DOT US Department of Transportation
PHMSA Pipelines and Hazardous Materials Safety Administration
OPS Office of Pipeline Safety
Central Region

Principal Investigator	MNOPS/James Bunn/Karen Butler
Region Director	Allan Beshore
Date of Report	11/14/2014
Subject	Failure Investigation Report – Northern Natural Gas Co (NNG) – Natural Force Damage

Operator, Location, & Consequences

Date of Failure	05/23/2008
Commodity Released	Natural Gas
City/County & State	Beaver Bay / Lake, Minnesota
OpID & Operator Name	13750 Northern Natural Gas Co
Unit # & Unit Name	903 Carlton [IA] (NNG) (NNG)
SMART Activity #	124375
Milepost / Location	MP 59.5, Reserve Mining Branch Line MNB72701
Type of Failure	Natural Force Damage, crack in a dent
Fatalities	0
Injuries	0
Description of Area impacted	Rural, Class 1, Non-HCA
Total Costs	$530,000

Executive Summary

On May 23, 2008, an instrumented aerial leak survey was in progress by a contracted service for Northern Natural Gas Company (NNG). During this leak survey, a leak was discovered in the Reserve Mining Branch Line (MNB72701) at approximately 2:57 p.m. CDT. Local field personnel were notified directly from the contracted leak survey service. The NNG control center was contacted by field personnel and began to reduce operating pressure (405 psig to approximately 275 psig). This pipeline serves the Reserve Mine and three additional towns in Minnesota. The leak was physically located at approximately 7:00 p.m. CDT by NNG field personnel at MP 59.5 in Lake County, Minnesota, approximately 1.1 miles northeast of the intersection of County Road 3 and County Road 4. The leak was not located in an HCA. There were no reported evacuations, road closings, fires, injuries or fatalities as a result of the leak. The state partner, Minnesota Office of Pipeline Safety (MNOPS), investigated the release on-site. The leak originated at a 1-inch long crack that was located in a dent on the bottom of the pipe. The pipe was found to be resting on a sharp piece of granite. The original construction of the pipeline was in 1961. Ground subsidence was reported to have caused the dented pipe to fail. Weather and contract resource availability delayed the installation of a 16-inch Type B repair sleeve. The pipeline repair work was completed on June 3, 2008. The operator has estimated the cost of this incident to be $530,000.

After the incident, NNG ran High Resolution MFL and Caliber tools on the Reserve Mining Branch Line and discovered six dents with metal loss. MNOPS completed a follow-up inspection in 2009 and confirmed that all six dents with metal loss were scheduled for repair by May of 2010. All repairs have been completed.

System Details

The Northern Natural Gas Pipe Line system consists of approximately 15,000 miles of pipelines and storage facilities. The system transports natural gas from the gathering fields in New Mexico, Texas, Oklahoma and Kansas to market areas in the upper Midwest. The Reserve Mining Branch Line is part of the Northern Branch System and provides natural gas to the mine as well as three towns including Beaver Bay and Silver Bay, Minnesota. The portion of the pipeline containing the failure was composed of 16-inch diameter by 0.219-inch wall thickness, API 5L X52, low frequency ERW line pipe manufactured by Republic Steel with coal tar enamel as the external coating and was cathodically protected. The pipeline was installed in 1961.

Events leading up to the Failure

The maximum allowable operating pressure (MAOP) of the pipeline is 425 psig, which corresponds to a hoop stress level of 30 percent of the specified minimum yield strength (SMYS) of the pipe. The pressure at the time and location of failure was 405 psig, which corresponds to a hoop stress of 29 percent (95 percent of MAOP). The MAOP for the Reserve Mining pipeline was reported to be established in accordance with 192.619 (a) (4), the pressure determined by the operator to be the maximum safe pressure after considering the history of the segment.

Emergency Response

The pressure in the line at the time of detection of the leak was 405 psig. When the Control Center was notified of the potential leak, actions to reduce line pressure were implemented. The pressure in the pipeline was ultimately reduced to a pressure of approximately 275 psig. The area around the leak was secured until repairs could be made. NNG reported the incident to the NRC at 6:27 p.m. CDT on May 23, 2008.

Return to Service

Between May 23, 2008, and May 29, 2008, delays to repair activities occurred due to weather and contract resource availability. On May 29, 2008, NNG began excavation activities in order to install stopple fittings. After the fittings were installed, a bypass was constructed around the leak area. The section of the line that contained the leak was blown down and the line was excavated to expose the leak. The pipe was resting on a piece of granite at the leak location. A dent had formed in the pipe where it was resting on the rock. The dent was approximately 11 inches long, 7 inches wide and 0.903 inches deep. The bottom of the dent contained a thru-wall crack that was approximately 1 inch long. The repair to the failed section of pipe was made with a 16-inch Type B weld sleeve approximately 24 inches long. On June 3, 2008, repair work was completed and the pipeline returned to normal service.

Investigation Details

Angel Service ITT was conducting an aerial leak survey on the Reserve Mining Branch Pipeline on March 23, 2008. The aerial leak survey contractor identified a potential leak site on the pipeline route and notified NNG personnel at the NNG Carlton Compressor Station of the findings at approximately 2:57 p.m. CDT. Carlton personnel notified the NNG Control Center of the potential leak and the Control Center began to reduce the pressure in the line. NNG dispatched a crew to the site of the potential leak with a flame ionization unit. When the crew reached the area of the leak, the leak was confirmed when an area of dead vegetation was observed and a reading of 5 percent Lower Explosive Limit was measured. NNG secured the site and continued to monitor the atmosphere until a stopple bypass could be installed and the leak site could be excavated. After the line was excavated it was found to be resting on a sharp piece of granite at the leak location. A dent had been formed in the pipe body where the pipe was resting on the granite. A 1-inch long thru-wall crack was found in the bottom of the dent. The repair to the failed section of pipe was made with a 16-inch Type B weld sleeve approximately 24 inches long. On June 3, 2008, repair work was completed and the pipeline returned to normal service.

In February of 2009, NNG completed High Resolution MFL and Caliber tools on the Reserve Mining Branch pipeline. MNOPS reviewed the information associated with the Inline inspection (ILI) during an inspection in May of 2009 (inspection was called the Welcome audit). The ILI run determined that there were no immediate repairs required, 28 scheduled repairs, and six dents with metal loss (wall loss less than or equal to 5 percent). All six dents were reported by the operator as occurring outside of a High Consequence Area and were repaired by May of 2010.

Findings & Contributing Factors

The failure origin was a 1-inch crack located in a dent in the pipe body. The crack was located in the

bottom of a dent that measured approximately 11 inches in length, 7 inches circumferentially and 0.903 inches deep. A rock that was impinging on the pipeline at the 6 o'clock position caused the dent. Ground subsidence, combined with the impinging rock, caused the dented pipe to fail.

Appendix	**Description**
A	Maps and Photographs
B	NRC Report
C	Operator's Incident Report

Appendix A

Map Removed

File Available at PHMSA

Wide-angle image showing impinging rock

Closeup of impinging rock

Hilly area leading up to failure site

Additional broad view of site

Excavation site

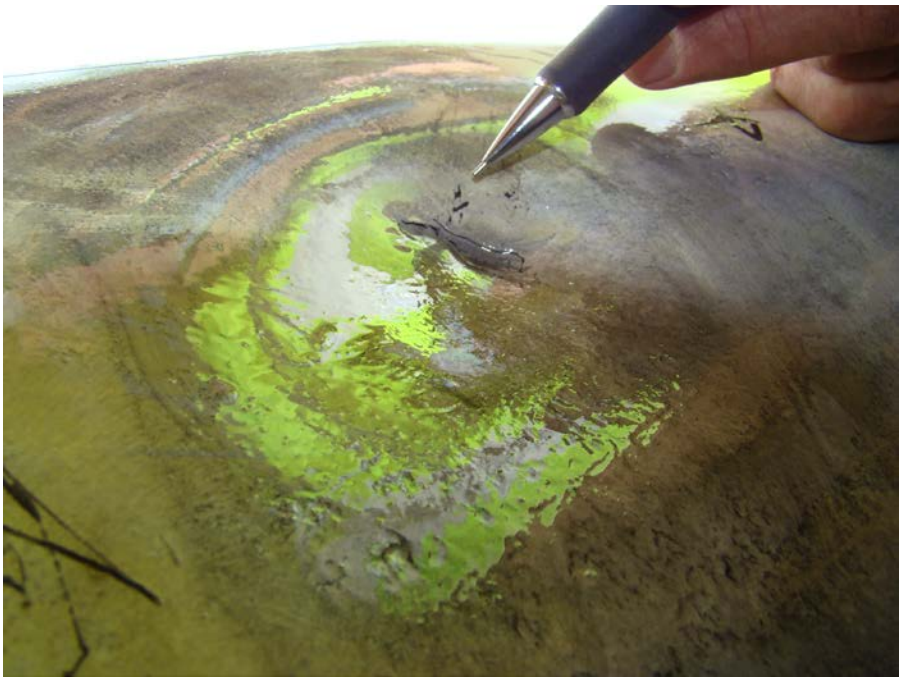
Alternate angle

Constructing bypass

Bypass from alternate angle

Area after rain

Closeup of damage to pipe wall



Hand excavation

Completed repair

NATIONAL RESPONSE CENTER 1-800-424-8802
***** For Public Use *****
Information released to a third party shall comply with any applicable federal and/or state Freedom of Information and Privacy Laws

Incident Report # 871912

INCIDENT DESCRIPTION

***Report taken at 19:27 on 23-MAY-08**
Incident Type: PIPELINE
Incident Cause: UNKNOWN
Affected Area:
The incident was discovered on 23-MAY-08 at 17:30 local time.
Affected Medium: AIR /ATMOPSHERE

SUSPECTED RESPONSIBLE PARTY

Organization: NORTHERN NATURAL GAS COMPANY
OMAHA, NE 68124

Type of Organization: PRIVATE ENTERPRISE

INCIDENT LOCATION

County: LAKE
City: SILVER BAY State: MN
***** CALLER HAD VERY LITTLE INFORMATION*****

RELEASED MATERIAL(S)

CHRIS Code: ONG Official Material Name: NATURAL GAS
Also Known As:
Qty Released: 0 UNKNOWN AMOUNT

DESCRIPTION OF INCIDENT

CALLER IS REPORTING THAT NATURAL GAS RELEASED FROM AN UNDERGROUND PIPELINE DUE TO UNKNOWN CAUSES.

INCIDENT DETAILS

Pipeline Type: TRANSMISSION
DOT Regulated: YES
Pipeline Above/Below Ground: BELOW
Exposed or Under Water: NO
Pipeline Covered: UNKNOWN

DAMAGES

Fire Involved:	**NO**	**Fire Extinguished: UNKNOWN**		
INJURIES:	**NO**	**Hospitalized:**	**Empl/Crew:**	**Passenger:**
FATALITIES:	**NO**	**Empl/Crew:**	**Passenger:**	**Occupant:**
EVACUATIONS:	**NO**	**Who Evacuated:**	**Radius/Area:**	
Damages:	**NO**			

Closure Type	Description of Closure	Length of Closure	Direction of Closure
Air: **N**			
Road: **N**			**Major Artery:** **N**
Waterway: **N**			
Track: **N**			

Passengers Transferred: NO

Environmental Impact: NO
Media Interest: NONE Community Impact due to Material:

REMEDIAL ACTIONS

LOWERING PRESSURE ON THE LINE

Release Secured: YES
Release Rate:
Estimated Release Duration:

WEATHER

Weather: OVERCAST, ºF

ADDITIONAL AGENCIES NOTIFIED

Federal: **NONE**
State/Local: **NONE**
State/Local On Scene: **NONE**
State Agency Number: **NO REPORT #**

NOTIFICATIONS BY NRC

ATLANTIC STRIKE TEAM (MAIN OFFICE)
23-MAY-08 19:33

USCG ICC (ICC ONI)
23-MAY-08 19:33

DOT CRISIS MANAGEMENT CENTER (MAIN OFFICE)
23-MAY-08 19:33

U.S. EPA V (MAIN OFFICE)
23-MAY-08 19:37

FLD INTEL SUPPORT TEAM DETROIT (COMMAND CENTER)
23-MAY-08 19:33

MN BUREAU OF CRIMINAL APPREHENSION (OPERATIONS CENTER)
23-MAY-08 19:33

MN DEPT OF HEALTH (MAIN OFFICE)
23-MAY-08 19:33

MN U.S. ATTORNEY'S OFFICE (ATTN: CARL WAHL)
23-MAY-08 19:33

NTL ENVMTL EMERG CENTRE CANADA (MAIN OFFICE)
23-MAY-08 19:33

NATIONAL INFRASTRUCTURE COORD CTR (MAIN OFFICE)
23-MAY-08 19:33

NOAA RPTS FOR MN (MAIN OFFICE)
23-MAY-08 19:33

SECTOR SAULT ST MARIE (MSO DULUTH)
23-MAY-08 19:36

MSD ST. PAUL (CGIS)
23-MAY-08 19:33

SURFACE TRANS SECURITY INSPECT PROG (COMMAND CENTER)
23-MAY-08 19:33

USCG DISTRICT 9 (COMMAND CENTER)
23-MAY-08 19:33

ADDITIONAL INFORMATION

CALLER HAD NO ADDITIONAL INFORMATION.

***** END INCIDENT REPORT # 871912 *****

NOTICE: This report is required by 49 CFR Part 191. Failure to report can result in a civil penalty not to exceed $25,000 for each violation for each day that such violation persists except that the maximum civil penalty shall not exceed $500,000 as provided in 49 USC 1678. Form Approved OMB No. 2137-0522

U.S. Department of Transportation
Research and Special Programs Administration

INCIDENT REPORT - GAS TRANSMISSION AND GATHERING SYSTEMS

Report Date Jun 05, 2008

No. 20080058 -- 4441 (DOT Use Only)

INSTRUCTIONS

Important: *Please read the separate instructions for completing this form before you begin. They clarify the information requested and provide specific examples. If you do not have a copy of the instructions, you can obtain one from the Office Of Pipeline Safety Web Page at http://ops.dot.gov .*

PART A – GENERAL REPORT INFORMATION

Check one or more boxes as appropriate:
☐ **Original Report** ☒ **Supplemental Report** ☒ **Final Report**

Operator Name and Address

a. Operator's 5-digit Identification Number (when known) / 13750 /

b. If Operator does not own the pipeline, enter Owner's 5-digit Identification Number (when known) / /

c. Name of Operator NORTHERN NATURAL GAS CO

d. Operator street address 1111 SOUTH 103RD STREET

e. Operator address OMAHA, DOUGLAS, NE, 68124
City, County or Parrish, State and Zip Code

2. Time and date of the incident

/ 1457 / hr. / 05 / month / 23 / day /2008/ year

3. Location of incident

a. APPROXIMATELY 1 MILE WEST OF LA
Nearest street or road

b. BEAVER BAY LAKE
City and County or Parrish

c. MN 55601
State and Zip Code

d. Mile Post/Valve Station APPROX 59.5

e. Survey Station No.

f. Latitude: 47.27101 Longitude: -91.34526
(if not available, see instructions for how to provide specific location)

g. Class location description
Onshore: ● Class 1 ○ Class 2 ○ Class 3 ○ Class 4
Offshore: ○ Class 1 *(complete rest of this item)*
Area _____ Block # _____
State / / or Outer Continental Shelf ☐

h. Incident on Federal Land other than Outer Continental Shelf
○ Yes ● No

i. Is pipeline Interstate ● Yes ○ No

4. Type of leak or rupture
● Leak: ○ Pinhole ○ Connection Failure *(complete sec. F5)*
● Puncture, diameter *(inches)* 1
○ Rupture: ○ Circumferential – Separation
○ Longitudinal – Tear/Crack, length (inches) _____
Propagation Length, total, both sides (feet) _____
○ N/A
○ Other: _____

5. Consequences *(check and complete all that apply)*
a. ☐ Fatality Total number of people: / 0 /
Employees: / 0 / *General Public:* / 0 /
Non-employee Contractors: / 0 /
b. ☐ Injury requiring inpatient hospitalization Total number of people: / 0 /
Employees: / 0 / *General Public:* / 0 /
Non-employee Contractors: / 0 /
c. ☒ Property damage/loss *(estimated)* Total $ 530000
Gas loss $ 15800 Operator damage $ 514200
Public/private property damage $ 0
d. ☐ Release Occurred in a 'High Consequence Area'
e. ☐ Gas ignited – No explosion f. ☐ Explosion
g. ☐ Evacuation *(general public only)* / 0 / people
Reason for Evacuation:
○ Emergency worker or public official ordered, precautionary
○ Threat to the public ○ Company policy

6. Elapsed time until area was made safe:
/ 1 / hr. / / min.

7. Telephone Report
/ 871912 / NRC Report Number / 05 / month / 23 / day /2008/ year

8. a. Estimated pressure at point and time of incident:
405 *PSIG*
b. Max. allowable operating pressure *(MAOP):* 425 *PSIG*
c. MAOP established by 49 CFR section:
☐ 192.619 (a)(1) ☐ 192. 619 (a)(2) ☐ 192. 619 (a)(3)
☒ 192.619 (a)(4) ☐ 192. 619 (c)
d. Did an overpressurization occur relating to the incident? ○ Yes ● No

PART B – PREPARER AND AUTHORIZED SIGNATURE

BYRON H. WOOD
(type or print) Preparer's Name and Title

(402) 398-7396
Area Code and Telephone Number

BYRON.WOOD@NNGCO.COM
Preparer's E-mail Address

(402) 398-7606
Area Code and Facsimile Number

Authorized Signature (type or print) Name and Title

Date

Area Code and Telephone Number

OPS Data Facsimile

PART C - ORIGIN OF THE INCIDENT

1. Incident occurred on
   - ● Transmission System
   - ○ Gathering System
   - ○ Transmission Line of Distribution System

2. Failure occurred on
   - ● Body of pipe ○ Pipe Seam
   - ○ Joint
   - ○ Component
   - ○ Other: _____

3. Material involved *(pipe, fitting, or other component)*
   - ● Steel
   - ○ Plastic (If plastic, complete all items that apply in a-c)
     Plastic failure was: ☐ a.ductile ☐ b.brittle ☐ c.joint failure
   - ○ Material other than plastic or steel: _____

4. Part of system involved in incident
   - ● Pipeline ○ Regulator/Metering System
   - ○ Compressor Station ○ Other: _____

5. Year the pipe or component which failed was installed: / 1961 /

PART D – MATERIAL SPECIFICATION (if applicable)

1. Nominal pipe size *(NPS)* / 16 / in.
2. Wall thickness / .22 / in.
3. Specification 5LX SMYS / 52000 /
4. Seam type ERW
5. Valve type _____
6. Pipe or valve manufactured by REPUBLIC in year / _____ /

PART E – ENVIRONMENT

1. Area of incident
   - ○ Under pavement ○ In open ditch
   - ○ Above ground
   - ● Under ground ○ Under water
   - ○ Inside/under building ○ Other: _____
2. Depth of cover: 38 inches

PART F – APPARENT CAUSE

Important: *There are 25 numbered causes in this section. Check the box to the left of the* ***primary*** *cause of the incident. Check one circle in each of the supplemental items to the right of or below the cause you indicate. See the instructions for this form for guidance.*

F1 – CORROSION

If either F1 (1) External Corrosion, or F1 (2) Internal Corrosion is checked, complete all subparts a – e.

1. ○ External Corrosion

a. Pipe Coating
- ○ Bare
- ○ Coated

b. Visual Examination
- ○ Localized Pitting
- ○ General Corrosion
- ○ Other: _____

c. Cause of Corrosion
- ○ Galvanic ○ Stray Current
- ○ Improper Cathodic Protection
- ○ Microbiological
- ○ Stress Corrosion Cracking
- ○ Other: _____

d. Was corroded part of pipeline considered to be under cathodic protection prior to discovering incident?
○ No ○ Yes, Year Protection Started: / _____ /

2. ○ Internal Corrosion

e. Was pipe previously damaged in the area of corrosion?
○ No ○ Yes, How long prior to incident: / _____ / *years* / _____ / *months*

F2 – NATURAL FORCES

3. ● Earth Movement => ○ Earthquake ● Subsidence ○ Landslide ○ Other: _____
4. ○ Lightning
5. ○ Heavy Rains/Floods => ○ Washouts ○ Flotation ○ Mudslide ○ Scouring ○ Other: _____
6. ○ Temperature => ○ Thermal stress ○ Frost heave ○ Frozen components ○ Other: _____
7. ○ High Winds

F3 **- EXCAVATION**

8. ○ Operator Excavation Damage *(including their contractors)* / Not Third Party

9. ○ Third Party Excavation Damage *(complete a-d)*
   a. Excavator group
   ○ General Public ○ Government ○ Excavator other than Operator/subcontractor
   b. Type: ○ Road Work ○ Pipeline ○ Water ○ Electric ○ Sewer ○ Phone/Cable ○ Landowner ○ Railroad
   ○ Other: _____
   c. Did operator get prior notification of excavation activity?
   ○ No ○ Yes: Date received: / _____ / mo. / _____ / day / _____ / yr.
   Notification received from: ○ One Call System ○ Excavator ○ Contractor ○ Landowner
   d. Was pipeline marked?
   ○ No ○ Yes *(If Yes, check applicable items i – iv)*
   i. Temporary markings: ○ Flags ○ Stakes ○ Paint
   ii. Permanent markings: ○ Yes ○ No
   iii. Marks were *(check one)* ○ Accurate ○ Not Accurate
   iv. Were marks made within required time? ○ Yes ○ No

F4 – **OTHER OUTSIDE FORCE DAMAGE**

10. ○ Fire/Explosion as primary cause of failure => Fire/Explosion cause: ○ Man made ○ Natural
11. ○ Car, truck or other vehicle not relating to excavation activity damaging pipe
12. ○ Rupture of Previously Damaged Pipe
13. ○ Vandalism

OPS Data Facsimile

F5 – MATERIAL AND WELDS

Material

14. ○ Body of Pipe => ○ Dent ○ Gouge ○ Wrinkle Bend ○ Arc Burn ○ Other: _____
15. ○ Component => ○ Valve ○ Fitting ○ Vessel ○ Extruded Outlet ○ Other: _____
16. ○ Joint => ○ Gasket ○ O-Ring ○ Threads ○ Other: _____

Weld

17. ○ Butt => ○ Pipe ○ Fabrication ○ Other: _____
18. ○ Fillet => ○ Branch ○ Hot Tap ○ Fitting ○ Repair Sleeve ○ Other: _____
19. ○ Pipe Seam => ○ LF ERW ○ DSAW ○ Seamless ○ Flash Weld
○ HF ERW ○ SAW ○ Spiral ○ Other: _____

*Complete a-g if you indicate **any** cause in part F5.*

a. Type of failure:
○ Construction Defect => ○ Poor Workmanship ○ Procedure not followed ○ Poor Construction Procedures
○ Material Defect

b. Was failure due to pipe damage sustained in transportation to the construction or fabrication site? ○ Yes ○ No

c. Was part which leaked pressure tested before incident occurred? ○ Yes, *complete d-g* ○ No

d. Date of test: /_____/ mo. /_____/ day /_____/ yr.

e. Test medium: ○ Water ○ Natural Gas ○ Inert Gas ○ Other: _____

f. Time held at test pressure: /_____/ hr.

g. Estimated test pressure at point of incident: _____ *PSIG*

F6 – EQUIPMENT AND OPERATIONS

20. ○ Malfunction of Control/Relief Equipment => ○ Valve ○ Instrumentation ○ Pressure Regulator ○ Other: _____
21. ○ Threads Stripped, Broken Pipe Coupling => ○ Nipples ○ Valve Threads ○ Mechanical Couplings ○ Other: _____
22. ○ Ruptured or Leaking Seal/Pump Packing

23. ○ Incorrect Operation
a. Type: ○ Inadequate Procedures ○ Inadequate Safety Practices ○ Failure to Follow Procedures ○ Other: _____
b. Number of employees involved who failed post-incident drug test: /_____/ Alcohol test: /_____/
c. Were most senior employee(s) involved qualified? ○ Yes ○ No d. Hours on duty: /_____/

F7 – OTHER

24. ○ Miscellaneous, *describe:* _____
25. ○ Unknown
○ Investigation Complete ○ Still Under Investigation *(submit a supplemental report when investigation is complete)*

PART G – NARRATIVE DESCRIPTION OF FACTORS CONTRIBUTING TO THE EVENT *(Attach additional sheets as necessary)*

ON MAY 23, AT APPROXIATELY 14:57 THE CARLTON LOCATION WAS NOTIFIED BY ANGEL SERVICE ITT CORP, THAT THEY HAD COMPLETED THEIR AERIAL LEAK SURVEYING. UPON REVIEW OF THE INFORMATION IT APPEARED THAT THERE WAS A DETECTION OF A SINGLE METHANE INDICATION IN LAKE COUNTY, MN ON THE 16-INCH RESERVE (MNB69801) BRANCH LINE ON THE PIPELINE RIGHT OF WAY APPROXIMATELY 1.1 MILES WEST OF LAX LAKE ROAD @ APPROXIMATE MILEPOST 59.5. NORTHERN PERSONNEL PROCEEDED TO REDUCE THE PRESSURE FROM 405 TO 300 PSIG AND SENT PERSONNEL TO THE SITE TO UTILIZE PORTABLE LEAK DETECTION EQUIPMENT TO VERIFY IF THERE WAS A LEAK. A LEAK WAS DETECTED @ THE APPROXIMATE LOCATION INDICATED. A STRONG HYDRO CARBON SMELL WAS DETECTED, A READING OF 5% LEL WAS INDICATED AND A PATCH OF DEAD VEGETATION APPROXIMATELY 15 FT IN DIAMETER WAS NOTED. ACTIONS WERE TAKEN TO ACQUIRE THE SERVICES OF A CONTRACTOR AND ARRANGE FOR NORTHERN'S STOPPLE CREW TO PROCEED TO THE SITE. AN 8-INCH STOPPLE AND BYPASS WAS INSTALLED AROUND THE LEAK AREA, THEN THE SECTION OF LINE WAS BLOWN DOWN AND EXCAVATED. A ROCK WAS FOUND TO HAVE IMPINGED ON THE PIPELINE AT THE 6 O'CLOCK POSITION. THE IMPINGMENT RESULTED IN A DENT MEASURING APPROXIMATELY 11 INCHES LONGITUDINALLY, SEVEN INCHES CIRCUFERENTIALLY AND 0.903 INCHES DEEP. THERE WAS A CRACK LOCATED AT THE BOTTOM OF THE DENT MEASURING APPROXIMATELY 1-INCH LONG. IT WAS DETERMINED THAT THE LEAK COULD BE REPAIRED BY INSTALLATION OF A 2-FOOT BY 16-INCH TYPE B PRESSURIZED CONTAINING SLEEVE. INSTALLATION OF THE SLEEVE WAS COMPLETED ON JUNE 3. ALL WELDS WERE INSPECTED USING MAGNETIC PARTICLE AND ULTRASONIC THICKNESS METHODS. THE PIPELINE BETWEEN THE STOPPLE FITTINGS WAS PURGED, PRESSURE TESTED AND RETURNED TO NORMAL 405 PSIG SERVICE. THERE WAS NO FIRE, NO INJURIES AND NO LOSS OF SERVICE TO ANY CUSTOMERS. THE ROOT CAUSE OF THE LEAK WAS A ROCK IMPINING ON THE LINE AND GROUND SUBSIDENCE. A FINAL REPORT WILL BE COMPLETED UPON DETERMINATION OF THE TOTAL COST OF REPAIRS.
SUPPLEMENTAL REPORT: IN THE NARRATIVE IT WAS INDICATED THAT THE LINE NUMBER WAS MNB69801, WHICH IS INCORRECT AND SHOULD INSTEAD BE MNB72701.
SUPPLEMENTAL/FINAL REPORT. TOTAL COST OF REPAIRS ESTIMATES, INCLUDING GAS LOSS HAVE BEEN UPDATED. THE ROOT

OPS Data Facsimile