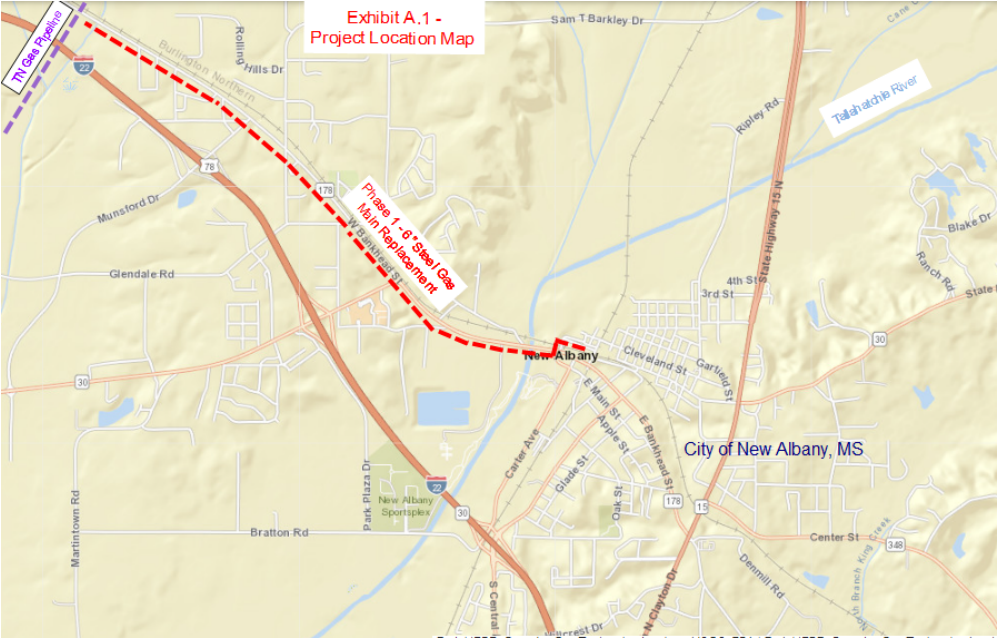
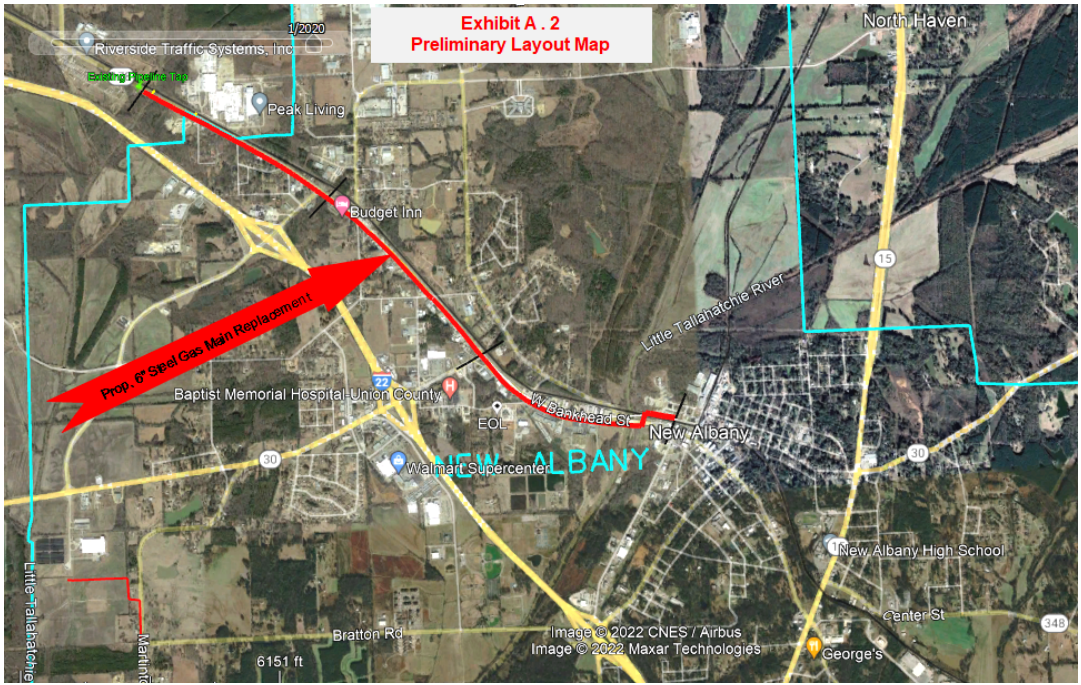


Exhibit A.1 -  
Project Location Map





# Inspection Report

<b>Client</b>
New Albany Light, Gas, Water 1168 E Bankhead New Albany, MS 38652
ATTN: Chris Camp
<b>Project</b>
In-Service Pipe Section Analysis
<b>Inspection performed at:</b>
World Testing, Inc. Mt. Juliet, TN

<b>Client No.</b>	<b>WTI No.</b>	<b>Report No.</b>	
PO G220019	M02455	1	
<b>Inspector</b>	<b>Report Type</b>		
Robert W. O'Neal, Sr.	<input type="checkbox"/> Interim	<input checked="" type="checkbox"/> X	<input type="checkbox"/> Final
<b>Inspection Date(s)</b>	<b>Report Date</b>		
04-26-2022	04-27-2022		
<b>Other Parties</b>			
<b>Enclosures</b>			
<input type="checkbox"/> No			
<input checked="" type="checkbox"/> Yes	If "Yes", how many?		RT, PAUT, MECH, TEN and HT REPORTS

<b>Personnel &amp; Company contacted during inspection</b>	
Chris Camp and Jackie Cruse	
<b>Description of Item(s) inspected</b>	
Three Feet of 6" Gas Pipe	
<b>Client Authorized modifications/clarifications</b>	

<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes (Noted in Narrative Report)	If "Yes", by <input type="checkbox"/> phone? or <input type="checkbox"/> fax?
--	--	---

<b>Narrative Report of Inspection</b>
<p>We received a section of six-inch diameter pipe from New Albany Gas. The section of pipe had one circumferential weld and two longitudinal factory seam welds. We conducted the following: Radiographic, Ultrasonic, Root Bend, Nick Break, Tension (Tensile) test, Macro-etch, Hardness and Alloy Analysis. Where applicable, these tests were performed in accordance with American Petroleum Institute Standard 1104 Welding of Pipelines and Related Facilities.</p> <p><u>Summary of results:</u></p> <p>Radiographic: The circumferential weld failed due to Lack of Fusion and Porosity. The longitudinal weld failed due to Lack of Fusion and Porosity. Neither weld meets API-1104 requirements.</p> <p>Ultrasonic: Pipe sections were scanned for lamination and none were found. Results are acceptable.</p> <p>Root Bend Test: The circumferential weld failed due to Lack of Fusion and Slag indications. The longitudinal weld one passed and weld two failed due to Lack of Fusion and Slag indications.</p> <p>Nick Break Test: The circumferential weld failed due to Lack of Fusion and Slag indications. The longitudinal weld one passed and weld two failed due to Lack of Fusion and Slag indications.</p> <p>Tension Test: Two samples were taken from the base metal and compared to API 5L X42 pipe requirements. Both samples failed the Ultimate Tensile requirement which is 60,000 psi. Two samples were taken from each longitudinal weld and passed the minimum Ultimate Tensile requirement. Two samples were taken from the Circumferential weld. Both samples failed in the weld and didn't meet the minimum Ultimate Tensile Strength.</p> <p>Macro-etch Test: One sample was taken from the circumferential weld and one from the longitudinal weld. Both samples exhibited corrosion and lack of fusion.</p>

## Inspection Report

Hardness: Readings were taken on the welds and Heat Affected Zones (HAZ). Hardness Brinnel readings ranged from 136 to 210 HB.

Alloy Analysis: The analysis was compared to several steel grades and the closest match was API 5L X42.

See detailed information on attached reports.

**Inspection Criteria used**

API-1104, ASTM A270, A1038

**Item(s) Inspected (check all that apply)**

- Meets Criteria
- Conclusion to Follow (Additional Inspection Required)
- Meets Criteria with Authorized Modifications
- Refer to Narrative Report
- Does Not Meet Criteria

**Respectfully submitted,**

*Robert W. O'Neal*  
Robert W O'Neal, Sr  
2022.05.02 15:30:  
04-05'00"  
10.1.6

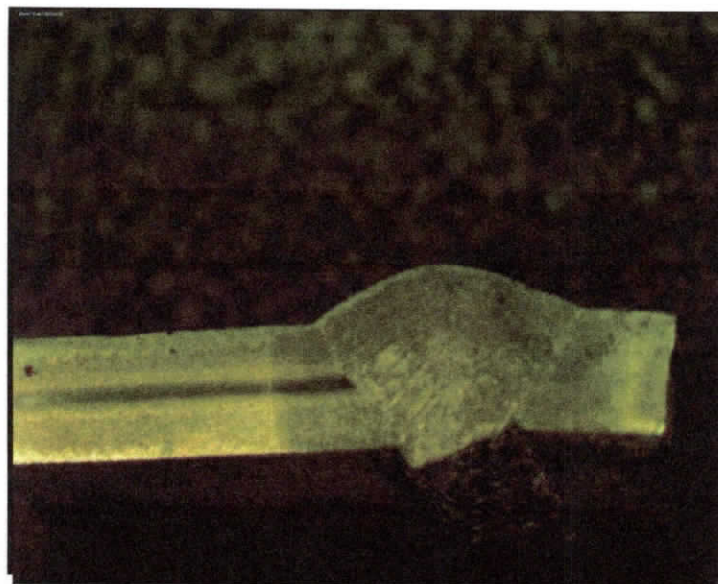
Robert W O'Neal, Sr, General Manager  
World Testing, Inc.

Typed By LS  
Catalog No. 74639

**Weld Analysis Data Report**



**Figure 1:** Girth Seam



**Figure 2:** Long Seam 1

**Sample Characteristics**


Customer:                          New Albany Gas Dept  
 Date:    4/14/2022  
 Project:    Po:G220019  
 WTI Lab Number:                                  22-0217  
 Acceptance Standards:                                  API 1104  
 Specifications:    API 1104

**Measurement Data**

	Figure #1			Figure #2		
	Detail	Acc	Rej	Detail	Acc	Rej
Leg 1	N/A			N/A		
Leg 2	N/A			N/A		
Weld Profile			x			x
Root Penetration			x			x
Complete Fusion			x			x

Description:    Butt Weld  
 Weld Process:    SMAW  
 Weld Size:    0.125"  
 Magnification:    10x  
 Comments:    Internal Undercut

<b>Technician:</b>	<b>Date:</b>
J. Smith	4/14/2022

<b>Lab Manager:</b>
 Digitally signed by Ronnie E McCrary, Jr

## Radiographic Test Report (RT)

<b>Client</b>	New Albany Gas Dept	<b>NDE Procedure No.</b>	WTI-RT-1104E	<b>Rev</b>	2
<b>Project</b>	Pipe Section From 1948	<b>Exam Date</b>	04-13-2022		
<b>Project ID No.</b>	PO: G220019 / 6" Diameter Pipe 3' in Length	<b>WTI Client ID</b>	M02643		
<b>Location</b>	WTI Lab - Mt. Juliet, TN	<b>WTI Lab No.</b>	22-0217		
<b>Acceptance Standards</b>	API 1104	<b>NDE Specifications</b>	API-1104		

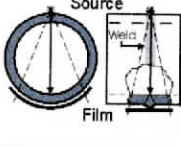
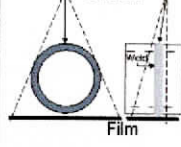
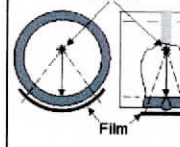
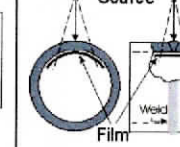
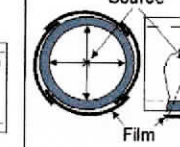
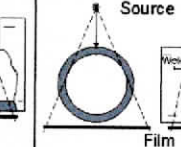
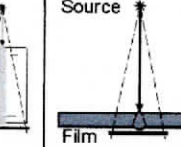
### Examination Results

Piece ID	Area	Result		Discontinuity	Comments	Density	Technique ID	Welder ID
		Accept	Reject					
LS-1	0-1		X	LACK OF FUSION/POROSITY		2.5	A	
LS-2	0-1		X	LACK OF FUSION/POROSITY		2.7	A	

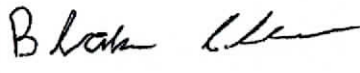

### Equipment and Technique Details

<b>Technique ID</b>	A	<b>IQI Type</b>	Wire	Shim/Block Thks.	N/A	
<b>Source/Equipment</b>	49165M	<b>IQI Size/Number</b>	A4	<b>Film Manufacturer</b>	AGFA	
<b>Type/kV</b>	Ir-192	<b>IQI Side</b>	Source	<b>Film Type</b>	D5	
<b>Curies/mA</b>	71ci	<b>Material Type</b>	C/S	<b>Film Size</b>	70mm	
<b>Size/Focal Size</b>	0.127"	<b>Pipe Diameter</b>	6.375"	<b>Film Per Cassette</b>	1	
<b>Source to Object</b>	21"	<b>Weld Reinforcement</b>	0.125"	<b>Total Film</b>	2	
<b>Object to Film</b>	6.25"	<b>Base Mat'l Thickness</b>	0.125"	<b>Exposure Time</b>	1m30s	

						
Double Wall Exposure / Single Wall View Contact Shot	Double Wall Exposure / Double Wall View Elliptical Shot	Single Wall Exposure / Single Wall View I D Shot	Single Wall Exposure / Single Wall View O D Shot	Single Wall Exposure / Single Wall View Panoramic Shot	Double Wall Exposure / Double Wall View Super Imposed Shot	Single Wall Exposure / Single Wall View Plate
			A			

We the undersigned, certify that the statements in this record are correct and that the welds and/or pieces were examined in accordance with the requirements of the above NDE specification and acceptance standard.

<b>NDE Technician</b>		<b>Lab Manager</b>		<b>Catalog No.</b>	74512
<b>Name / NDT Level</b>	<b>Signature</b>	<b>Name</b>	<b>Signature</b>	<b>Typed By</b>	LS
Blake Clemons/II		Ronnie E. McCrary, Jr.		Digitally signed by Ronnie E McCrary, Jr	
<b>Date</b>		<b>Date</b>			
04-13-2022		04-27-2022			

## Mechanical Test Report

Page 1 of 1

<b>Client</b>	New Albany Gas Department	<b>DST Procedure No.</b>	WTI-BND-1	Rev	0
<b>Project</b>	PO G220019	<b>Exam Date</b>	04-14-2022		
<b>Project ID No.</b>	6" Diameter Pipe 3 ft in Length / Pipe Section from 1948	<b>WTI Client ID</b>	M02643		
<b>Location</b>	WTI Lab - Mt. Juliet, TN	<b>WTI Lab No.</b>	22-0217		
<b>Acceptance Standards</b>	API 1104	<b>Specifications</b>	API 1104		

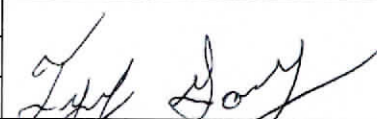

### Information

<b>Welders Name</b>	Long Seam Weld 2		<b>Material</b>	API 5L X42	
<b>Welding Process</b>	SMAW	<b>Material Thickness Submitted</b>	1/8"	<b>Material Thickness Tested</b>	1/8"

### Test Results

DST No (from PPS database)	Figure Number and Type	Results		Comments
		Accept	Reject	
D06361	Figure 5 / Nick Break	X		
D06361	Figure 5 / Nick Break		X	Slag / Lack of Fusion
D06361	Figure 7 / Root Bend		X	Slag / Lack of Fusion
D06361	Figure 7 / Root Bend		X	Slag / Lack of Fusion

We the undersigned, certify that the statements in this record are correct and that the welds and/or pieces were examined in accordance with the requirements of the above specified project specification and acceptance standard.

<b>NDE Technician</b>		<b>Lab Manager</b>		<b>Catalog No.</b>	<b>74641</b>
<b>Name / NDT Level</b>	<b>Signature</b>	<b>Name</b>	<b>Signature</b>	<b>Typed By</b>	LS
Tyler Godsey / II		Ronnie E. McCrary, Jr.		Digitally signed by Ronnie E McCrary, Jr	
<b>Date</b>		<b>Date</b>			
04-14-2022		04-27-2022			

## Mechanical Test Report

Page 1 of 1

<b>Client</b>	New Albany Gas Department	<b>DST Procedure No.</b>	WTI-BND-1	Rev	0
<b>Project</b>	PO G220019	<b>Exam Date</b>	04-14-2022		
<b>Project ID No.</b>	6" Diameter Pipe 3 ft in Length / Pipe Section from 1948	<b>WTI Client ID</b>	M02643		
<b>Location</b>	WTI Lab - Mt. Juliet, TN	<b>WTI Lab No.</b>	22-0217		
<b>Acceptance Standards</b>	API 1104	<b>Specifications</b>	API 1104		

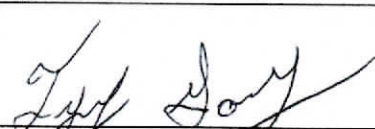

**Information**

<b>Welders Name</b>	Long Seam Weld 1		<b>Material</b>	API 5L X42	
<b>Welding Process</b>	SMAW	<b>Material Thickness Submitted</b>	1/8"	<b>Material Thickness Tested</b>	1/8"

**Test Results**

DST No (from PPS database)	Figure Number and Type	Results		Comments
		Accept	Reject	
D06360	Figure 5 / Nick Break	X		
D06360	Figure 5 / Nick Break	X		
D06360	Figure 7 / Root Bend	X		
D06360	Figure 7 / Root Bend	X		

We the undersigned, certify that the statements in this record are correct and that the welds and/or pieces were examined in accordance with the requirements of the above specified project specification and acceptance standard.

<b>NDE Technician</b>		<b>Lab Manager</b>		<b>Catalog No.</b>	<b>74640</b>
<b>Name / NDT Level</b>	<b>Signature</b>	<b>Name</b>	<b>Signature</b>	<b>Typed By</b>	<b>LS</b>
Tyler Godsey / II		Ronnie E. McCrary, Jr.		Digitally signed by Ronnie E McCrary, Jr	
<b>Date</b>		<b>Date</b>			
04-14-2022		04-27-2022			



## Mechanical Test Report

Page 1 of 1

<b>Client</b>	New Albany Gas Department	<b>DST Procedure No.</b>	WTI-BND-1	Rev	0
<b>Project</b>	PO G220019	<b>Exam Date</b>	04-14-2022		
<b>Project ID No.</b>	6" Diameter Pipe 3 ft in Length / Pipe Section from 1948	<b>WTI Client ID</b>	M02643		
<b>Location</b>	WTI Lab - Mt. Juliet, TN	<b>WTI Lab No.</b>	22-0217		
<b>Acceptance Standards</b>	API 1104	<b>Specifications</b>	API 1104		

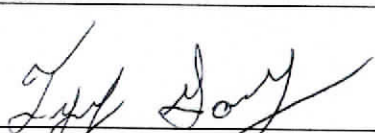

### Information

<b>Welders Name</b>	Girth Weld		<b>Material</b>	API 5L X42	
<b>Welding Process</b>	SMAW	<b>Material Thickness Submitted</b>	1/8"	<b>Material Thickness Tested</b>	1/8"

### Test Results

DST No (from PPS database)	Figure Number and Type	Results		Comments
		Accept	Reject	
D06359	Figure 5 / Nick Break		X	Slag / Lack of Fusion
D06359	Figure 5 / Nick Break		X	Slag / Lack of Fusion
D06359	Figure 7 / Root Bend		X	Slag / Lack of Fusion
D06359	Figure 7 / Root Bend		X	Slag / Lack of Fusion

We the undersigned, certify that the statements in this record are correct and that the welds and/or pieces were examined in accordance with the requirements of the above specified project specification and acceptance standard.

<b>NDE Technician</b>		<b>Lab Manager</b>		<b>Catalog No.</b> 74520
<b>Name / NDT Level</b>	<b>Signature</b>	<b>Name</b>	<b>Signature</b>	<b>Typed By</b> LS
Tyler Godsey / II		Ronnie E. McCrary, Jr.		Digitally signed by Ronnie E McCrary, Jr
<b>Date</b>		<b>Date</b>		
04-14-2022		04-27-2022		

## Radiographic Test Report (RT)

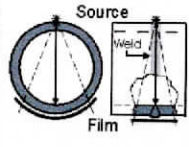
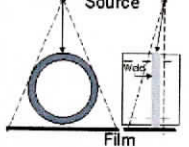
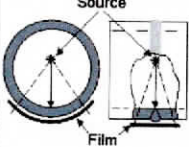
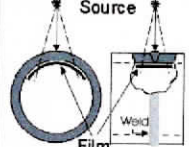
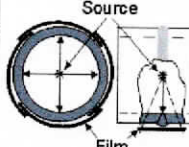
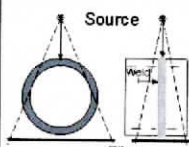
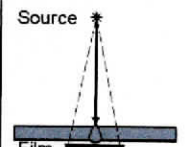
<b>Client</b>	New Albany Light, Gas, Water	<b>NDE Procedure No.</b>	WTI-API-1104	<b>Rev</b>	2
<b>Project</b>	PIPE SECTION FROM 1948	<b>Exam Date</b>	04-07-2022		
<b>Project ID No.</b>	PO G220019	<b>WTI Client ID</b>	M02643		
<b>Location</b>	WTI Lab – Millington, TN	<b>WTI Lab No.</b>	M-5579		
<b>Acceptance Standards</b>	API-1104	<b>NDE Specifications</b>	API-1104		

### Examination Results

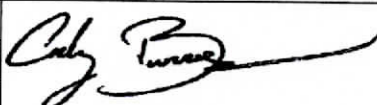
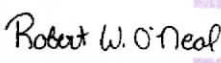
Piece ID	Area	Result		Discontinuity	Comments	Density	Technique ID	Welder ID
		Accept	Reject					
W1	A-B		X	LACK OF FUSION/POROSITY/SLAG		2.9	A	
	B-C		X	LACK OF FUSION/SLAG		2.9	A	
	C-A		X	LACK OF FUSION/POROSITY/SLAG		3.0	A	

### Equipment and Technique Details

<b>Technique ID</b>	A	<b>IQI Type</b>	WIRE		<b>Shim/Block Thks.</b>	N/A
<b>Source/Equipment</b>	48186M	<b>IQI Size/Number</b>	A-4		<b>Film Manufacturer</b>	AGFA
<b>Type/kV</b>	IR192	<b>IQI Side</b>	FILM		<b>Film Type</b>	D4
<b>Curies/ma</b>	57 ci.	<b>Material Type</b>	C/S		<b>Film Size</b>	4.5x10
<b>Size/Focal Size</b>	0.116	<b>Pipe Diameter</b>	6.375"		<b>Film Per Cassette</b>	1
<b>Source to Object</b>	6.250"	<b>Weld Reinforcement</b>	0.125"		<b>Total Film</b>	3
<b>Object to Film</b>	0.125"	<b>Base Mat'l Thickness</b>	0.125"		<b>Exposure Time</b>	30 SEC

						
Double Wall Exposure / Single Wall View Contact Shot	Double Wall Exposure / Double Wall View Elliptical Shot	Single Wall Exposure / Single Wall View ID Shot	Single Wall Exposure / Single Wall View O D Shot	Single Wall Exposure / Single Wall View Panoramic Shot	Double Wall Exposure / Double Wall View Super Imposed Shot	Single Wall Exposure / Single Wall View Plate
A						

We the undersigned, certify that the statements in this record are correct and that the welds and/or pieces were examined in accordance with the requirements of the above NDE specification and acceptance standard.

<b>NDE Technician</b>	<b>General Manager</b>	<b>Catalog No.</b>	74497
<b>Name / NDT Level</b>	<b>Signature</b>	<b>Name</b>	<b>Signature</b>
Cody Burrow/II		Robert W. O'Neal, Sr.	
<b>Date</b>		<b>Date</b>	
04-07-2022		04-27-2022	Robert W O'Neal, Sr 2022.05.02 15:31:15-05'00" 10.1.6

## Hardness Test Report (HT)

Page 1 of 1

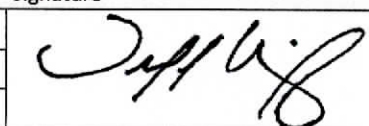
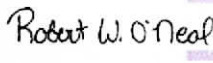
<b>Client</b>	New Albany Light, Gas, Water	<b>Procedure No.</b>	WTI-HT-2 Rev 3
<b>Project</b>	PIPE SECTION FROM 1948	<b>Exam Date</b>	04-07-2022
<b>Project ID No.</b>	PO G220019	<b>WTI Client ID</b>	M02643
<b>Location</b>	WTI Lab – Millington, TN	<b>WTI Lab No.</b>	M-5579
<b>Acceptance Standards</b>	INFORMATION ONLY	<b>Specifications</b>	ASTM A1038

**Hardness Readings**

Location	# of Readings	Avg. Value	Min Value	Max Value
HT-1 BASE METAL	5	210(HB)	181(HB)	274(HB)
HT-2 BASE METAL	5	138(HB)	118(HB)	157(B)
HT-3 WELD METAL LONGITUDINAL	5	174(HB)	156(HB)	203(HB)
HT-4 WELD METAL LONGITUDINAL	5	136(HB)	130(HB)	142(HB)
HT-HAZ-1 GIRTH WELD	5	172(HB)	149(HB)	193(HB)
HT-GIRTH WELD	5	195(HB)	170(HB)	223(HB)
HT-HAZ-2 FIRTH WELD	5	166(HB)	157(HB)	171(HB)
CAL BLOCK 60606A				
CAL DONE ON HRC 24.11				
CONVERTS TO 240HB				

Instrument Model Number		Instrument Serial Number	34101-2954			
UCI Data	Cal. Value	0	Probe S/N	33766	Test Load	5 kgf

We the undersigned, certify that the statements in this record are correct and that the welds and/or pieces were examined in accordance with the requirements of the above specified project specification and acceptance standard.

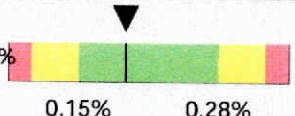
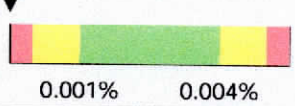
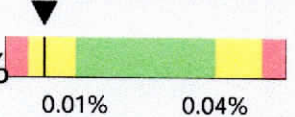
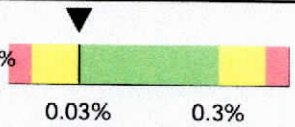
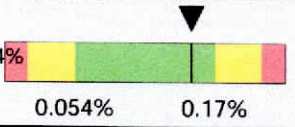
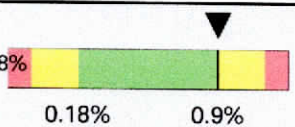
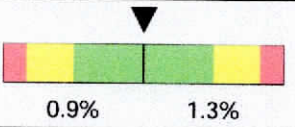
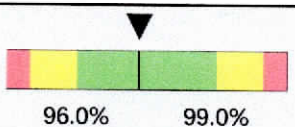
<b>Technician</b>	<b>General Manager</b>	<b>Catalog No.</b>	74498		
<b>Name</b>	<b>Signature</b>	<b>Name</b>	<b>Signature</b>	<b>Typed By</b>	LS
Jeffrey Wright/II		Robert W. O'Neal, Sr.		Robert W O'Neal, Sr	2022.05.02 15:31:43-05'00'
Date		Date		10.16	
04-07-2022		04-27-2022			

## Material Test Report

Client	New Albany Gas Department	NDE Procedures No.	WTI-PMI-Z	Rev	0
Project	Pipe Section from 1948	Exam Date	April 26, 2022		
Project ID No.	PO# G220019	WTI Client ID	M02643		
Location	WTI Lab Mt. Juliet, Tennessee	WTI Lab No.	22-0217		
Acceptance Standards	API 1104	NDE Specifications	API 1104		

# API5LxS

Base: Fe MN: 98.1

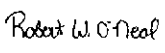
<b>C</b> Carbon 0.196% $\pm 0.0512\%$ 	5L-1 0.152% $\pm 0.00862\%$
5L-2 0.152% $\pm 0.00862\%$	<b>C.E.</b> 0.608% $\pm 0.0577\%$ IIW/API
RES 1.07% $\pm 0.0109\%$	<b>Nb</b> Niobium < 0.00669% 
<b>Ti</b> Titanium < 0.000561% 	<b>Si</b> Silicon 0.018% $\pm 0.0106\%$ 
<b>V</b> Vanadium 0.152% $\pm 0.00544\%$ 	<b>Cr</b> Chromium 0.921% $\pm 0.00558\%$ 
<b>Mn</b> Manganese 1.11% $\pm 0.0601\%$ 	<b>Fe</b> Iron 97.5% $\pm 0.142\%$ 
<b>Pb</b> Lead < 0.000714%	<b>Mo</b> Molybdenum < 0.0207%
<b>Al</b> Aluminum 0.037% $\pm 0.00221\%$	<b>Ni</b> Nickel < 0.00574%

**Cu** 0.107% <sup>+/-0.00736%</sup>  
Copper

**NDE Technician**  
**Name / NDT Level**  
Robert W. O'Neal Sr.  

---


**Date**  
04/26/2022

**Signature**  
  
Robert W O'Neal, Sr  
2022.05.03 09:42:  
46-05'00"  
10.1.6

**Lab Manager**  
**Name**  
Ronnie E. McCrary Jr.  

---

**Date**  
05/03/2022

**Catalog No.** 74684  
**Signature**  
  
Digitally signed  
by Ronnie E  
McCrary, Jr



# WORLD TESTING, INC.

Expect. Inspect.

70 East Hill St.  
 Mt. Juliet, TN 37122  
 (615) 754-4147  
 FAX (615) 758-6239

5123 Navy Road  
 Millington, TN 38053  
 (901) 873-4174  
 FAX (901) 873-4275

Customer: New Albany Gas Dept  
 Welder Name: Long Seam #2  
 Procedure#: N/A  
 Code: API 1104

Test Start Date and Time: 4/14/2022 12:52 PM, 4/14/2022 12:53 PM  
 Method Name: WELD PROCEDURE  
 Lab Number: 22-0217  
 Material: API 5L X42(21K Rate)

Customer	Code	Sample #	Width in	Thickness in	Area in <sup>2</sup>	Ultimate Force lbf	Fracture Location	Ultimate Tensile Strength psi
New Albany Gas Dept	API 1104	1	0.765	0.124	0.0949	6370	HAZ	67,118
New Albany Gas Dept	API 1104	2	0.763	0.128	0.0977	6420	Base Metal	65,687
<b>Maximum</b>								67,118
<b>Minimum</b>								65,687
<b>Median</b>								66,402

Respectfully Submitted

Lab Manager: Ronnie E. McCrary Jr. AWS / CWI



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Expect. Inspect.

70 East Hill St.  
 Mt. Juliet, TN 37122  
 (615) 754-4147  
 FAX (615) 758-6239

5123 Navy Road  
 Millington, TN 38053  
 (901) 873-4174  
 FAX (901) 873-4275

Customer: New Albany Gas Dept

Welder Name: Long Seam #1

Procedure#: N/A

Code: API 1104

Test Start Date and Time: 4/14/2022 12:46 PM, 4/14/2022 12:49 PM

Method Name: WELD PROCEDURE

Lab Number: 22-0217

Material: API 5L X42(21K Rate)

Customer	Code	Sample #	Width in	Thickness in	Area in <sup>2</sup>	Ultimate Force lbf	Fracture Location	Ultimate Tensile Strength psi
New Albany Gas Dept	API 1104	1	0.745	0.113	0.0842	5640	HAZ	66,985
New Albany Gas Dept	API 1104	2	0.733	0.123	0.0902	5700	HAZ	63,235
<b>Maximum</b>								<b>66,985</b>
<b>Minimum</b>								<b>63,235</b>
<b>Median</b>								<b>65,110</b>

Respectfully Submitted

Lab Manager: Ronnie E. McCrary Jr. AWS / CWI



# WORLD TESTING, INC.

Expect. Inspect.

70 East Hill St.  
 Mt. Juliet, TN 37122  
 (615) 754-4147  
 FAX (615) 758-6239

5123 Navy Road  
 Millington, TN 38053  
 (901) 873-4174  
 FAX (901) 873-4275

Customer: New Albany Gas Dept  
 Welder Name: Girth Seam  
 Procedure#: N/A  
 Code: API 1104

Test Start Date and Time: 4/14/2022 12:39 PM, 4/14/2022 12:43 PM  
 Method Name: WELD PROCEDURE  
 Lab Number: 22-0217  
 Material: API 5L X42(21K Rate)

Customer	Code	Sample #	Width in	Thickness in	Area in <sup>2</sup>	Ultimate Force lbf	Fracture Location	Ultimate Tensile Strength psi
New Albany Gas Dept	API 1104	1	0.766	0.130	0.0996	4470	Weld Metal	44,865
New Albany Gas Dept	API 1104	2	0.786	0.120	0.0943	5110	Weld Metal	54,210
Maximum								54,210
Minimum								44,865
Median								49,537

Respectfully Submitted

Lab Manager: Ronnie E. McCrary Jr. AWS / CWI





# WORLD TESTING, INC.

Expect. Inspect.

72 East Hill Drive  
Mt. Juliet, TN 37122  
(615) 754-4147  
FAX (615) 758-6239

5123 Navy Road  
Millington, TN 38053  
(901) 873-4174  
FAX (901) 873-4275

Customer: New Albany Gas Dept  
Lab Number: 22-0217  
Sample #: Base Metal

Method Name: Flat/Ext  
Output Name: Flat/Ext  
Test Start Date and Time: 4/14/2022 12:31 PM, 4/14/2022 12:22 PM

Heat #	Material	Width in	Thickness in	Area in <sup>2</sup>	Ultimate Force lbf	Ultimate Stress psi	Offset @ 0.2% lbf	Offset @ 0.2% psi	TE (Manual) %
N/A	API 5L X42	0.834	0.133	0.111	6150	55450	4650	41930	35.0
N/A	API 5L X42	0.787	0.138	0.109	6260	57630	5290	48700	9.50

Respectfully Submitted

Name: Ronnie McCray  
Title: Lab Manager

**Exhibit C.1 - DIMP Risk Ranking**

**5.2. NEW ALBANY GAS SYSTEM Section Risk Ranking**

**Section:** Invasion Pipe (Installed 1951-1952)

**Threat:** Material, Weld or Joint Failure > Non-standard 6" thin wall gas pipe, installed in 1951-1952 (commonly called "Invasion Pipe"), welded in field with longitudinal welds subject to stress cracking. Unavailable of fittings for repair.

**Description:** Invasion Pipe

Rank	User Rank	Shrimp Rank	Relative Risk Score	Probability Score	Leak Cause Factor Score	Incident Probability Factor
1	1	1	18.15	10	1.1	1

Ranked here, in part, for the following reasons:

The following were threat indicators:

- Responses indicating an actual threat:
  - Failures are not occurring, however, due to age of pipe, limited records and pressure testing available on the section of thin-wall invasion pipe and welds due to stress cracking.
- Responses indicating an potential threat:
  - Failures are not occurring on this section of the pipeline, however, due to the type and grade of pipe, materials, and welds the invasion pipe is vintage pipe and therefore presents a threat to the integrity of the system.
  - The likelihood that a leak in this section will become a Grade 1 leak is high.
- Responses indicating higher potential consequences:
  - The pressure/diameter of this section is substantially greater than the average of the system.
  - The pipe is predominately located within business districts.
  - A failure of this section could result in High disruption of service.
  - A failure of this section could result in some effort to evacuate certain facilities (hospitals, schools, nursing homes, etc.).

## Exhibit C.2 - DIMP Threat Indicators

NEW ALBANY GAS  
DISTRIBUTION INTEGRITY MANAGEMENT PLAN

---

The following were threat indicators:

- Responses indicating **an actual threat**:
- Responses indicating a potential threat:
  - The condition of the pipeline coating is unknown.
- Responses indicating higher potential consequences:
  - The pressure/diameter of this section is substantially greater than the average of the system.
  - The pipe is predominately located within business districts.
  - A failure of this section could result in high disruption of service.
  - A failure of this section could result in some effort to evacuate certain facilities (hospitals, schools, nursing homes, etc.).

**Exhibit D -  
Prevailing Wage Rates**

"General Decision Number: MS20220072 02/25/2022

Superseded General Decision Number: MS20210072

State: Mississippi

Construction Type: Heavy  
HEAVY CONSTRUCTION PROJECTS

Counties: Alcorn, Calhoun, Chickasaw, Choctaw, Itawamba, Lee, Lowndes, Monroe, Noxubee, Oktibbeha, Pontotoc, Prentiss, Tippah, Tishomingo, **Union**, Webster and Winston **Counties in Mississippi**.

HEAVY CONSTRUCTION PROJECTS EXCLUDING FLOOD CONTROL

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60).

If the contract is entered  into on or after January 30,  2022, or the contract is  renewed or extended (e.g., an  option is exercised) on or  after January 30, 2022:         	. Executive Order 14026  generally applies to the  contract.  . The contractor must pay  all covered workers at  least \$15.00 per hour (or  the applicable wage rate  listed on this wage  determination, if it is  higher) for all hours  spent performing on the  contract in 2022.
If the contract was awarded on  or between January 1, 2015 and  January 29, 2022, and the  contract is not renewed or  extended on or after January  30, 2022:         	. Executive Order 13658  generally applies to the  contract.  . The contractor must pay all  covered workers at least  \$11.25 per hour (or the  applicable wage rate listed  on this wage determination,  if it is higher) for all  hours spent performing on  that contract in 2022.

The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must still submit a conformance request.

Additional information on contractor requirements and worker protections under the Executive Orders is available at <https://www.dol.gov/agencies/whd/government-contracts>.

Modification Number	Publication Date
0	01/07/2022
1	02/25/2022

IRON0469-001 06/01/2017

	Rates	Fringes
IRONWORKER (STRUCTURAL).....	\$ 21.00	8.81

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\* SUMS2015-038 04/03/2017

	Rates	Fringes
CARPENTER, Includes Form Work....	\$ 16.89	0.00
CEMENT MASON/CONCRETE FINISHER, Includes Water Sewer Lines.....	\$ 16.24	0.00
ELECTRICIAN.....	\$ 19.36	7.70
IRONWORKER, REINFORCING.....	\$ 18.50	0.00
LABORER: Common or General, Includes Water Sewer Lines.....	\$ 12.24 **	0.00
LABORER: Pipelayer, Includes Water Sewer Lines.....	\$ 13.19 **	0.00
OPERATOR: Backhoe/Excavator/Trackhoe, Includes Water Sewer Lines.....	\$ 17.01	0.00
OPERATOR: Bulldozer, Includes Water Sewer Lines.....	\$ 17.60	0.00
TRUCK DRIVER: Dump Truck, Includes Water Sewer Lines.....	\$ 12.00 **	0.00

-----  
WELDERS - Receive rate prescribed for craft performing  
operation to which welding is incidental.

=====  
\*\* Workers in this classification may be entitled to a higher  
minimum wage under Executive Order 14026 (\$15.00) or 13658  
(\$11.25). Please see the Note at the top of the wage  
determination for more information.

Note: Executive Order (EO) 13706, Establishing Paid Sick Leave  
for Federal Contractors applies to all contracts subject to the  
Davis-Bacon Act for which the contract is awarded (and any  
solicitation was issued) on or after January 1, 2017. If this  
contract is covered by the EO, the contractor must provide  
employees with 1 hour of paid sick leave for every 30 hours  
they work, up to 56 hours of paid sick leave each year.  
Employees must be permitted to use paid sick leave for their  
own illness, injury or other health-related needs, including  
preventive care; to assist a family member (or person who is  
like family to the employee) who is ill, injured, or has other  
health-related needs, including preventive care; or for reasons  
resulting from, or to assist a family member (or person who is  
like family to the employee) who is a victim of, domestic  
violence, sexual assault, or stalking. Additional information  
on contractor requirements and worker protections under the EO  
is available at  
<https://www.dol.gov/agencies/whd/government-contracts>.

Unlisted classifications needed for work not included within  
the scope of the classifications listed may be added after  
award only as provided in the labor standards contract clauses  
(29CFR 5.5 (a) (1) (ii)).

-----  
The body of each wage determination lists the classification  
and wage rates that have been found to be prevailing for the  
cited type(s) of construction in the area covered by the wage  
determination. The classifications are listed in alphabetical  
order of ""identifiers"" that indicate whether the particular  
rate is a union rate (current union negotiated rate for local),  
a survey rate (weighted average rate) or a union average rate  
(weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed

in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

#### Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

#### Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is

based.

---

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- \* an existing published wage determination
- \* a survey underlying a wage determination
- \* a Wage and Hour Division letter setting forth a position on a wage determination matter
- \* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour National Office because National Office has responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations  
Wage and Hour Division  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:



Administrative Review Board  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

=====

END OF GENERAL DECISIO"

# EXHIBIT E.1 - Construction Cost Estimate

## PRELIMINARY ESTIMATE OF CONSTRUCTION COSTS

		ENGINEERING ESTIMATE			
	WORK DESCRIPTION	QTY	UNIT	UNIT PRICE	COST
1	Mobilization	1	LS	\$ 50,000.00	\$ 50,000
2	6" x 0.250" steel pipe, API-5L, X52, FBE coating, open trench installation, or optional bore	15,471	LF	\$ 135.00	\$ 2,088,585
3	6"x 0.250" steel pipe, API-5L, X52, HDD river bore, with 12 mils FBE + 25 mils Power-Crete Abrasion Coating	1,450	LF	\$ 185.00	\$ 268,250
4	6" HDD Bore for <b>improved area</b> installation (could include driveways, sidewalks, HC ramps, and curb & gutter)	5,850	LF	\$ 105.00	\$ 614,250
5	6" HDD Bores under cross- streets (13 public streets)	975	LF	\$ 105.00	\$ 102,375
6	12" x 0.250" steel encasement pipe & HDD Highway Bore, per MDOT specifications	380	LF	\$ 220.00	\$ 83,600
7	12" x 0.250" steel encasement pipe & HDD Railroad Bore, per BNSF Railway specifications	140	LF	\$ 220.00	\$ 30,800
8	6" - 90 or 45 degree elbows, schedule 40, trimmed & welded	15	EA	\$ 1,500.00	\$ 22,500
9	6" Block valve assembly, class 300 ANSI	5	EA	\$ 7,500.00	\$ 37,500
10	6" Hot Tap Fitting, Bottom-out pipe connection, installed complete with bypass operations	2	EA	\$ 14,000.00	\$ 28,000
11	Remove existing 6" aerial pipe across waterway	1	LS	\$ 5,000.00	\$ 5,000
12	4" Steel Tap & Lateral Connection to Existing Main	3	EA	\$ 9,000.00	\$ 27,000
13	2" Steel Tap & Lateral Connection to Existing Main	6	EA	\$ 6,000.00	\$ 36,000
14	3/4" Tap & Lateral Connection to Existing ILine	22	EA	\$ 2,500.00	\$ 55,000
15	3/4" Farm Tap Regulator, replace existing	3	EA	\$ 4,300.00	\$ 12,900
16	2" Regulator Station, replace existing	2	EA	\$ 77,000.00	\$ 154,000
17	X-ray testing of 6" pipeline girth welds @ 100%	1	LS	\$ 101,526.00	\$ 101,526
18	Catholic Test Station installed per detail drawing	6	EA	\$ 400.00	\$ 2,400
19	Pipeline Markers, installed during Construction	62	EA	\$ 80.00	\$ 4,951
20	Clearing and grubbing within ROW, 20' width & haul debris	2,500	LF	\$ 9.00	\$ 22,500
21	Crushed Limestone for restoration along the pipelines	600	TNS	\$ 65.00	\$ 39,000
22	Asphalt Pavement , Cut & Replace	120	SY	\$ 180.00	\$ 21,600
23	Miscellaneous Concrete, Cut & Replacment	60	CY	\$ 350.00	\$ 21,000
24	Temporary silt fence	6,000	LF	\$ 4.00	\$ 24,000
25	Stone Riprap w/geotextile liner	120	TN	\$ 60.00	\$ 7,200
26	Wattles	1,200	LF	\$ 20.00	\$ 24,000
27	Seeding & Mulching, 15 Ft. wide path	10,830	LF	\$ 4.50	\$ 48,734
		<b>TOTAL CONSTRUCTION COST:</b>			<b>\$ 3,932,670</b>

## EXHIBIT E.2 - CAPITAL BUDGET

OWNER : New Albany Light, Gas & Water

PROJECT DESCRIPTION : Replacement of 6" High Pressure Invasion Pipe

PHMSA Natural Gas Infrastructure Safety & Modernization Grant Program

DATE : 7/11/22

CAPITAL BUDGET SUMMARY	Funding Sources			Total
	PHMSA Grant	Other	Local	
Construction Total (Reference Exhibit II)	\$ 3,932,700			\$ 3,932,700
Contingencies @ 10%	\$ 393,300			\$ 393,300
Engineering Services				
Planning & Design	\$ 291,000			\$ 291,000
Construction Admin.	\$ 114,000			\$ 114,000
Additional Services (CDBG Eligible)				
USACE (NWP)	\$ 6,000			\$ 6,000
Highway Permitting	\$ 3,000			\$ 3,000
County Permitting				
SWPPP	\$ 5,000			\$ 5,000
Allowances for Potential Required Services				
Cultural Resources Study & Report	\$ 12,000			\$ 12,000
Endangered Species Study & Report	\$ 10,000			\$ 10,000
Preliminary Wetland Delineation	\$ 10,000			\$ 10,000
Other Additional Services Allowance				
Change Order Services	\$ 10,000			\$ 10,000
Prolongation of Const. Phase Services	\$ 54,000			\$ 54,000
Other Services	\$ 5,000			\$ 5,000
Project Administration (Indirect Costs )	\$ -			\$ -
Legal Services Allowance	\$ 5,000			\$ 5,000
<b>TOTAL CAPITAL BUDGET</b>	<b>\$ 4,851,000</b>		<b>\$ -</b>	<b>\$ 4,851,000</b>

The cost information and the associated preliminary design was developed in substantial accordance with the engineering guidelines provided in the Mississippi Development Authority CDBG Program Manual.

Preliminary Wetlands Delineation does not include any potential r



**Daniel A. Ersoy**

President and Principal Engineer  
847.343.9755  
dersoy@elementresourcesllc.com

**July 14, 2022**

**Jackie Cruse, P.E.**

New Albany Light, Gas, Water  
1168 E Bankhead  
New Albany, MS 38652  
662.297.4086

**Subj: Steel Invasion Pipe for natural gas pipelines**

## Background

City of New Albany, Mississippi has 6-inch diameter "Invasion Pipe" in the City's natural gas system. The pipe is part of the city's gas mains that were installed around 1951. The pipe is not standard IPS diameter, and the wall thickness is only 0.130 inches. It has been historically difficult to perform taps, welding, and other hot-work on such thin-walled, vintage materials.

## Lab Testing of Invasion Pipe and Welds

The Utility provided the following invasion pipe lab test results for review: Radiographic, Ultrasonic, Root Bend, Nick Break, Tension (Tensile), Macro-etch, Hardness, and Alloy Analysis (Chemistry). Where applicable, these tests were performed in accordance with American Petroleum Institute Standard 1104 Welding of Pipelines and Related Facilities and other ANSI standards per the performing lab.

## Lab Test Summary

- **Radiographic:** The circumferential weld failed due to Lack of Fusion and Porosity. The longitudinal weld failed due to Lack of Fusion and Porosity. Neither weld met API-1104 requirements.
- **Ultrasonic:** Pipe sections were scanned for lamination and none were found. Results were considered acceptable for these scans.

- **Root Bend Test:** The circumferential weld failed due to Lack of Fusion and Slag indications. The longitudinal welds had mixed results, one passed and another failed due to Lack of Fusion and Slag indications.
- **Nick Break Test:** The circumferential weld specimen failed due to Lack of Fusion and Slag indications. The longitudinal welds had mixed results as in the Root Bend test, one specimen passed and a second failed due to Lack of Fusion and Slag indications.
- **Tension Test:** Two samples were taken from the base metal and compared to API 5L X42 pipe requirements. Both samples failed the Ultimate Tensile requirement which is 60,000 psi. Two samples were taken from each longitudinal weld and passed the minimum Ultimate Tensile requirement. Two samples were taken from the Circumferential weld. Both samples failed in the weld and did not meet the minimum Ultimate Tensile Strength requirements.
- **Macro-etch Test:** One sample was taken from the circumferential weld and one from the longitudinal weld. Both samples exhibited corrosion and lack of fusion.
- **Hardness:** Readings were taken on the welds and Heat Affected Zones (HAZ). Hardness Brinell readings ranged from 136 to 210 HB.
- **Alloy Analysis:** The analysis was compared to several steel grades and the closest match was considered API 5L X42.

#### Comments on Review of Testing Results and Metallurgical Micrographs from the Lab:

1. Two additional tests should be considered in the future as opportunity arises:
  - a. The chemistry testing did not include **sulfur (S) or phosphorus (P)** reported. The samples should be tested for S and P since these can be elevated in historic and subquality pipeline steel. Both can lead to low fracture and dynamic toughness, as well as increasing the likelihood of failure by rupture vs. a stable leak in natural gas pipelines.
  - b. **Charpy-V notch toughness testing** should be completed to determine the upper shelf toughness in ft-lbs., as well as %-shear on the failure surface, and lateral expansion of the failed test specimen. This testing could provide the dynamic toughness of the invasion pipe.
2. In the *Weld Analysis Report*: It appears that the **wall thickness is significantly different on one edge of the strip vs the other**. This **poor wall thickness control** can be typical of legacy (vintage) rolling practices and/or with thin sections. These type of relatively large thickness variations can present challenges for weld on taps, sleeves, and other appurtenances. Additionally, the wall thickness of only 0.130 inches is difficult to weld without penetrations - making hot taps a potentially higher risk operation than with standard wall pipe.

3. Also, from the two photos of the etched surface of the welds, it appears to **be historic rimmed or capped primary steel with centerline carbon segregation**. This type of steel has a core of higher strength, carbon rich microstructure, and the outer and inner walls have a weaker, carbon denuded zone which can be a challenge sometimes to match with weld filler material and the associated desired carbon equivalents (C.E.).

### Summary and Conclusions

Based on the review of the background information from the Utility and the test reports the following metallurgical summary and conclusions can be drawn (these are subject to modification with additional information):

#### Summary

- The invasion pipeline steel appears to be a vintage, possibly rimmed/capped primary steel from the late 1940 to early 1950 era. This steel exhibits *centerline segregation* which can present welding challenges with filler material selection and through wall strength variability.
- The weld inspection results are troubling, since the girth and long seam welds both failed due to *lack of fusion* and *porosity*, and neither would meet the modern API-1104 requirements. Furthermore, the girth and longitudinal macro etches both exhibited *corrosion* and *lack of fusion*.
- One of two of the Nick Break Tests failed due to *lack of fusion* and *slag inclusions*.
- The base metal and girth weld metal both *failed the UTS requirements* of API 5L x42.
- There was relatively *high variability in wall thickness*, presumably from the rolling practice of the era combined with especially thin walled pipe for the diameter.

#### Conclusions

The current pipe material exhibits poor tensile strength, weld quality, metallurgical cleanliness, dimensional control, standard thickness, and homogeneity (centerline segregation).

Based on the poor metallurgical and welding quality of the pipe, the pipeline segment would significantly enhance system safety and mechanical integrity if it were replaced with a modern steel grade, such as API 5L X52 or similar, with minimum wall thickness of 0.250 inches and PSL 2 enhanced toughness.

Sincerely,



Daniel A. Ersoy  
President and Principal Engineer  
Element Resources, LLC

# BUDGET NARRATIVE

## RE: Notice of Funding Opportunity

### “Natural Gas Distribution Infrastructure Safety and Modernization Grant Program”

**Organization Name:** City of New Albany Gas Department (PHMSA Operator ID # 13226)

**Organization Mission:** The New Albany Gas Department’s mission is to operate and maintain the City’s natural gas utility system for providing safe, effective, and efficient gas service for residential homes and commercial businesses in the community.

**Contact Information:** New Albany Light, Gas & Water  
100 Cleveland Street  
New Albany, Mississippi 38652  
Phone: 662-534-1041

Bill Mattox, General Manager  
[bmattox@nalgw.com](mailto:bmattox@nalgw.com)

## Procurement of Property and Services

With this grant request the City of New Albany Gas Department (City) proposes to replace a section of non-standard, thin-wall steel gas main, commonly referred as ‘Invasion Pipe’. The requested funding for Phase 1 is directed at replacing old Invasion Pipe installed in 1951 – 1952, that goes into the City of New Albany’s downtown business district. The proposed Phase 1 pipe replacement project will involve the replacement of approximately 16,900 linear feet of non-standard, thin wall steel pipe which operates at pressures between 175 and 200 psig.

The City will use the following process and procedures for procurement of services:

Utilizing the requested grant funds the City will procure engineering services and also construction services from qualified and experienced companies after PHMSA notifies the City of grant award . The City will use a “Qualifications Based Selection” method to procure professional engineering services, which will ultimately result in the execution of an Agreement for Engineering Services between the selected engineers and the City. This agreement will detail the engineers’ scope of work and responsibilities in the planning, design, permitting, and construction administration phases of work.

When the design and permitting phases are completed, the City will publicly announce advertisements for bids for construction services. City will follow the State of Mississippi statutes and Federal laws regarding bidding for construction services on public projects.

Sealed bids will be submitted to the city as prescribed in a “Notice to Bidders”, and all sealed bids received before the announced deadline will be opened and read aloud at a public meeting. Bids will be reviewed for completeness and accuracy, and City will select the ‘lowest and best bid’ which meets project requirements. The selected Contractor will be required to submit records and documentation as proof of his relevant experience, required qualifications and capabilities for this type of project.

After all federal and state requirements have been satisfied in the contractors’ bids for this project, the city will award a contract for construction services with the selected bidder(s). Preliminary work will begin with a Pre-

Construction Meeting between Owner, Contractor and Engineer. All construction work will be inspected and monitored daily by a qualified Project Inspector. During the construction period the contractor will submit monthly pay requests for work completed during previous month. The City proposes to issue payments to Contractor and subsequently submit requests for PHMSA funds each month during the construction period, until all work is completed.

For timing of these events see Section 3.d Project Timeline in the Project Narrative section of this application.

## Object Class Categories

### 1. Personnel Costs

Personnel costs for construction services will be included in the contractor's bid prices which are to be submitted to the City and opened at an advertised public meeting. The selected contractor can be required to provide details on personnel costs, job classifications, wages, etc. after bids are opened and reviewed.

Personnel costs incurred directly by City employees assisting with project administration will be absorbed by the City and not requested through this grant application.

### 2. Fringe Benefit Costs

Fringe Benefit costs for construction services will be included in the contractor's bid prices which are to be submitted to the City and opened at an advertised public meeting. The selected contractor can be required to provide details on personnel costs, job classifications, wages, etc. after bids are opened and reviewed.

Personnel costs incurred directly by City employees assisting with project administration will be absorbed by the City and not requested through this grant application.

### 3. Travel Costs

Travel costs for construction services will be included in the contractor's bid prices which are to be submitted to the City and opened at an advertised public meeting. Travel costs incurred by the contractor are part of the unit prices per bid item. Travel costs incurred directly by City employees will be minimal and the City is not requesting these costs through this grant application.

### 4. Equipment Costs

All equipment, materials and infrastructure components required for the proposed construction project will be provided by the selected qualified contractor, as part of his services, and included in the construction bid prices submitted to the City. The City is not requested any funds for purchase of equipment under this grant proposal.

### 5. Supplies

All materials and supplies needed for the proposed construction project will be provided by the selected qualified contractor, as part of his services, and included in the construction bid prices submitted to the City. The City is not requested any funds for acquiring supplies under this grant proposal.



**6. Contractual Costs**

Contractual costs necessary for implementing the proposed project will be managed through the issuance of contracts for construction services by qualified pipeline contractors and likewise for engineering services. As shown on the attached Form SF-424C titled “Budget Information – Construction Programs”, the estimated costs are as follows:

Construction costs for installation of the replacement gas main are estimated at \$3,932,670 – see attached Exhibit E.1 – Construction Cost Estimate. This number is rounded to \$3,932,700 in the budget form SF-424C for simplicity purposes only. The construction cost is the major part of the project, and it includes all of the labor, materials, supplies and equipment needed to install the new pipeline. The anticipated work is detailed and listed as bid items in Exhibit E.1, attached to this grant application.

Attached form SF-424C line 9, lists Construction costs at \$3,932,700. This represents the engineer’s estimate of probable construction costs for the work described in Exhibit E.1 attached. The line item ‘work descriptions’ and related quantities reflect the expected amount of work required to complete the construction for the proposed project. Quantities are based on preliminary planning and project layout work done thus far. The listed quantities are not guaranteed for payment to the contractor – they are only estimates.

The Unit Prices shown in Exhibit E.1 were derived from contractor bids on past projects of a similar nature. These unit prices reflect an estimate of the contractor’s bid prices for each item of work. Contractor bid prices can vary greatly from the lowest bid to highest bid, but they are anticipated to average somewhere close to the estimated prices. Contractor bid prices have escalated greatly over the past two years, due to economic impacts of the Covid pandemic - causing labor shortages and supply chain disruptions. During the first half of calendar year 2022, costs have been rising dramatically due to steep increases in fuel costs and rampant economic inflation. Therefore, it is very difficult today to predict what the contractor bid prices will be several months into the future.

Because of the uncertainties in construction costs today, it is normal industry practice to add Contingencies as a line item in the project budget. For this project , line 13 on attached form SF-424C shows a contingency cost of \$393,300k, which is calculated at 10 % of construction costs.

Engineering fees make up the next largest component of project costs. Line 6 on attached form SF-424C lists the estimated total engineering fees at \$291,000. These costs are necessary to engage engineers for the professional services needed in the phases of planning, engineering design and construction administration. Line 6 on the SF-424C form lists the estimated fees for ‘Other architectural and engineering fees’ at a total of \$66,000, and these services are described in greater detail on attached Exhibit E.2 – Capital Budget. These are required for project permitting, environmental compliance. Also included are potential costs due to prolongation of the construction period due to factors beyond the contractor’s control – such as weather or supply chain issues. If construction can be completed within the allotted construction period and without unexpected delays, this cost will not be applied to the project

**7. Other Costs**

The proposed project budget does not contain any costs classified as “Other Costs”.

**8. Indirect Costs**

The City will absorb all Indirect costs related to this project , therefore no grant funds are requested for this cost classification.

# ATTACHMENTS FORM

**Instructions:** On this form, you will attach the various files that make up your grant application. Please consult with the appropriate Agency Guidelines for more information about each needed file. Please remember that any files you attach must be in the document format and named as specified in the Guidelines.

**Important:** Please attach your files in the proper sequence. See the appropriate Agency Guidelines for details.

1) Please attach Attachment 1	1236-Exhibit A.1 - Project Lo	Add Attachment	Delete Attachment	View Attachment
2) Please attach Attachment 2	1237-Exhibit A.2 - Preliminar	Add Attachment	Delete Attachment	View Attachment
3) Please attach Attachment 3	1238-Exhibit B - World Testin	Add Attachment	Delete Attachment	View Attachment
4) Please attach Attachment 4	1239-Exhibit C.1 - DIMP Risk	Add Attachment	Delete Attachment	View Attachment
5) Please attach Attachment 5	1240-Exhibit C.2 - DIMP Threa	Add Attachment	Delete Attachment	View Attachment
6) Please attach Attachment 6	1241-Exhibit D - prevailing w	Add Attachment	Delete Attachment	View Attachment
7) Please attach Attachment 7	1242-Exhibit E.1 - Constructi	Add Attachment	Delete Attachment	View Attachment
8) Please attach Attachment 8	1243-Exhibit E.2 - Capital Bu	Add Attachment	Delete Attachment	View Attachment
9) Please attach Attachment 9	1244-Exhibit F.1 - Richard Sa	Add Attachment	Delete Attachment	View Attachment
10) Please attach Attachment 10	1245-Exhibit F.2 - Daniel Ers	Add Attachment	Delete Attachment	View Attachment
11) Please attach Attachment 11		Add Attachment	Delete Attachment	View Attachment
12) Please attach Attachment 12		Add Attachment	Delete Attachment	View Attachment
13) Please attach Attachment 13		Add Attachment	Delete Attachment	View Attachment
14) Please attach Attachment 14		Add Attachment	Delete Attachment	View Attachment
15) Please attach Attachment 15		Add Attachment	Delete Attachment	View Attachment

## Budget Narrative File(s)

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\* **Mandatory Budget Narrative Filename:**

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To add more Budget Narrative attachments, please use the attachment buttons below.

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## CERTIFICATION REGARDING LOBBYING

### Certification for Contracts, Grants, Loans, and Cooperative Agreements

The undersigned certifies, to the best of his or her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure of Lobbying Activities," in accordance with its instructions.

(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

### Statement for Loan Guarantees and Loan Insurance

The undersigned states, to the best of his or her knowledge and belief, that:

If any funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this commitment providing for the United States to insure or guarantee a loan, the undersigned shall complete and submit Standard Form-LLL, "Disclosure of Lobbying Activities," in accordance with its instructions. Submission of this statement is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required statement shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

<b>* APPLICANT'S ORGANIZATION</b> <input style="width: 90%;" type="text" value="City of New Albany Gas Department"/>	
<b>* PRINTED NAME AND TITLE OF AUTHORIZED REPRESENTATIVE</b>	
Prefix: <input style="width: 100px;" type="text"/>	* First Name: <input style="width: 200px;" type="text" value="Bill"/> Middle Name: <input style="width: 150px;" type="text"/>
* Last Name: <input style="width: 300px;" type="text" value="Mattox"/>	Suffix: <input style="width: 80px;" type="text"/>
* Title: <input style="width: 250px;" type="text" value="General Manager"/>	
* SIGNATURE: <input style="width: 300px;" type="text" value="Jackie Cruse"/>	* DATE: <input style="width: 150px;" type="text" value="07/26/2022"/>