



IND-MAR INDUSTRIES

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*** 24 HOUR SERVICE ***

MECHANICAL CONTRACTOR
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STEEL FABRICATION
ON SITE SERVICE

31437A
MACHINE SHOP FACILITIES
FULL SERVICE DIESEL & PARTS
(OUR JOB #333-081)

SOLD TO

SHIPPED TO

D.L.A.C.M.R.I.
1818 ALBERT STREET
JACKSONVILLE, FL 32206

"SAME"

ATTN: **ACCOUNTS PAYABLE**

DATE	DATE SHIPPED	SHIPPED VIA	YOUR ORDER NO.	F.O.B.	TERMS	INVOICE NO.
5/31/01	6/1/01	OUR TRUCK	PO# 1057	JAX	NET 30	31437A

QUANTITY	DESCRIPTION	PRICE	AMOUNT
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ITEM#

DESCRIPTION

00500

OIL TANK REPAIRS (APT 603):

\$ 10,638.74

6% FL STATE SALES TAX:

638.38

TOTAL INVOICE AMOUNT:

\$11,278.12

STARTED 2-28-01 and COMPLETED 5-1-01

Corrective Action Documentation

THIS INVOICE HAS BEEN
CHECKED AND VERIFIED

Matthew J. Self

DATE 6/1/01

Powerful Solutions To Your Industrial & Marine Needs.

Interest Charge of 1+2% Per Month Will Be Added To Any Unpaid Balance Over 30 Days.

D.L.A.C./W.R.I.

Owner's Representative: Mike Doherty

PO#: 1057

IM# Job No.: 333-081

IM# Representative: Tony James

Item 00500: OIL TANK REPAIRS (API 653):

Provided labor, equipment and material to accomplish the following repairs.

TANK 1P. Welded 6 each nozzles inside the tank. Removed $\frac{3}{4}$ " coupling from the outside and replaced it with a 6" x $\frac{3}{4}$ " nipple. Welded 2 each horizontal and 3 each vertical lapped joints. Removed the old TLI and installed threaded nipple and cap on tank top. Cleaned and then closed the tank.

TANK 2P. Welded 5 each nozzles inside the tank. Removed $\frac{3}{4}$ " coupling from the outside and replaced it with a 6" x $\frac{3}{4}$ " nipple. Welded 2 each horizontal and 3 each vertical lapped joints. Removed the old TLI and installed threaded nipple and cap on tank top. Cleaned and then closed the tank.

TANK 3P. Welded 6 each nozzles inside the tank. Removed $\frac{3}{4}$ " coupling from the outside and replaced it with a 6" x $\frac{3}{4}$ " nipple. Welded 2 each horizontal and 3 each vertical lapped joints. Removed the old TLI and installed threaded nipple and cap on tank top. Cleaned and then closed the tank.

TANK 4P. Removed the old TLI and installed threaded nipple and cap on tank top. Cleaned and then closed the tank.

TANK 5P. Welded one (1) nozzle inside the tank under manhole. Removed $\frac{3}{4}$ " coupling from the outside and replaced it with a 6" x $\frac{3}{4}$ " nipple. Cleaned and then closed the tank.

TANK 6P. Removed $\frac{3}{4}$ " coupling from the outside and replaced it with a 6" x $\frac{3}{4}$ " nipple. Cleaned and then closed the tank.

TANK 7P. Removed $\frac{3}{4}$ " coupling from the outside and replaced it with a 6" x $\frac{3}{4}$ " nipple. Cleaned and then closed the tank.

TANK 8P. Removed $\frac{3}{4}$ " coupling from the outside and replaced it with a 6" x $\frac{3}{4}$ " nipple. Cleaned and then closed the tank.

TANK 9P. Removed $\frac{3}{4}$ " coupling from the outside and replaced it with a 6" x $\frac{3}{4}$ " nipple. Cleaned and then closed the tank.

245.25 S/T hrs. @ \$37.50	=	\$9,196.88
16.5 O/T hrs. @ \$47.50	=	\$ 783.75
Materials: \$573.14+ 15%	=	<u>\$ 659.11</u>

ITEM TOTAL: \$10,639.74

TOTAL INVOICE: \$10,639.74

WORK LIST FOR OIL TANKS

1P

1. WELD (6) NOZZLES, INSIDE OF TANK
2. REMOVE $\frac{3}{4}$ " COUPLING FROM OUTSIDE, REPLACE W/ 6" X $\frac{3}{4}$ " NIPPLE
3. WELD (2) HORIZONTAL LAPPED JOINTS 37' 75.4'
4. WELD (3) VERTICAL LAPPED JOINTS 37'
5. REMOVE OLD TLI, INSTALL THREADED NIPPLE & CAP ON TANK TOP.
6. CLEAN & CLOSE

2P

1. WELD (5) NOZZLES, INSIDE OF TANK
2. REMOVE $\frac{3}{4}$ " COUPLING FROM OUTSIDE, REPLACE W/ 6" X $\frac{3}{4}$ " NIPPLE
3. WELD (2) HORIZONTAL LAPPED JOINTS 75.4'
4. WELD (3) VERTICAL LAPPED JOINTS 37'
5. REMOVE OLD TLI, INSTALL THREADED NIPPLE & CAP ON TANK TOP.
6. CLEAN & CLOSE

3P

1. WELD (6) NOZZLES, INSIDE OF TANK
2. REMOVE $\frac{3}{4}$ " COUPLING FROM OUTSIDE, REPLACE W/ 6" X $\frac{3}{4}$ " NIPPLE
3. WELD (2) HORIZONTAL LAPPED JOINTS 75.4'
4. WELD (3) VERTICAL LAPPED JOINTS 37'
5. REMOVE OLD TLI, INSTALL THREADED NIPPLE & CAP ON TANK TOP.
6. CLEAN & CLOSE

4P

1. REMOVE OLD TLI, INSTALL THREADED NIPPLE & CAP ON TANK TOP.
2. CLEAN & CLOSE

5P

1. WELD (1) NOZZLE, INSIDE OF TANK (UNDER MANHOLE)
2. REMOVE $\frac{3}{4}$ " COUPLING FROM OUTSIDE, REPLACE W/ 6" X $\frac{3}{4}$ " NIPPLE
3. CLEAN & CLOSE

6P

1. REMOVE $\frac{3}{4}$ " COUPLING FROM OUTSIDE, REPLACE W/ 6" X $\frac{3}{4}$ " NIPPLE
2. CLEAN & CLOSE

7P

1. REMOVE $\frac{3}{4}$ " COUPLING FROM OUTSIDE, REPLACE W/ 6" X $\frac{3}{4}$ " NIPPLE
2. CLEAN & CLOSE

8P

1. REMOVE $\frac{3}{4}$ " COUPLING FROM OUTSIDE, REPLACE W/ 6" X $\frac{3}{4}$ " NIPPLE
2. CLEAN & CLOSE

9P

1. REMOVE $\frac{3}{4}$ " COUPLING FROM OUTSIDE, REPLACE W/ 6" X $\frac{3}{4}$ " NIPPLE
2. CLEAN & CLOSE



March 14, 2001

Mr. Mike Doherty
Water Recovery, Inc.
1819 Albert St.
Jacksonville, FL 32202

**SUBJECT: Report of Inspection of Tanks 1P-10P, 1SW, and Discharge Tank
 Water Recovery, Inc.
 Jacksonville, Florida
 LAW Project Number 40563-1-0225**

Dear Mr. Doherty:

As requested and authorized by you, representatives from Law Engineering and Environmental Services, Inc. (LAW) performed external and internal assessments of Tanks 1P, 2P, 3P, 4P, 5P, 6P, 7P, 8P, 9P, 10P, 1SW, and the Discharge Tank in January 2001. This report will describe the qualifications of our personnel, the services provided, and the findings of our assessment.

QUALIFICATION OF PERSONNEL AND PROCEDURES

Personnel performing the nondestructive testing were qualified as Level I and Level II technicians. They are qualified and certified in accordance with LAW's Standard for Personnel Training and Certification, which is in accordance with the American Society of Nondestructive Testing Recommended Practice SNT-TC-1A. Testing procedures used were LAW's standard operating procedures, which are in accordance with ASME Section V, Nondestructive Testing.

PROJECT INFORMATION AND SCOPE OF SERVICES

LAW was directed to perform external and internal assessments, including ultrasonic thickness testing (UT) of the shells, roofs and floors of the noted tanks located at the Water Recovery, Inc. facility in Jacksonville, Florida. Ultrasonic thickness measurements were obtained on the shell utilizing four general compass points located at approximately 90-degree intervals around the circumference of each tank. At each compass point location, three to four thickness measurements were recorded on each shell course. The floors and roofs had thickness readings obtained at 2-foot intervals located along the

same four compass points as the shells. All readings were obtained utilizing a Krautkramer USN52. Minimum thickness requirements were calculated based on API-653 specifications and full hydrostatic load. For complete results of our testing please refer to the attached drawings and spreadsheets for each tank.

Observations and Findings

Tank 1P is a 23,750-gallon Receiving Waste Oil Storage Tank located on Albert Street. It measures 26 feet, 9 inches tall with 3 courses and is 12 feet in diameter. The sump pump at the tank's base was not operational and the tank's grounding strap was missing. The surface coating was deteriorated and there was pitting in the bottom external lip and the roof of the tank. Additionally, a small hole was found in the south center of the roof. The roof of the tank was also slightly buckled. All of Tank 1P's nozzles were not welded on the inside diameter. The internal surface of the tank's roof and shell was coated with product, limiting our visual inspection. All thickness readings recorded on this tank were above minimum thickness requirements per API-653 guidelines.

Tank 2P is a 23,750-gallon Insulated Oil Treatment Tank located on Albert Street. It is 26 feet, 11 inches tall with 3 courses and is 12 feet in diameter. This tank is completely insulated. The tank's insulation was damaged, loose, and leaking in some areas. Tank 2P's autogauge was damaged and its ground strap was missing. All of Tank 2P's nozzles were not welded on the inside diameter. All thickness readings recorded on this tank were above minimum thickness requirements per API-653 guidelines.

Tank 3P is a 23,750-gallon Receiving Waste Oil Storage Tank located on Albert Street. It is 26 feet, 10 inches tall with 3 courses and is 12 feet in diameter. The sump pump at the tank's base was not operational and the tank's grounding strap was missing. The surface coating showed some signs of deterioration. All of Tank 3P's nozzles were not welded on the inside diameter. The internal surface of the roof and shell were coated with product, limiting our visual examination. All thickness readings recorded on this tank were above minimum thickness requirements per API-653 guidelines.

Tank 4P is a 20,000-gallon Receiving Waste Oil Storage Tank located on Albert Street. It is 25 feet tall with 4 courses and is 12 feet in diameter. The surface coating showed some signs of deterioration. A 9-inch lap patch was welded over a 6-inch diameter hole on the West Side of the tank located on the first shell course. All of Tank 4P's nozzles were not welded on the inside diameter. All thickness readings recorded on this tank were above minimum thickness requirements per API-653 guidelines.

Tank 5P is a 20,000-gallon Receiving Waste Oil Storage Tank located on Albert Street. It measures 31 feet tall with 5 courses and has a diameter of 10 feet, 6 inches. The surface coating was notably thin and showed some signs of deterioration. There was a small hole present on the south end of the roof. All of nozzles were not welded on the inner diameter of the tank. All thickness readings recorded on this tank were above minimum thickness requirements per API-653 guidelines.

Tank 6P is a 20,000-gallon Receiving Waste Oil Storage Tank located on Albert Street. It measures 25 feet tall with 4 courses and has a diameter of 12 feet. The surface coating

showed some signs of deterioration. The tank was slightly buckled on the east side. The autogauge was also slightly damaged and the grounding strap was missing. All of the nozzles were not welded on the inside diameter of the tank. The tank has a baffle running northeast to southwest along the center. This baffle had a section that has been partially removed. All thickness readings recorded on this tank were above minimum thickness requirements per API-653 guidelines.

Tank 7P is a 20,000-gallon Receiving Waste Oil Storage Tank located on Albert Street. It measures 32 feet in height and consists of 4 courses with a diameter of 10 feet, 6 inches. The surface coating showed some signs of deterioration. All of the nozzles were not welded on the inside diameter. All thickness readings recorded on this tank were above minimum thickness requirements per API-653 guidelines.

Tank 8P is a 20,000-gallon Receiving Waste Oil Storage Tank located on Albert Street. The tank measure 32 feet, 3 inches tall with 4 courses and had a diameter of 10 feet, 6 inches. The tank's foundation was cracking and the concrete around the base showed signs of deterioration. The surface coating was also deteriorated. The tank's grounding strap was missing. A patch was welded along the bottom-to-foundation seal along the south side of the external shell. All of the nozzles were not welded on the inside diameter. The floor showed signs of pitting and deterioration. All thickness readings recorded on this tank were above minimum thickness requirements per API-653 guidelines.

Tank 9P is a 20,000-gallon Receiving Waste Oil Storage Tank located on Albert Street. It is 31 feet, 2 inches tall with 4 courses and has a diameter of 10 feet, 4 inches. A 9-inch diameter lap patch was welded on the west side of the roof. In addition, an external patch was present on the floor of the tank. All of the nozzles were not welded on the inside diameter. All thickness readings recorded on this tank were above minimum thickness requirements per API-653 guidelines.

Tank 10P is a horizontal tank with a capacity of 9,000 gallons. It is designated as a Pretreatment Tank with mixer and is located on Albert Street. It measures 15 feet in length with a diameter of 10 feet. No internal inspection was performed on this tank. Thickness readings were obtained on the shell and both heads. All thickness readings recorded on this tank were above minimum thickness requirements per

Tank 1SW is a 30,000-gallon Stormwater Receiving Tank located on Albert Street. Inspection of this tank was limited to an external ultrasonic thickness examination. All thickness readings recorded on this tank were above minimum thickness requirements per API-653 guidelines.

The Discharge Tank measures 32 feet, 11 inches in height and consists of 5 shell courses. The diameter measures 10 feet, 6 inches. No ultrasonic thickness data was obtained from the bottom course of this tank because it is reportedly scheduled to be replaced at a later date. The floor of the tank was covered with debris and scale. One thickness reading of 0.210 inch was obtained from the floor. Two scab plates were present on the roof along with accumulation of water along the south side. The neck for the manway located on the roof was missing. There were also two holes on the

northwest side of the roof. All thickness readings recorded on this tank were above minimum thickness requirements per API-653 guidelines.

Recommendations

Tank 1P has eight nozzles that should be welded on the internal surface. Also, the lapped weld seams with stitch welding should have full fillet welds. The hole in the roof should have a welded patch plate installed. Although not a code requirement, a grounding strap should be added to the tank for safety purposes.

Tank 2P has three vertical lapped weld seams that are stitch welded, and these should have full fillet welds. There are seven nozzles that should be welded on the internal surface. Although not a code requirement, a grounding strap should be added to the tank for safety purposes.

Tank 3P has lapped weld seams; however, due to the cleanliness of the tank's internal surface, these welds, if existence the weld is not visible due to "build-up" on the tank's internal surface. There are five nozzles that should be welded on the internal surface. Although not a code requirement, a grounding strap should be added to the tank for safety purposes.

Tank 4P has three nozzles that should be welded on the internal surface. Also, there is a welded patch plate over a 6-inch hole in the lower course of the tank that needs to be welded on the internal surface. Although not a code requirement, a grounding strap should be added to the tank for safety purposes.

Tank 5P has five nozzles that should be welded on the internal surface. The hole in the roof should have a welded patch plate installed. The conservation vent on the roof should be cleaned. Although not a code requirement, a grounding strap should be added to the tank for safety purposes.

Tank 6P has two nozzles that should be welded on the internal surface. Although not a code requirement, a grounding strap should be added to the tank for safety purposes.

Tank 7P has two nozzles that should be welded on the internal surface. Although not a code requirement, a grounding strap should be added to the tank for safety purposes.

Tank 8P has three nozzles that should be welded on the internal surface. Although not a code requirement, a grounding strap should be added to the tank for safety purposes.

Tank 9P has six nozzles that should be welded on the internal surface. The patch plate on the floor should be welded on the internal surface. Although not a code requirement, a grounding strap should be added to the tank for safety purposes.

The Discharge Tank should have the manway replaced on the roof of the tank. Also welded patch plates should be installed on the roof at the two hole locations. Please note that the internal assessment of the floor was limited due to the presence of debris and scale.


CLOSING

Our conclusions are based on information obtained from conversations with your office and our field observations. Additional items of concern may exist in areas unforeseeable to our personnel. Any conditions discovered which deviate from the information presented in this report should be presented for our review. It should be noted that an evaluation of wind loading was not performed under this limited scope.

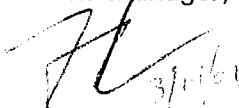
LAW appreciates the opportunity to provide our professional services on this project. Should you have any questions concerning this report, or if we may be of further services on this, or future projects, please contact this office.

Respectfully submitted,

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.



Gregg A. Lentz
Operations Manager, Industrial Services



Floyd S. Simpson, P.E.
Principal Engineer
Registered, Florida 50791

Attachments: Drawings of Field Data for Each Tank



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(CUSTOMER #105417)

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1818 ALBERT STREET
JACKSONVILLE, FL 32206

"SAME"

ATTN: **ACCOUNTS PAYABLE**

DATE	DATE SHIPPED	SHIPPED VIA	YOUR ORDER NO.	F.O.B.	TERMS	INVOICE NO.
5/31/01	6/1/01	OUR TRUCK	PO# 1057	JAX	NET 30	31437A

QUANTITY	DESCRIPTION	PRICE	AMOUNT
ITEM#	DESCRIPTION		
00500	OIL TANK REPAIRS (API 603):	\$ 10,638.74	
	6% FL STATE SALES TAX:	\$638.38	
	TOTAL INVOICE AMOUNT:		\$11,278.12

STARTED 2-28-01 and COMPLETED 5-1-01

Corrective Action Documentation

THIS INVOICE HAS BEEN
CHECKED AND VERIFIED

Matthew J. Self DATE 6/1/01
Matthew J. Self

Powerful Solutions To Your Industrial & Marine Needs.

Interest Charge of 1 1/2% Per Month Will Be Added To Any Unpaid Balance Over 30 Days.

D.L.A.C./W.R.I.

Owner's Representative: Mike Doherty

PO#: 1057

Item 00500: OIL TANK REPAIRS (API 653):

IMI Job No.: 333-081

IMI Representative: Tony James

Provided labor, equipment and material to accomplish the following repairs.

TANK 1P. Welded 6-each nozzles inside the tank. Removed $\frac{3}{4}$ " coupling from the outside and replaced it with a 6" x $\frac{3}{4}$ " nipple. Welded 2-each horizontal and 3-each vertical lapped joints. Removed the old TLI and installed threaded nipple and cap on tank top. Cleaned and then closed the tank.

TANK 2P. Welded 5-each nozzles inside the tank. Removed $\frac{3}{4}$ " coupling from the outside and replaced it with a 6" x $\frac{3}{4}$ " nipple. Welded 2-each horizontal and 3-each vertical lapped joints. Removed the old TLI and installed threaded nipple and cap on tank top. Cleaned and then closed the tank.

TANK 3P. Welded 6-each nozzles inside the tank. Removed $\frac{3}{4}$ " coupling from the outside and replaced it with a 6" x $\frac{3}{4}$ " nipple. Welded 2-each horizontal and 3-each vertical lapped joints. Removed the old TLI and installed threaded nipple and cap on tank top. Cleaned and then closed the tank.

TANK 4P. Removed the old TLI and installed threaded nipple and cap on tank top. Cleaned and then closed the tank.

TANK 5P. Welded one (1) nozzle inside the tank under manhole. Removed $\frac{3}{4}$ " coupling from the outside and replaced it with a 6" x $\frac{3}{4}$ " nipple. Cleaned and then closed the tank.

TANK 6P. Removed $\frac{3}{4}$ " coupling from the outside and replaced it with a 6" x $\frac{3}{4}$ " nipple. Cleaned and then closed the tank.

TANK 7P. Removed $\frac{3}{4}$ " coupling from the outside and replaced it with a 6" x $\frac{3}{4}$ " nipple. Cleaned and then closed the tank.

TANK 8P. Removed $\frac{3}{4}$ " coupling from the outside and replaced it with a 6" x $\frac{3}{4}$ " nipple. Cleaned and then closed the tank.

TANK 9P. Removed $\frac{3}{4}$ " coupling from the outside and replaced it with a 6" x $\frac{3}{4}$ " nipple. Cleaned and then closed the tank.

245.25 S/T hrs. @ \$37.50	=	\$9,196.88
16.5 O/T hrs. @ \$47.50	=	\$ 783.75
Materials: \$573.14+ 15%	=	<u>\$ 659.11</u>

ITEM TOTAL: \$10,639.74

TOTAL INVOICE: \$10,639.74

WORK LIST FOR OIL TANKS

1P

1. WELD (6) NOZZLES, INSIDE OF TANK
2. REMOVE $\frac{3}{4}$ " COUPLING FROM OUTSIDE, REPLACE W/ 6" X $\frac{3}{4}$ " NIPPLE
3. WELD (2) HORIZONTAL LAPPED JOINTS ~~37.7'~~ 75.4'
4. WELD (3) VERTICAL LAPPED JOINTS 37'
5. REMOVE OLD TLI, INSTALL THREADED NIPPLE & CAP ON TANK TOP.
6. CLEAN & CLOSE

2P

1. WELD (5) NOZZLES, INSIDE OF TANK
2. REMOVE $\frac{3}{4}$ " COUPLING FROM OUTSIDE, REPLACE W/ 6" X $\frac{3}{4}$ " NIPPLE
3. WELD (2) HORIZONTAL LAPPED JOINTS 75.4'
4. WELD (3) VERTICAL LAPPED JOINTS 27'
5. REMOVE OLD TLI, INSTALL THREADED NIPPLE & CAP ON TANK TOP.
6. CLEAN & CLOSE

3P

1. WELD (6) NOZZLES, INSIDE OF TANK
2. REMOVE $\frac{3}{4}$ " COUPLING FROM OUTSIDE, REPLACE W/ 6" X $\frac{3}{4}$ " NIPPLE
3. WELD (2) HORIZONTAL LAPPED JOINTS 75.4'
4. WELD (3) VERTICAL LAPPED JOINTS 27'
5. REMOVE OLD TLI, INSTALL THREADED NIPPLE & CAP ON TANK TOP.
6. CLEAN & CLOSE

4P

1. REMOVE OLD TLI, INSTALL THREADED NIPPLE & CAP ON TANK TOP.
2. CLEAN & CLOSE

5P

1. WELD (1) NOZZLE, INSIDE OF TANK (UNDER MANHOLE)
2. REMOVE $\frac{3}{4}$ " COUPLING FROM OUTSIDE, REPLACE W/ 6" X $\frac{3}{4}$ " NIPPLE
3. CLEAN & CLOSE

6P

1. REMOVE $\frac{3}{4}$ " COUPLING FROM OUTSIDE, REPLACE W/ 6" X $\frac{3}{4}$ " NIPPLE
2. CLEAN & CLOSE

7P

1. REMOVE $\frac{3}{4}$ " COUPLING FROM OUTSIDE, REPLACE W/ 6" X $\frac{3}{4}$ " NIPPLE
2. CLEAN & CLOSE

8P

1. REMOVE $\frac{3}{4}$ " COUPLING FROM OUTSIDE, REPLACE W/ 6" X $\frac{3}{4}$ " NIPPLE
2. CLEAN & CLOSE

9P

1. REMOVE $\frac{3}{4}$ " COUPLING FROM OUTSIDE, REPLACE W/ 6" X $\frac{3}{4}$ " NIPPLE
2. CLEAN & CLOSE