

Rhode Island Division of Public Utilities and Carrier

Don Ledversis
Pipeline Safety Engineer



Cape Cod Pipeline Safety Seminar 2011



RI General Gas Statistics

System dates back to 1847

- Around 250,000 customers
- 14 Take Stations
- 3 LNG Facilities
- Over 3,100 miles of main



5 Year ISR Plan

	Capital Forecast (\$000)						
Total Plan	FY11	FY12	FY13	FY14	FY15	FY16	Total
Growth (including reinforcement)	\$ 7,109	\$ 7,129	\$ 7,568	\$ 7,709	\$ 7,854	\$ 7,854	\$ 45,223
Main Replacement Program	\$ 22,900	\$ 25,750	\$ 28,611	\$ 28,611	\$ 28,611	\$ 28,611	\$ 163,093
Service Replacements	\$ 3,906	\$ 3,906	\$ 3,906	\$ 6,000	\$ 6,000	\$ 6,000	\$ 29,719
Total	\$ 26,806	\$ 29,656	\$ 32,517	\$ 34,611	\$ 34,611	\$ 34,611	\$ 192,812
Public works	\$ 1,750	\$ 1,750	\$ 1,785	\$ 1,821	\$ 1,857	\$ 1,857	\$ 10,820
Reactive Main Replacement	\$ 1,000	\$ 1,000	\$ 1,020	\$ 1,040	\$ 1,061	\$ 1,061	\$ 6,183
Mandated Programs	\$ 8,928	\$ 9,188	\$ 9,367	\$ 9,551	\$ 9,738	\$ 9,738	\$ 56,510
Reliability	\$ 6,334	\$ 11,821	\$ 10,949	\$ 10,695	\$ 11,092	\$ 9,745	\$ 60,748
Total	\$ 51,927	\$ 60,545	\$ 63,206	\$ 65,427	\$ 66,212	\$ 64,866	\$ 372,184

Many Other States Face Similar Challenges

	Miles of Main				
	Unprotected Steel	Cast/Wrought Iron	Total Miles leak prone pipe	% of Total Miles leak prone pipe	Total Main Miles
RHODE ISLAND Totals	711	908	1,619	52.3%	3,095
WASHINGTON DC Totals	102	451	553	46.4%	1,191
MASSACHUSETTS Totals	3,635	4,165	7,801	37.9%	20,574
WEST VIRGINIA Totals	3,409	14	3,424	35.9%	9,531
NEW YORK Totals	9,321	5,088	14,409	31.0%	46,464
PENNSYLVANIA Totals	10,526	1,901	12,427	26.8%	46,449
NEW JERSEY Totals	3,010	5,603	8,613	26.3%	32,755
CONNECTICUT Totals	283	1,640	1,923	25.6%	7,517
MAINE Totals	6	89	95	18.4%	516
MARYLAND Totals	602	1,467	2,068	15.2%	13,646
NEW HAMPSHIRE Totals	120	309	428	13.8%	3,096
VIRGINIA Totals	1,050	676	1,726	8.8%	19,692
DELAWARE Totals	67	124	191	7.4%	2,585
	28,394	16,911	45,305		182,251

ARP Program 2011

Replace another approx. 40 miles of leak prone pipe.



ARP Program 2011

Accelerated Replacement Program

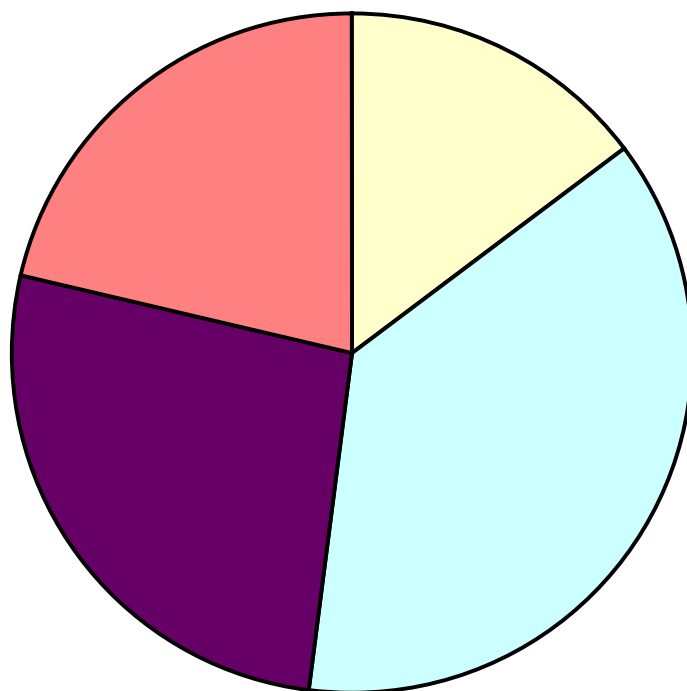
Moving over 2000 inside H.P. meter sets
to the outside



Infrastructure Safety and Reliability Plan-ISR

- Accelerated Replacement Program (ARP)-Rate Case Agreement
 - ARP began as part of the 2008 Rate Case and during over the 2 year period, replaced 70 miles of Leak Prone Pipe and 4,391 Bare Steel, high pressure services.
- Infrastructure Safety and Reliability Plan (ISR)
 - New ISR Plan required by Legislation replaced the existing ARP.
 - FY 2012 program will begin recovery of \$53.4M in capital spend starting April 2011.
 - The plan is expected to fund and replace approximately 45 miles of Leak Prone Pipe and 2,125 Bare Steel, high pressure services.
 - Implementation of a fully reconciling rate mechanism designed to recover actual and anticipated capital investments as reflected in the approved ISR spending plan.

RI % of 1990 Gas Pipe Materials



2795 Total Miles

415 Plastic

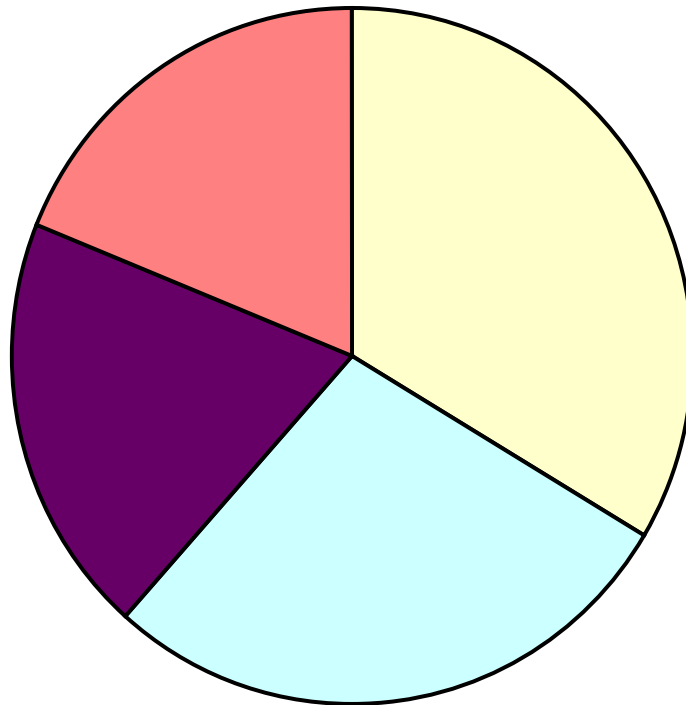
1035 Cast Iron

748 Protected Steel

597 Unprotected Steel

20 Years later...

RI % of 2010 Gas Pipe Materials



3131 Total Miles

1044 Plastic

877 Cast Iron

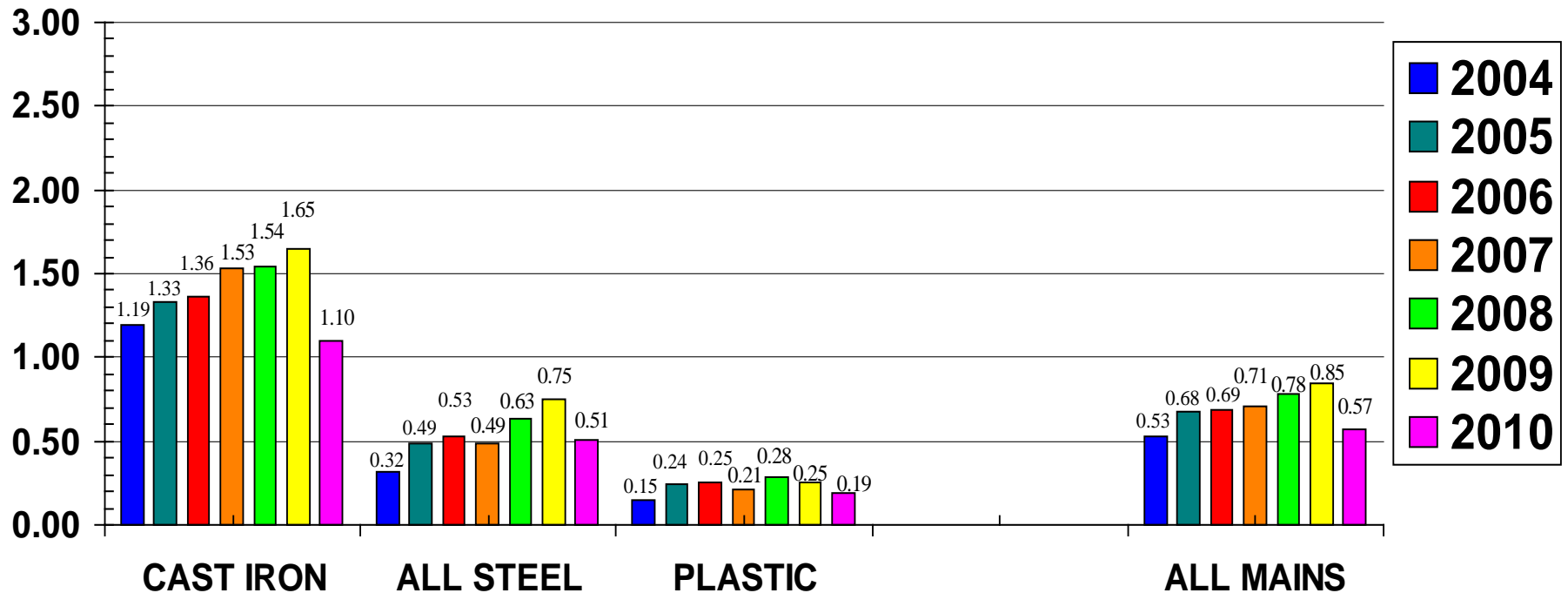
600 Protected Steel

591 Unprotected Steel

MAIN LEAK "RATES"

COMPARISON BY MATERIAL

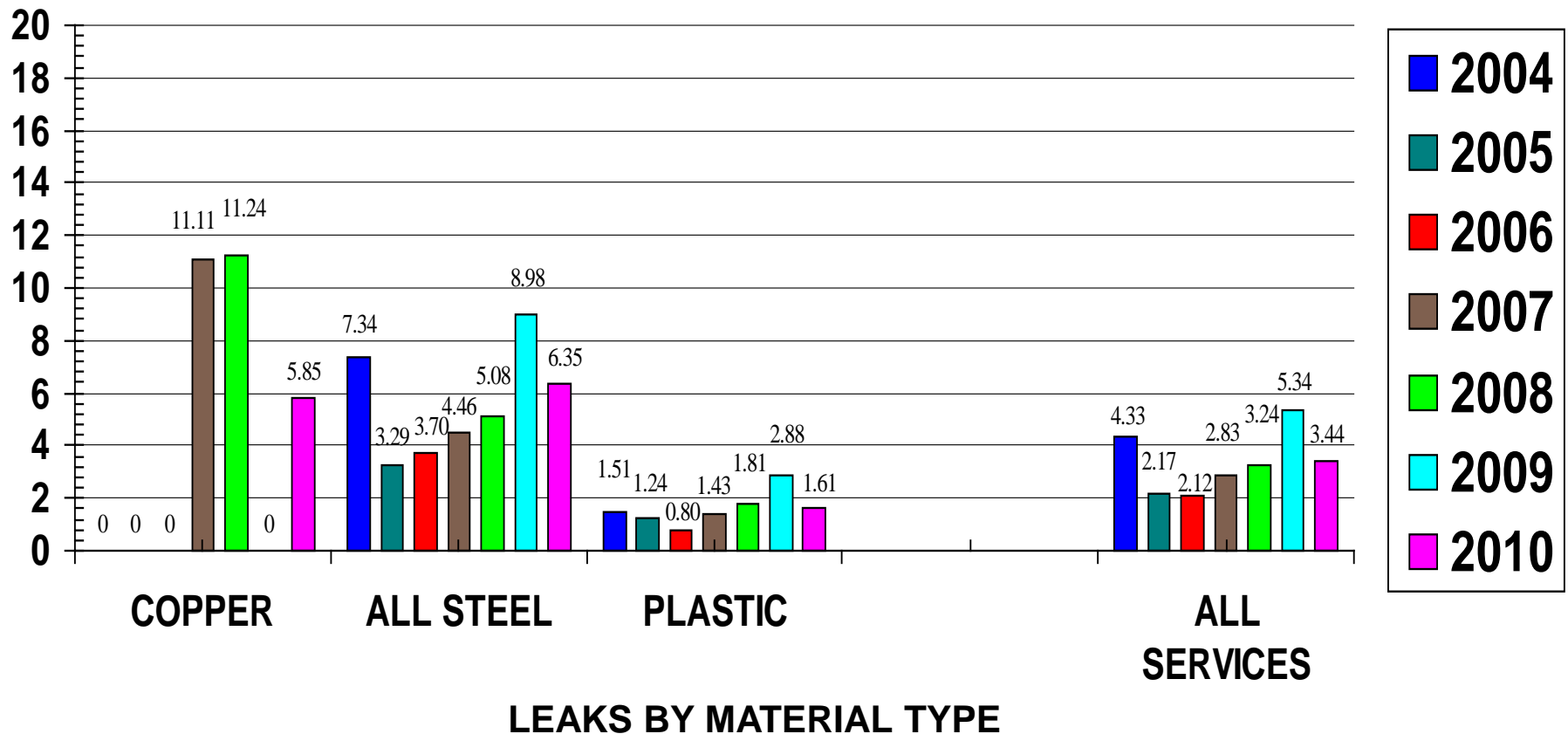
LEAK REPAIRS
PER MILE OF MAIN



LEAKS BY MATERIAL TYPE

TOTAL SERVICE LEAK "RATES" COMPARISON BY MATERIAL

LEAK REPAIRS
PER 1000 SERVICES





22/07/2010



18938

WARNING
DO NOT TOUCH
OR REMOVE

25/05/2011



03/06/2010



23/06/2010



20/07/2010



26/08/2010



31/08/2010



08/09/2010

100 pilings to do....

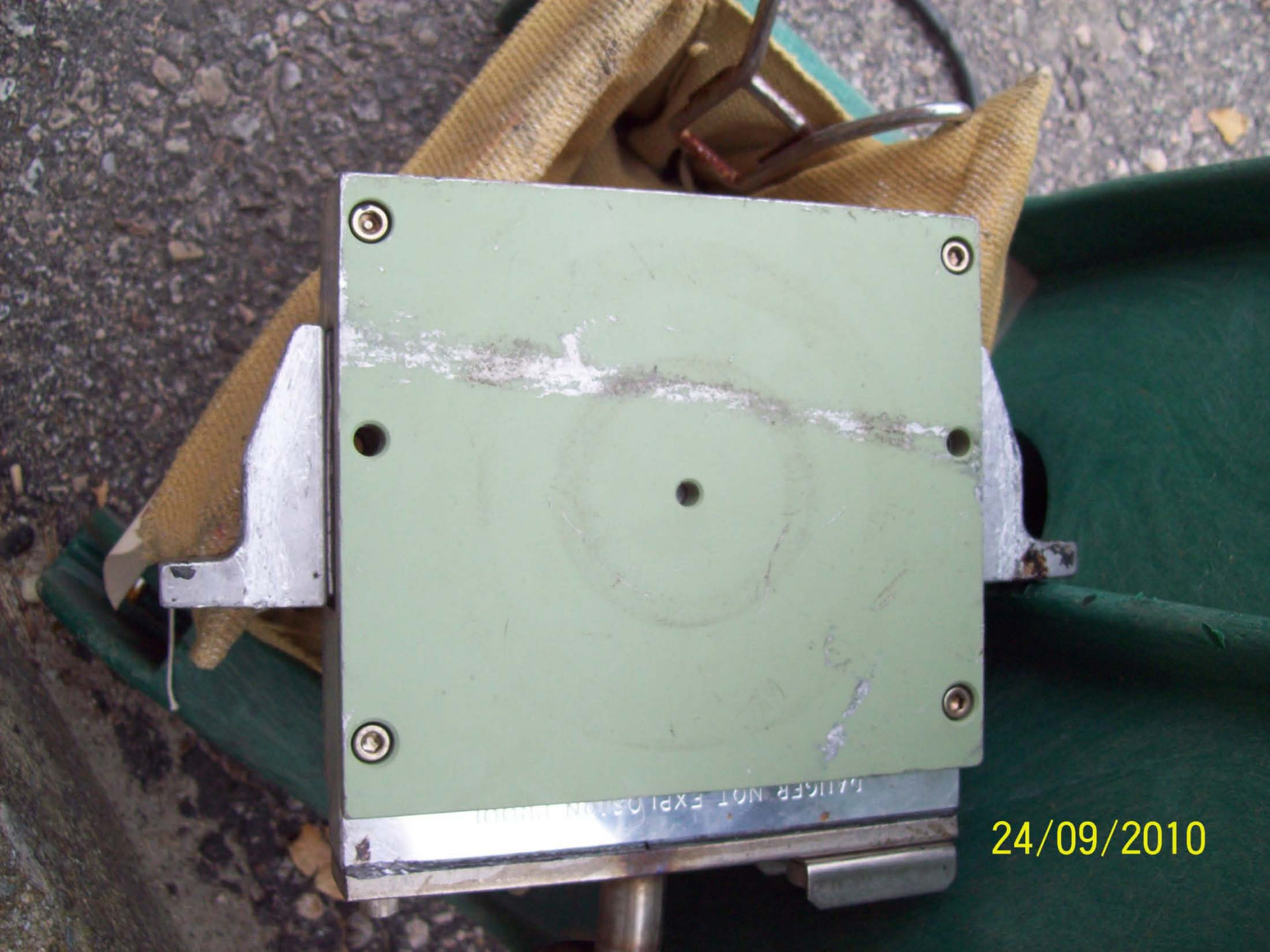


81 installed, 9 to go, direct hit...





13/06/2011



24/09/2010

**Warning tape missing,
used elsewhere.**



24/09/2010



01/04/2011

192.273/192.281 Type of Joints (Heat Fusion Mechanical Stab Fittings)

Pipe Joiner's name: Michael Paiva

Qual. date:

Expires date:

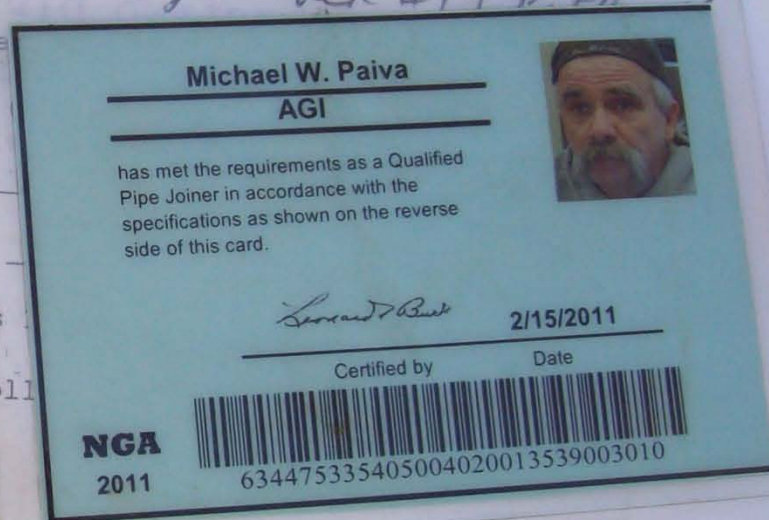
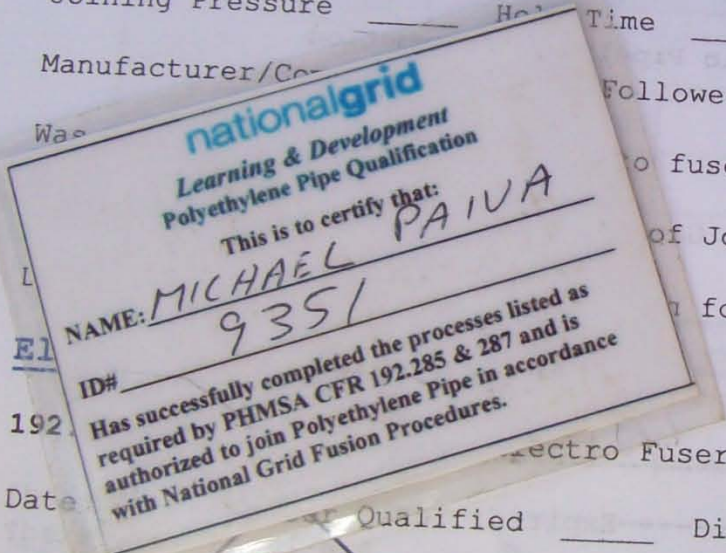
Manufacturer and Model of Machine Used McElroy Model #14 P-1A

Heater Temp _____ Heating Time _____

Joining Pressure _____ Heating Time _____

Manufacturer/Co-

Was



Date _____ Qualified _____ Did the fuser scrape the pipe? Yes No

Type of fused component: _____ Number of Electro-fusion Joints Inspected _____

Cooling Time Required: _____ Type of Machine used: _____

02/05/2011

192.321 Pipe Tracer Wire buried with Pipe? yes Contact Minimized: Yes No

Was Pipe ID Tape installed Above Pipe? _____

QTY 5

DRYCONN
WATERPROOF CONNECTORS

#90120

#14-#10 Solid Copper
Direct Bury Lug Yellow
For use with Utility Tracer Lines

- 50 Volts Maximum
- No need to cut main line

INSTALLATION INSTRUCTION

For use on Solid Conductor Only

1. Strip main and tap conductor
2. Place one stripped conductor into side A or B
3. Using a screwdriver, tighten the set screw

conductor. Note as indicated

3/4 Turn

Repeat

Reconnect

8 inch long, align

7 Do not

Use the

cut m

rap conductor

sure

ly latched

until house

sure

only with Installation Instructions.

To be

faulty materials or workmanship for a

guaranteed agent factory for full warranty information

one year

At 7

Address

ed For

7223 112

rademarks, U.S.

07/01/10

MADE IN U.S.A.

EV 08/10

7 19362 90120 6

6



America's
Original Patented
Filled Connectors!

DRYCONN
WATERPROOF CONNECTORS IMPROVED

#31556
QTY 10

#22 #8 AWG

Direct Bury

Se entierra directamente

Great for: All Underground Applications

Is this product suitable for use in wet or dry locations? Yes, it is suitable for use in both wet and dry locations. It is designed to be used in wet or dry locations and is suitable for use in both wet and dry locations.

Is this product suitable for use in wet or dry locations? Yes, it is suitable for use in both wet and dry locations. It is designed to be used in wet or dry locations and is suitable for use in both wet and dry locations.

Is this product suitable for use in wet or dry locations? Yes, it is suitable for use in both wet and dry locations. It is designed to be used in wet or dry locations and is suitable for use in both wet and dry locations.

Is this product suitable for use in wet or dry locations? Yes, it is suitable for use in both wet and dry locations. It is designed to be used in wet or dry locations and is suitable for use in both wet and dry locations.

Is this product suitable for use in wet or dry locations? Yes, it is suitable for use in both wet and dry locations. It is designed to be used in wet or dry locations and is suitable for use in both wet and dry locations.

Is this product suitable for use in wet or dry locations? Yes, it is suitable for use in both wet and dry locations. It is designed to be used in wet or dry locations and is suitable for use in both wet and dry locations.

Is this product suitable for use in wet or dry locations? Yes, it is suitable for use in both wet and dry locations. It is designed to be used in wet or dry locations and is suitable for use in both wet and dry locations.

Is this product suitable for use in wet or dry locations? Yes, it is suitable for use in both wet and dry locations. It is designed to be used in wet or dry locations and is suitable for use in both wet and dry locations.

Is this product suitable for use in wet or dry locations? Yes, it is suitable for use in both wet and dry locations. It is designed to be used in wet or dry locations and is suitable for use in both wet and dry locations.

Is this product suitable for use in wet or dry locations? Yes, it is suitable for use in both wet and dry locations. It is designed to be used in wet or dry locations and is suitable for use in both wet and dry locations.

Is this product suitable for use in wet or dry locations? Yes, it is suitable for use in both wet and dry locations. It is designed to be used in wet or dry locations and is suitable for use in both wet and dry locations.

KING
INNOVATION

MADE IN U.S.A.

03/05/2011



This is a beautiful picture....



This is a beautiful picture....



This is an ugly picture....



07/04/2011

Farm Taps





07/04/2011

Nyatt (Directional Drilling)



10/09/2010



10/09/2010





10/09/2010



10/09/2010



The End

