do not choose to dispute the violation alleged in this notice, you should sign and return the enclosed consent order. The consent order must be accompanied by a check or money order for \$3,000.00, being a repeat offense within the past 12-month period, made payable to the Commonwealth of Massachusetts, and mailed to the Department of Telecommunication and Energy, Pipeline Engineering and Safety Division, One South Station, 2nd floor, Boston, MA 02110.

If you do not respond to this notice, as specified above, by October 1, 2002, you will be deemed to have admitted the allegations and will be subject to statutory civil penalties.

If you have any questions concerning this notice, please direct your inquiries to Virgil Glenn at (617) 305-3537. Also direct all written responses to Mr. Glenn at the above address or you may fax your response to (617) 478-2589.

Very truly yours,



Robert F. Smallcomb
Director

RFS/dh
enc.

Exhibit 3: NOPV sent to NSTAR Company. (2 of 6)



The Commonwealth of Massachusetts
DEPARTMENT OF
TELECOMMUNICATIONS AND ENERGY

COPY

CONSENT ORDER

1. This document is a Consent Order entered into between the Department of Telecommunications and Energy of the Commonwealth of Massachusetts ("Department") and NSTAR Electric and Gas Company ("Respondent").
2. The Department finds that a violation occurred on May 24, 2002 at 9 Bonito Drive, Framingham.
3. Pursuant to 220 C.M.R. § 99.11(1), this Consent Order need not constitute an admission by the Respondent that a violation occurred.
4. The Department, pursuant to the terms of this Consent Order, hereby imposes upon the Respondent a civil penalty of \$3,000.00, being a repeat offense within the past 12-month period, pursuant to G.L. c. 82 § 40A, § 40E, and 220 C.M.R. § 99.12. The Respondent hereby agrees, upon signing and returning this Consent Order to the Department, to attach payment of the penalty by check or money order payable to the Commonwealth of Massachusetts.
5. The Department and the Respondent also agree that this Consent Order shall constitute a final Order of the Department. The Respondent hereby expressly waives any and all right of appeal or right of judicial review that might otherwise attach to a final Order of the Department.

Date

NSTAR Electric and Gas Company

Date

Robert F. Smallcomb
Director
Pipeline Engineering & Safety Division
Department of Telecommunications and Energy



MASSACHUSETTS DEPARTMENT OF PUBLIC UTILITIES
PIPELINE ENGINEERING AND SAFETY DIVISION

Report of Dig-Safe Violations and/or
Damage to Underground Facilities

COPY

Date: May 24, 2002 NSTAR Gas File #: 200213052401

Reporting Party/Tel. No.: NSTAR GAS

Mailing Address: 157 Cordaville Road, Southborough, MA 01772

Person Reporting: Scott Alexander

Location, Date & Time of Incident: 9 Bonito Dr., Framingham, MA
May 24, 2002, 8:25AM.

Operator of Underground Facility: NSTAR GAS

Facility Siting: In a public way On private property
Injury Occurred: Yes No If so, describe: Homeowner was
treated for minor wound on wrist and gas inspector was sent to
hospital for precautionary reasons and released.

Damage Occurred: Yes No If so, provide a technical
description of the damaged facility to include: Type of facility
(svc., main, other), material, pressure/voltage, depth of cover,
repair costs and other pertinent data: 1" I.P. steel service
was bent resulting in damage to outside piping. D=2'8".

Year of installation (If less than 12 months provide month and date.)
1958

Description of activity causing damage, citing any lack of precaution:
Contractor was excavating 1" steel service to perform tie in to
new gas main.

Were marks within 18" of facility? Yes No

Were photographs taken? Yes No

Is the excavator being held liable for damages: Yes No

When was the incident reported and by whom: Bill Gorman at time of
incident.

Excavating Co: Pipeline Equipment and Supply Tel.No: 781-760-7409

Address: P.O. 2261, Woburn, MA Zip: 01888

Equipment /Reg. No.: N/A Operator: J. Palermo

Dig-Safe Number: 20021809201 . (Attach D.S. Msg. if applicable).

If additional remarks are necessary to fully describe the disposition
of the above, please attach a separate sheet.

Please direct all inquiries to NSTAR GAS to:
John E. Dustin, Manager of Technical Services
(508)-305-6880

Exhibit 3: NOPV sent to NSTAR Company. (4 of 6)

NSTAR/Gas File #:200213052401

Date:5/24/02

Incident Location: 9 Bonito Dr., Framingham, MA

COPY

2.

ALLEGED VIOLATION(S) OF DIG-SAFE (PLEASE CHECK)

1. [] Notice of excavation location was not given to the operator(s) of underground facilities or Dig-Safe System, Inc. at least seventy-two (72) hours (exclusive of Saturday, Sunday and holidays) but not more than thirty (30) calendar days before the proposed excavation.
2. [] The underground facility was not marked or was inadequately marked by the operator of the facility.
3. [] The markings of underground facilities was not maintained by the excavator.
4. [] The original markings of underground facilities were lost and remarking was not requested at least twenty-four (24) hours before the excavation began or continued.
5. [X] Excavation was not performed with precaution to prevent weakening of support to pipes, mains, wires or conduits, or damage to the protective coating thereof and/or severance of any such pipe, main, wire, or conduit. Attach support of allegations.
6. [] Damage occurred to underground facility and operator thereof was not contacted by excavator.
7. [] A permit to excavate in a public way was issued by the officer or board having charge of such way before such time as copies of the required notices to operators of underground facilities are filed by the applicant for the permit.
8. [] If blasting was employed, the initial notification or subsequent notification did not indicate the date and specific location of the blasting.
9. [] Other -Accidental -Un-avoidable -In-conclusive

Scott Alexander, Distribution Supervisor

Signature/Title of Reporting Person

Please direct all inquiries to NSTAR GAS to:
John E. Dustin, Manager of Technical Services
(508)-305-6880

Exhibit 3: NOPV sent to NSTAR Company. (5 of 6)

NSTAR Gas File# 200213052401

Date: 5/24/02

Incident Location: 9 Bonito Dr., Framingham, MA

COPY

SUPPLEMENTAL DIG-SAFE INFORMATION

1. Pictures—at least 6 photos—two close up shots from opposite sides of the damage and two wide area shots from opposite sides of the damage—two photos of the equipment causing the damage (try to get the registration # and company name for a total of 6 pictures—free to take more.

2. How did you know who the damager was? (i.e. they were the only ones on the site, they admitted to the damage, their equipment was parked nearby, dig-safe, etc.)
They were at the site along with Nstar Gas. Co. inspector William Gorman

3. Is there any doubt in your mind who damaged the property? If so, why?
No

4. What were the weather conditions at the site? Sunny and warm

5. How deep was the excavation? 4' deep at the main. 2'8" at the service in the tree lawn.

6. List everyone present at the site. See detailed explanation on pg. 3 of report.

7. Is there any doubt that the facilities were correctly/incorrectly marked (circle the correct answer)

8. Does anyone claim to be injured at the site? Who and what actions were taken?
One of the homeowners received a small cut on her wrist and Nstar Gas Co. employee, William Gorman, was sent to the hospital for observation and released.

9. Is there any evidence that the damager was negligent in failing to maintain marks, using power equipment near the facilities, or being careless?
The backhoe operator did not exercise caution when excavating over the
gas service.

10. Indicate to the best of your knowledge what exactly happened. Did this cause a service interruption? See detailed explanation on page 3 of this report.

Exhibit 3: NOPV sent to NSTAR Company. (6 of 6)



Exhibit 4

The Commonwealth of Massachusetts
DEPARTMENT OF
TELECOMMUNICATIONS AND ENERGY

CONSENT ORDER

\$3,000.00

1. This document is a Consent Order entered into between the Department of Telecommunications and Energy of the Commonwealth of Massachusetts ("Department") and NSTAR Electric and Gas Company ("Respondent").
2. The Department finds that a violation occurred on May 24, 2002 at 9 Bonito Drive, Framingham.
3. Pursuant to 220 C.M.R. § 99.11(1), this Consent Order need not constitute an admission by the Respondent that a violation occurred.
4. The Department, pursuant to the terms of this Consent Order, hereby imposes upon the Respondent a civil penalty of \$3,000.00, being a repeat offense within the past 12-month period, pursuant to G.L. c. 82 § 40A, § 40E, and 220 C.M.R. § 99.12. The Respondent hereby agrees, upon signing and returning this Consent Order to the Department, to attach payment of the penalty by check or money order payable to the Commonwealth of Massachusetts.
5. The Department and the Respondent also agree that this Consent Order shall constitute a final Order of the Department. The Respondent hereby expressly waives any and all right of appeal or right of judicial review that might otherwise attach to a final Order of the Department.

9-11-02
Date



NSTAR Electric and Gas Company

9/23/02
Date



Robert F. Smallcomb
Director
Pipeline Engineering & Safety Division
Department of Telecommunications and Energy



Exhibit 4: Consent Order signed by NSTAR Company.



The Commonwealth of Massachusetts

DEPARTMENT OF
TELECOMMUNICATIONS AND ENERGY

February 11, 2003

D.T.E. 02-DS-1

In the matter of Pipeline Equipment & Supply regarding an alleged violation of G.L. c. 82, § 40 ("Dig Safe Law").

On August 22, 2002, the Department of Telecommunications and Energy ("Department") issued Pipeline Equipment & Energy Supply Inc. ("Respondent") a Notice of Probable Violation ("NOPV") stating that there is reason to believe that the Respondent performed excavations on or about May 24, 2002, at 2 Bonito Drive, Framingham, without complying with the provisions of Chapter 82, Section 40 of the General Laws ("Dig Safe Law"). Specifically, the NOPV alleged that the Respondent failed to exercise reasonable precaution which resulted in damage to an underground utility operated by NSTAR gas and a structure at 9 Bonito Drive, Framingham.

The NOPV informed the Respondent that it had a right to appear before a Department hearing officer in an informal conference on September 24, 2002, at the Department's offices at One South Station, Boston, Massachusetts. The NOPV also informed the respondent that it could submit a written reply to the Department by September 24, 2002 instead of appearing at the hearing.

The NOPV stated that if the Respondent did not respond to the notice as specified, it would be deemed to have admitted the allegations and would be subject to statutory civil penalties under G.L. c. 82, § 40. The NOPV was sent to the Respondent by certified mail and was received by the Respondent on August 27, 2002. The Respondent did not reply to the Department, nor did it appear at the informal conference on September 24, 2002. A second notice was mailed November 13, 2002 providing an additional opportunity for the Respondent to appear or respond within ten days. Again, there was no response from the Respondent.



Exhibit 5: Remedial Order sent to Pipeline
Equipment and Supply, Inc. (1 of 2)

We find that the Respondent violated the Dig Safe Law under G.L. c. 82, § 40, as stated in the NOPV.

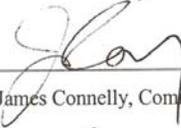
Accordingly, after due notice and consideration, it is

ORDERED: That Pipeline Equipment and Supply Inc. shall pay a civil penalty of \$500.00 to the Commonwealth of Massachusetts by submitting a check or money order to the Department of Telecommunications and Energy, payable to the Commonwealth of Massachusetts, within 30 days of the date of this Order.

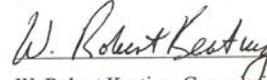
By Order of the Department,



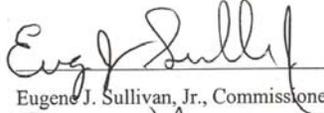
Paul B. Vasington, Chairman



James Connelly, Commissioner



W. Robert Keating, Commissioner



Eugene J. Sullivan, Jr., Commissioner



Deirdre K. Manning, Commissioner

Exhibit 5: Remedial Order sent to Pipeline Equipment and Supply, Inc. (2 of 2)



Exhibit 6: Four-inch diameter plastic main above and parallel to the two-inch steel main. Note the plug tap in the hole on the steel main.

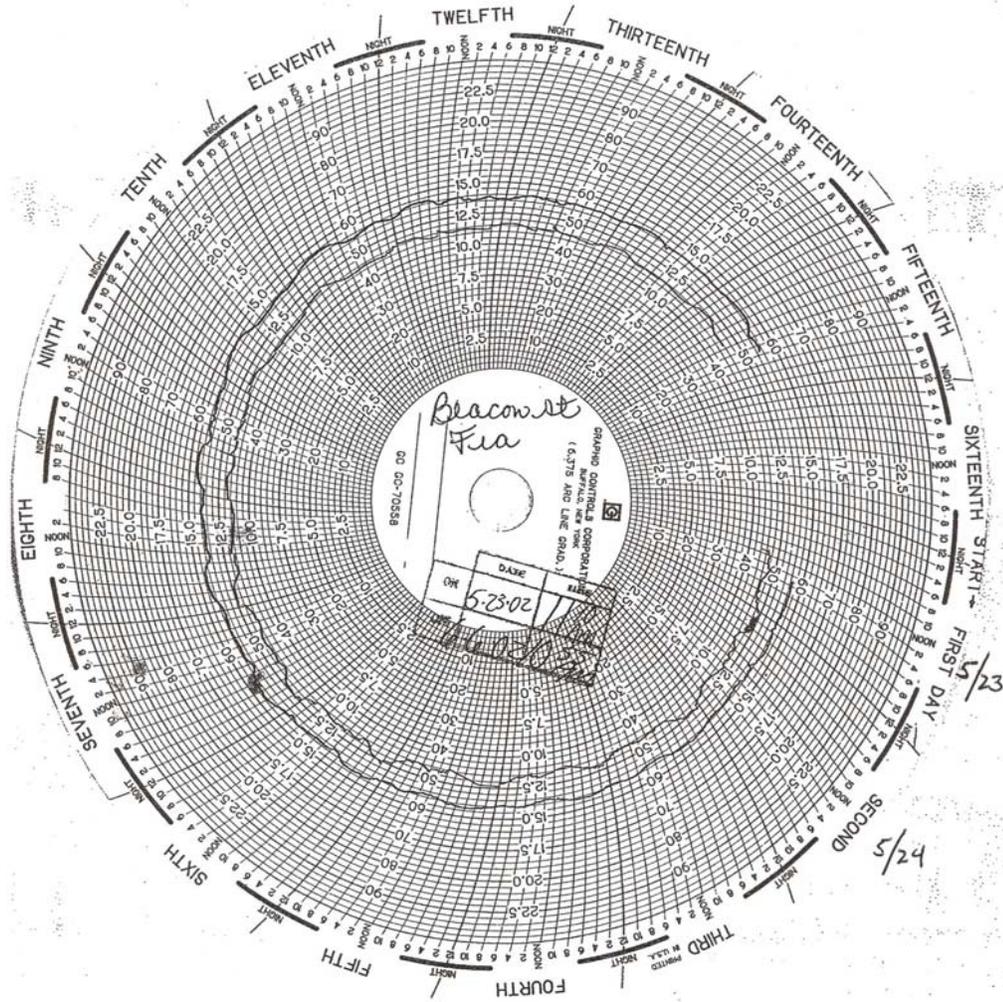


Exhibit 7: Telemetry reports of pressure readings at locations near Bonito Drive at the time of the incident. (1 of 5)

Frammingham Plant (Irving St.) Outlet Pressure

record: HFRA2049P freq: 5 unit: m latest time: 10
mem_of_st: 327864 max n: 0 cur n: 0 front: 1 rear: 0
daily file index record: 20 entry: 16
seconds left to update to disk: 3000
time since last calculation: 28.75 SEC.
time since last calculation to collect the next entry: 300.00 SEC.
type: SNP record: HFRA2049P frequency: 5 unit: m page 1
number time value status

number	time	value	status
1	24-MAY-2002 08:55:00.00	59.07	00000800
2	24-MAY-2002 08:50:00.00	59.02	00000800
3	24-MAY-2002 08:45:00.00	58.88	00000800
4	24-MAY-2002 08:40:00.00	58.88	00000800
5	24-MAY-2002 08:35:00.00	58.79	00000800
6	24-MAY-2002 08:30:00.00	58.86	00000800
7	24-MAY-2002 08:25:00.00	58.81	00000800
8	24-MAY-2002 08:20:00.00	59.25	00000800
9	24-MAY-2002 08:15:00.00	59.20	00000800
10	24-MAY-2002 08:10:00.00	59.16	00000800
11	24-MAY-2002 08:05:00.00	59.13	00000800
12	24-MAY-2002 08:00:00.00	59.11	00000800

Exhibit 7: Telemetry reports of pressure readings at locations near Bonito Drive at the time of the incident. (2 of 5)

P-3 (Route 9) Outlet Pressure

record: HP.32037P freq: 5 unit: m latest time: 10-JUN-2002
mem_ofst: 327864 max n: 0 cur n: 0 front: 1 rear: 0
daily file index record: 36 entry: 12
seconds left to update to disk: 2820
time since last calculation: 229.07 SEC.
time since last calculation to collect the next entry: 300.00 SEC.
type: SNP record: HP.32037P frequency: 5 unit: m page 1

number	time	value	status
1	24-MAY-2002 08:55:00.00	56.20	00000800
2	24-MAY-2002 08:50:00.00	56.18	00000800
3	24-MAY-2002 08:45:00.00	56.04	00000800
4	24-MAY-2002 08:40:00.00	55.95	00000800
5	24-MAY-2002 08:35:00.00	55.91	00000800
6	24-MAY-2002 08:30:00.00	56.09	00000800
7	24-MAY-2002 08:25:00.00	56.20	00000800
8	24-MAY-2002 08:20:00.00	56.27	00000800
9	24-MAY-2002 08:15:00.00	56.25	00000800
10	24-MAY-2002 08:10:00.00	55.98	00000800
11	24-MAY-2002 08:05:00.00	55.95	00000800
12	24-MAY-2002 08:00:00.00	55.98	00000800

Exhibit 7: Telemetry reports of pressure readings at locations near Bonito Drive at the time of the incident. (3 of 5)

Edgell Rd. Telemetry

```
record: HP.32040P      freq: 5  unit: m  latest time: 10-JUN-2002
mem_ofst: 327864  max n: 0  cur n: 0  front: 1  rear: 0
daily file index record: 36  entry: 14
seconds left to update to disk: 2880
time since last calculation: 90.43 SEC.
time since last calculation to collect the next entry: 300.00 SEC.
type: SNP  record: HP.32040P  frequency: 5  unit: m  page 1
number      time      value      status
=====
1 24-MAY-2002 08:55:00.00  54.89 00000800
2 24-MAY-2002 08:50:00.00  54.78 00000800
3 24-MAY-2002 08:45:00.00  54.78 00000800
4 24-MAY-2002 08:40:00.00  54.78 00000800
5 24-MAY-2002 08:35:00.00  54.56 00000800
6 24-MAY-2002 08:30:00.00  54.89 00000800
7 24-MAY-2002 08:25:00.00  54.89 00000800
8 24-MAY-2002 08:20:00.00  55.00 00000800
9 24-MAY-2002 08:15:00.00  55.00 00000800
10 24-MAY-2002 08:10:00.00  54.67 00000800
11 24-MAY-2002 08:05:00.00  55.00 00000800
12 24-MAY-2002 08:00:00.00  54.89 00000800
```

Exhibit 7: Telemetry reports of pressure readings at locations near Bonito Drive at the time of the incident. (4 of 5)

GAS SUPPLY OPERATIONS
9 BONITO DR. INVESTIGATION

Post-incident System Pressure Verification

Location	Pressure	Time	Instrument Used
P-3 Regulator	57 psig	9:00 AM	Test Guage
Edgell Rd. Telemeter	55.4 psig	11:00 AM	Test Guage

Exhibit 7: Telemetry reports of pressure readings at locations near Bonito Drive at the time of the incident. (5 of 5)

ORIGINAL

DISTRIBUTION Record

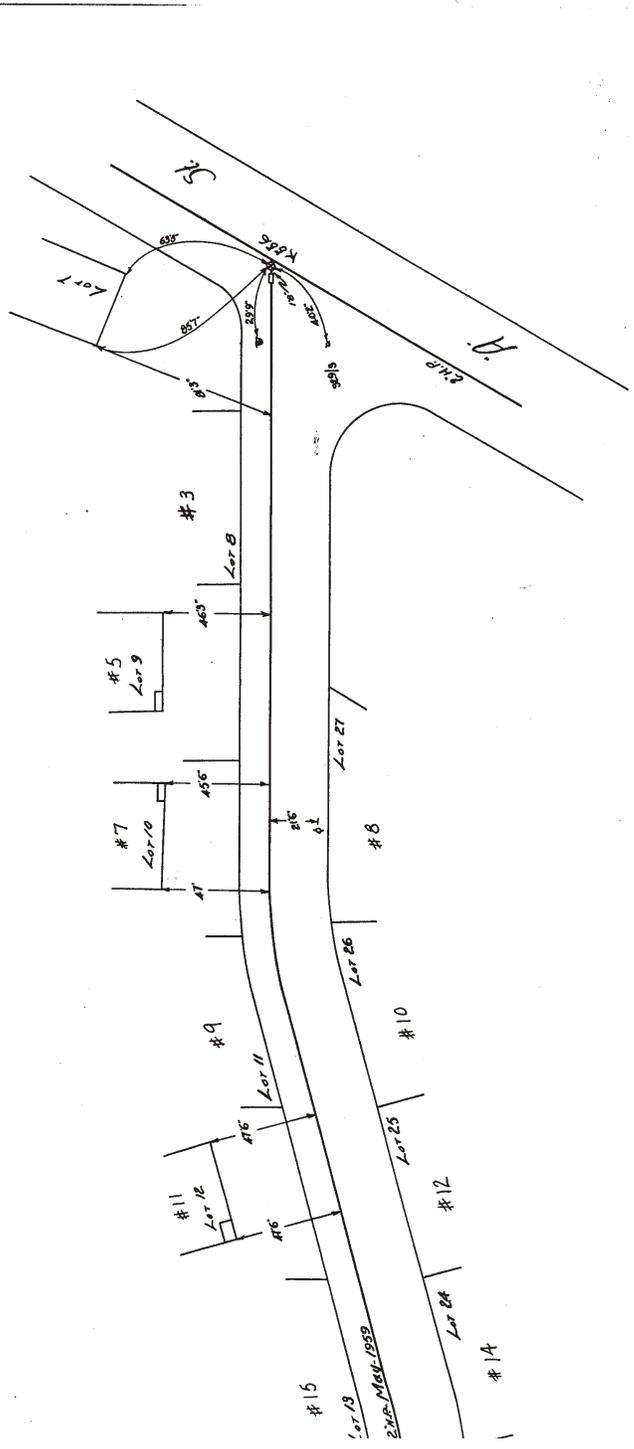
#9 No charge Service No 19269
 Tax Order
 Street & No Lot 11 Bonito Drive Fram District 19
 Name-Owner Alvin Realty Corp Work Order 76317-1
 Address-Owner 33 Washington St Boston Account 90 02629 Service-New Relay Date 12/5/58 19.....

COST SUMMARY	GAS		Size or Number	Public Property	Private Property	Cost Unit	COST Private Property	COST Public Property
	MATERIAL	PROPERTY						
Material	Pipe-Ft.	Cov	1	47				
Labor	"	"						
Auto	Caps	"	1	2				
Compressor	Elbows	"						
Total	Curb Stop	1092	1	1				
	Curb Box		7-7	1				
	Service Cock	1092	1	1				
	Plugs	"	1	1				
	"	"						
	Nipples	"	1 x 2	2				
	"	"						
	Tees	"	1	1				
	"	"						
	Dresser	"						
	Weld Tube	"	1	1				
	Fibre	"	5	4				
	TOTALS							

Barcode: *FR03423*

Service from R. H. P. Main on Bonito Dr St 6-12 1958 By K. H. S. P. CA-21C57 REV.

Exhibit 8: Installation records of the service line to #9 Bonito Drive. (1 of 2)



Bonito Drive
 FRAMINGHAM
 Scale: 1" = 40'
 Draw: 1959
 J.F.I.

Exhibit 9: Map of Bonito Drive, Framingham, showing the location of the two-inch diameter steel main.



Exhibit 10a: Front view of the house showing damage from the explosion and fire.



Exhibit 10b: Side view of the house showing damage from the explosion and fire.



Exhibit 10c: Rear view of the house showing damage from the explosion and fire.



Exhibit 11: Depth of the service line at the point where it was hit by the backhoe.



Exhibit 12: Gas meter damaged by the explosion and fire.



Exhibit 13: The service valve and service regulator with the crack at the regulator inlet.

5-29-02

ON 5-24-02 I GOT TO THE JOB SITE OF BONITO DR. IN FRAMINGHAM MA. AT ABOUT 8:00 AM. WHEN I PULLED UP AND PARKED I SAW THE CONTRACT CREW (PIPELINE) HAD ALREADY HAD A HOLE DUG AND THE SERVICE TEE TO #9 BONITO DR EXPOSED. THE CONTRACT CREW FOREMAN TOLD ME HE WAS READY TO HAVE IT PINNED OFF. I TOLD HIM THAT I HAD LINED UP A GAS CO CREW TO HELP WITH PIN OFFS. AND THAT THE SVC TEE LOOKED GOOD.

I SAW THAT THE HOME OWNER TO #7 WAS HOME AND WENT OVER TO TALK TO HER AND LOOK AT HER METER LOCATION IN THE CELLAR. I TOLD HER WE WOULD DIG HERS NEXT. THE CONTRACT FOREMAN CAME OVER TO TELL ME THE OWNER TO #9 HAD TO LEAVE. I SPOKE TO THE HOME OWNER AND ASKED HIM IF I COULD TURN HIS GAS VALVE OFF IN HIS BASEMENT SO WE WOULD BE ABLE TO COMPLETE OUR WORK OUTSIDE. I ASKED WAYNE (CONTRACT FOREMAN) TO GET ME A WRENCH. THE HOMEOWNER AND I WENT INTO THE HOUSE AND DOWN STAIRS TO THE METER. WE WERE TALKING AND I WAS ADJUSTING MY WRENCH TO FIT THE VALVE. JUST AS I WAS PUTTING THE WRENCH ON THE GAS VALVE IT SLAMMED INTO THE CONCRETE WALL. GAS STARTED BLOWING I KNEW IT WAS 60 LBS. PRESSURE AND THAT WE DID NOT HAVE MUCH TIME. I STARTED YELLING FOR EVERYONE TO GET OUT. WITH THE OWNER I FRONT OF ME GOING UP THE STAIRS I KEPT YELLING GET OUT. I KNEW HIS WIFE AND SOMEONE ELSE WERE IN THE HOUSE. WE GOT UP THE STAIRS I SAW TWO GOING OUT THE REAR DOOR TO MY LEFT. I TURNED RIGHT TO OPEN THE FRONT DOOR, TO TRY TO VENT. JUST BEFORE I GOT TO THE DOOR IT BLEW. I ENDED UP ON THE FRONT LAWN. I GOT BACK UP AND STARTED TO GO BACK IN FOR THE THIRD PERSON, WHEN THE OWNER CAME FROM OUT BACK AND SAID EVERYONE WAS OUT.

Exhibit 14: Statement of William Gorman, NSTAR
Distribution Technician, May 29, 2002. (1 of 2)

I GOT ON MY NEXTEL AND CALLED FOR HELP, THIS WAS ABOUT 8:30^{AM}, THEN I STARTED TO GO FROM HOUSE TO HOUSE AND CLEAR ~~THE~~ EVERY ONE OUT OF THE AREA. GAS CREW GOT THERE AND HELPED. WHEN THE FIRE DEPT. GOT THERE WE ASKED FOR A WATER CURTAIN, TO HELP PROTECT US IN THE SUC TEE HOLE ~~WHILE~~ WHILE WE PINNED IT OFF. ABOUT 8:40^{AM} I WAS TAKEN FROM THE SITE AFTER THAT.

William A Gorman

5-29-02

From: Bill Hobart
To: Don Bean
Date: May 31, 2002
Re: 9 Bonito Drive, Framingham

At approximately 8:25 a.m. I was informed by the Distribution Planners of a report of a house explosion at 9 Bonito Dr., Framingham. I immediately went to the radio where I heard Inspector Bill Gorman state that he was having trouble getting the gas shut off and that he needed assistance. He was informed by Planner Linda Aubrey that an NSTAR crew and the Fire Department were on their way.

I inquired as to what had just happened and was informed that the contractor crew had pulled the service which had broken in the wall of the cellar and there had been an explosion in the house. I asked if anyone was injured and was informed that Bill had evacuated the house but the explosion occurred while Bill was running for the front door and the blast had thrown Bill out the door into the yard. I asked if Bill was ok and was told he was. I was also informed that the home owner was out of the house but was knocked down by the explosion.

I contacted Bill on the Nextel and asked if the service tee could be pinned off. He stated that they were starting to work on it now.

At approximately 8:30 a.m. I contacted Don Bean, Director of Gas Distribution, and informed him of the incident. Don asked if there were any injuries and I told him there were none. Don instructed me to make sure the D.T.E. and D.O.T. were notified and to stay in contact with him. Don also instructed me to notify Samy Ibrahim, Vice President of Gas Operations and Mike Monihan, Director of Public Relations.

At 8:47 a.m. I was informed by Supervisor Alan Daoust that the service tee had been pinned off and the gas was off. I then contacted Bill Gorman on the Nextel and asked what had happened. Bill said he showed up on the job and the crew had already excavated to perform the service tie-over at 9 Bonito Drive. He said the homeowner had to leave so he grabbed a wrench and went into the cellar to shut off the inside cock with the homeowner. He said while he was adjusting the wrench the service cock slammed into the cellar wall and he heard gas blowing. He said he didn't think there was going to be much time and he knew there were people in the house so he immediately tried to get them out. He said he pushed the homeowner up the stairs and the homeowner went out the back. Bill said he went to the front door and all he can remember is seeing the front door disintegrate in front of him and the next thing he knew he was on the front lawn. I asked again if anyone was injured and he said everyone was all right. I asked Bill why the contractor pulled the service and he said he didn't know because when he went into the cellar he thought they were done digging. I told Bill to find somewhere to relax and I would see him shortly.

Exhibit 15: Memo from Bill Hobart, NSTAR, to Don Bean, NSTAR, May 31, 2002. (1 of 4)

Once the service had been secured I notified the Department of Telecommunications and Energy at 8:50 a.m. and informed Inspector Virgil Glen that one of our contractors had pulled a service resulting in a house explosion. Virgil said Bob Smallcomb, Director of Pipeline Safety and Engineering, would be in shortly and would let him know. I called again at 9:10 had spoke with Bob informing him of the incident. Bob stated that someone from his Department would be out to the site. I also informed Bob at this time that I would be reporting the incident to the Department of Transportation. At 9:23 a.m. I called the D.O.T. and spoke with a Ms. Jones and informed her of the incident. She asked a series of questions which I answered.

I then tried to call Dan Roach from the Claims Department to get someone out to the site to talk to the homeowner and assist in the investigation. At that time I did not reach anyone from Claims but Linda Butler had overheard me trying and said she worked near the Claims people in Westwood and she would try to get in touch with someone. On the way to the site I was informed that Cheryl Genereux, NSTAR Senior Claims Specialist, was on her way to Bonito Drive. Also on the way to the site I was informed that Joe Nolan, Vice President of Customer Care, was on his way to the site.

I arrived at the site at approximately 9:45 a.m. I noticed that there was still smoke coming from the house but the fire had been extinguished. I immediately spoke with the Incident Commander, Albert L. Ordway, Jr., Deputy Fire Chief Framingham Fire Department and asked if there was anything he needed assistance with. He said that everything was under control at the time. He asked what had happened and I gave him a brief update of what I knew at the time. I told him the contractor had inadvertently pulled the service which had broken in the cellar of the house. I also introduced myself to Joseph P. Leone, Fire Marshal Framingham Fire Department.

I asked Supervisor Bob Saster where Bill Gorman was. Bob informed me that they had sent Bill to the hospital to get checked out as a precautionary measure.

At approximately 9:50 a.m. I instructed Scott Alexander to instruct Bob Hemon, owner of Pipeline Construction, to send his crew for drug and alcohol testing.

At approximately 9:55 a.m. I called Richard Wallace, D.T.E. Inspector, who informed me that he was reroute and not to let anyone at the site disturb anything until he arrived. I then instructed Supervisor Al Daoust not to let anyone move or disturb anything around the site until the D.T.E. conducted their investigation.

At approximately 10:00 a.m. Joe Nolan and Cheryl Genereux had both showed up at the site and I briefed them on everything I knew at the time. They then went to speak to the homeowner.

At approximately 10:20 Richard Wallace and Ron Danielson, both D.T.E. inspectors arrived at the site. I explained to them that Bill Gorman had gone into the house to shut off the service line valve and while he was in the cellar the contractor pulled the service line which broke in the cellar.

Exhibit 15: Memo from Bill Hobart, NSTAR, to Don Bean, NSTAR, May 31, 2002. (2 of 4)

At approximately 10:30 a.m. I spoke with Manager Brian Blood and asked if he could line up a contractor to have the house boarded up for the owner, Mr. Robert Graham. Brian said he would take care of it. I also asked the police officer who was on detail to stay around afterwards until the crew finished boarding up the house and he replied he would.

A representative from the Department of Public Safety, Hugh O'Connor, arrived at the site. At approximately 10:45 a.m. Mr. O'Connor informed me that the backhoe operator, Joseph Palermo, did not have a valid license to operate.

At 11:00 a.m. Supervisor Scott Alexander informed me that Bob Hernon was sending his crew for drug and alcohol testing to Woburn. Jerry Fay from the NSTAR Safety Department was on site so Bill McCabe instructed Jerry to call Cathy Woeller from NSTAR Human Resources Department to set up the testing for the Pipeline Construction crew at a testing facility in Framingham. Bob Hernon then redirected his crew to Framingham.

An Officer from OSHA, Frank A. Vaughan, arrived on the site at approximately 11:45 a.m. I introduced myself and told him all correspondence regarding the incident would be conducted through me. He asked what had happened and I explained that the contractor crew was excavating to perform a service tie-over to a new main when they accidentally grabbed the service line that broke in the cellar. I also explained to Mr. Vaughan that the site was left as it was due to an order from the D.T.E. not to disturb anything until they completed their investigation. He then questioned what the markings in the street were which I explained to him. The water and sewer were marked along with the gas facilities as well as the premarks for our proposed construction. He then walked around the site taking notes. He later came to me and stated he didn't see anything wrong with what the gas crew was doing but he did want to talk to the contract crew. I informed him that the contract crew had gone for drug and alcohol tests and was unsure what time they would be returning. I believe Mr. Vaughan left the site sometime around 1:45 p.m.

I was informed at approximately 12:10 p. m. that Bill Gorman had left the hospital with his wife and he was fine. I then spoke with Bill on the telephone and instructed him to go to the facility in Framingham for his drug and alcohol test. Bill said he would have his wife drop him off at the Southboro yard and pick up a van and head for the facility for tests. Bill later showed up on the job site and spoke with Mr. And Mrs. Graham and then left for the day.

At this point the gas company crew on site hand dug a hole at the foundation of the house and cut the service line just before it entered the house. They then retrieved the section of pipe from where it entered the house to the meter.

When the fire apparatus had cleared the site I instructed Supervisor Al Daoust to have the welding performed to complete the pin off of the service tee. I then instructed him to excavate along the service to the curb cock to determine how much damage had been done to the 1" steel service line. After the excavation was completed it was discovered

Exhibit 15: Memo from Bill Hobart, NSTAR, to Don Bean, NSTAR, May 31, 2002. (3 of 4)

that the 1" steel service line ran up and over a drain line that was located approximately 3' from the service tee. The service at the main was installed at a depth of 4' 2" and where the Pipeline Construction crew had been excavating when Bill Gorman was in the cellar the service line was only 2' 8" deep due to the drain line. There were definite markings on the service line where the backhoe bucket had grabbed the line. I instructed Alan to have the piece of service line removed. Richard Wallace was leaving the site so he dropped the pipe and fittings off in the Southboro Training Room to Vito Zuschlag. Rich Wallace left the site at approximately 3:15 p.m. The gas company crew then backfilled the excavations and left the site around 3:50 p.m. Supervisor Al Daoust departed around 4:00 p.m.

At approximately 3:00 p.m. the Pipeline Construction crew returned from the drug and alcohol test, picked up their equipment and left the job site.

At approximately 4:05 p.m. the R. H. White crew completed boarding up the house and left the site. I then spoke with Robert Graham to see if him or his family required any further assist with anything. He stated all he wanted was his house back.

Exhibit 15: Memo from Bill Hobart, NSTAR, to Don Bean, NSTAR, May 31, 2002. (4 of 4)

ORDER NO.: 020758660



COMMITTED TO SERVING THE CUSTOMER AND THE COMMUNITY
1-800-572-9300

ACCOUNT NO: []
 N PHONE:
 ADDRESS: 2 BONITO DR. APT.: 5
 TOWN/ZIP: FARMINGHAM

BILLING ADDRESS:
 ACCOUNT NO: []
 NAME: PHONE:
 ADDRESS: NO CHARGE APT.:
 TOWN/ZIP:
 PREVIOUS STOP TIME: AM PM

SERVICE DATE: 5/29/02 START: 1050 AM STOP: 1115 AM AREA/FUNC. 15-4140
 PERFORMED BY: #2 START: AM STOP: AM AREA/FUNC.

DESCRIPTION OF WORK PERFORMED ASSIST GAS SUPPLY IN TAKING AN ODORANT SAMPLE AT THE WATER HEATER.

WORK STATUS	
CHARGE	METER WORK
WARRANTY	ODOR INVEST.
NO CHARGE	COMPLETE <input checked="" type="checkbox"/>
RECALL	INCOMPLETE
ODOR DETECTED:	YES <input type="checkbox"/> NO <input type="checkbox"/>

QTY	STOCK CODE	DESCRIPTION OF MATERIALS	UNIT PRICE	AMOUNT \$

LABOR CALC.: \$ / HR LABOR \$ TOTAL MATERIAL \$
 1st 15 min. SALES TAX
 Add'l TOTAL LABOR \$
 SR / OTHER DISCOUNT FLAT RATE \$ QTY FLAT RATE ODOR \$
 Yes No FLAT RATE PUMP \$
 CUSTOMER SIGNATURE X TOTAL BILLING \$

PAYMENT: MASTERCARD/VISA BILL ME
 MasterCard/Visa # _____ Exp. Date ___/___/___

MAINTENANCE CONTRACT CUSTOMERS ONLY (if applicable):
 I hereby acknowledge receipt of notification from NSTAR Gas that the heating / hot water equipment identified below and installed at the above service address does not qualify for coverage under the Home Heating Protection Plan for the following reasons: ___ Sized to large ___ Poor condition ___ Type not covered. I further acknowledge that, until such time as the equipment is deemed acceptable by NSTAR Gas, all requested service on such equipment will be chargeable at the current standard rates for both parts and labor.
 Appliance: _____ Make: _____ Model: _____ Serial #: _____
 CUSTOMER SIGNATURE: _____ DATE: _____

COMPONENTS CHECKED / ADJUSTED	
GENERAL	WARM AIR
MAIN BURNER	FAN CONTROL
PILOT	LIMIT CONTROL
RELAY	BLOWER MOTOR
GAS VALVE	ROLLEY BELT
THERMOSTAT	FAN HOUSING
BLUE PIPE	AIR FILTER
DRAFT	
MODULE	
TRANSFORMER	
VENT DAMPER	
DIVERTER	
HOT WATER	STEAM
AQUASTAT	PRESSURE TROL
PRESSURE GAUGE	PRESSURE GAUGE
EXPANSION TANK	GAUGE GLASS
GIRO. PUMP	LOW WATER CUTOFF
ZONE VALVES	SWITCH/WCO
PRESSURE RELIEF	PRESSURE RELIEF

INVESTIGATION:	EXISTING METER NO.	READ	NEW METER NO.	READ	ERT NO.
SAFETY COMMENT/RETAG NO.	METER LOC.	PLEASE SHUT OFF EXCHANGE REMOVE SET	CIRCLE TURN ON CH WH RG DR SR KH OTH		

OFFICE COPY

Exhibit 16: Leak survey reports for the area around #9 Bonito Drive. (1 of 8)

ORDER NO.: 020758815



COMMITTED TO SERVING THE CUSTOMER AND THE COMMUNITY
1-800-572-9300

ACCOUNT NO: _____
 NU: _____ PHONE: _____
 ADDRESS: 15 BONITO DR. APT: 5
 TOWN/ZIP: FRAMINGHAM, 01701

BILLING ADDRESS:
 ACCOUNT NO: _____
 NAME: _____ PHONE: _____
 ADDRESS: NO CHARGE APT: _____
 TOWN/ZIP: _____ PREVIOUS STOP TIME: _____ AM PM

SERVICE DATE: 5/29/02 START: 1025 AM STOP: 1050 AM AREA/FUNC: 15-440
 PERFORMED BY: #2 START: _____ AM PM STOP: _____ AM PM AREA/FUNC: _____

DESCRIPTION OF WORK PERFORMED: ASSIST GAS SUPPLY IN TAKING AN ODORANT SAMPLE AT THE WATER HEATER.

WORK STATUS	
CHARGE	METER WORK
WARRANTY	ODOR INVEST.
NO CHARGE	COMPLETE <input checked="" type="checkbox"/>
RECALL	INCOMPLETE
ODOR DETECTED:	YES <input type="checkbox"/> NO <input type="checkbox"/>

QTY	STOCK CODE	DESCRIPTION OF MATERIALS	UNIT PRICE	AMOUNT \$

LABOR CALC.:	\$ / HR	LABOR \$	TOTAL MATERIAL
1st 15 min.			SALES TAX
Add:			TOTAL LABOR
SR / OTHER DISCOUNT	FLAT RATE \$	QTY	FLAT RATE ODOR
<input type="checkbox"/> Yes <input type="checkbox"/> No			FLAT RATE PUMP

CUSTOMER SIGNATURE: _____
 CUSTOMER SIGNATURE

PAYMENT: MASTERCARD/VISA BILL ME
 MasterCard/Visa # _____ Exp. Date ____/____/____

MAINTENANCE CONTRACT CUSTOMERS ONLY (if applicable):
 I hereby acknowledge receipt of notification from NSTAR Gas that the heating / hot water equipment identified below and installed at the above service address does not qualify for coverage under the Home Heating Protection Plan for the following reasons: _____ Sized to large _____ Poor condition _____ Type not covered. I further acknowledge that, until such time as the equipment is deemed acceptable by NSTAR Gas, all requested service on such equipment will be chargeable at the current standard rates for both parts and labor.
 Appliance: _____ Make: _____ Model: _____ Serial #: _____
 CUSTOMER SIGNATURE: _____ DATE: _____

COMPONENTS CHECKED / ADJUSTED	
GENERAL	WATER/HEAT
MAIN BURNER	FAN CONTROL
PILOT	LIMIT CONTROL
DELAY	BLOWER MOTOR
GAS VALVE	PIPIE/BELT
THERMOSTAT	FAN HOUSING
FLUE PIPE	AIR FILTER
DRAFT	
MODULE	
TRANSFORMER	
VENT DAMPER	
DIVERTER	
HOT WATER	STEAM
AQUASTAT	PRESSURE RELIEF
PRESSURE GAUGE	PRESSURE GAUGE
EXPANSION TANK	GAUGE GLASS
CIRC. PUMP	LOW WATER CUTOFF
ZONE VALVES	SWITCH/LOG
PRESSURE RELIEF	PRESSURE RELIEF

METER INVESTIGATION:	EXISTING METER NO.	READ	NEW METER NO.	READ	SERIAL NO.
SAFETY COMMENT / RED TAG NO.:	METER LOG	PLEASE SHUT OFF GAS AT METER	EXCHANGE	REMOVE	SET

Exhibit 16: Leak survey reports for the area around #9 Bonito Drive. (7 of 8)



COMPANY ACTIVITY REPORT
COMPANY 200



* 5 7 8 2 6 5 *

DIG-SAFE #		ADDRESS #9 BONITO DR										TOWN FRA		DATE 5/24/02		PERMIT #		SHEET OF																
TYPE OF WORK		CODE NUMBER		OLD SERVICE				OLD MAIN				ACCOUNT#		SUB ACCOUNT#		BARRICADES #		PLATES - NUMBER		SIZE														
F.I. AREA				SIZE		MATRL		MIN YR/PRESS		LENGTH		SIZE		MATRL		VIN YR/PRESS		LENGTH																
LEAK REPORT#				SOM (ENTER)		PRESSURE TESTED (PSI) FOR		MIN. AN. (OU. PS)		SIZE																								
LEAK CLASS																																		
DEPTH OF PITS:										CONDITION OF PIPE:																								
PAVING					SOD / S.					PIPELINE					SAND, HT OR GRAVEL					LEDGE / BOULDERS					HOLES					MAIN VALVES				
L	W	TH	TYPE	LOC	L	W	FOOTAGE	SIZE	MAT	PRESS	DEPTH											L	W	D	L	W	D	L	W	D	L	W	D	
TYPE OF PAVING TO BE PUT BACK AT PERMIT															TYPE OF PAVING TO BE PUT BACK AT PERMIT																			
REMARKS: #9 BONITO DR FRA															PERSONNEL AND EQUIPMENT																			
TEC BAR AREA, THEN F.I. AREA AT THE END OF THE DAY, FOUND NO READINGS															EQUIPMENT & VEHICLES					NAME OR JOB TITLE					HOURS									
MATERIAL	PLAS	STL	SIZE	QUAN	MATERIAL	PLAS	STL	SIZE	QUAN	MATERIAL	PLAS	STL	SIZE	QUAN	MATERIAL	PLAS	STL	SIZE	QUAN															
PIPE					TEE					REDUCER																								
PIPE					T.D.W. TOP					L.W. COOK																								
METER FIT					T.D.W. TEE					ELBOW																								
RISER					EXP PLUG					CLAMP																								
COUPLING					PLUG					PLCS KIT																								
VALVE					CAP					MAXI CPLNG																								
WIRE					VALVE BOX					FLOW LIMITER																								
TAPE					TRNG FIT					EL FUSION CPLG																								
POSI LOCK					ANODES																													
NSTAR GAS SUPERVISOR															SUPERINTENDENT					CONTRACTOR					CONTRACTOR FOREMAN									

MF-57 CAT. # 13731 2/01

ORIGINAL

Exhibit 16: Leak survey reports for the area around #9 Bonito Drive. (8 of 8)

GAS SUPPLY OPERATIONS
9 BONITO DR. INVESTIGATION

Post-incident Odor Level Sampling

Address	Location	Sample 1	Sample 2
		Threshold / Distinct Level *	Threshold / Distinct Level *
2 Bonito Dr.	at water heater	0.040 / 0.050	0.025 / 0.050
7 Bonito Dr.	at water heater	0.025 / 0.050	0.050 / 0.075
15 Bonito Dr.	at water heater	0.070 / 0.080	0.075 / 0.090

* **Threshold Detection Level** - the concentration of natural gas and odorant mixture in air which the operator is barely able to detect an odor

***Distinct Odor Level** - the concentration of natural gas and odorant mixture in air which the operator is able to detect and identify an odor of natural gas

Exhibit 17: Odorant test results for the area around #9 Bonito Drive.



Exhibit 18: Plastic gas main recently installed at a depth of 24 inches below grade.

5-31-02

BACKHOE OPERATOR - JOSEPH PALERMO

- on 5/24/02 We Pipeline arrived on the Job site at approx. 7.15 At around 7.45 we started Jackhammering the asphalt around the hole which was to be dug. When the Jackhammering was finished I began to excavate the left hand side of the old and new main Gas pipe, when the new pipe was exposed my foreman began to hand dig for the old main. When the old main was found I was informed to start digging on the opposite side of the main. I started scratching the dirt out of the hole and after about 2 feet down I felt something catch the teeth of my bucket and I stopped digging. Within approx. 5 to 10 seconds I heard an explosion and seen smoke coming from the basement. I then heard my foreman yelling Rip it out meaning the service that I had caught prior to the explosion, I did so and the next thing I saw was my Inspector

Exhibit 19: Statement of Joseph Palermo, P.E.&S.,
May 31, 2002. (1 of 2)

Billy come running out of the house with another man behind him. Billy was yelling to clear the area, so I jumped out of the machine and started telling the men working with me to move out of the way and to get clear of the house. I made an attempted to move the machine but before I was able to do so Billy told me to leave it there and just get out of there, so I did so.

Joseph Palermo
5/31/02

P.S. I like to add that when I noticed the smoke and heard my foreman yelling to rip out the service pipe I did make an attempt to rip the pipe out of the ground but it would not release from the main nor come any further and then I was told to evacuate the area.

Joseph Palermo 5/31/02

Questions for Joseph Palermo

- 1) What was the area and depth that had been excavated?
- 2) How much material was moved by hand vs. machine?
- 3) What were you advised re: depth and location of :
Old line?
New line?
- 4) Who told you to start digging when inspector was in the house?
- 5) Did you smell gas at any time?
- 6) Who were you reporting to on site?
- 7) Clarify if you are an employee or contractor of Pipeline?
If contractor – specify name/address of firm
- 8) What did you observe regarding Dig Safe markings?

1. The area was approx 5' x 6' and 4' deep on left side of main and approx. 2' deep on right side the last of the 4' was dug by shovel
2. Approx. 4' deep on the left side of main was dug by hand
3. I was told, 4ft that the pipe would be exposed we found caution tape and sand at about 2ft. and cleared it by hand that was the new pipe the old pipe was approx. 4ft. deep.
4. My foreman-Wayne
5. I did not smell Gas at any time.
6. I worked as a subcontractor for Cannatella and Sons Jennings Circle W. Peabody Ma.
7. I observed a water marking and a main gas marking and A shutoff Box on the sidewalk.

Joseph Palermo
5/31/02

8 I was operating A 426 Cat Backhoe
4 wheel Drive extenda Hoe, year 1994
Bucket width Approx. 1 Foot

7 My foreman told me to move over and
start to scratch the dirt to expose the
service.

NSTAR Electric and Gas
Interoffice Memorandum
Gas Distribution

From: D. W. Hobart
To: D. K. Bean
Date: June 3, 2002
Re: Investigation of Incident at 9 Bonito Dr., Framingham

On May 24, 2002 just after the incident occurred at 9 Bonito Dr., Framingham the company crew of Supervisor Al Daoust, Digger Operator Dave Corrigan, Streetman James Booker, and Streetman Paul Hynes uncovered the service line from the exposed 2" steel main to the curb cock. It was then discovered that the service changed elevation from 4' 2" to 2' 8" due to a drain line which was located approximately 3' from the existing 2" steel main.

During the interviews with the Pipeline Construction Crew, the backhoe operator, Joseph Palermo stated that the crew foreman, Wayne Parker had told him "you're good for four feet" meaning they believed the service at the location where they were extending the hole was 4' deep. In fact the service was actually 2' 8".

When the service line was uncovered from the main to the curb cock there were distinct and definite markings on the 1" steel service line indicating where the bucket had grabbed the service. The coating had been stripped off of the pipe where each side of the bucket struck the service and the metal of the pipe was bright and shiny which indicated that it had just been done. The bow in the pipe indicated that there had been quite a substantial force pulling on the service line.

In his statement the backhoe operator stated that he "...felt something catch the teeth of my bucket and I stopped digging. Five to ten seconds later I heard an explosion and seen smoke coming from the basement." It is clear that the operator believed the service to be 4' deep and did not use proper precaution when excavating over the service line.

The inspector on site, Bill Gorman, was unaware that the Pipeline crew had started to excavate once he had gone into the cellar to shut off the service line valve. He was under the impression that the excavation had been completed.

The drain line that was located near the existing 2" steel main was not marked out. On May 29, 2002 Al Daoust questioned the Town of Framingham DPW who stated they do not mark out drain lines. The water and sewer on Bonito Dr. had been marked out by the Town previous to the work starting on Bonito Dr. by NSTAR.

Exhibit 21: Memo fro D. W. Hobart, NSTAR, to
D. K. Bean, NSTAR, June 3, 2002.

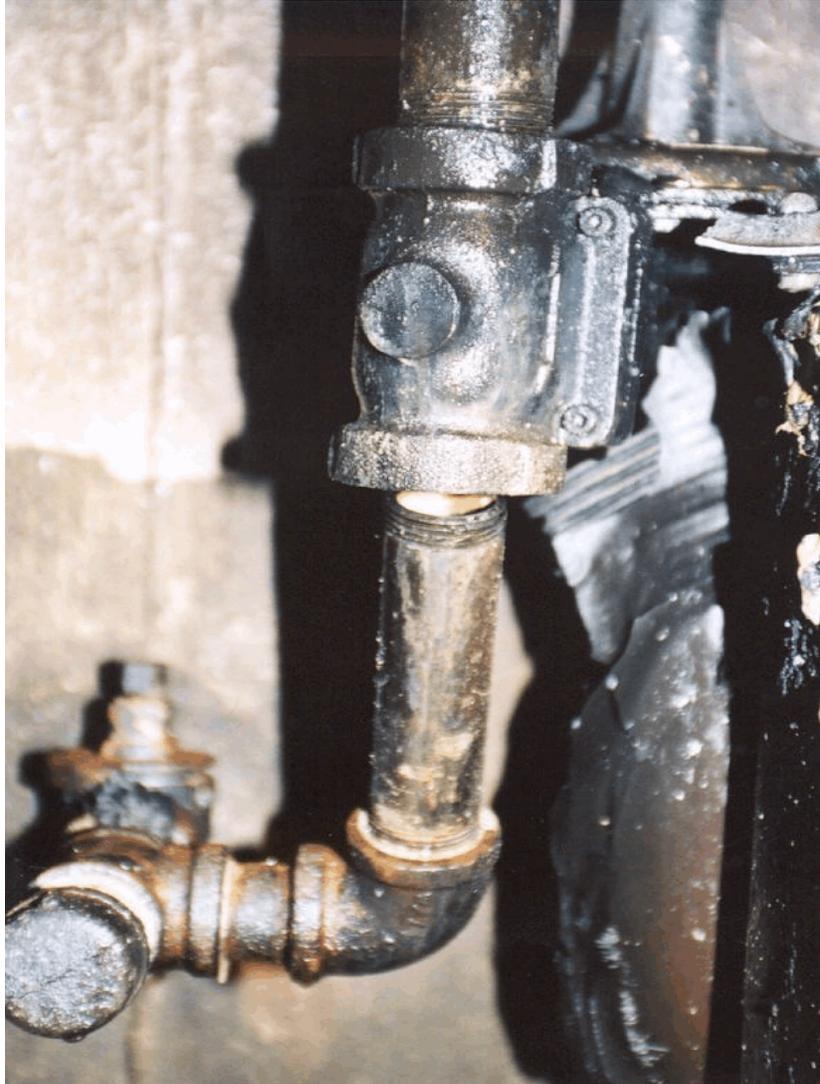


Exhibit 22: Close up view of the crack in the piping at the service regulator inlet.



Exhibit 23: Close up view of the service valve pulled up against the foundation wall.



Exhibit 24a: Close up view of the downstream fracture surface on the service line inside the service regulator inlet fitting.



Exhibit 24b: Close up view of the upstream fracture surface on the service line.



Exhibit 25: Service line showing the tears in the coating and bends caused by the backhoe.

UNIVERSITY SERVICES MRO
Toxicology Services Group

TO: NSTAR - DOT
HEALTH SERVICES SUMSE100
ONE NSTAR WAY
WESTHOOD, MA 02090

FOR: NSTAR - DOT
HEALTH SERVICES SUMSE100
ONE NSTAR WAY
WESTHOOD, MA 02090

Date Reported: 06/03/2002

Date MRO Verified: 06/03/2002

This test was conducted in accordance with 49 CFR Part 40.

Name of Individual Tested: [REDACTED]

Identification Number: [REDACTED]

Specimen Number: 23475679

Collection Date: 05/24/2002

Date Ply2 Received: 05/29/2002

Reason for Test: POST ACCIDENT

Specimen Type: URINE

Collection Location: METRO WEST OCCUP. MEDICINE, INC
341-8 COCHITUATE ROAD
FRAMINGHAM, MA 01701

Laboratory Performing Analysis: LAB ONE

Status of Drug Test: VERIFIED POSITIVE -COCAINE METABOLITES

Benjamin Yerson

Medical Review Officer

Drugs Tested: AMPHETAMINES, COCAINE METABOLITES, MARIJUANA (THC), PHENCYCLIDINE (PCP),
OPIATES,

Exhibit 26: Post-incident drug test for one of the contractor's employees showing a positive result.