



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.

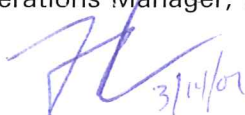
LAW appreciates the opportunity to provide our professional services on this project. Should you have any questions concerning this report, or if we may be of further services on this, or future projects, please contact this office.

Respectfully submitted,

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.



Gregg A. Lentz
Operations Manager, Industrial Services

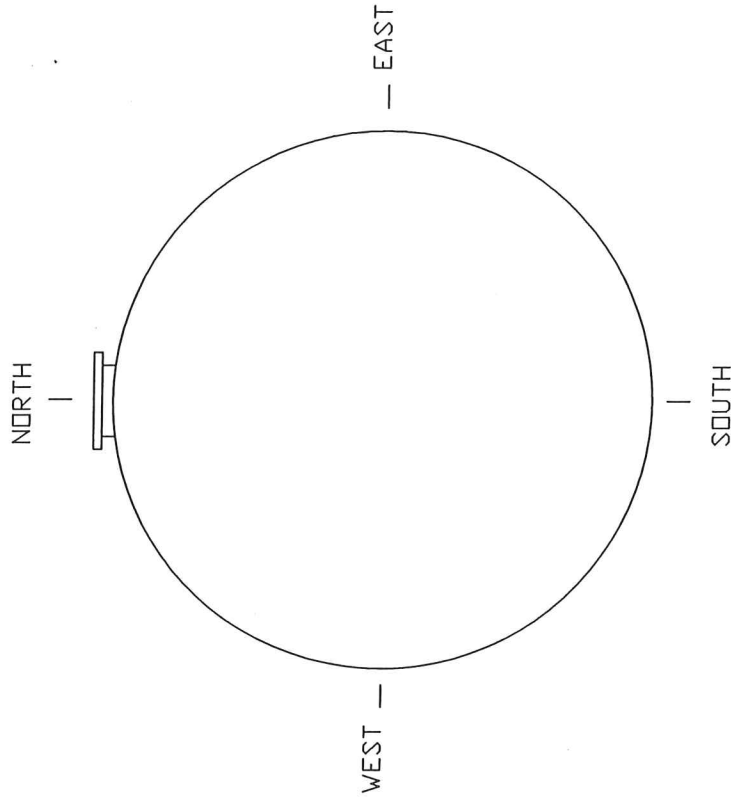
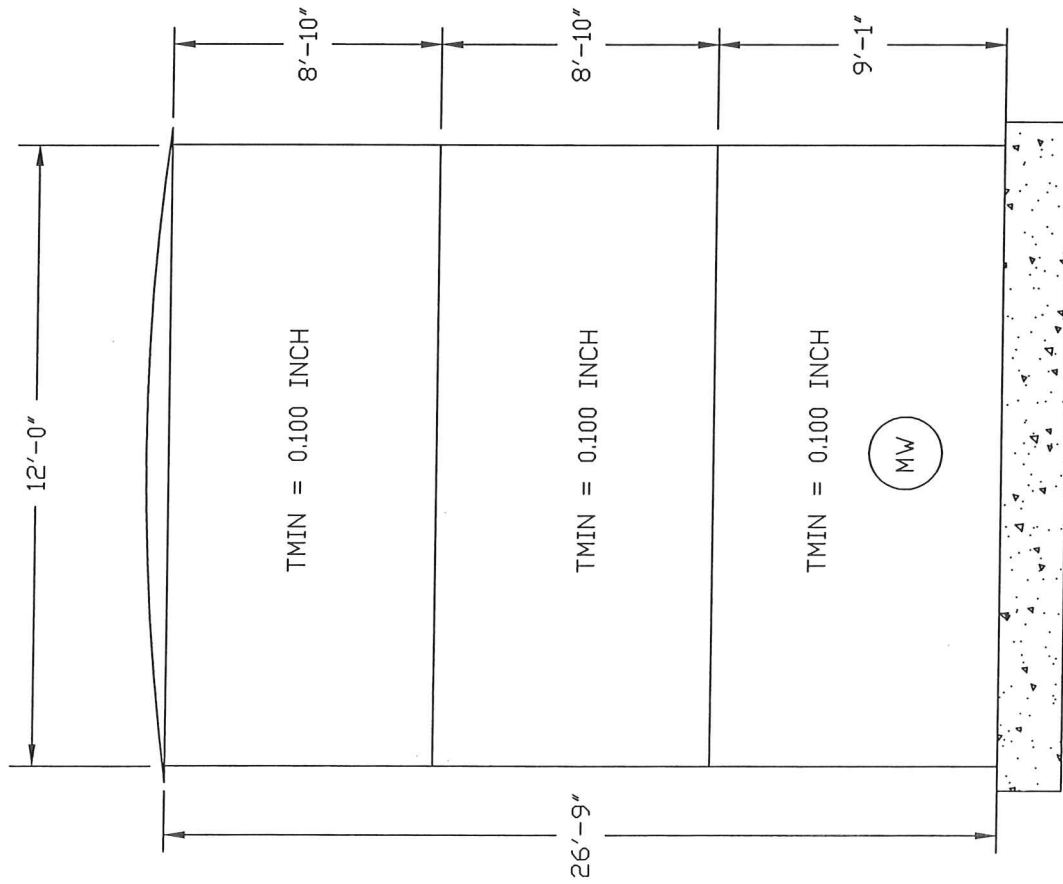


Floyd S. Simpson, P.E.
Principal Engineer
Registered, Florida 50791

Attachments: Drawings of Field Data for Each Tank

Section 1

TMINS BASED ON FULL
HYDROSTATIC LOAD OF 26 FEET 9 INCHES



INSPECTED/DATE: JC/MG/BS/AN-JAN 01

WATER RECOVERY, INC.
JACKSONVILLE, FL

LAW
LAWGIBB Group Member

TANK 1P
GENERAL ARRANGEMENT

JOB NO.: 40563-1-0225 DWG. NO.: 0225-1P-01

INTERNAL DOUBLER PLATE

C3	.208	.218	.210	.217
	.357	.219	.211	.213
	.207	.214	.208	.210
	.206	.211	.201	.208
C2	.203	.197	.190	.193
	.199	.193	.189	.198
	.196	.190	.186	.193
	.188	.186	.179	.189
C1	.344	.357	.346	.349
	.363	.350	3" O PLUG	.344
	24"	.344	2" O N1 3" O N2 3" O N3 1" O N4	.344
	.333	.357	.324	3" O N5 .357

| N | W | S | E

NOTES:

1. DRAWING NOT TO SCALE.
2. NOZZLES HAVE NO INSIDE DIAMETER WELDING.
3. SEE ATTACHED NOZZLE SHEET FOR NOZZLE UT READINGS.

INSPECTED/DATE: JC/MG/BS/AN-JAN 01

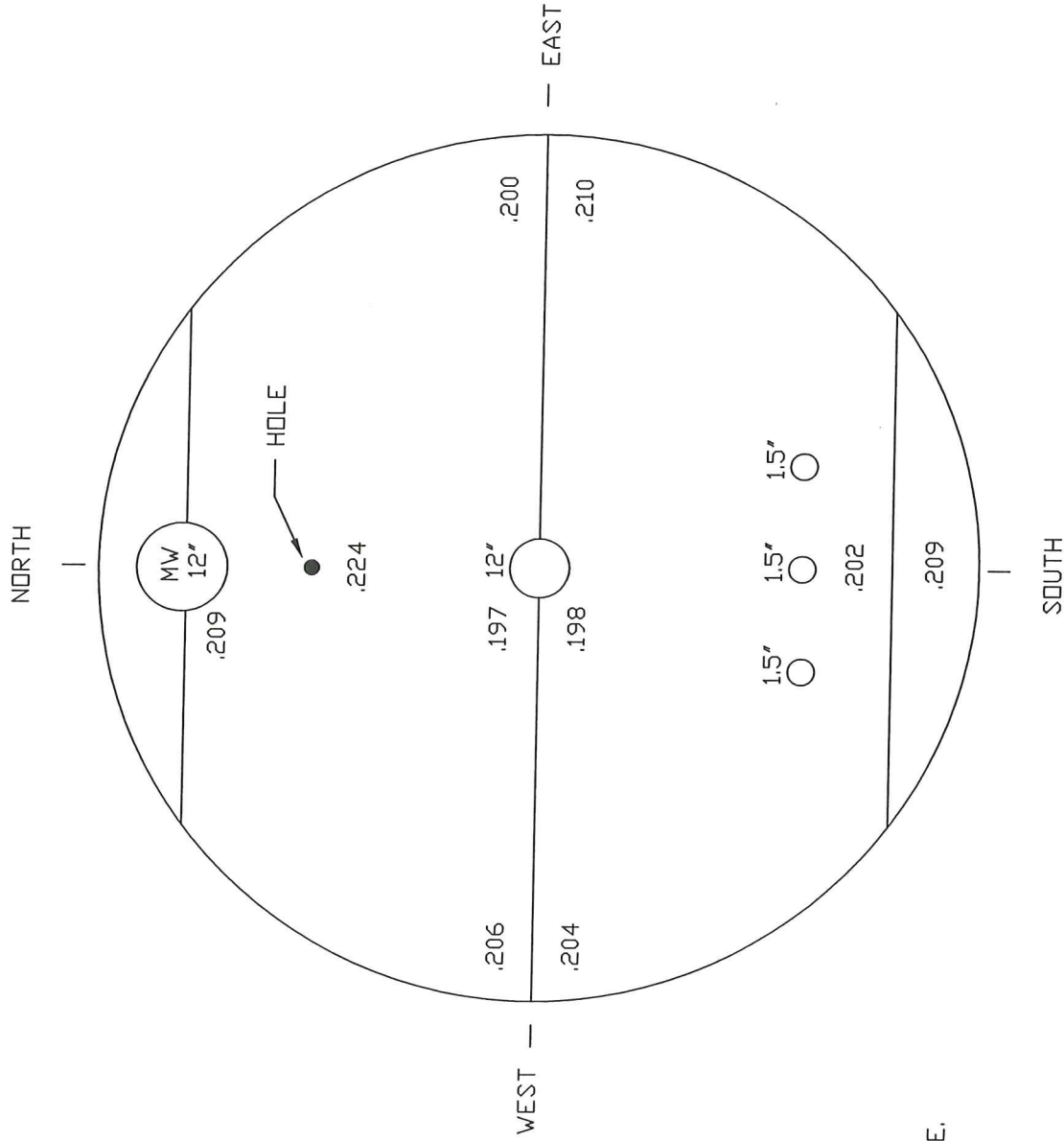
WATER RECOVERY, INC.
JACKSONVILLE, FL

LAW
LAWGIBB Group Member

TANK 1P
SHELL LAYOUT AND UT DATA

JOB NO.: 40563-1-0225 DWG. NO.: 0225-1P-04

TMIN = 0.090 INCH



NOTES:

1. DRAWING NOT TO SCALE.

INSPECTED/DATE: JC/MG/BS/AN-JAN 01

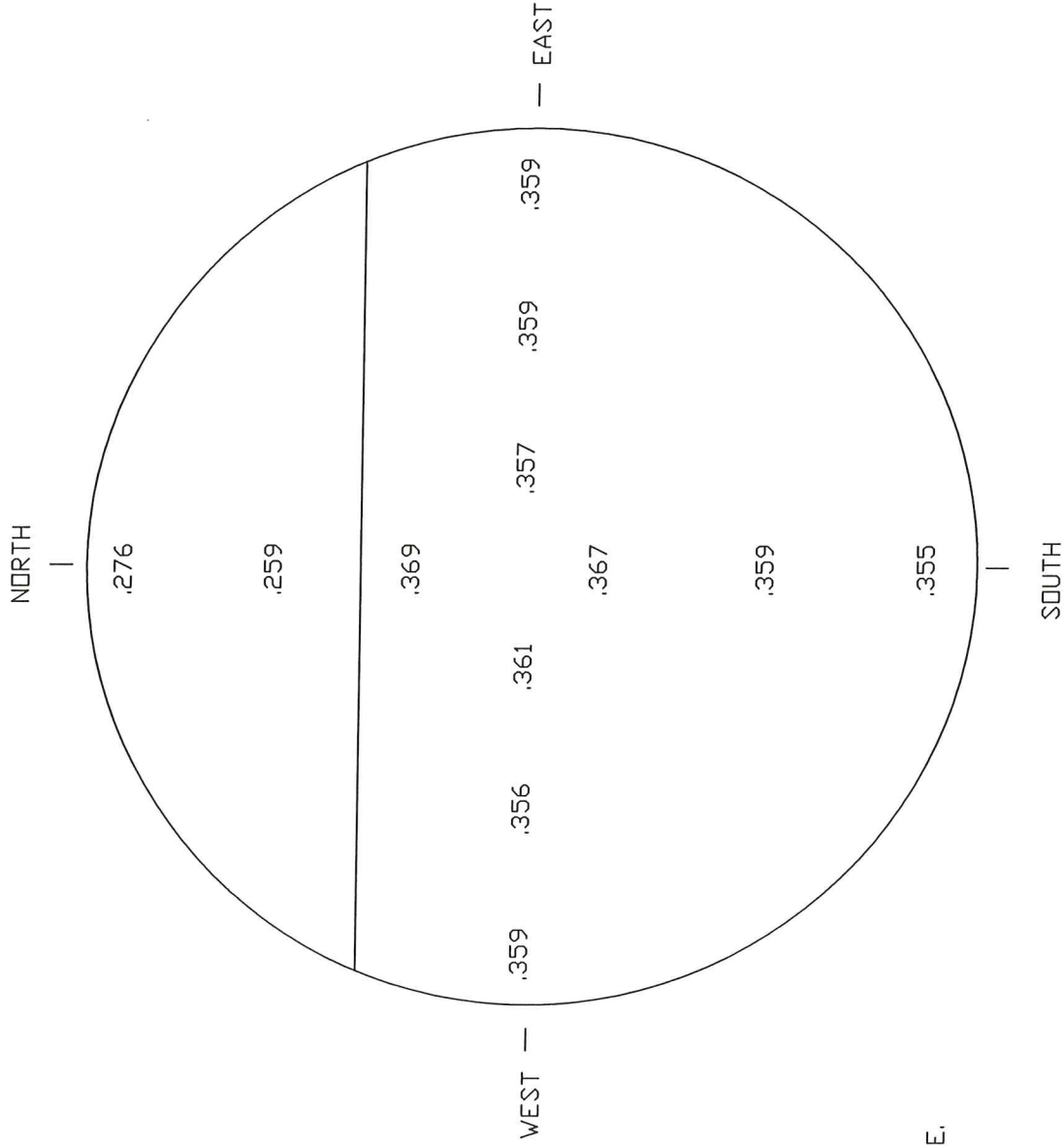
WATER RECOVERY, INC.
JACKSONVILLE, FL



TANK 1P
ROOF LAYOUT AND UT DATA

JOB NO.: 40563-1-0225 DWG. NO.: 0225-1P-02

TMIN = 0.100 INCH



NOTES:

1. DRAWING NOT TO SCALE.

INSPECTED/DATE: JC/MG/BS/AN-JAN 01

WATER RECOVERY, INC.
JACKSONVILLE, FL



TANK 1P

FLOOR LAYOUT AND UT DATA

JOB NO.: 40563-1-0225 DWG. NO.: 0225-1P-03

TANK 1P

MANWAY/NOZZLE UT READINGS

WATER RECOVERY, INC.

LAW Project Number: 40563-1-0225

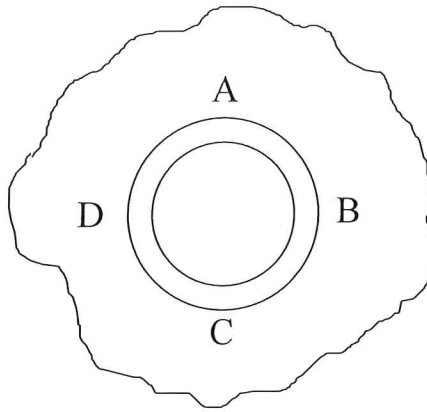
LAW

LAWGIBB Group Member 

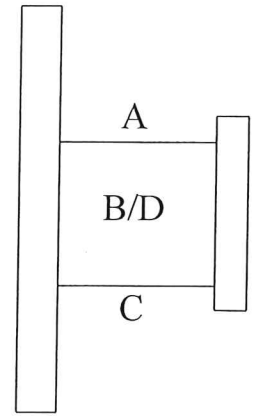
Law Engineering and Environmental Services
1000 Business Center Drive, Suite 90
Savannah, Georgia 31405

Date: JAN-01

Technicians: MG/JC/BS/AN



SHELL VIEW



NECK VIEW

NOZZLES	SIZE	SHELL PLATE THICKNESS				NOZZLE PIPE THICKNESS				REPAD THICKNESS
		A	B	C	D	A	B	C	D	
N1	2'	NA	NA	NA	.367	NA	NA	NA	.486	NA
N2	3"	NA	NA	NA	.357	NA	NA	NA	.215	NA
N3	3"	NA	NA	NA	.365	NA	NA	NA	.195	NA
PLUG	3"	NA	NA	NA	.365	TC	TC	TC	TC	NA
N4	1"	NA	NA	NA	.376	NA	NA	NA	NA	NA
N5	3"	NA	NA	NA	.381	NA	NA	NA	NA	NA
MW	24"	.361	NA	.361	.369	.258	.272	.253	.259	NA

NOTES:

1. Readings are in inches.
2. NA = Not Applicable.
3. TC = Threaded Coupling.

EXTERNAL VISUAL INSPECTION CHECKLIST

CLIENT NAME: WATER RECOVERY, INC.
INSPECTORS: MG/JC/BS/AN
DATE OF INSPECTION: JAN-01

CLIENT REFERENCE NO.: TANK 1P
LAW PROJECT NO.: 40563-1-0225

FOUNDATION

CONCRETE PAD	<input type="checkbox"/>	Cracking	<input type="checkbox"/>	Spalling	<input type="checkbox"/>	Deterioration	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
ANCHOR BOLTS	<input type="checkbox"/>	Loose	<input type="checkbox"/>	Distortion	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
HOUSE KEEPING	<input type="checkbox"/>	Trash	<input type="checkbox"/>	Vegetation	<input type="checkbox"/>	Inflammables	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
FOUNDATION	<input type="checkbox"/>	Cracking	<input type="checkbox"/>	Settlement	<input type="checkbox"/>	Erosion	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
GROUNDING STRAP			<input type="checkbox"/>	Loose	<input checked="" type="checkbox"/>	Missing	<input type="checkbox"/>	Attached	<input type="checkbox"/>	N/A
CATHODIC PROTECTION			<input type="checkbox"/>	Damage	<input type="checkbox"/>	Operational	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
BOTTOM-TO-FOUNDATION SEAL			<input type="checkbox"/>	Leakage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
DIKE CONDITION			<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
FOUNDATION DRAINAGE			<input checked="" type="checkbox"/>	Poor (2)	<input type="checkbox"/>	Adequate	<input type="checkbox"/>	Good	<input type="checkbox"/>	N/A

STRUCTURAL AND WELD CONDITIONS

STAIRS AND WALKWAYS	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
CATWALK / PLATFORMS	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
LADDERS	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
HANDRAILS	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
SHELL WELDS CONDITION	<input type="checkbox"/>	Undercut	<input type="checkbox"/>	Pinholes	<input type="checkbox"/>	Corrosion	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
FLOOR WELDS CONDITION	<input type="checkbox"/>	Undercut	<input type="checkbox"/>	Pinholes	<input type="checkbox"/>	Corrosion	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
ROOF WELDS CONDITION	<input type="checkbox"/>	Undercut	<input type="checkbox"/>	Pinholes	<input type="checkbox"/>	Corrosion	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A

SHELL, ROOF AND APPURTENANCES

FLANGE CONNECTIONS	<input type="checkbox"/>	Loose	<input type="checkbox"/>	Leakage	<input type="checkbox"/>	Damage	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
NOZZLES & MANWAYS	<input type="checkbox"/>	Dimpling	<input type="checkbox"/>	Leakage	<input type="checkbox"/>	Damage	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
SURFACE COATING	<input type="checkbox"/>	Flaking	<input type="checkbox"/>	Blistering	<input checked="" type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input type="checkbox"/>	N/A
INSULATION	<input type="checkbox"/>	Loose	<input type="checkbox"/>	Leakage	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
SHELL	<input type="checkbox"/>	Pitting	<input type="checkbox"/>	Buckling	<input type="checkbox"/>	Out-of-Roundness	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
ROOF	<input checked="" type="checkbox"/>	Pitting	<input checked="" type="checkbox"/>	Buckling	<input checked="" type="checkbox"/>	Deterioration (1)	<input type="checkbox"/>	Good	<input type="checkbox"/>	N/A
BOTTOM EXTERNAL LIP	<input checked="" type="checkbox"/>	Pitting	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
FLOOR	<input type="checkbox"/>	Pitting	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
SAMPLE HATCH	<input type="checkbox"/>	Operational	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
AUTOGAUGE	<input checked="" type="checkbox"/>	Operational	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input type="checkbox"/>	N/A
ROOF SUPPORTS	<input type="checkbox"/>	Missing	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
CONSERVATION VENT			<input type="checkbox"/>	Damage	<input type="checkbox"/>	Operational	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
GOOSE NECK VENT	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Clogging	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
FLAME ARRESTER			<input type="checkbox"/>	Damage	<input type="checkbox"/>	Operational	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
MIXER & MOTORS	<input type="checkbox"/>	Leakage	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
MANWAY DAVIT ARM			<input type="checkbox"/>	Damage	<input type="checkbox"/>	Operational	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A

NOTES:

1. HOLE IN ROOF.
2. SUMP PUMP NOT WORKING.

INTERNAL VISUAL INSPECTION CHECKLIST

CLIENT NAME: WATER RECOVERY, INC.
INSPECTORS: MG/JC/BS/AN
DATE OF INSPECTION: JAN-01

CLIENT REFERENCE NO.: TANK 1P
LAW PROJECT NO.: 40563-1-0225

STRUCTURAL AND WELD CONDITIONS

LADDERS	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
BAFFLE PLATES	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
SHELL WELDS CONDITION	<input type="checkbox"/>	Undercut	<input type="checkbox"/>	Pinholes	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A (1)
FLOOR WELDS CONDITION	<input type="checkbox"/>	Undercut	<input type="checkbox"/>	Pinholes	<input type="checkbox"/>	Corrosion	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
ROOF WELDS CONDITION	<input type="checkbox"/>	Undercut	<input type="checkbox"/>	Pinholes	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A (1)
FLOOR-TO-SHELL SEAM	<input type="checkbox"/>	Undercut	<input type="checkbox"/>	Pinholes	<input type="checkbox"/>	Corrosion	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A

SHELL, ROOF AND APPURTENANCES

NOZZLE PROTRUSIONS	<input type="checkbox"/>	Dimpling	<input type="checkbox"/>	Leakage	<input type="checkbox"/>	Damage	<input checked="" type="checkbox"/>	Good (2)	<input type="checkbox"/>	N/A
SURFACE COATING	<input type="checkbox"/>	Flaking	<input type="checkbox"/>	Blistering	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
LINER	<input type="checkbox"/>	Tearing	<input type="checkbox"/>	Leakage	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
SHELL	<input type="checkbox"/>	Pitting	<input type="checkbox"/>	Buckling	<input type="checkbox"/>	Out-of-Roundness	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
ROOF	<input checked="" type="checkbox"/>	Pitting	<input type="checkbox"/>	Buckling	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A (1)
FLOOR	<input type="checkbox"/>	Pitting	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
ROOF SUPPORTS	<input type="checkbox"/>	Missing	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
PIPING SUPPORTS	<input type="checkbox"/>	Missing	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
AGITATOR SHAFT/BLADES	<input type="checkbox"/>	Broken	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
DOWNCOMERS	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
COILS/HEATERS	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Leakage	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
SUMP	<input type="checkbox"/>	Pitting	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A

NOTES:

1. SHELL AND ROOF WERE COVERED IN RESIDUAL PRODUCT.
2. NOZZLES WERE NOT WELDED ON INNER DIAMETER.

TMIN CALCULATIONS PER API 653 - TANK 1P

HEIGHT, H	26.75 FEET	CORROSION ALLOWANCE	0.000 INCHES
DIAMETER, D	12 FEET	YIELD STRENGTH:	30000 PSI
SPECIFIC GRAVITY, G	1	TENSILE STRENGTH:	55000 PSI
JOINT EFFICIENCY, E	70 %		
# COURSES	3		

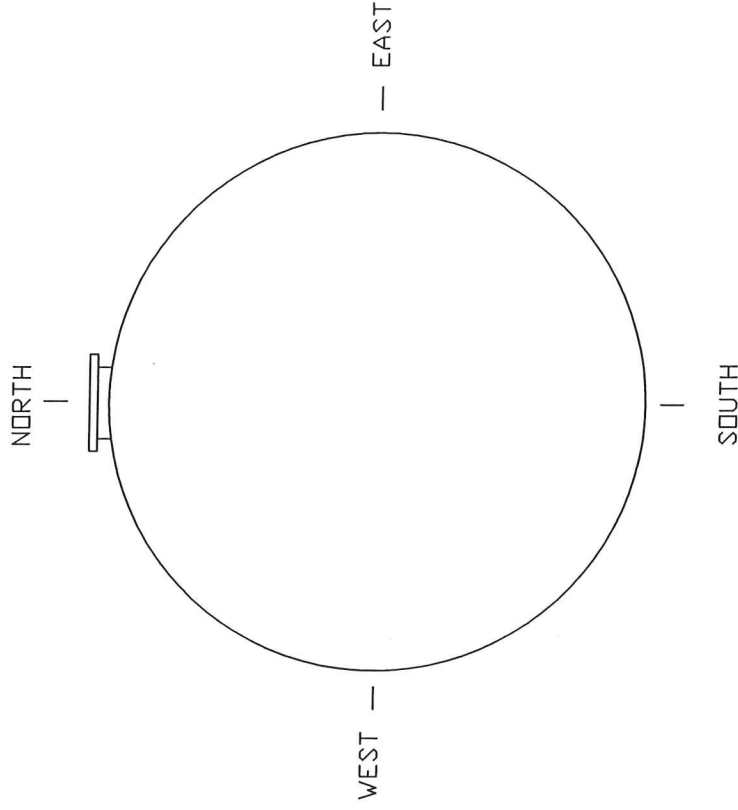
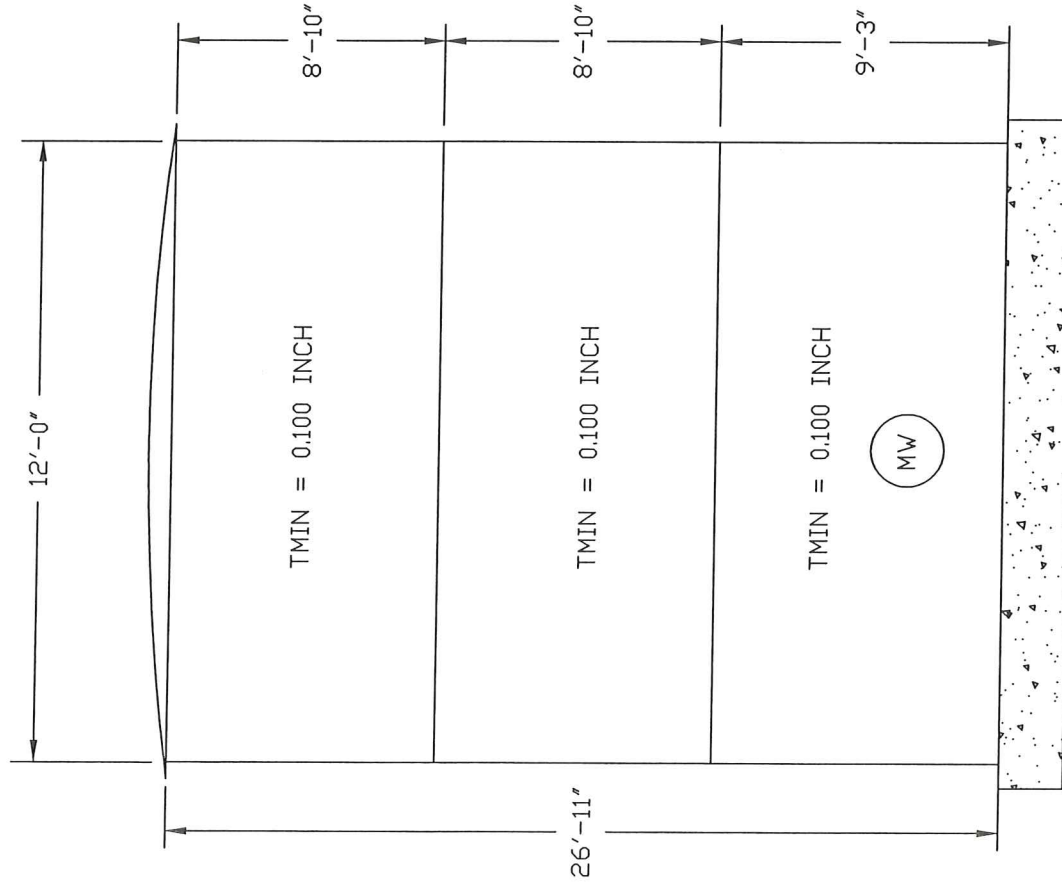
COURSE	H	S	TMIN (CALC)	TMIN	CA	TORIG	TFLAG
ROOF		25960	0.090	0.090	0.000	UNK	0.090
1	26.75	23595	0.051	0.100	0.000	UNK	0.100
2	17.6667	23595	0.033	0.100	0.000	UNK	0.100
3	8.83333	25960	0.015	0.100	0.000	UNK	0.100
FLOOR		25960	0.100	0.100	0.000	UNK	0.100

NOTES:

1. 1ST AND 2ND COURSE, ALLOWABLE STRESS LESSER OF 80% YIELD OR 42.9% TENSILE
2. REMAINING COURSES, ALLOWABLE STRESS LESSER OF 88% YIELD OR 47.2% TENSILE

Section 2

TMINS BASED ON FULL
HYDROSTATIC LOAD OF 26 FEET 11 INCHES



INSPECTED/DATE: JC/MG/BS/AN-JAN 01

WATER RECOVERY, INC.
JACKSONVILLE, FL

LAW
LAWGIBB Group Member

TANK 2P
GENERAL ARRANGEMENT

JOB NO.: 40563-1-0225 DWG. NO.: 0225-2P-01

C3	.217	.210	.214	.217
	.220	.212	.211	.211
	.214	.211	.210	.218
	.211	.211	.209	.211
C2	.221	.222	.222	.217
	.222	.224	.221	.219
	.218	.220	.219	.213
	.224	.218	.217	.218
C1	.328	.330	.328	.327
	.330	.336	3" O PLUG .337	.335
	24"	.324	1" O N3 3" O N1 .339	.337
	.333	.325	3" O N2 3" O N4	.323

| N | W | S | E

NOTES:

1. DRAWING NOT TO SCALE.
2. NOZZLES HAVE NO INSIDE DIAMETER WELDING.
3. SEE ATTACHED NOZZLE SHEET FOR NOZZLE UT READINGS.
4. TANK IS COMPLETELY INSULATED.

INSPECTED/DATE: JC/MG/BS/AN-JAN 01

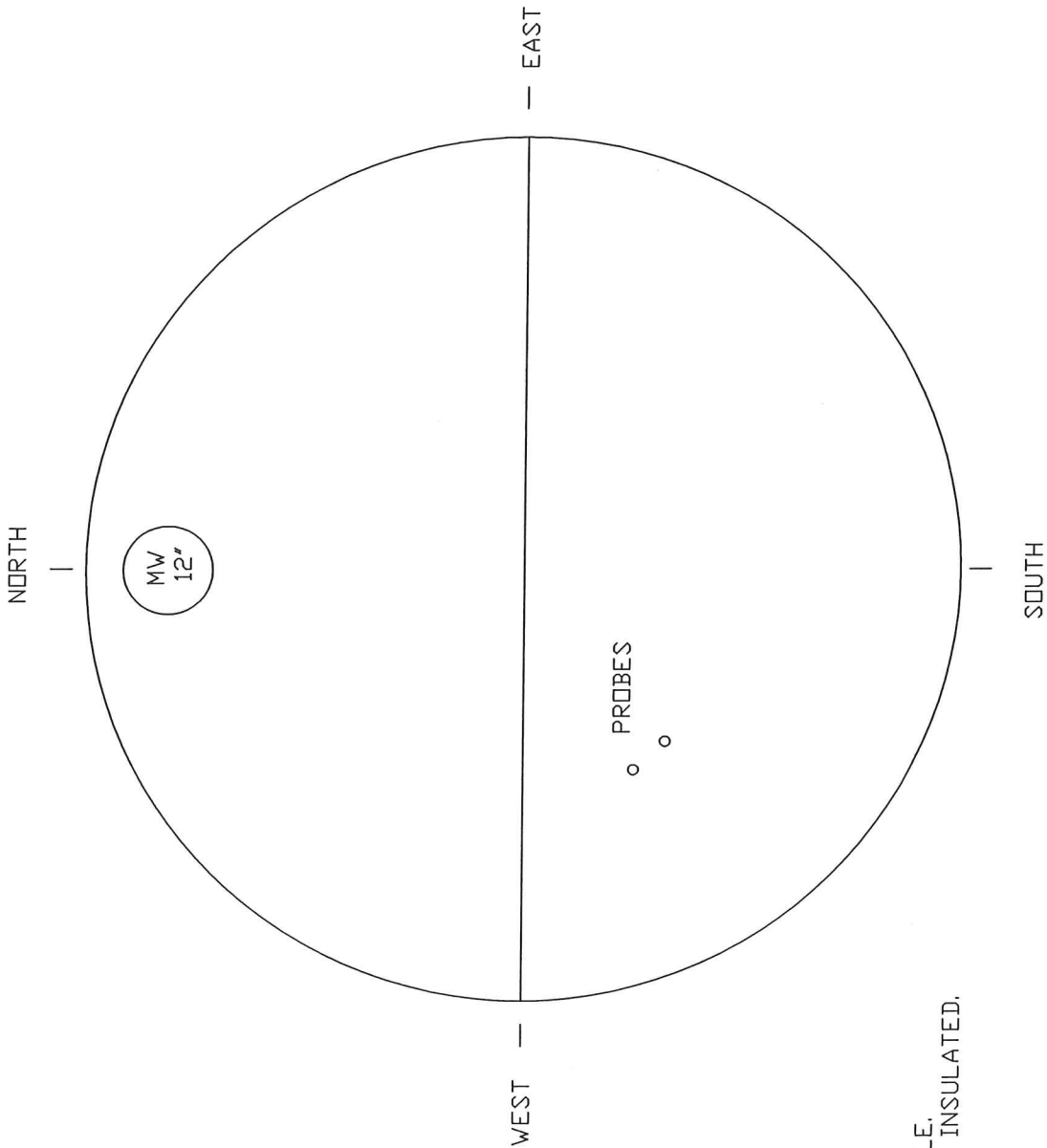
WATER RECOVERY, INC.
JACKSONVILLE, FL

LAW
 LAWGIBB Group Member

TANK 2P
SHELL LAYOUT AND UT DATA

JOB NO.: 40563-1-0225 DWG. NO.: 0225-2P-04

TMIN = 0.090 INCH



NOTES:

1. DRAWING NOT TO SCALE.
2. ROOF IS COMPLETELY INSULATED.

INSPECTED/DATE: JC/MG/BS/AN-JAN 01

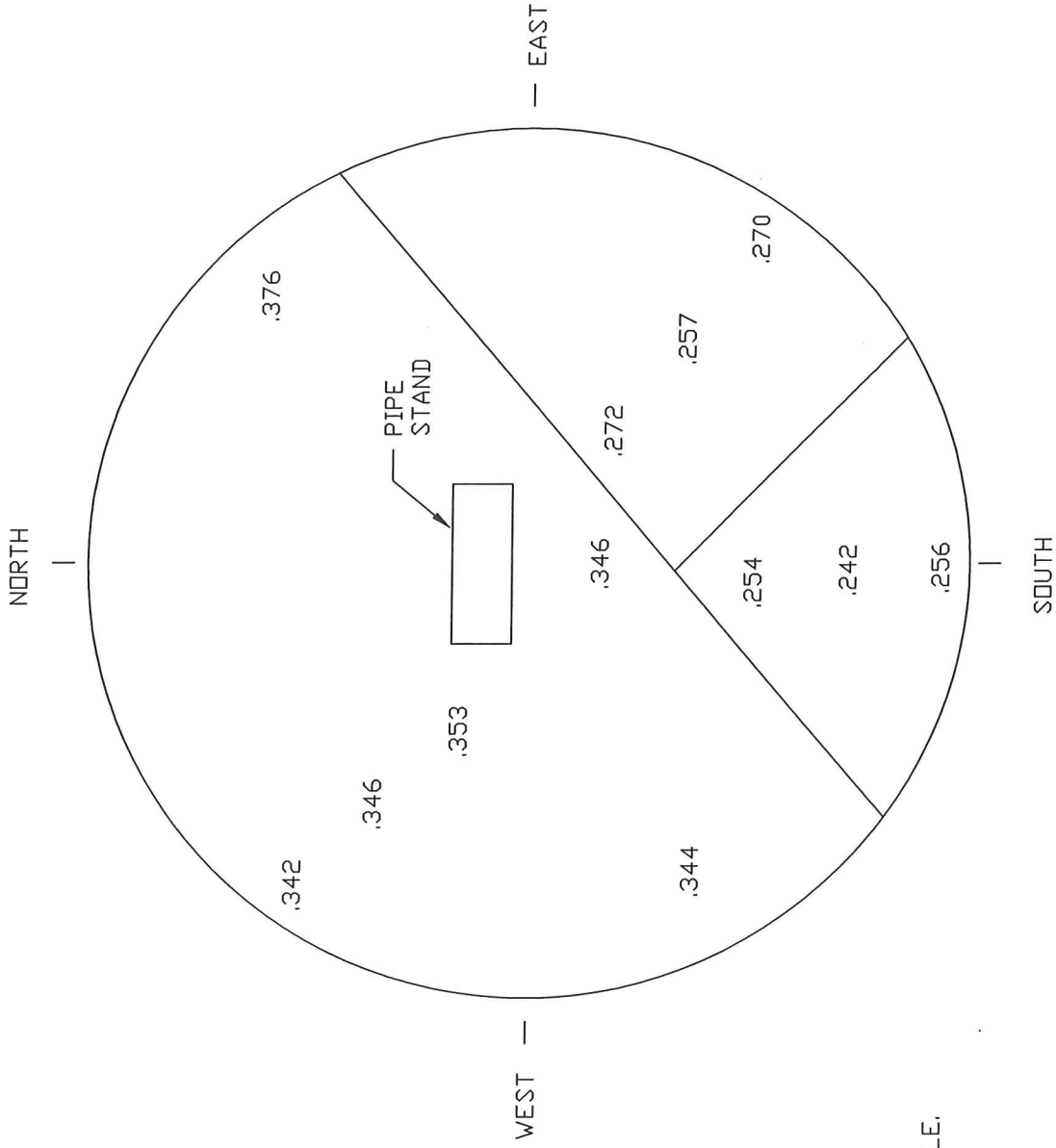
WATER RECOVERY, INC.
JACKSONVILLE, FL



TANK 2P
ROOF LAYOUT AND UT DATA

JOB NO.: 40563-1-0225 DWG. NO.: 0225-2P-02

TMIN = 0.100 INCH



NOTES:

1. DRAWING NOT TO SCALE.

INSPECTED/DATE: JC/MG/BS/AN-JAN 01

WATER RECOVERY, INC.
JACKSONVILLE, FL



TANK 2P

FLOOR LAYOUT AND UT DATA

JOB NO.: 40563-1-0225 DWG. NO.: 0225-2P-03

TANK 2P

MANWAY/NOZZLE UT READINGS WATER RECOVERY, INC.

LAW Project Number: 40563-1-0225

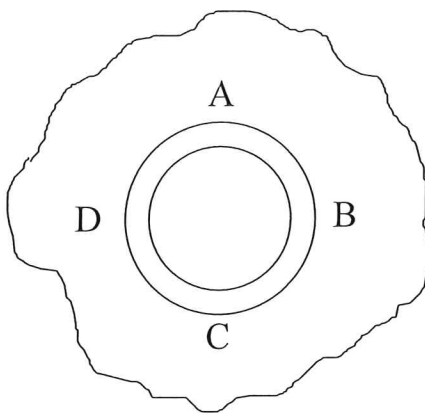
LAW

LAWGIBB Group Member 

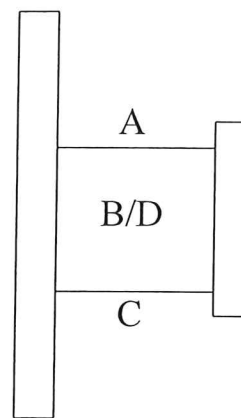
Law Engineering and Environmental Services
1000 Business Center Drive, Suite 90
Savannah, Georgia 31405

Date: JAN-01

Technicians: MG/JC/BS/AN



SHELL VIEW



NECK VIEW

NOZZLES	SIZE	SHELL PLATE THICKNESS				NOZZLE PIPE THICKNESS				REPAD THICKNESS
		A	B	C	D	A	B	C	D	
N1	3"	NA	.333	NA	.367	NA	NA	NA	.205	NA
N2	3"	NA	.342	NA	.335	NA	NA	NA	.219	NA
N3	1"	NA	.344	NA	.351	NA	NA	NA	NA	NA
PLUG	3"	NA	NA	NA	NA	TC	TC	TC	TC	NA
N4	3"	NA	.359	NA	.374	NA	NA	NA	.215	NA
MW	24"	NA	.321	NA	.318	NA	NA	NA	.242	NA

NOTES:

1. Readings are in inches.
2. NA = Not Applicable.
3. TC = Threaded Coupling

EXTERNAL VISUAL INSPECTION CHECKLIST

CLIENT NAME: WATER RECOVERY, INC.
 INSPECTORS: MG/JC/BS/AN
 DATE OF INSPECTION: JAN-01

CLIENT REFERENCE NO.: TANK 2P
 LAW PROJECT NO.: 40563-1-0225

FOUNDATION

CONCRETE PAD	<input type="checkbox"/>	Cracking	<input type="checkbox"/>	Spalling	<input type="checkbox"/>	Deterioration	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
ANCHOR BOLTS	<input type="checkbox"/>	Loose	<input type="checkbox"/>	Distortion	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
HOUSE KEEPING	<input type="checkbox"/>	Trash	<input type="checkbox"/>	Vegetation	<input type="checkbox"/>	Inflammables	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
FOUNDATION	<input type="checkbox"/>	Cracking	<input type="checkbox"/>	Settlement	<input type="checkbox"/>	Erosion	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
GROUNDING STRAP			<input type="checkbox"/>	Loose	<input checked="" type="checkbox"/>	Missing	<input type="checkbox"/>	Attached	<input type="checkbox"/>	N/A
CATHODIC PROTECTION			<input type="checkbox"/>	Damage	<input type="checkbox"/>	Operational	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
BOTTOM-TO-FOUNDATION SEAL			<input type="checkbox"/>	Leakage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
DIKE CONDITION			<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
FOUNDATION DRAINAGE			<input type="checkbox"/>	Poor	<input checked="" type="checkbox"/>	Adequate	<input type="checkbox"/>	Good	<input type="checkbox"/>	N/A

STRUCTURAL AND WELD CONDITIONS

STAIRS AND WALKWAYS	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
CATWALK / PLATFORMS	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
LADDERS	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
HANDRAILS	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
SHELL WELDS CONDITION	<input type="checkbox"/>	Undercut	<input type="checkbox"/>	Pinholes	<input type="checkbox"/>	Corrosion	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
FLOOR WELDS CONDITION	<input type="checkbox"/>	Undercut	<input type="checkbox"/>	Pinholes	<input type="checkbox"/>	Corrosion	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
ROOF WELDS CONDITION	<input type="checkbox"/>	Undercut	<input type="checkbox"/>	Pinholes	<input type="checkbox"/>	Corrosion	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A

SHELL, ROOF AND APPURTENANCES

FLANGE CONNECTIONS	<input type="checkbox"/>	Loose	<input type="checkbox"/>	Leakage	<input type="checkbox"/>	Damage	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
NOZZLES & MANWAYS	<input type="checkbox"/>	Dimpling	<input type="checkbox"/>	Leakage	<input type="checkbox"/>	Damage	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
SURFACE COATING	<input type="checkbox"/>	Flaking	<input type="checkbox"/>	Blistering	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
INSULATION	<input checked="" type="checkbox"/>	Loose	<input checked="" type="checkbox"/>	Leakage	<input checked="" type="checkbox"/>	Damage	<input type="checkbox"/>	Good	<input type="checkbox"/>	N/A
SHELL	<input type="checkbox"/>	Pitting	<input type="checkbox"/>	Buckling	<input type="checkbox"/>	Out-of-Roundness	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
ROOF	<input type="checkbox"/>	Pitting	<input type="checkbox"/>	Buckling	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
BOTTOM EXTERNAL LIP	<input type="checkbox"/>	Pitting	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
FLOOR	<input type="checkbox"/>	Pitting	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
SAMPLE HATCH	<input type="checkbox"/>	Operational	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
AUTOGAUGE	<input type="checkbox"/>	Operational	<input checked="" type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input type="checkbox"/>	N/A
ROOF SUPPORTS	<input type="checkbox"/>	Missing	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
CONSERVATION VENT			<input type="checkbox"/>	Damage	<input type="checkbox"/>	Operational	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
GOOSE NECK VENT	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Clogging	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
FLAME ARRESTER			<input type="checkbox"/>	Damage	<input type="checkbox"/>	Operational	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
MIXER & MOTORS	<input type="checkbox"/>	Leakage	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
MANWAY DAVIT ARM			<input type="checkbox"/>	Damage	<input type="checkbox"/>	Operational	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A

NOTES:

1. TANK IS COMPLETELY INSULATED.

INTERNAL VISUAL INSPECTION CHECKLIST

CLIENT NAME: WATER RECOVERY, INC.
INSPECTORS: MG/JC/BS/AN
DATE OF INSPECTION: JAN-01

CLIENT REFERENCE NO.: TANK 2P
LAW PROJECT NO.: 40563-1-0225

STRUCTURAL AND WELD CONDITIONS

LADDERS	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
BAFFLE PLATES	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
SHELL WELDS CONDITION	<input type="checkbox"/>	Undercut	<input type="checkbox"/>	Pinholes	<input type="checkbox"/>	Corrosion	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
FLOOR WELDS CONDITION	<input type="checkbox"/>	Undercut	<input type="checkbox"/>	Pinholes	<input type="checkbox"/>	Corrosion	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
ROOF WELDS CONDITION	<input type="checkbox"/>	Undercut	<input type="checkbox"/>	Pinholes	<input type="checkbox"/>	Corrosion	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
FLOOR-TO-SHELL SEAM	<input type="checkbox"/>	Undercut	<input type="checkbox"/>	Pinholes	<input type="checkbox"/>	Corrosion	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A

SHELL, ROOF AND APPURTENANCES

NOZZLE PROTRUSIONS	<input type="checkbox"/>	Dimpling	<input type="checkbox"/>	Leakage	<input type="checkbox"/>	Damage	<input checked="" type="checkbox"/>	Good (1)	<input type="checkbox"/>	N/A
SURFACE COATING	<input type="checkbox"/>	Flaking	<input type="checkbox"/>	Blistering	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
LINER	<input type="checkbox"/>	Tearing	<input type="checkbox"/>	Leakage	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
SHELL	<input type="checkbox"/>	Pitting	<input type="checkbox"/>	Buckling	<input type="checkbox"/>	Out-of-Roundness	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
ROOF	<input type="checkbox"/>	Pitting	<input type="checkbox"/>	Buckling	<input type="checkbox"/>	Deterioration	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
FLOOR	<input type="checkbox"/>	Pitting	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
ROOF SUPPORTS	<input type="checkbox"/>	Missing	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
PIPING SUPPORTS	<input type="checkbox"/>	Missing	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
AGITATOR SHAFT/BLADES	<input type="checkbox"/>	Broken	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
DOWNCOMERS	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
COILS/HEATERS	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Leakage	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
SUMP	<input type="checkbox"/>	Pitting	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A

NOTES:

1. NOZZLES WERE NOT WELDED ON INNER DIAMETER.

TMIN CALCULATIONS PER API 653 - TANK 2P

HEIGHT, H	26.91667 FEET	CORROSION ALLOWANCE	0.000 INCHES
DIAMETER, D	12 FEET	YIELD STRENGTH:	30000 PSI
SPECIFIC GRAVITY, G	1	TENSILE STRENGTH:	55000 PSI
JOINT EFFICIENCY, E	70 %		
# COURSES	3		

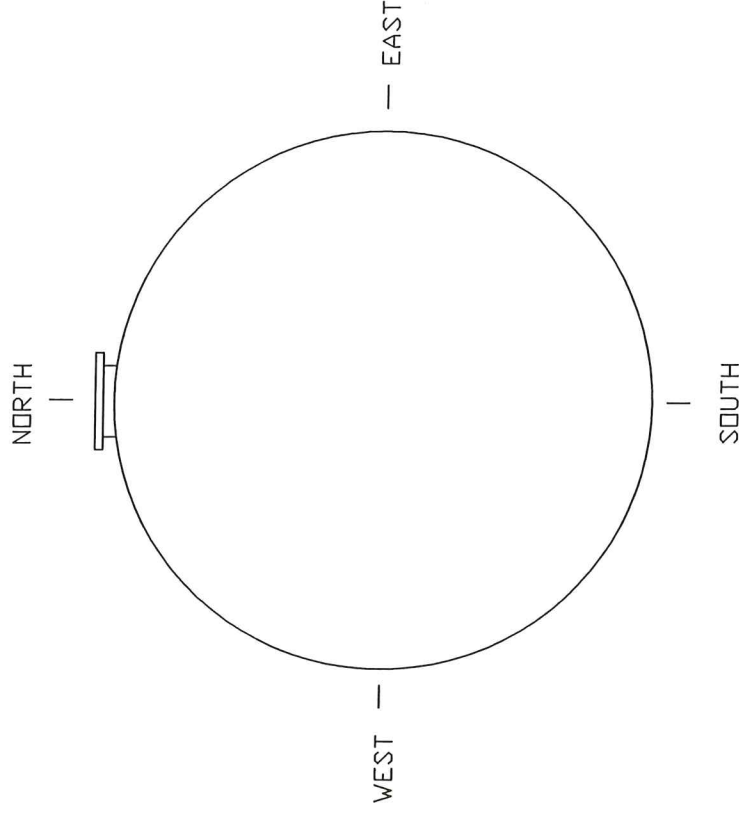
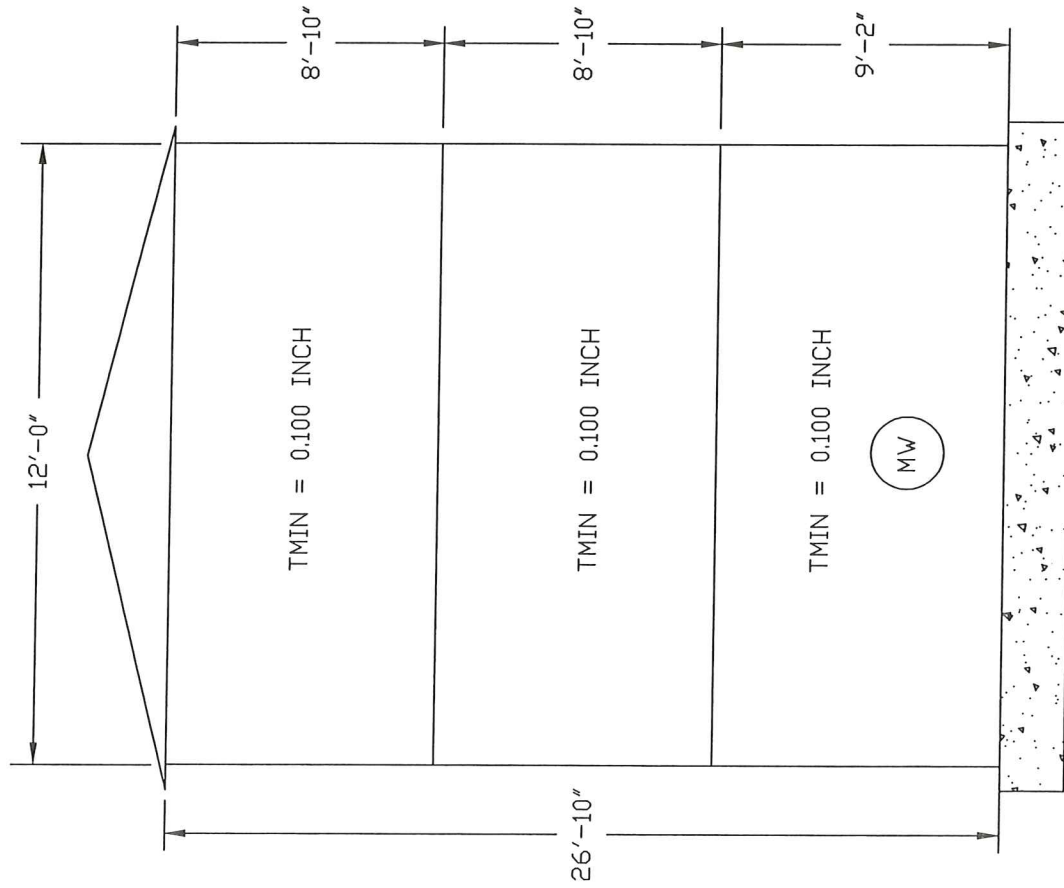
COURSE	H	S	TMIN (CALC)	TMIN	CA	TORIG	TFLAG
ROOF		25960	0.090	0.090	0.000	UNK	0.090
1	26.91667	25960	0.046	0.100	0.000	UNK	0.100
2	17.6667	25960	0.030	0.100	0.000	UNK	0.100
3	8.8333	25960	0.015	0.100	0.000	UNK	0.100
FLOOR	8.8333	25960	0.100	0.100	0.000	UNK	0.100

NOTES:

1. 1ST AND 2ND COURSE, ALLOWABLE STRESS LESSER OF 80% YIELD OR 42.9% TENSILE
2. REMAINING COURSES, ALLOWABLE STRESS LESSER OF 88% YIELD OR 47.2% TENSILE

Section 3

TMINS BASED ON FULL
HYDROSTATIC LOAD OF 26 FEET 10 INCHES



INSPECTED/DATE: JC/MG/BS/AN-JAN-01

WATER RECOVERY, INC.
JACKSONVILLE, FL

LAW
LAWGIBB Group Member

TANK 3P
GENERAL ARRANGEMENT

JOB NO.: 40563-1-0225 DWG. NO.: 0225-3P-01

C3	.186	.206	.189	.209
	.191	.217	.193	.215
	.187	.211	.187	.211
	.183	.208	.181	.208
C2	.208	.198	3" O	.211
	.211	.211		.218
	.212	.213		.211
	.211	.208	3" O	.202
C1	.330	.333	.353	.347
	.337	.338	3" O PLUG	.346
	24" O	.344	3" O N2	.346
	.324	.351	3" O N1	3" O N4
<div> <div>N</div> <div>W</div> <div>S</div> <div>E</div> </div>				

NOTES:

1. DRAWING NOT TO SCALE.
2. NOZZLES HAVE NO INSIDE DIAMETER WELDING.
3. SEE ATTACHED NOZZLE SHEET FOR NOZZLE UT READINGS.

INSPECTED/DATE: JC/MG/BS/AN-JAN 01

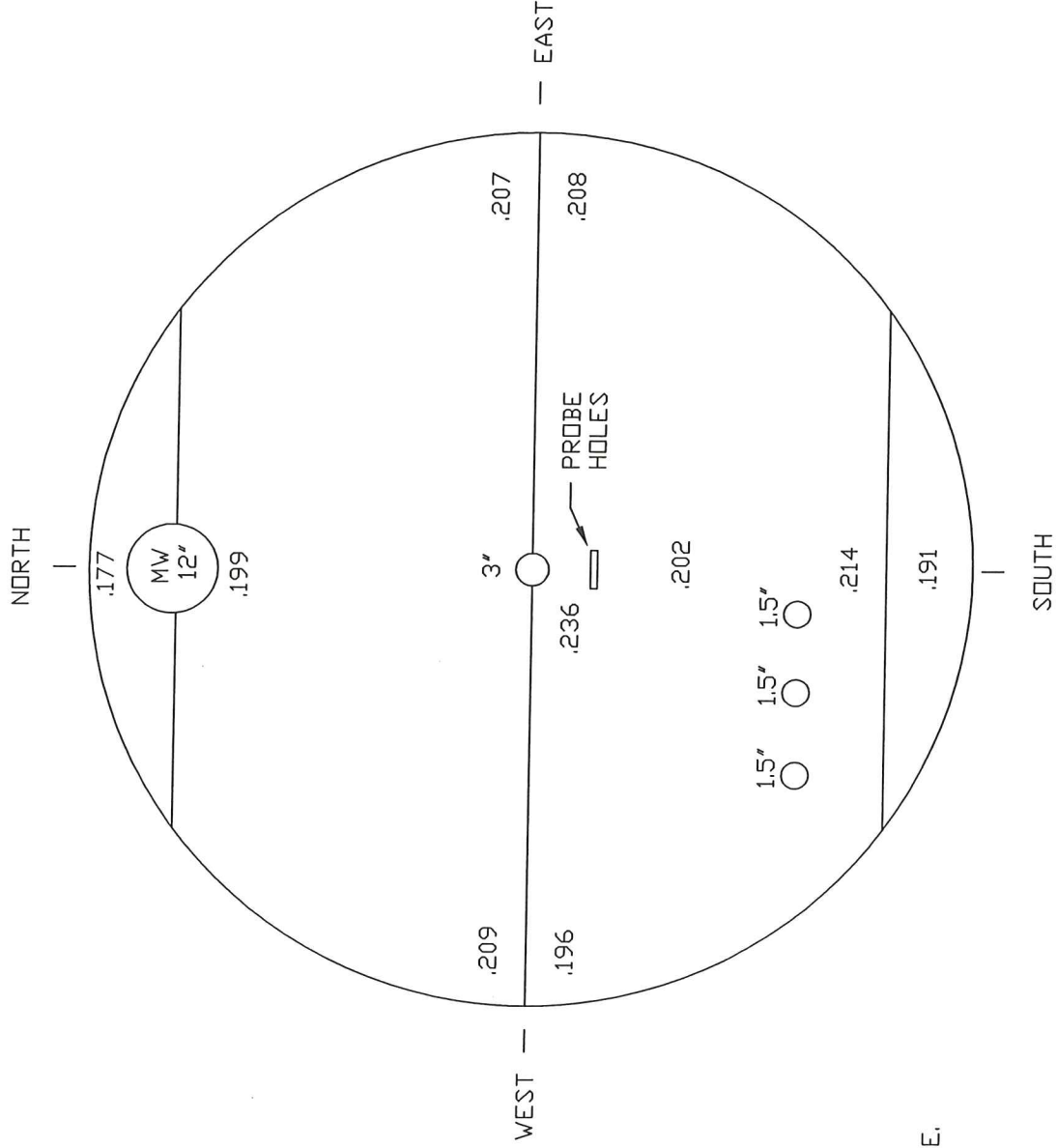
WATER RECOVERY, INC.
JACKSONVILLE, FL

LAW
LAWGIBB Group Member

TANK 3P
SHELL LAYOUT AND UT DATA

JOB NO.: 40563-1-0225 DWG. NO.: 0225-3P-04

TMIN = 0.090 INCH



NOTES:

1. DRAWING NOT TO SCALE.

INSPECTED/DATE: JC/MG/BS/AN-JAN 01

WATER RECOVERY, INC.
JACKSONVILLE, FL

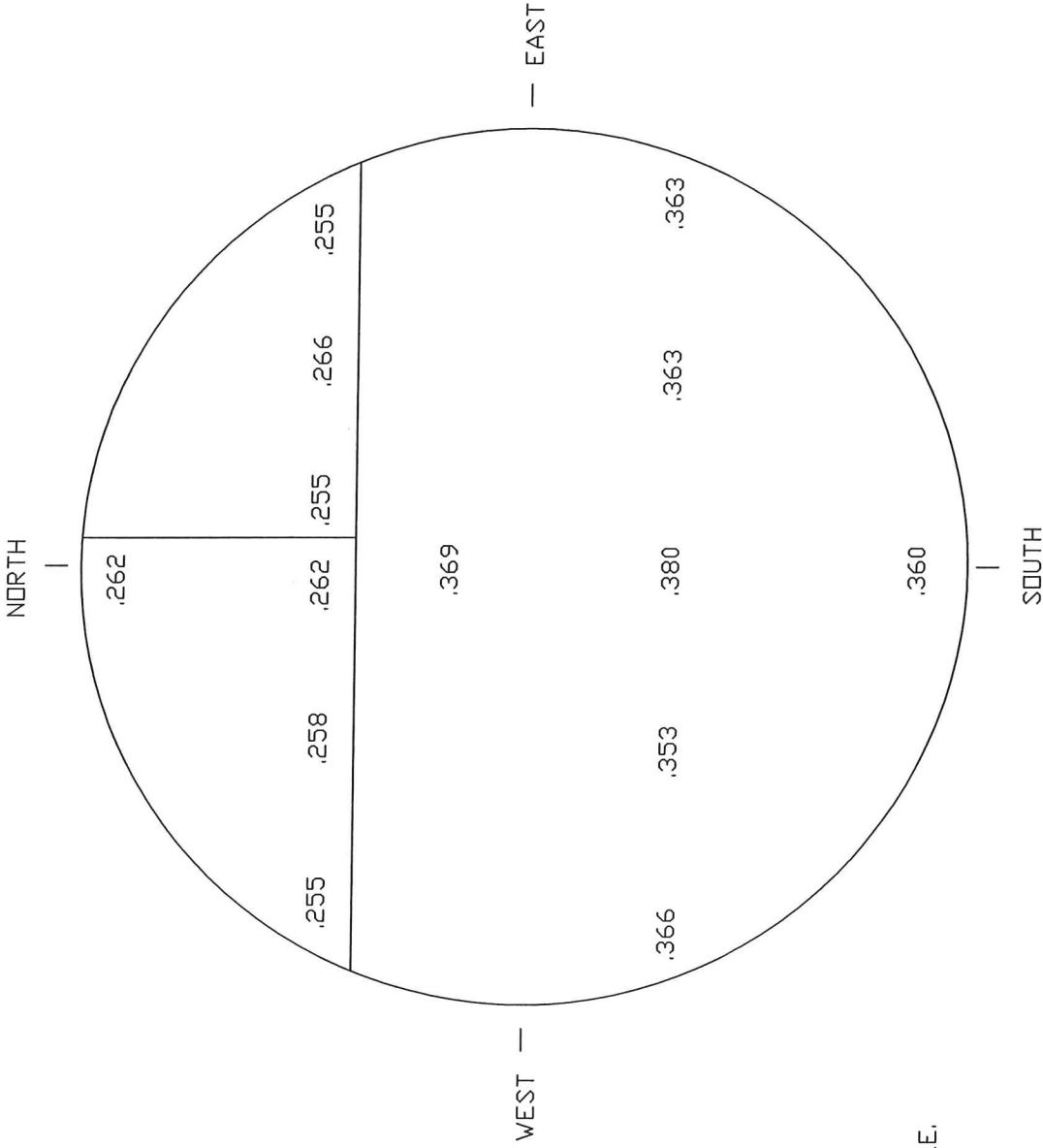


TANK 3P

ROOF LAYOUT AND UT DATA

JOB NO.: 40563-1-0225 DWG. NO.: 0225-3P-02

TMIN = 0.100 INCH



NOTES:

1. DRAWING NOT TO SCALE.

INSPECTED/DATE: JC/MG/BS/AN-JAN 01

WATER RECOVERY, INC.
JACKSONVILLE, FL



TANK 3P
FLOOR LAYOUT AND UT DATA

JOB NO.: 40563-1-0225 DWG. NO.: 0225-3P-03

TANK 3P

MANWAY/NOZZLE UT READINGS WATER RECOVERY, INC.

LAW Project Number: 40563-1-0225

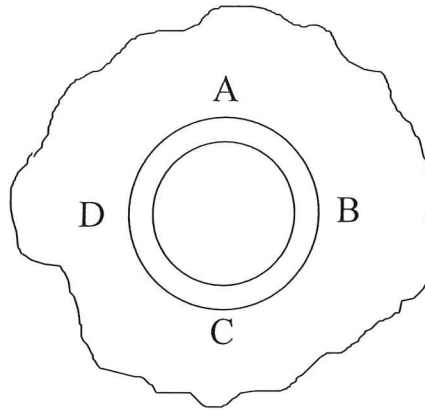
LAW

LAWGIBB Group Member 

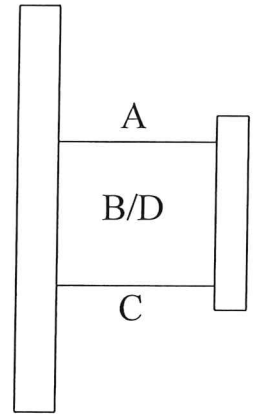
Law Engineering and Environmental Services
1000 Business Center Drive, Suite 90
Savannah, Georgia 31405

Date: JAN-01

Technicians: MG/JC/BS/AN



SHELL VIEW



NECK VIEW

NOZZLES	SIZE	SHELL PLATE THICKNESS				NOZZLE PIPE THICKNESS				REPAD THICKNESS
		A	B	C	D	A	B	C	D	
N1	3'	NA	NA	NA	.357	NA	NA	NA	.159	NA
N2	3"	NA	NA	NA	.351	NA	NA	NA	.220	NA
N3	3"	NA	NA	NA	.353	NA	NA	NA	.170	NA
N4	3"	NA	NA	NA	.355	TC	TC	TC	TC	NA
MW	24"	.351	NA	.356	.350	.253	.250	.248	.249	NA

NOTES:

1. Readings are in inches.
2. NA = Not Applicable.
3. TC = Threaded Coupling

EXTERNAL VISUAL INSPECTION CHECKLIST

CLIENT NAME: WATER RECOVERY, INC.
 INSPECTORS: MG/JC/BS/AN
 DATE OF INSPECTION: JAN-01

CLIENT REFERENCE NO.: TANK 3P
 LAW PROJECT NO.: 40563-1-0225

FOUNDATION

CONCRETE PAD	<input type="checkbox"/>	Cracking	<input type="checkbox"/>	Spalling	<input type="checkbox"/>	Deterioration	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
ANCHOR BOLTS	<input type="checkbox"/>	Loose	<input type="checkbox"/>	Distortion	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
HOUSE KEEPING	<input type="checkbox"/>	Trash	<input type="checkbox"/>	Vegetation	<input type="checkbox"/>	Inflammables	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
FOUNDATION	<input type="checkbox"/>	Cracking	<input type="checkbox"/>	Settlement	<input type="checkbox"/>	Erosion	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
GROUNDING STRAP			<input type="checkbox"/>	Loose	<input checked="" type="checkbox"/>	Missing	<input type="checkbox"/>	Attached	<input type="checkbox"/>	N/A
CATHODIC PROTECTION			<input type="checkbox"/>	Damage	<input type="checkbox"/>	Operational	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
BOTTOM-TO-FOUNDATION SEAL			<input type="checkbox"/>	Leakage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
DIKE CONDITION			<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
FOUNDATION DRAINAGE			<input checked="" type="checkbox"/>	Poor (1)	<input type="checkbox"/>	Adequate	<input type="checkbox"/>	Good	<input type="checkbox"/>	N/A

STRUCTURAL AND WELD CONDITIONS

STAIRS AND WALKWAYS	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
CATWALK / PLATFORMS	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
LADDERS	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
HANDRAILS	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
SHELL WELDS CONDITION	<input type="checkbox"/>	Undercut	<input type="checkbox"/>	Pinholes	<input type="checkbox"/>	Corrosion	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
FLOOR WELDS CONDITION	<input type="checkbox"/>	Undercut	<input type="checkbox"/>	Pinholes	<input type="checkbox"/>	Corrosion	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
ROOF WELDS CONDITION	<input type="checkbox"/>	Undercut	<input type="checkbox"/>	Pinholes	<input type="checkbox"/>	Corrosion	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A

SHELL, ROOF AND APPURTENANCES

FLANGE CONNECTIONS	<input type="checkbox"/>	Loose	<input type="checkbox"/>	Leakage	<input type="checkbox"/>	Damage	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
NOZZLES & MANWAYS	<input type="checkbox"/>	Dimpling	<input type="checkbox"/>	Leakage	<input type="checkbox"/>	Damage	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
SURFACE COATING	<input type="checkbox"/>	Flaking	<input type="checkbox"/>	Blistering	<input checked="" type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input type="checkbox"/>	N/A
INSULATION	<input type="checkbox"/>	Loose	<input type="checkbox"/>	Leakage	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
SHELL	<input type="checkbox"/>	Pitting	<input type="checkbox"/>	Buckling	<input type="checkbox"/>	Out-of-Roundness	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
ROOF	<input type="checkbox"/>	Pitting	<input type="checkbox"/>	Buckling	<input type="checkbox"/>	Deterioration	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
BOTTOM EXTERNAL LIP	<input type="checkbox"/>	Pitting	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
FLOOR	<input type="checkbox"/>	Pitting	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
SAMPLE HATCH	<input type="checkbox"/>	Operational	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
AUTOGAUGE	<input checked="" type="checkbox"/>	Operational	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input type="checkbox"/>	N/A
ROOF SUPPORTS	<input type="checkbox"/>	Missing	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
CONSERVATION VENT			<input type="checkbox"/>	Damage	<input type="checkbox"/>	Operational	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
GOOSE NECK VENT	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Clogging	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
FLAME ARRESTER			<input type="checkbox"/>	Damage	<input type="checkbox"/>	Operational	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
MIXER & MOTORS	<input type="checkbox"/>	Leakage	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
MANWAY DAVIT ARM			<input type="checkbox"/>	Damage	<input type="checkbox"/>	Operational	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A

NOTES:

1. SUMP NOT WORKING.

INTERNAL VISUAL INSPECTION CHECKLIST

CLIENT NAME: WATER RECOVERY, INC.
INSPECTORS: MG/JC/BS/AN
DATE OF INSPECTION: JAN-01

CLIENT REFERENCE NO.: TANK 3P
LAW PROJECT NO.: 40563-1-0225

STRUCTURAL AND WELD CONDITIONS

LADDERS	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
BAFFLE PLATES	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
SHELL WELDS CONDITION	<input type="checkbox"/>	Undercut	<input type="checkbox"/>	Pinholes	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A (1)
FLOOR WELDS CONDITION	<input type="checkbox"/>	Undercut	<input type="checkbox"/>	Pinholes	<input type="checkbox"/>	Corrosion	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
ROOF WELDS CONDITION	<input type="checkbox"/>	Undercut	<input type="checkbox"/>	Pinholes	<input type="checkbox"/>	Corrosion	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
FLOOR-TO-SHELL SEAM	<input type="checkbox"/>	Undercut	<input type="checkbox"/>	Pinholes	<input type="checkbox"/>	Corrosion	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A

SHELL, ROOF AND APPURTENANCES

NOZZLE PROTRUSIONS	<input type="checkbox"/>	Dimpling	<input type="checkbox"/>	Leakage	<input type="checkbox"/>	Damage	<input checked="" type="checkbox"/>	Good (2)	<input type="checkbox"/>	N/A
SURFACE COATING	<input type="checkbox"/>	Flaking	<input type="checkbox"/>	Blistering	<input checked="" type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input type="checkbox"/>	N/A
LINER	<input type="checkbox"/>	Tearing	<input type="checkbox"/>	Leakage	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
SHELL	<input type="checkbox"/>	Pitting	<input type="checkbox"/>	Buckling	<input type="checkbox"/>	Out-of-Roundness	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
ROOF	<input type="checkbox"/>	Pitting	<input type="checkbox"/>	Buckling	<input type="checkbox"/>	Deterioration	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
FLOOR	<input type="checkbox"/>	Pitting	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
ROOF SUPPORTS	<input type="checkbox"/>	Missing	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
PIPING SUPPORTS	<input type="checkbox"/>	Missing	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
AGITATOR SHAFT/BLADES	<input type="checkbox"/>	Broken	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
DOWNCOMERS	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
COILS/HEATERS	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Leakage	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
SUMP	<input type="checkbox"/>	Pitting	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A

NOTES:

1. SOME PARTS OF SHELL WAS COVERED IN RESIDUAL PRODUCT.
2. NOZZLES WERE NOT WELDED ON INNER DIAMETER.

TMIN CALCULATIONS PER API 653 - TANK 3P

HEIGHT, H	26.8333 FEET	CORROSION ALLOWANCE:	0.000 INCHES
DIAMETER, D	12 FEET	YIELD STRENGTH:	30000 PSI
SPECIFIC GRAVITY, G	1	TENSILE STRENGTH:	55000 PSI
JOINT EFFICIENCY, E	70 %		
# COURSES	3		

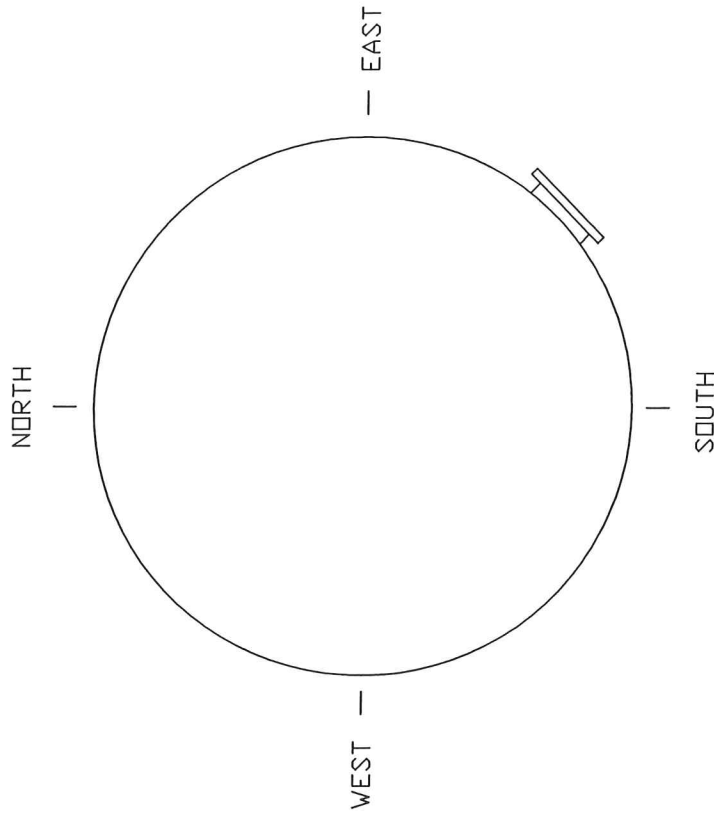
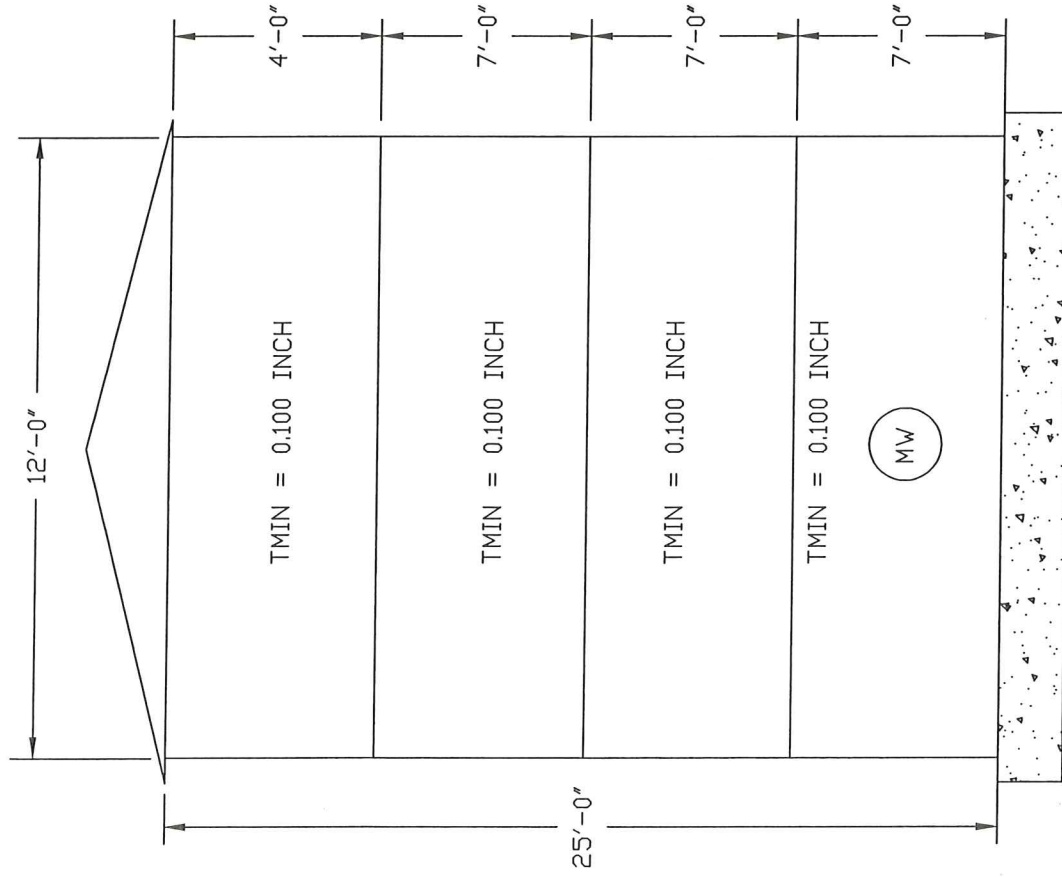
COURSE	H	S	TMIN (CALC)	TMIN	CA	TORIG	TFLAG
ROOF		25960	0.090	0.090	0.000	UNK	0.090
1	26.8333	23595	0.051	0.100	0.000	UNK	0.100
2	17.6667	23595	0.033	0.100	0.000	UNK	0.100
3	8.8333	25960	0.015	0.100	0.000	UNK	0.100
FLOOR		25960	0.100	0.100	0.000	UNK	0.100

NOTES:

1. 1ST AND 2ND COURSE, ALLOWABLE STRESS LESSER OF 80% YIELD OR 42.9% TENSILE
2. REMAINING COURSES, ALLOWABLE STRESS LESSER OF 88% YIELD OR 47.2% TENSILE

Section 4

TMINS BASED ON FULL
HYDROSTATIC LOAD OF 25 FEET



INSPECTED/DATE: JC/MG/BS/AN-JAN 01

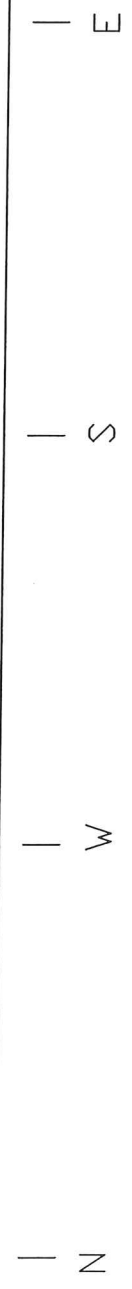
WATER RECOVERY, INC.
JACKSONVILLE, FL

LAW
LAWGIBB Group Member

TANK 4P
GENERAL ARRANGEMENT

JOB NO.: 40563-1-0225 DWG. NO.: 0225-4P-01

C4	.251	.244	.246	.247
	.251	.247	.250	.248
	.248	.247	.243	.256
	.247	.244	.244	.244
C3	.253	.256	.259	.257
	.251	.260	.261	.263
	.252	.260	.262	.257
	.244	.256	.252	.252
C2	.250	.252	.250	.256
	.248	.250	.244	.254
	.252	.244	.251	.258
	.246	.248	.256	.251
C1	.252	9" SQUARE LAP PATCH OVER 6" DIAMETER HOLE	.285	.265
	.248		.281	.256
	.253	1' O N3	3" O N2	.263
	.237	.292	3" O N1	.265
		.285	.271	



NOTES:

1. DRAWING NOT TO SCALE.
2. NOZZLES HAVE NO INSIDE DIAMETER WELDING.
3. SEE ATTACHED NOZZLE SHEET FOR NOZZLE UT READINGS.

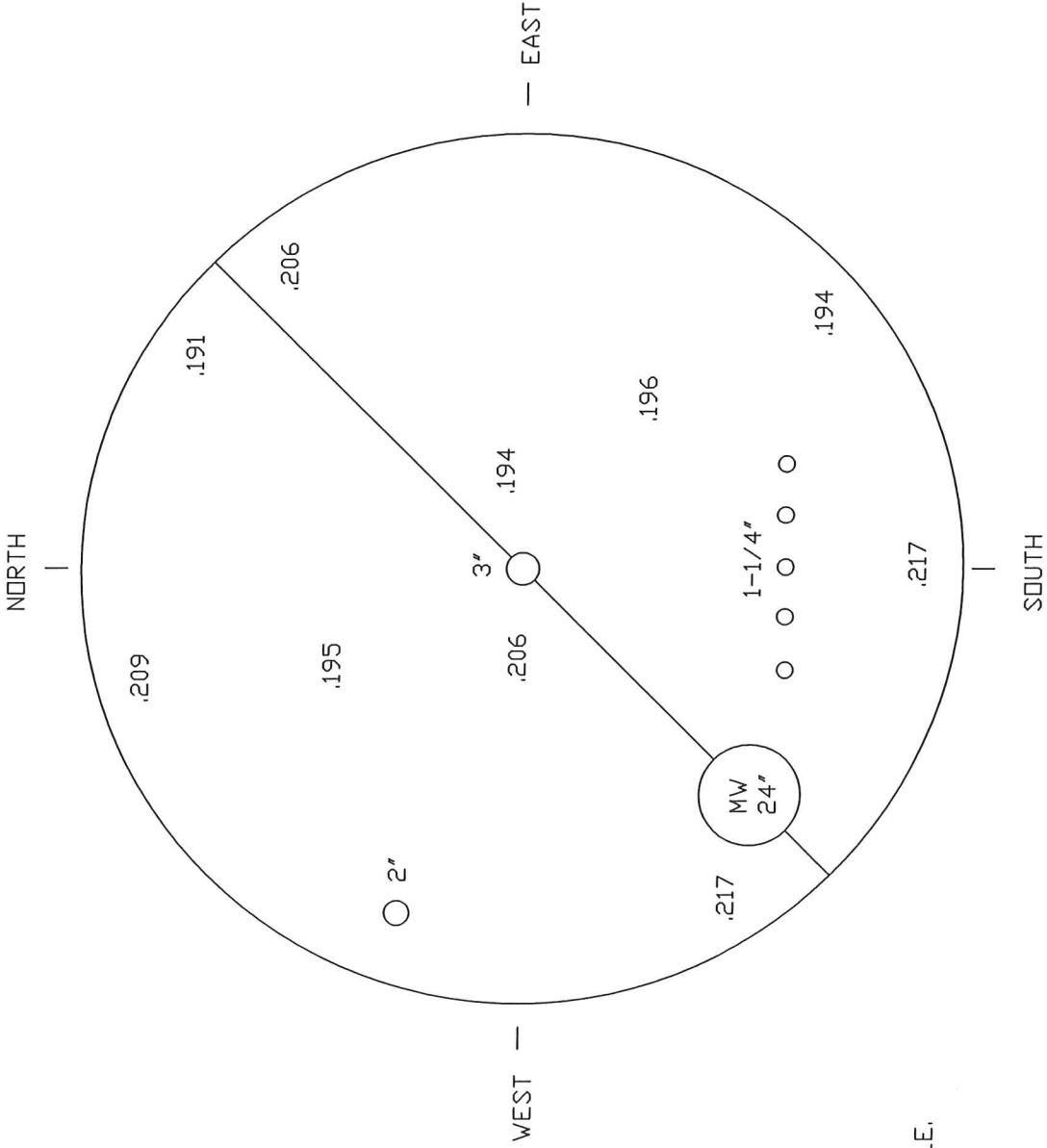
INSPECTED/DATE: JC/MG/BS/AN-JAN 01

WATER RECOVERY, INC.
JACKSONVILLE, FL



TANK 4P
SHELL LAYOUT AND UT DATA

TMIN = 0.090 INCH



INSPECTED/DATE: JC/MG/BS/AN-JAN 01

WATER RECOVERY, INC.
JACKSONVILLE, FL



TANK 4P

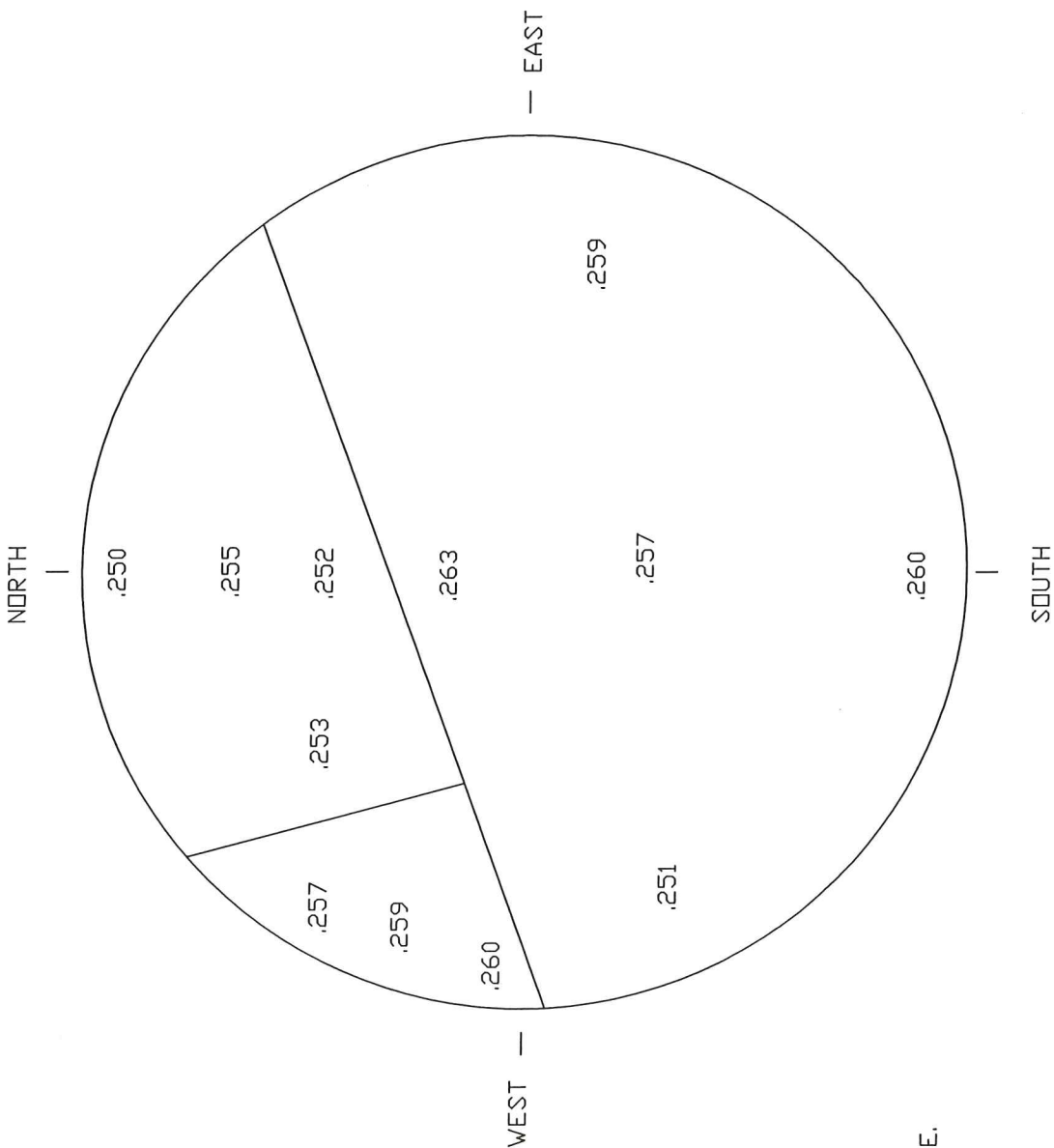
ROOF LAYOUT AND UT DATA

JOB NO.: 40563-1-0225 DWG. NO.: 0225-4P-02

NOTES:

1. DRAWING NOT TO SCALE.

TMIN = 0.100 INCH



NOTES:

1. DRAWING NOT TO SCALE.

INSPECTED/DATE: JC/MG/BS/AN-JAN 01

WATER RECOVERY, INC.
JACKSONVILLE, FL



TANK 4P

FLOOR LAYOUT AND UT DATA


JOB NO.: 40563-1-0225 DWG. NO.: 0225-4P-03

TANK 4P

MANWAY/NOZZLE UT READINGS WATER RECOVERY, INC.

LAW Project Number: 40563-1-0225

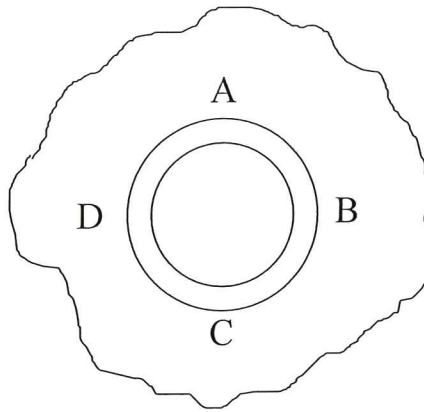
LAW

LAWGIBB Group Member 

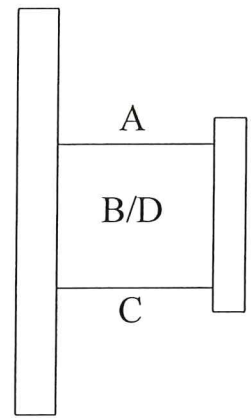
Law Engineering and Environmental Services
1000 Business Center Drive, Suite 90
Savannah, Georgia 31405

Date: JAN-01

Technicians: MG/JC/BS/AN



SHELL VIEW



NECK VIEW

NOZZLES	SIZE	SHELL PLATE THICKNESS				NOZZLE PIPE THICKNESS				REPAD THICKNESS
		A	B	C	D	A	B	C	D	
N1	3'	NA	.274	NA	.244	NA	NA	NA	.193	NA
N2	3"	NA	.279	NA	.266	NA	NA	NA	.243	NA
N3	1"	NA	.289	NA	.281	TC	TC	TC	TC	NA
MW	24"	.310	NA	.295	NA	.268	.287	.269	.276	NA

NOTES:

1. Readings are in inches.
2. NA = Not Applicable.
3. TC = Threaded Coupling

EXTERNAL VISUAL INSPECTION CHECKLIST

CLIENT NAME: WATER RECOVERY, INC.
 INSPECTORS: MG/JC/BS/AN
 DATE OF INSPECTION: JAN-01

CLIENT REFERENCE NO.: TANK 4P
 LAW PROJECT NO.: 40563-1-0225

FOUNDATION

CONCRETE PAD	<input type="checkbox"/>	Cracking	<input type="checkbox"/>	Spalling	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
ANCHOR BOLTS	<input type="checkbox"/>	Loose	<input type="checkbox"/>	Distortion	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
HOUSE KEEPING	<input type="checkbox"/>	Trash	<input type="checkbox"/>	Vegetation	<input type="checkbox"/>	Inflammables	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
FOUNDATION	<input type="checkbox"/>	Cracking	<input type="checkbox"/>	Settlement	<input type="checkbox"/>	Erosion	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
GROUNDING STRAP			<input type="checkbox"/>	Loose	<input checked="" type="checkbox"/>	Missing	<input type="checkbox"/>	Attached	<input type="checkbox"/>	N/A
CATHODIC PROTECTION			<input type="checkbox"/>	Damage	<input type="checkbox"/>	Operational	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
BOTTOM-TO-FOUNDATION SEAL			<input type="checkbox"/>	Leakage	<input type="checkbox"/>	Deterioration	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
DIKE CONDITION			<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
FOUNDATION DRAINAGE			<input type="checkbox"/>	Poor	<input type="checkbox"/>	Adequate	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A

STRUCTURAL AND WELD CONDITIONS

STAIRS AND WALKWAYS	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
CATWALK / PLATFORMS	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
LADDERS	<input type="checkbox"/>	Corrosion	<input checked="" type="checkbox"/>	Damage (1)	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input type="checkbox"/>	N/A
HANDRAILS	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
SHELL WELDS CONDITION	<input type="checkbox"/>	Undercut	<input type="checkbox"/>	Pinholes	<input type="checkbox"/>	Corrosion	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
FLOOR WELDS CONDITION	<input type="checkbox"/>	Undercut	<input type="checkbox"/>	Pinholes	<input type="checkbox"/>	Corrosion	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
ROOF WELDS CONDITION	<input type="checkbox"/>	Undercut	<input type="checkbox"/>	Pinholes	<input type="checkbox"/>	Corrosion	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A

SHELL, ROOF AND APPURTENANCES

FLANGE CONNECTIONS	<input type="checkbox"/>	Loose	<input type="checkbox"/>	Leakage	<input type="checkbox"/>	Damage	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
NOZZLES & MANWAYS	<input type="checkbox"/>	Dimpling	<input type="checkbox"/>	Leakage	<input type="checkbox"/>	Damage	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
SURFACE COATING	<input checked="" type="checkbox"/>	Flaking	<input checked="" type="checkbox"/>	Blistering	<input checked="" type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input type="checkbox"/>	N/A
INSULATION	<input type="checkbox"/>	Loose	<input type="checkbox"/>	Leakage	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
SHELL	<input type="checkbox"/>	Pitting	<input type="checkbox"/>	Buckling	<input type="checkbox"/>	Out-of-Roundness	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
ROOF	<input type="checkbox"/>	Pitting	<input type="checkbox"/>	Buckling	<input type="checkbox"/>	Deterioration	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
BOTTOM EXTERNAL LIP	<input type="checkbox"/>	Pitting	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
FLOOR	<input type="checkbox"/>	Pitting	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
SAMPLE HATCH	<input type="checkbox"/>	Operational	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
AUTOGAUGE	<input type="checkbox"/>	Operational	<input checked="" type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input type="checkbox"/>	N/A
ROOF SUPPORTS	<input type="checkbox"/>	Missing	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
CONSERVATION VENT			<input type="checkbox"/>	Damage	<input type="checkbox"/>	Operational	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
GOOSE NECK VENT	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Clogging	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
FLAME ARRESTER			<input type="checkbox"/>	Damage	<input type="checkbox"/>	Operational	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
MIXER & MOTORS	<input type="checkbox"/>	Leakage	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
MANWAY DAVIT ARM			<input type="checkbox"/>	Damage	<input type="checkbox"/>	Operational	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A

NOTES:

1. WELDS OK. LADDER BENT IN SEVERAL AREAS.

INTERNAL VISUAL INSPECTION CHECKLIST

CLIENT NAME: WATER RECOVERY, INC.
INSPECTORS: MG/JC/BS/AN
DATE OF INSPECTION: JAN-01

CLIENT REFERENCE NO.: TANK 4P
LAW PROJECT NO.: 40563-1-0225

STRUCTURAL AND WELD CONDITIONS

LADDERS	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
BAFFLE PLATES	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
SHELL WELDS CONDITION	<input type="checkbox"/>	Undercut	<input type="checkbox"/>	Pinholes	<input type="checkbox"/>	Corrosion	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
FLOOR WELDS CONDITION	<input type="checkbox"/>	Undercut	<input type="checkbox"/>	Pinholes	<input type="checkbox"/>	Corrosion	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
ROOF WELDS CONDITION	<input type="checkbox"/>	Undercut	<input type="checkbox"/>	Pinholes	<input type="checkbox"/>	Corrosion	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
FLOOR-TO-SHELL SEAM	<input type="checkbox"/>	Undercut	<input type="checkbox"/>	Pinholes	<input type="checkbox"/>	Corrosion	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A

SHELL, ROOF AND APPURTENANCES

NOZZLE PROTRUSIONS	<input type="checkbox"/>	Dimpling	<input type="checkbox"/>	Leakage	<input type="checkbox"/>	Damage	<input checked="" type="checkbox"/>	Good (1)	<input type="checkbox"/>	N/A
SURFACE COATING	<input type="checkbox"/>	Flaking	<input type="checkbox"/>	Blistering	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
LINER	<input type="checkbox"/>	Tearing	<input type="checkbox"/>	Leakage	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
SHELL	<input type="checkbox"/>	Pitting	<input type="checkbox"/>	Buckling	<input type="checkbox"/>	Out-of-Roundness	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
ROOF	<input type="checkbox"/>	Pitting	<input type="checkbox"/>	Buckling	<input type="checkbox"/>	Deterioration	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
FLOOR	<input type="checkbox"/>	Pitting	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
ROOF SUPPORTS	<input type="checkbox"/>	Missing	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
PIPING SUPPORTS	<input type="checkbox"/>	Missing	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
AGITATOR SHAFT/BLADES	<input type="checkbox"/>	Broken	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
DOWNCOMERS	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
COILS/HEATERS	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Leakage	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
SUMP	<input type="checkbox"/>	Pitting	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A

NOTES:

1. NOZZLES WERE NOT WELDED ON INNER DIAMETER.

TMIN CALCULATIONS PER API 653 - TANK 4P

HEIGHT, H	25 FEET	CORROSION ALLOWANCE:	0.000 INCHES
DIAMETER, D	12 FEET	YIELD STRENGTH:	30000 PSI
SPECIFIC GRAVITY, G	1	TENSILE STRENGTH:	55000 PSI
JOINT EFFICIENCY, E	70 %		
# COURSES	4		

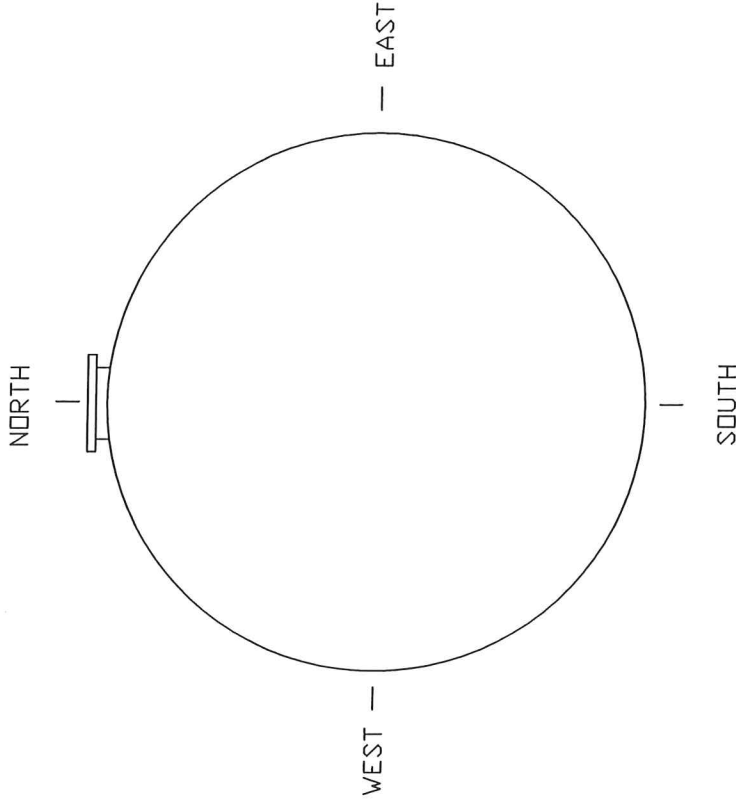
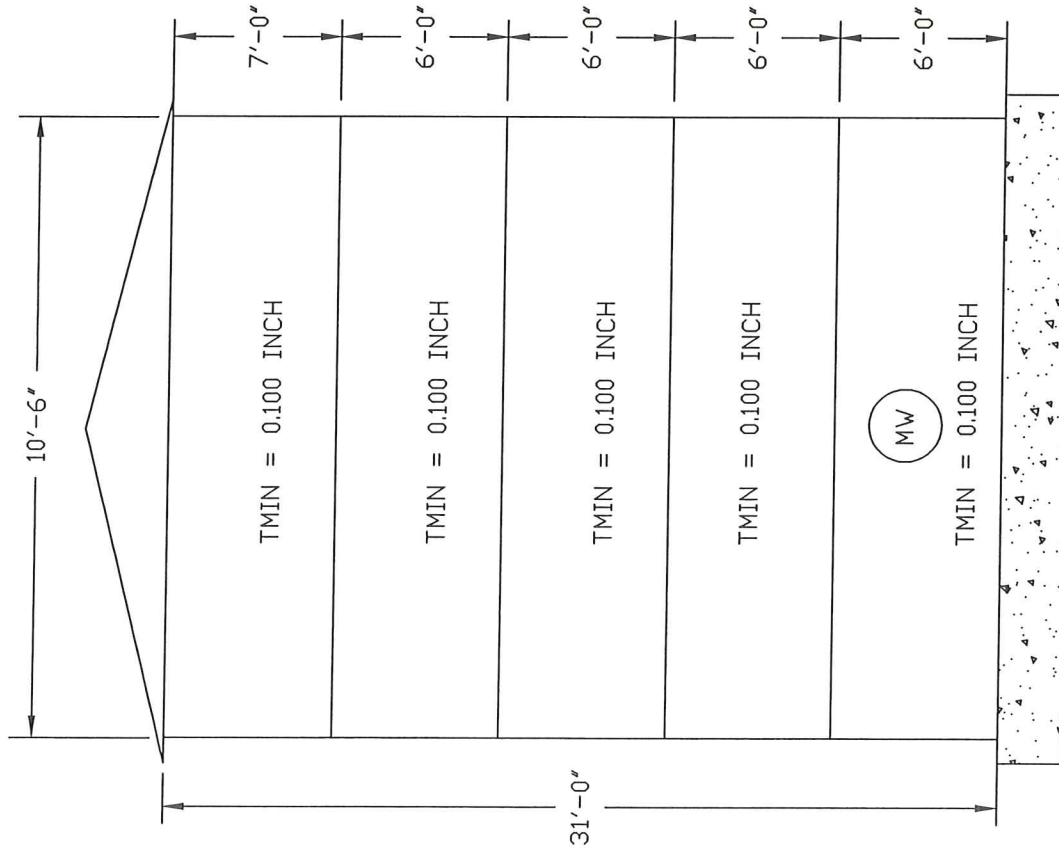
COURSE	H	S	TMIN (CALC)	TMIN	CA	TORIG	TFLAG
ROOF		25960	0.090	0.090	0.000	UNK	0.090
1	25	23595	0.047	0.100	0.000	UNK	0.100
2	18	23595	0.034	0.100	0.000	UNK	0.100
3	11	25960	0.019	0.100	0.000	UNK	0.100
4	4	25960	0.007	0.100	0.000	UNK	0.100
BOT		25960	0.100	0.100	0.000	UNK	0.100

NOTES:

1. 1ST AND 2ND COURSE, ALLOWABLE STRESS LESSER OF 80% YIELD OR 42.9% TENSILE
2. REMAINING COURSES, ALLOWABLE STRESS LESSER OF 88% YIELD OR 47.2% TENSILE

Section 5

TMINS BASED ON FULL
HYDROSTATIC LOAD OF 31 FEET









INSPECTED/DATE: JC/MG/BS/AN-JAN 01

WATER RECOVERY, INC.
JACKSONVILLE, FL

LAW
LAWGIBB Group Member

TANK 5P
GENERAL ARRANGEMENT

JOB NO.: 40563-1-0225 DWG. NO.: 0225-5P-01

C5	5"  .182 .181 .181 .180	.180 .179 .178 .175	.180 .179 .176 .175	.184 .184 .180 .188
C4	.170 .173 .174 .174	.171 .174 .175 .182	.164 .169 .170 .168	.164 .169 .169 .168
C3	.172 .173 .171 .170	.166 .171 .177 .168	.167 .168 .166 .165	.175 .174 .171 .171
C2	.169 .171 .170 .168	.167 .170 .170 .168	.168 .170 .168 .169	.170 .171 .169 .168
C1	.257 24"  MW .244 5"  N1 .239 .250	.243 .265 .246 .257	3"  N2 .248 .253 3"  N3 .261 .246	1"  .239 .241 .241 .246

NOTES:
1. DRAWING NOT TO SCALE.
2. NOZZLES HAVE NO INSIDE DIAMETER WELDING.
3. SEE ATTACHED NOZZLE SHEET FOR NOZZLE UT READINGS.

N

W

S

E

INSPECTED/DATE: JC/MG/BS/AN- JAN 01

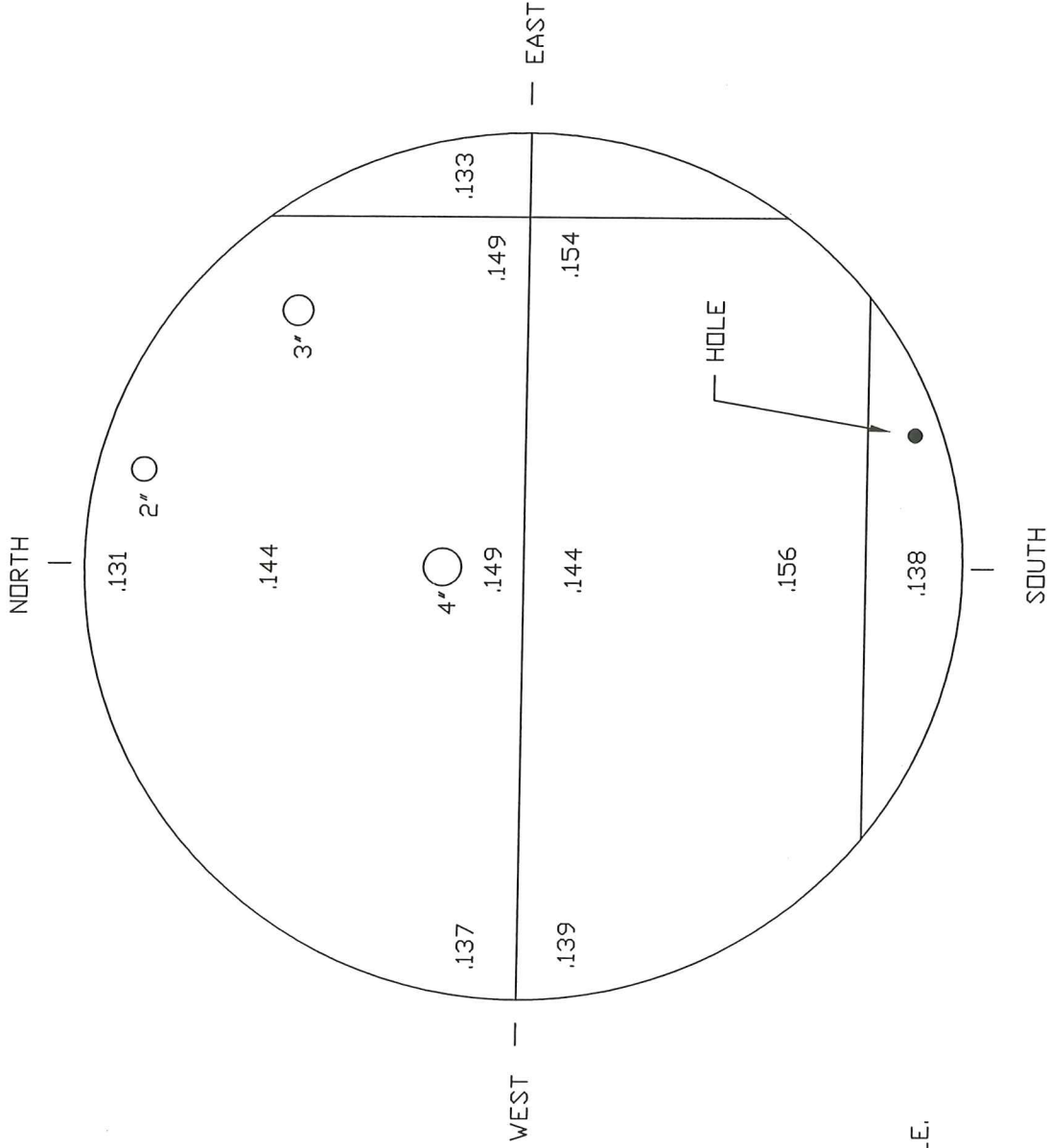
WATER RECOVERY, INC.
JACKSONVILLE, FL

LAW
LAWGIBB Group Member

TANK 5P
SHELL LAYOUT AND UT DATA

JOB NO.: 40563-1-0225 DWG. NO.: 0225-5P-04

TMIN = 0.090 INCH



NOTES:

1. DRAWING NOT TO SCALE.

INSPECTED/DATE: JC/MG/BS/AN-JAN 01

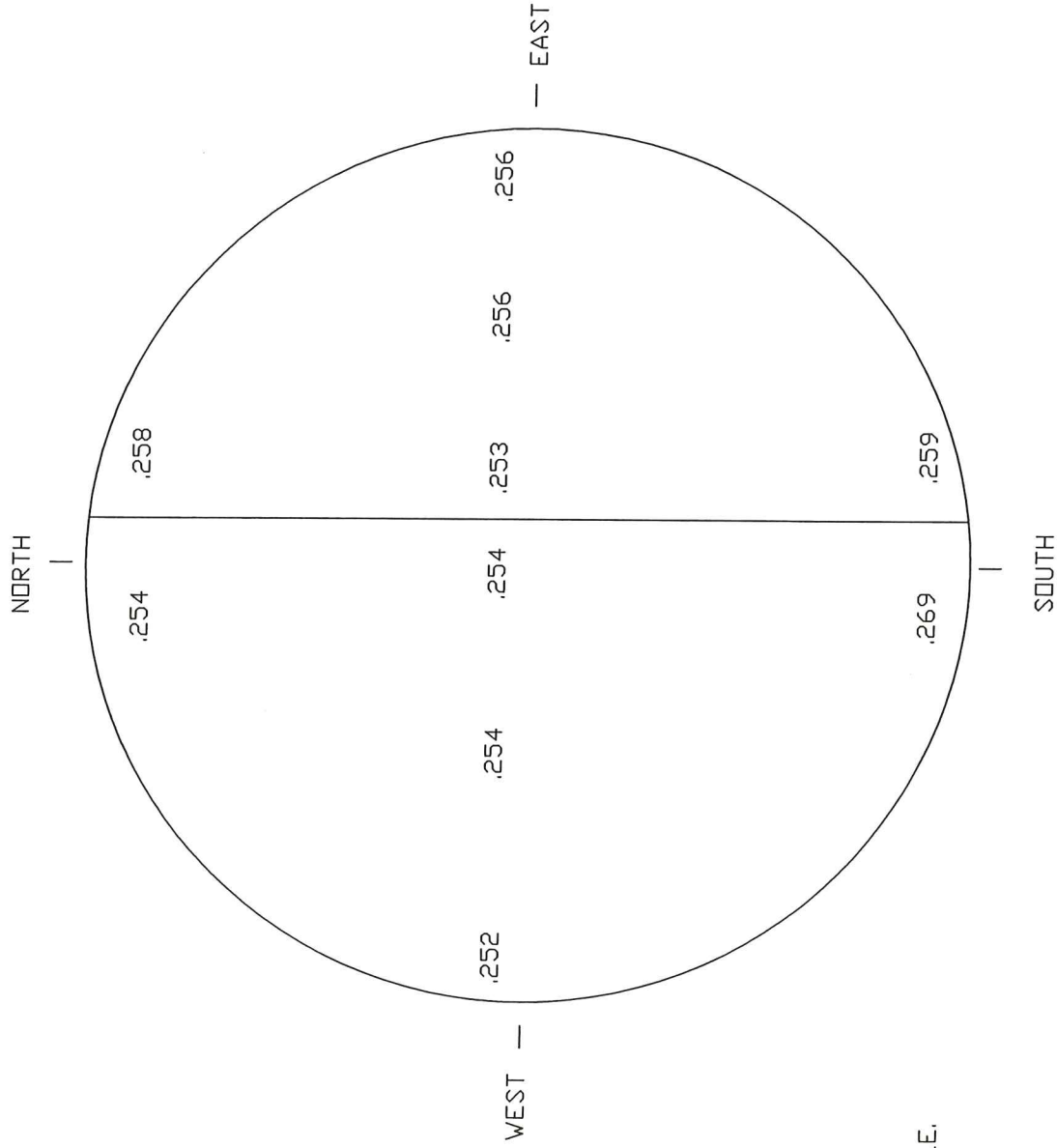
WATER RECOVERY, INC.
JACKSONVILLE, FL



TANK 5P
ROOF LAYOUT AND UT DATA

JOB NO.: 40563-1-0225 DWG. NO.: 0225-5P-02

TMIN = 0.100 INCH



NOTES:

1. DRAWING NOT TO SCALE.

INSPECTED/DATE: JC/MG/BS/AN-JAN 01

WATER RECOVERY, INC.
JACKSONVILLE, FL



TANK 5P

FLOOR LAYOUT AND UT DATA

JOB NO.: 40563-1-0225 DWG. NO.: 0225-5P-03


TANK 5P

MANWAY/NOZZLE UT READINGS

WATER RECOVERY, INC.

LAW Project Number: 40563-1-0225

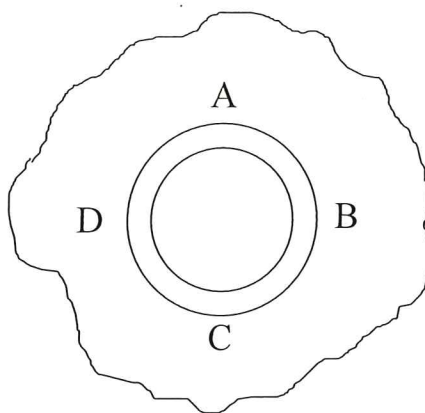
LAW

LAWGIBB Group Member 

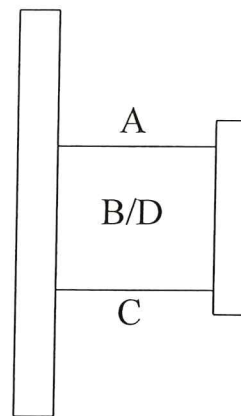
Law Engineering and Environmental Services
1000 Business Center Drive, Suite 90
Savannah, Georgia 31405

Date: JAN-01

Technicians: MG/JC/BS/AN



SHELL VIEW



NECK VIEW

NOZZLES	SIZE	SHELL PLATE THICKNESS				NOZZLE PIPE THICKNESS				REPAD THICKNESS
		A	B	C	D	A	B	C	D	
N1	5'	NA	.260	NA	NA	NA	NA	NA	NA	NA
N2	3"	NA	.267	NA	NA	.216	NA	NA	NA	NA
N3	3"	NA	.259	NA	NA	.247	NA	NA	NA	NA
MW	24"	.244	NA	.247	.250	.273	.261	.265	NA	NA

NOTES:

1. Readings are in inches.
2. NA = Not Applicable.

EXTERNAL VISUAL INSPECTION CHECKLIST

CLIENT NAME: WATER RECOVERY, INC.
 INSPECTORS: MG/JC/BS/AN
 DATE OF INSPECTION: JAN-01

CLIENT REFERENCE NO.: TANK 5P
 LAW PROJECT NO.: 40563-1-0225

FOUNDATION

CONCRETE PAD	<input type="checkbox"/>	Cracking	<input type="checkbox"/>	Spalling	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
ANCHOR BOLTS	<input type="checkbox"/>	Loose	<input type="checkbox"/>	Distortion	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
HOUSE KEEPING	<input type="checkbox"/>	Trash	<input type="checkbox"/>	Vegetation	<input type="checkbox"/>	Inflammables	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
FOUNDATION	<input type="checkbox"/>	Cracking	<input type="checkbox"/>	Settlement	<input type="checkbox"/>	Erosion	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
GROUNDING STRAP			<input type="checkbox"/>	Loose	<input checked="" type="checkbox"/>	Missing	<input type="checkbox"/>	Attached	<input type="checkbox"/>	N/A
CATHODIC PROTECTION			<input type="checkbox"/>	Damage	<input type="checkbox"/>	Operational	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
BOTTOM-TO-FOUNDATION SEAL			<input type="checkbox"/>	Leakage	<input type="checkbox"/>	Deterioration	<input checked="" type="checkbox"/>	Good (1)	<input type="checkbox"/>	N/A
DIKE CONDITION			<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
FOUNDATION DRAINAGE			<input checked="" type="checkbox"/>	Poor	<input type="checkbox"/>	Adequate	<input type="checkbox"/>	Good	<input type="checkbox"/>	N/A

STRUCTURAL AND WELD CONDITIONS

STAIRS AND WALKWAYS	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
CATWALK / PLATFORMS	<input checked="" type="checkbox"/>	Poor	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input type="checkbox"/>	N/A
LADDERS	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
HANDRAILS	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
SHELL WELDS CONDITION	<input type="checkbox"/>	Undercut	<input type="checkbox"/>	Pinholes	<input type="checkbox"/>	Corrosion	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
FLOOR WELDS CONDITION	<input type="checkbox"/>	Undercut	<input type="checkbox"/>	Pinholes	<input type="checkbox"/>	Corrosion	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
ROOF WELDS CONDITION	<input type="checkbox"/>	Undercut	<input type="checkbox"/>	Pinholes	<input type="checkbox"/>	Corrosion	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A

SHELL, ROOF AND APPURTENANCES

FLANGE CONNECTIONS	<input type="checkbox"/>	Loose	<input type="checkbox"/>	Leakage	<input type="checkbox"/>	Damage	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
NOZZLES & MANWAYS	<input type="checkbox"/>	Dimpling	<input type="checkbox"/>	Leakage	<input type="checkbox"/>	Damage	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
SURFACE COATING	<input type="checkbox"/>	Flaking	<input type="checkbox"/>	Blistering	<input checked="" type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input type="checkbox"/>	N/A
INSULATION	<input type="checkbox"/>	Loose	<input type="checkbox"/>	Leakage	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
SHELL	<input type="checkbox"/>	Pitting	<input type="checkbox"/>	Buckling	<input type="checkbox"/>	Out-of-Roundness	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
ROOF	<input type="checkbox"/>	Pitting	<input type="checkbox"/>	Buckling	<input type="checkbox"/>	Deterioration (3)	<input type="checkbox"/>	Good	<input type="checkbox"/>	N/A
BOTTOM EXTERNAL LIP	<input type="checkbox"/>	Pitting	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
FLOOR	<input type="checkbox"/>	Pitting	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
SAMPLE HATCH	<input type="checkbox"/>	Operational	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
AUTOGAUGE	<input type="checkbox"/>	Operational	<input checked="" type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input type="checkbox"/>	N/A
ROOF SUPPORTS	<input type="checkbox"/>	Missing	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
CONSERVATION VENT			<input checked="" type="checkbox"/>	Damage (2)	<input type="checkbox"/>	Operational	<input type="checkbox"/>	Good	<input type="checkbox"/>	N/A
GOOSE NECK VENT	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Clogging	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
FLAME ARRESTER			<input type="checkbox"/>	Damage	<input type="checkbox"/>	Operational	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
MIXER & MOTORS	<input type="checkbox"/>	Leakage	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
MANWAY DAVIT ARM			<input type="checkbox"/>	Damage	<input type="checkbox"/>	Operational	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A

NOTES:

1. BOTTOM-TO-FOUNDATION SEAL ONLY ENCOMPASSES HALF OF TANK.
2. CONSERVATION VENT CLOGGED.
3. HOLE IN SOUTH SIDE OF ROOF.

INTERNAL VISUAL INSPECTION CHECKLIST

CLIENT NAME: WATER RECOVERY, INC.CLIENT REFERENCE NO.: TANK 5PINSPECTORS: MG/JC/BS/ANLAW PROJECT NO.: 40563-1-0225DATE OF INSPECTION: JAN-01

STRUCTURAL AND WELD CONDITIONS

LADDERS	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
BAFFLE PLATES	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
SHELL WELDS CONDITION	<input type="checkbox"/>	Undercut	<input type="checkbox"/>	Pinholes	<input type="checkbox"/>	Corrosion	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
FLOOR WELDS CONDITION	<input type="checkbox"/>	Undercut	<input type="checkbox"/>	Pinholes	<input type="checkbox"/>	Corrosion	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
ROOF WELDS CONDITION	<input type="checkbox"/>	Undercut	<input type="checkbox"/>	Pinholes	<input type="checkbox"/>	Corrosion	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
FLOOR-TO-SHELL SEAM	<input type="checkbox"/>	Undercut	<input type="checkbox"/>	Pinholes	<input type="checkbox"/>	Corrosion	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A

SHELL, ROOF AND APPURTENANCES

NOZZLE PROTRUSIONS	<input type="checkbox"/>	Dimpling	<input type="checkbox"/>	Leakage	<input type="checkbox"/>	Damage	<input checked="" type="checkbox"/>	Good (1)	<input type="checkbox"/>	N/A
SURFACE COATING	<input type="checkbox"/>	Flaking	<input type="checkbox"/>	Blistering	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
LINER	<input type="checkbox"/>	Tearing	<input type="checkbox"/>	Leakage	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
SHELL	<input type="checkbox"/>	Pitting	<input type="checkbox"/>	Buckling	<input type="checkbox"/>	Out-of-Roundness	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
ROOF	<input type="checkbox"/>	Pitting	<input type="checkbox"/>	Buckling	<input checked="" type="checkbox"/>	Deterioration (2)	<input type="checkbox"/>	Good	<input type="checkbox"/>	N/A
FLOOR	<input type="checkbox"/>	Pitting	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
ROOF SUPPORTS	<input type="checkbox"/>	Missing	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
PIPING SUPPORTS	<input type="checkbox"/>	Missing	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
AGITATOR SHAFT/BLADES	<input type="checkbox"/>	Broken	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
DOWNCOMERS	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
COILS/HEATERS	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Leakage	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
SUMP	<input type="checkbox"/>	Pitting	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A

NOTES:

1. NOZZLES WERE NOT WELDED ON INNER DIAMETER.
2. HOLE IN SOUTH END OF ROOF.

TMIN CALCULATIONS PER API 653 - TANK 5P

HEIGHT, H	31 FEET	CORROSION ALLOWANCE:	0.000 INCHES
DIAMETER, D	10.5 FEET	YIELD STRENGTH:	30000 PSI
SPECIFIC GRAVITY, G	1	TENSILE STRENGTH:	55000 PSI
JOINT EFFICIENCY, E	70 %		
# COURSES	5		

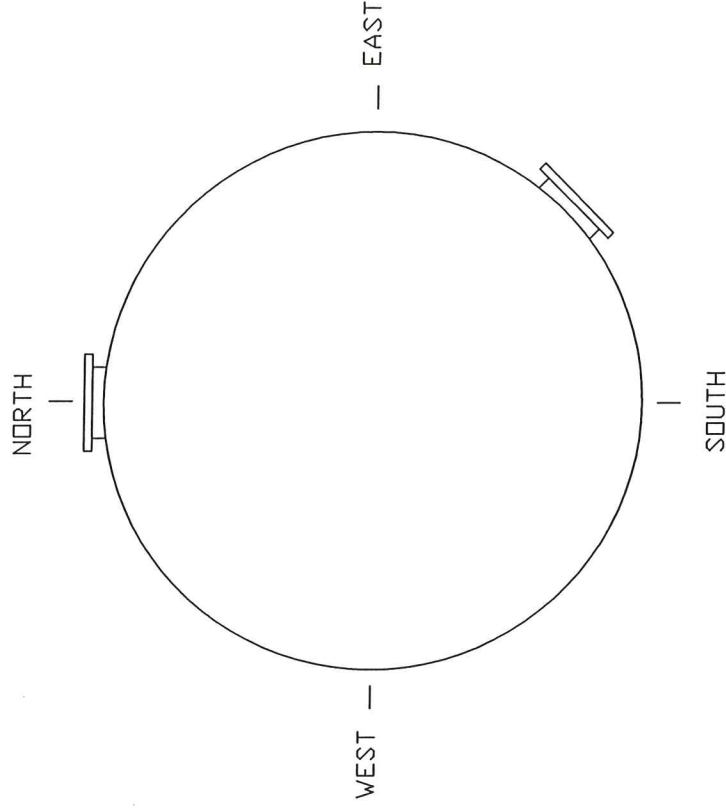
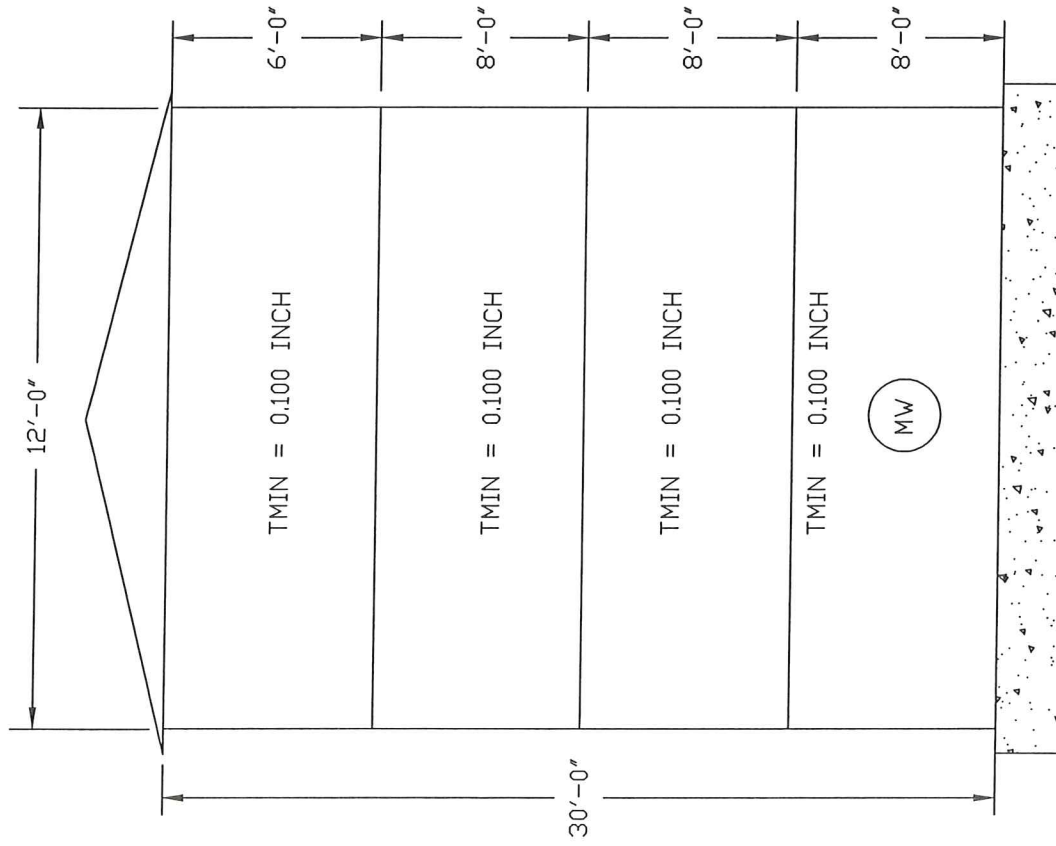
COURSE	H	S	TMIN (CALC)	TMIN	CA	TORIG	TFLAG
ROOF		25960	0.090	0.090	0.000	UNK	0.090
1	31	23595	0.051	0.100	0.000	UNK	0.100
2	25	23595	0.041	0.100	0.000	UNK	0.100
3	19	25960	0.029	0.100	0.000	UNK	0.100
4	13	25960	0.020	0.100	0.000	UNK	0.100
5	7	25960	0.011	0.100	0.000	UNK	0.100
BOT		25960	0.100	0.100	0.000	UNK	0.100

NOTES:

1. 1ST AND 2ND COURSE, ALLOWABLE STRESS LESSER OF 80% YIELD OR 42.9% TENSILE
2. REMAINING COURSES, ALLOWABLE STRESS LESSER OF 88% YIELD OR 47.2% TENSILE

Section 6

TMINS BASED ON FULL
HYDROSTATIC LOAD OF 30 FEET



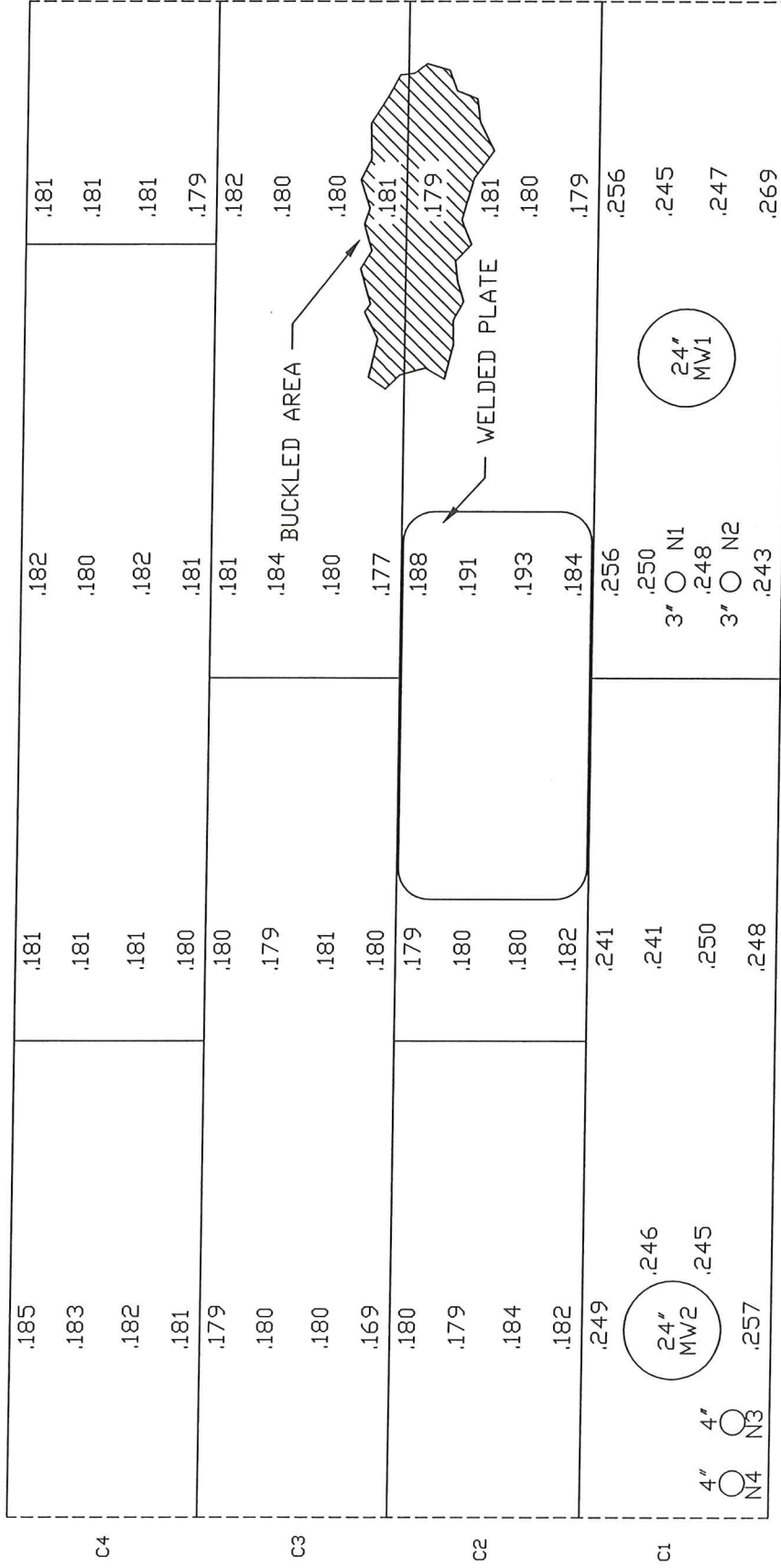
INSPECTED/DATE: JC/MG/BS/AN-JAN-01

WATER RECOVERY, INC.
JACKSONVILLE, FL

LAW
LAWGIBB Group Member

TANK 6P
GENERAL ARRANGEMENT

JOB NO.: 40563-1-0225 DWG. NO.: 0225-6P-01



NOTES:

1. DRAWING NOT TO SCALE.
2. NOZZLES HAVE NO INSIDE DIAMETER WELDING.
3. SEE ATTACHED NOZZLE SHEET FOR NOZZLE UT READINGS.

INSPECTED/DATE: JC/MG/BS/AN-JAN 01

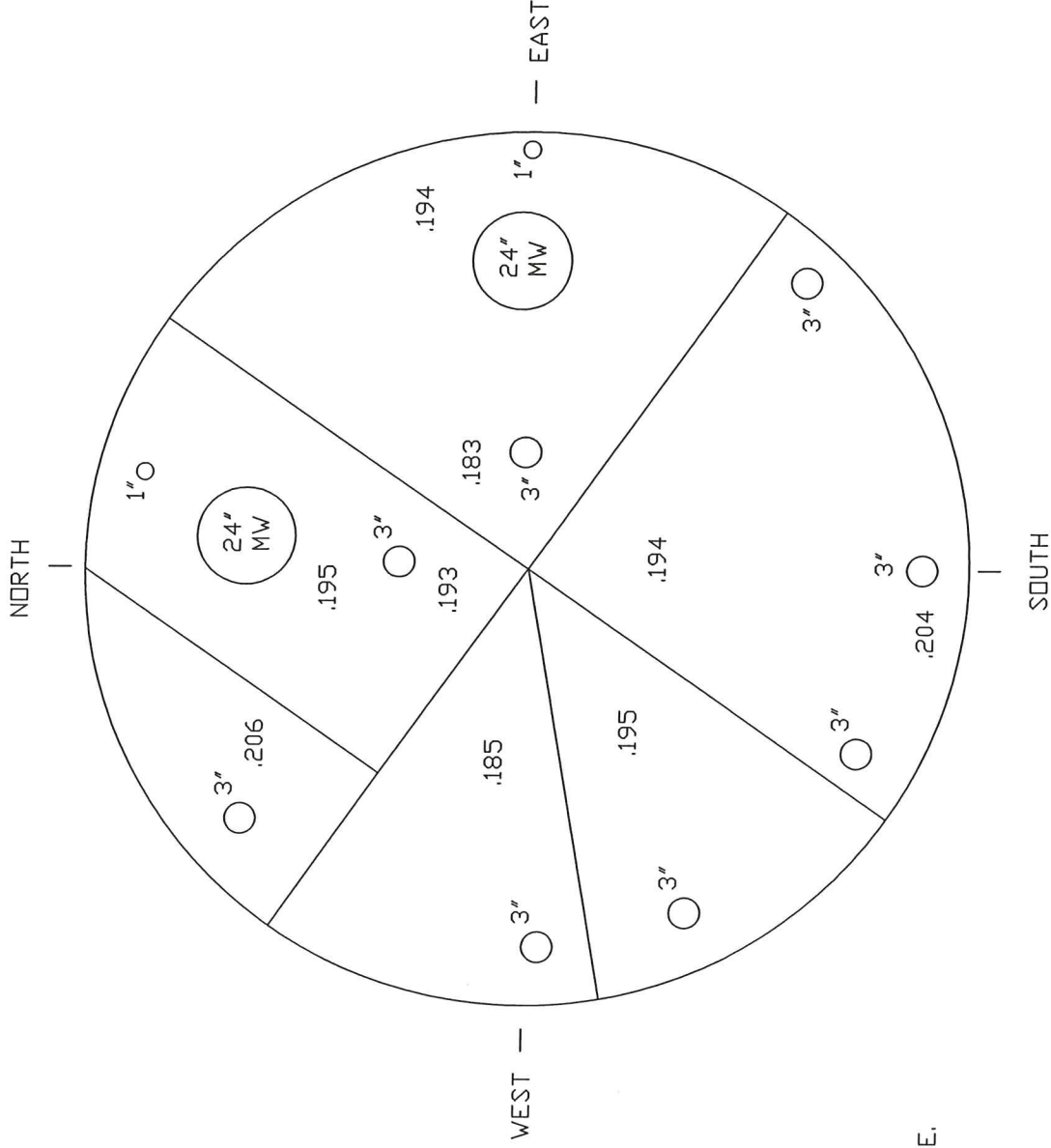
WATER RECOVERY, INC.
JACKSONVILLE, FL

LAW
LAWGIBB Group Member

TANK 6P
SHELL LAYOUT AND UT DATA

JOB NO.: 40563-1-0225 DWG. NO.: 0225-6P-04

TMIN = 0.090 INCH



NOTES:

1. DRAWING NOT TO SCALE.

INSPECTED/DATE: JC/MG/BS/AN-JAN 01

WATER RECOVERY, INC.
JACKSONVILLE, FL

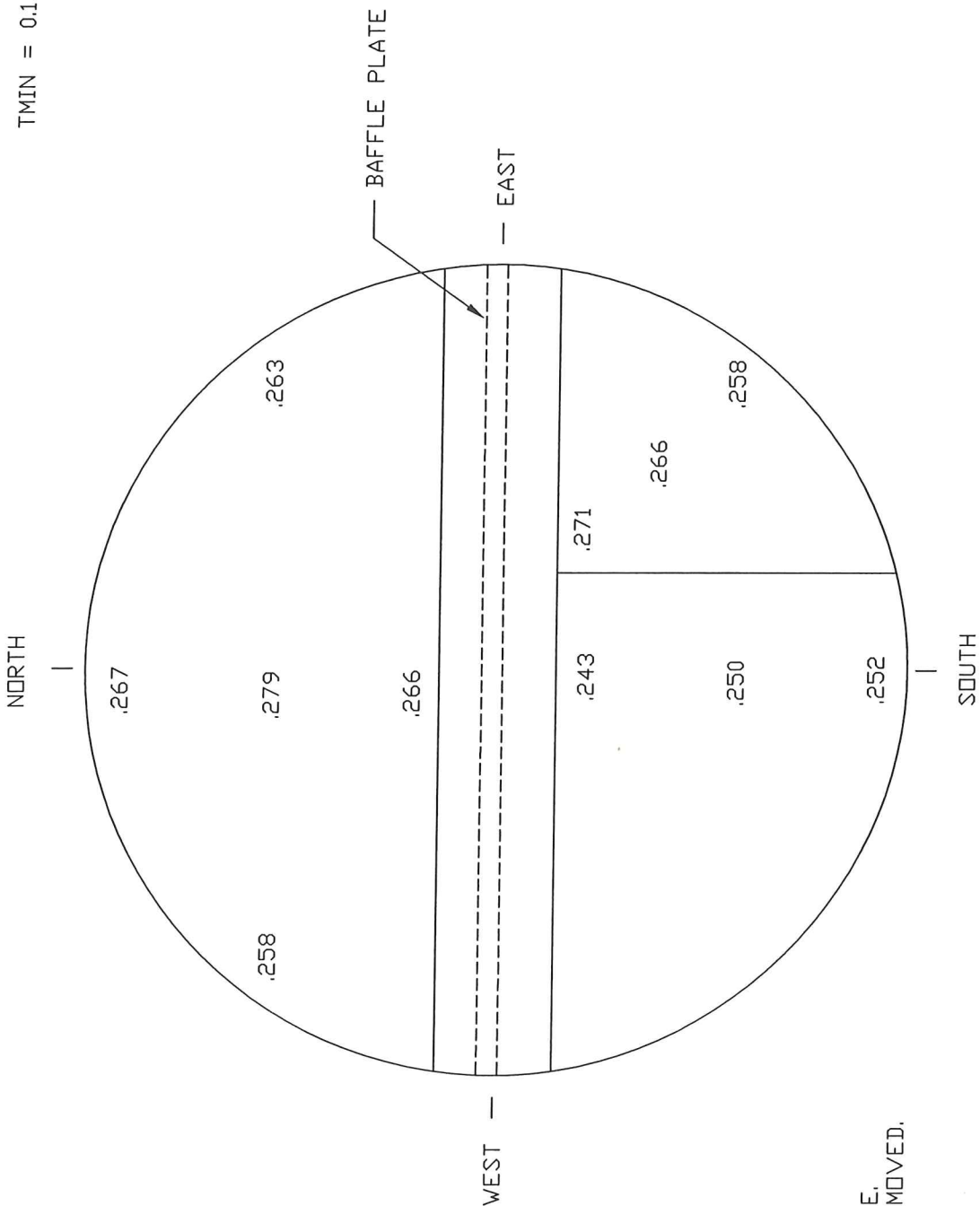


TANK 6P

ROOF LAYOUT AND UT DATA

JOB NO.: 40563-1-0225 DWG. NO.: 0225-6P-02

TMIN = 0.100 INCH



NOTES:

1. DRAWING NOT TO SCALE.
2. BAFFLE PARTIALLY REMOVED.

INSPECTED/DATE: JC/MG/BS/AN-JAN 01

WATER RECOVERY, INC.
JACKSONVILLE, FL



TANK 6P

FLOOR LAYOUT AND UT DATA


JOB NO.: 40563-1-0225 DWG. NO.: 0225-6P-03

TANK 6P

MANWAY/NOZZLE UT READINGS WATER RECOVERY, INC.

LAW Project Number: 40563-1-0225

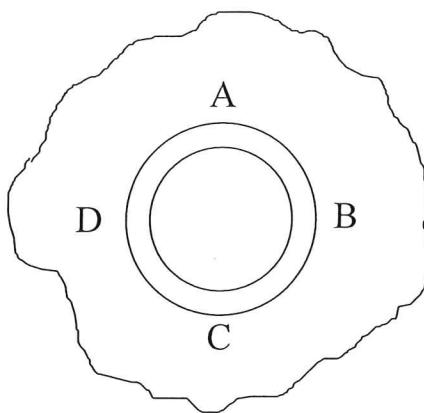
LAW

LAWGIBB Group Member 

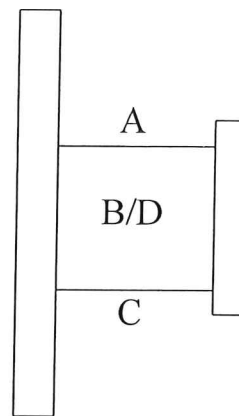
Law Engineering and Environmental Services
1000 Business Center Drive, Suite 90
Savannah, Georgia 31405

Date: JAN-01

Technicians: MG/JC/BS/AN



SHELL VIEW



NECK VIEW

NOZZLES	SIZE	SHELL PLATE THICKNESS				NOZZLE PIPE THICKNESS				REPAD THICKNESS
		A	B	C	D	A	B	C	D	
N1	3'	NA	.250	NA	NA	NA	.241	NA	NA	NA
N2	3"	NA	.255	NA	NA	NA	.239	NA	NA	NA
N3	4"	NA	.241	NA	NA	NA	.245	NA	NA	NA
N4	4"	NA	.240	NA	NA	NA	.225	NA	NA	NA
MW1	24"	.249	.241	.245	NA	.279	.260	.263	NA	NA
MW2	24"	.245	.250	NA	.250	.263	.261	.258	NA	NA

NOTES:

1. Readings are in inches.
2. NA = Not Applicable.

EXTERNAL VISUAL INSPECTION CHECKLIST

CLIENT NAME: WATER RECOVERY, INC.
 INSPECTORS: MG/JC/BS/AN
 DATE OF INSPECTION: JAN-01

CLIENT REFERENCE NO.: TANK 6P
 LAW PROJECT NO.: 40563-1-0225

FOUNDATION

CONCRETE PAD	<input type="checkbox"/>	Cracking	<input type="checkbox"/>	Spalling	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
ANCHOR BOLTS	<input type="checkbox"/>	Loose	<input type="checkbox"/>	Distortion	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
HOUSE KEEPING	<input type="checkbox"/>	Trash	<input type="checkbox"/>	Vegetation	<input type="checkbox"/>	Inflammables	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
FOUNDATION	<input type="checkbox"/>	Cracking	<input type="checkbox"/>	Settlement	<input type="checkbox"/>	Erosion	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
GROUNDING STRAP			<input type="checkbox"/>	Loose	<input checked="" type="checkbox"/>	Missing	<input type="checkbox"/>	Attached	<input type="checkbox"/>	N/A
CATHODIC PROTECTION			<input type="checkbox"/>	Damage	<input type="checkbox"/>	Operational	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
BOTTOM-TO-FOUNDATION SEAL			<input type="checkbox"/>	Leakage	<input type="checkbox"/>	Deterioration	<input checked="" type="checkbox"/>	Good (1)	<input type="checkbox"/>	N/A
DIKE CONDITION			<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
FOUNDATION DRAINAGE			<input checked="" type="checkbox"/>	Poor	<input type="checkbox"/>	Adequate	<input type="checkbox"/>	Good	<input type="checkbox"/>	N/A

STRUCTURAL AND WELD CONDITIONS

STAIRS AND WALKWAYS	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
CATWALK / PLATFORMS	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
LADDERS	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
HANDRAILS	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
SHELL WELDS CONDITION	<input type="checkbox"/>	Undercut	<input type="checkbox"/>	Pinholes	<input type="checkbox"/>	Corrosion	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
FLOOR WELDS CONDITION	<input type="checkbox"/>	Undercut	<input type="checkbox"/>	Pinholes	<input type="checkbox"/>	Corrosion	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
ROOF WELDS CONDITION	<input type="checkbox"/>	Undercut	<input type="checkbox"/>	Pinholes	<input type="checkbox"/>	Corrosion	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A

SHELL, ROOF AND APPURTENANCES

FLANGE CONNECTIONS	<input type="checkbox"/>	Loose	<input type="checkbox"/>	Leakage	<input type="checkbox"/>	Damage	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
NOZZLES & MANWAYS	<input type="checkbox"/>	Dimpling	<input type="checkbox"/>	Leakage	<input type="checkbox"/>	Damage	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
SURFACE COATING	<input type="checkbox"/>	Flaking	<input type="checkbox"/>	Blistering	<input checked="" type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input type="checkbox"/>	N/A
INSULATION	<input type="checkbox"/>	Loose	<input type="checkbox"/>	Leakage	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
SHELL	<input type="checkbox"/>	Pitting	<input checked="" type="checkbox"/>	Buckling	<input type="checkbox"/>	Out-of-Roundness	<input type="checkbox"/>	Good	<input type="checkbox"/>	N/A
ROOF	<input type="checkbox"/>	Pitting	<input type="checkbox"/>	Buckling	<input checked="" type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input type="checkbox"/>	N/A
BOTTOM EXTERNAL LIP	<input type="checkbox"/>	Pitting	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
FLOOR	<input type="checkbox"/>	Pitting	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
SAMPLE HATCH	<input type="checkbox"/>	Operational	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
AUTOGAUGE	<input checked="" type="checkbox"/>	Operational	<input checked="" type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input type="checkbox"/>	N/A
ROOF SUPPORTS	<input type="checkbox"/>	Missing	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
CONSERVATION VENT			<input type="checkbox"/>	Damage	<input type="checkbox"/>	Operational	<input type="checkbox"/>	Good	<input type="checkbox"/>	N/A
GOOSE NECK VENT	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Clogging	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
FLAME ARRESTER			<input type="checkbox"/>	Damage	<input type="checkbox"/>	Operational	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
MIXER & MOTORS	<input type="checkbox"/>	Leakage	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
MANWAY DAVIT ARM			<input type="checkbox"/>	Damage	<input type="checkbox"/>	Operational	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A

NOTES:

1. BOTTOM-TO-FOUNDATION SEAL ONLY ENCOMPASSES HALF OF TANK.

INTERNAL VISUAL INSPECTION CHECKLIST

CLIENT NAME: WATER RECOVERY, INC.
INSPECTORS: MG/JC/BS/AN
DATE OF INSPECTION: JAN-01

CLIENT REFERENCE NO.: TANK 6P
LAW PROJECT NO.: 40563-1-0225

STRUCTURAL AND WELD CONDITIONS

LADDERS	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
BAFFLE PLATES	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input checked="" type="checkbox"/>	Good (2)	<input type="checkbox"/>	N/A
SHELL WELDS CONDITION	<input type="checkbox"/>	Undercut	<input type="checkbox"/>	Pinholes	<input type="checkbox"/>	Corrosion	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
FLOOR WELDS CONDITION	<input type="checkbox"/>	Undercut	<input type="checkbox"/>	Pinholes	<input type="checkbox"/>	Corrosion	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
ROOF WELDS CONDITION	<input type="checkbox"/>	Undercut	<input type="checkbox"/>	Pinholes	<input type="checkbox"/>	Corrosion	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
FLOOR-TO-SHELL SEAM	<input type="checkbox"/>	Undercut	<input type="checkbox"/>	Pinholes	<input type="checkbox"/>	Corrosion	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A

SHELL, ROOF AND APPURTENANCES

NOZZLE PROTRUSIONS	<input type="checkbox"/>	Dimpling	<input type="checkbox"/>	Leakage	<input type="checkbox"/>	Damage	<input checked="" type="checkbox"/>	Good (1)	<input type="checkbox"/>	N/A
SURFACE COATING	<input type="checkbox"/>	Flaking	<input type="checkbox"/>	Blistering	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
LINER	<input type="checkbox"/>	Tearing	<input type="checkbox"/>	Leakage	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
SHELL	<input type="checkbox"/>	Pitting	<input type="checkbox"/>	Buckling	<input type="checkbox"/>	Out-of-Roundness	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
ROOF	<input type="checkbox"/>	Pitting	<input type="checkbox"/>	Buckling	<input type="checkbox"/>	Deterioration	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
FLOOR	<input type="checkbox"/>	Pitting	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
ROOF SUPPORTS	<input type="checkbox"/>	Missing	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
PIPING SUPPORTS	<input type="checkbox"/>	Missing	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
AGITATOR SHAFT/BLADES	<input type="checkbox"/>	Broken	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
DOWNCOMERS	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
COILS/HEATERS	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Leakage	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
SUMP	<input type="checkbox"/>	Pitting	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A

NOTES:

1. NOZZLES WERE NOT WELDED ON INNER DIAMETER.
2. PART OF BAFFLE PLATE CUT AWAY.

TMIN CALCULATIONS PER API 653 - TANK 6P

HEIGHT, H	30 FEET	CORROSION ALLOWANCE:	0.000 INCHES
DIAMETER, D	12 FEET	YIELD STRENGTH:	30000 PSI
SPECIFIC GRAVITY, G	1	TENSILE STRENGTH:	55000 PSI
JOINT EFFICIENCY, E	70 %		
# COURSES	4		

COURSE	H	S	TMIN (CALC)	TMIN	CA	TORIG	TFLAG
TOP		25960	0.100	0.090	0.000	UNK	0.090
1	30	23595	0.057	0.100	0.000	UNK	0.100
2	22	23595	0.042	0.100	0.000	UNK	0.100
3	14	25960	0.024	0.100	0.000	UNK	0.100
4	6	25960	0.010	0.100	0.000	UNK	0.100
BOT	6	25960	0.100	0.100	0.000	UNK	0.100

NOTES:

1. 1ST AND 2ND COURSE, ALLOWABLE STRESS LESSER OF 80% YIELD OR 42.9% TENSILE
2. REMAINING COURSES, ALLOWABLE STRESS LESSER OF 88% YIELD OR 47.2% TENSILE