TOLUNAY-WONG ENGINEERS, INC.

Field Density - Nuclear Method - ASTM D 6938

Laboratory	Tolunay-Wong Engineers, inc.		**Report Number**	2926	
USACE Contract Number	W912P8-09-D-0046 0008		**Contractor**	Phylway, Inc.	
Project	WBV-14C.2 Phase 2, First Lift		**Date**	9/15/2010	
Source of Material	Willow Bend Pit	Feature	EMBANKMENT	Visual Description (ASTM D 2488)	G-BR. CLAY
Gauge Make	Troxler	Gauge Model	3430	Gauge Serial Number	26414
Standardization Data DS	1862	Adjustment Data		Mode (BS - DT 50,100,150,200)	DT150
Standardization Data MS	706	Moisture Test Method Used*	ASTM D2216	Correction Used for Moist. Test	
Tested By	B. LANDERS	Checked By	G. LeCoq	Submitted By	G. LeCoq

* Identify whether by D2216, D4643, or D4959

Test ID	50	51	52		
Retest of Test ID	44		46		
Station	124+97	119+33	175+01		
Offset	F.S. +18.8	C/L -3.7	F.S. +25.4		
Lift Number	1	5	2		
X-Coordinate	E3660452.0	E3659890.9	E3665443.3		
Y-Coordinate	N501002.2	N501066.7	N500648.2		
Elevation (ft)	5.5	7.8	5.9		
a. Wet Unit Weight (lbs/cf)	115.5	115.4	112.8		
b. Dry Unit Weight (lbs/cf)	92.5	91.0	86.4		
c. Lab Moisture Content (%)	24.8	26.8	30.5		
d. Density Correction Factor					
e. Corrected Unit Weight (lbs/cf)					
f. Compaction Curve Control No.	2653-008	2854-040	2854-040		
g. Opt. Moisture (Control C) (%)	23.1	23.9	23.9		
h. Max. Dry Unit Weight (CC)(lbs/cf)	99.7	95.9	95.9		
i. Compaction Required (%)	90.0	90.0	90.0		
j. Degree of Compaction (%)	92.8	94.9	90.1		
k. Difference-Opt. Moisture (+/-%)	1.7	2.9	6.6		

Test ID					
Retest of Test ID					
Station					
Offset					
Lift Number					
X-Coordinate					
Y-Coordinate					
Elevation (ft)					
a. Wet Unit Weight (lbs/cf)					
b. Dry Unit Weight (lbs/cf)					
c. Lab Moisture Content (%)					
d. Density Correction Factor					
e. Corrected Unit Weight (lbs/cf)					
f. Compaction Curve Control No.					
g. Opt. Moisture (Control C) (%)					
h. Max. Dry Unit Weight (CC)(lbs/cf)					
i. Compaction Required (%)					
j. Degree of Compaction (%)					
k. Difference-Opt. Moisture (+/-%)					

Remarks:

TOLUNAY-WONG ENGINEERS, INC.

Field Density - Nuclear Method - ASTM D 6938

Laboratory	Tolunay-Wong Engineers, inc.		**Report Number**	2935	
USACE Contract Number	W912P8-09-D-0046 0008		**Contractor**	Phylway, Inc.	
Project	WBV-14C.2 Phase 2, First Lift		**Date**	9/16/2010	
Source of Material	Willow Bend Pit	Feature	EMBANKMENT	Visual Description (ASTM D 2488)	G-BR. CLAY
Gauge Make	Troxler	Gauge Model	3430	Gauge Serial Number	26414
Standardization Data DS	1899	Adjustment Data		Mode (BS - DT 50,100,150,200)	DT150
Standardization Data MS	717	Moisture Test Method Used*	ASTM D2216	Correction Used for Moist. Test	
Tested By	B. LANDERS	Checked By	G. LeCoq	Submitted By	G. LeCoq

* Identify whether by D2216, D4643, or D4959

Test ID	53	54	55	56	
Retest of Test ID			39	52	
Station	110+91	119+13	163+28	175+01	
Offset	F.S. +23.5'	C/L +2.5'	F.S. +21'	F.S. +25.4'	
Lift Number	4	6	1	2	
X-Coordinate	E3659560.4	E3659870.9	E3664273.9	E3665443.3	
Y-Coordinate	N501712.4	N501061.8	N500731.4	N500648.2	
Elevation (ft)	6.8	8.3	5.9	5.9	
a. Wet Unit Weight (lbs/cf)	110.1	107.0	117.4	116.5	
b. Dry Unit Weight (lbs/cf)	89.6	82.5	91.6	89.1	
c. Lab Moisture Content (%)	22.9	29.7	28.1	30.8	
d. Density Correction Factor					
e. Corrected Unit Weight (lbs/cf)					
f. Compaction Curve Control No.	2854-040	2854-040	2653-008	2854-040	
g. Opt. Moisture (Control C) (%)	23.9	23.9	23.1	23.9	
h. Max. Dry Unit Weight (CC)(lbs/cf)	95.9	95.9	99.7	95.9	
i. Compaction Required (%)	90.0	90.0	90.0	90.0	
j. Degree of Compaction (%)	93.4	86.0	91.9	92.9	
k. Difference-Opt. Moisture (+/-%)	-1.0	5.8	5.0	6.9	

Test ID					
Retest of Test ID					
Station					
Offset					
Lift Number					
X-Coordinate					
Y-Coordinate					
Elevation (ft)					
a. Wet Unit Weight (lbs/cf)					
b. Dry Unit Weight (lbs/cf)					
c. Lab Moisture Content (%)					
d. Density Correction Factor					
e. Corrected Unit Weight (lbs/cf)					
f. Compaction Curve Control No.					
g. Opt. Moisture (Control C) (%)					
h. Max. Dry Unit Weight (CC)(lbs/cf)					
i. Compaction Required (%)					
j. Degree of Compaction (%)					
k. Difference-Opt. Moisture (+/-%)					

Remarks:

TOLUNAY-WONG ENGINEERS, INC.

Field Density - Nuclear Method - ASTM D 6938

Laboratory	Tolunay-Wong Engineers, inc.		**Report Number**	2653	
USACE Contract Number	W912P8-09-D-0046 0008		**Contractor**	Phylway, Inc.	
Project	WBV-14C.2 Phase 2, First Lift		**Date**	8/2/2010	
Source of Material	Willow Bend Pit	Feature	EMBANKMENT	Visual Description (ASTM D 2488)	G-BR. CLAY
Gauge Make	Troxler	Gauge Model	3430	Gauge Serial Number	31657
Standardization Data DS	2485	Adjustment Data		Mode (BS - DT 50,100,150,200)	DT150
Standardization Data MS	652	Moisture Test Method Used*	ASTM D2216	Correction Used for Moist. Test	
Tested By	B. LANDERS	Checked By	W. PROCHASKA	Submitted By	G. LeCoq

* Identify whether by D2216, D4643, or D4959

Test ID	6	7			
Retest of Test ID					
Station	181+43	175+00			
Offset	6' F.S.	15' F.S.			
Lift Number	1	1			
X-Coordinate	E3666066.2	E3665443.2			
Y-Coordinate	N500562.3	N500655.8			
Elevation (ft)	6.3	5.7			
a. Wet Unit Weight (lbs/cf)	120.6	116.4			
b. Dry Unit Weight (lbs/cf)	95.9	92.8			
c. Lab Moisture Content (%)	25.8	25.4			
d. Density Correction Factor					
e. Corrected Unit Weight (lbs/cf)					
f. Compaction Curve Control No.	2609-001	2609-001			
g. Opt. Moisture (Control C) (%)	26.4	26.4			
h. Max. Dry Unit Weight (CC)(lbs/cf)	95.1	95.1			
i. Compaction Required (%)	90.0	90.0			
j. Degree of Compaction (%)	100.8	97.6			
k. Difference-Opt. Moisture (+/-%)	-0.6	-1.0			

Test ID					
Retest of Test ID					
Station					
Offset					
Lift Number					
X-Coordinate					
Y-Coordinate					
Elevation (ft)					
a. Wet Unit Weight (lbs/cf)					
b. Dry Unit Weight (lbs/cf)					
c. Lab Moisture Content (%)					
d. Density Correction Factor					
e. Corrected Unit Weight (lbs/cf)					
f. Compaction Curve Control No.					
g. Opt. Moisture (Control C) (%)					
h. Max. Dry Unit Weight (CC)(lbs/cf)					
i. Compaction Required (%)					
j. Degree of Compaction (%)					
k. Difference-Opt. Moisture (+/-%)					

Remarks: Wet Density on Sand Cone Test ID # 6: 119.6

TOLUNAY-WONG ENGINEERS, INC.

Field Density - Nuclear Method - ASTM D 6938

Laboratory	Tolunay-Wong Engineers, inc.		**Report Number**	2690	
USACE Contract Number	W912P8-09-D-0046-0008		**Contractor**	Phylway, Inc.	
Project	WBV-14C.2 Phase 2, First Lift		**Date**	8/6/2010	
Source of Material	Willow Bend Pit	Feature	EMBANKMENT	Visual Description (ASTM D 2488)	G-BR. CLAY
Gauge Make	Troxler	Gauge Model	3430	Gauge Serial Number	31657
Standardization Data DS	2504	Adjustment Data		Mode (BS - DT 50,100,150,200)	DT150
Standardization Data MS	655	Moisture Test Method Used*	ASTM D2216	Correction Used for Moist. Test	
Tested By	B. LANDERS	Checked By	G. LeCoq	Submitted By	G. LeCoq

* Identify whether by D2216, D4643, or D4959

Test ID	9	10	11	12	13
Retest of Test ID					
Station	168+84.1	161+04.7	180+73.1	175+05	169+76.5
Offset	13.8	27.9	-86.9	-80.5	-83.3
Lift Number	1	1	1	1	1
X-Coordinate	E3664828.2	E3664049.5	E3666027.6	E3665454.74	E3664926.3
Y-Coordinate	N500701.0	N500738.9	N5000668.1	N500753.87	N500786.6
Elevation (ft)	5.9	4.9	5.1	4.8	4.9
a. Wet Unit Weight (lbs/cf)	119.9	115.6	121.9	117.9	118.7
b. Dry Unit Weight (lbs/cf)	92.8	93.2	96.4	94.9	94.9
c. Lab Moisture Content (%)	29.2	24.1	26.4	24.2	25.1
d. Density Correction Factor					
e. Corrected Unit Weight (lbs/cf)					
f. Compaction Curve Control No.	2609-001	2609-001	2609-001	2609-001	2609-001
g. Opt. Moisture (Control C) (%)	26.4	26.4	26.4	26.4	26.4
h. Max. Dry Unit Weight (CC)(lbs/cf)	95.1	95.1	95.1	95.1	95.1
i. Compaction Required (%)	90.0	90.0	90.0	90.0	90.0
j. Degree of Compaction (%)	97.6	98.0	101.4	99.8	99.8
k. Difference-Opt. Moisture (+/-%)	2.8	-2.3	0.0	-2.2	-1.3

Test ID	14	15	16	17	18
Retest of Test ID					
Station	164+82.8	159+93.8	154+92.5	149+86	145+01
Offset	-83.3	-77.3	-77.5	-76.4	-78.7
Lift Number	1	1	1	1	1
X-Coordinate	E3664434.4	E3663945.9	E3663445.7	E3662940.3	E3662457.1
Y-Coordinate	N500824.7	N500851.3	N500884.8	N500917.4	N500952.1
Elevation (ft)	5.0	4.9	4.8	4.9	4.9
a. Wet Unit Weight (lbs/cf)	119.8	121.8	116.9	123.6	121.7
b. Dry Unit Weight (lbs/cf)	98.9	98.7	90.1	99.6	96.6
c. Lab Moisture Content (%)	21.1	23.4	29.7	24.1	26.0
d. Density Correction Factor					
e. Corrected Unit Weight (lbs/cf)					
f. Compaction Curve Control No.	2609-001	2609-001	2609-001	2609-001	2609-001
g. Opt. Moisture (Control C) (%)	26.4	26.4	26.4	26.4	26.4
h. Max. Dry Unit Weight (CC)(lbs/cf)	95.1	95.1	95.1	95.1	95.1
i. Compaction Required (%)	90.0	90.0	90.0	90.0	90.0
j. Degree of Compaction (%)	104.0	103.8	94.7	104.7	101.6
k. Difference-Opt. Moisture (+/-%)	-5.3	-3.0	3.3	-2.3	-0.4

Remarks: Wet Density on Sand Cone Test ID # 16: 117.8 PCF

TOLUNAY-WONG ENGINEERS, INC.

Field Density - Nuclear Method - ASTM D 6938

Laboratory	Tolunay-Wong Engineers, inc.		**Report Number**	2690	
USACE Contract Number	W912P8-09-D-0046-0008		**Contractor**	Phylway, Inc.	
Project	WBV-14C.2 Phase 2, First Lift		**Date**	8/6/2010	
Source of Material	Willow Bend Pit	Feature	EMBANKMENT	Visual Description (ASTM D 2488)	G-BR. CLAY
Gauge Make	Troxler	Gauge Model	3430	Gauge Serial Number	31657
Standardization Data DS	2504	Adjustment Data		Mode (BS - DT 50,100,150,200)	DT150
Standardization Data MS	655	Moisture Test Method Used*	ASTM D2216	Correction Used for Moist. Test	
Tested By	B. LANDERS	Checked By	G. LeCoq	Submitted By	G. LeCoq

* Identify whether by D2216, D4643, or D4959

Test ID	19	20	21	22	23
Retest of Test ID					
Station	139+99.4	134+96.2	129+97.3	124+98.7	120+99.2
Offset	-78.9	-80.7	-82.5	-80.0	-79.6
Lift Number	1	1	1	1	1
X-Coordinate	E3661956.8	E3661455.2	E3660957.9	E3660460.3	E3660062.1
Y-Coordinate	N500987.2	N501026.7	N501065.7	N501100.6	N501129.9
Elevation (ft)	4.8	4.6	4.9	5.0	5.4
a. Wet Unit Weight (lbs/cf)	121.5	122.6	122.1	117.1	121.6
b. Dry Unit Weight (lbs/cf)	98.1	98.1	96.4	87.5	97.9
c. Lab Moisture Content (%)	23.9	25.0	26.7	33.8	24.2
d. Density Correction Factor					
e. Corrected Unit Weight (lbs/cf)					
f. Compaction Curve Control No.	2609-001	2609-001	2609-001	2609-001	2609-001
g. Opt. Moisture (Control C) (%)	26.4	26.4	26.4	26.4	26.4
h. Max. Dry Unit Weight (CC)(lbs/cf)	95.1	95.1	95.1	95.1	95.1
i. Compaction Required (%)	90.0	90.0	90.0	90.0	90.0
j. Degree of Compaction (%)	103.2	103.2	101.4	92.0	102.9
k. Difference-Opt. Moisture (+/-%)	-2.5	-1.4	0.3	7.4	-2.2

Test ID					
Retest of Test ID					
Station					
Offset					
Lift Number					
X-Coordinate					
Y-Coordinate					
Elevation (ft)					
a. Wet Unit Weight (lbs/cf)					
b. Dry Unit Weight (lbs/cf)					
c. Lab Moisture Content (%)					
d. Density Correction Factor					
e. Corrected Unit Weight (lbs/cf)					
f. Compaction Curve Control No.					
g. Opt. Moisture (Control C) (%)					
h. Max. Dry Unit Weight (CC)(lbs/cf)					
i. Compaction Required (%)					
j. Degree of Compaction (%)					
k. Difference-Opt. Moisture (+/-%)					

Remarks: Wet Density on Sand Cone Test ID # 16: 117.8 PCF

TOLUNAY-WONG ENGINEERS, INC.

Field Density - Nuclear Method - ASTM D 6938

Laboratory	Tolunay-Wong Engineers, inc.		**Report Number**	2690	
USACE Contract Number	W912P8-09-D-0046 0008		**Contractor**	Phylway, Inc.	
Project	WBV-14C.2 Phase 2, First Lift		**Date**	8/6/2010	
Source of Material	Willow Bend Pit	Feature	EMBANKMENT	Visual Description (ASTM D 2488)	G-BR. CLAY
Gauge Make	Troxler	Gauge Model	3430	Gauge Serial Number	31657
Standardization Data DS	2504	Adjustment Data		Mode (BS - DT 50,100,150,200)	DT150
Standardization Data MS	655	Moisture Test Method Used*	ASTM D2216	Correction Used for Moist. Test	
Tested By	B. LANDERS	Checked By	G. LeCoq	Submitted By	G. LeCoq

* Identify whether by D2216, D4643, or D4959

Test ID	19	20	21	22	23
Retest of Test ID					
Station	139+99.4	134+96.2	129+97.3	124+98.7	120+99.2
Offset	-78.9	-80.7	-82.5	-80.0	-79.6
Lift Number	1	1	1	1	1
X-Coordinate	E3661956.8	E3661455.2	E3660957.9	E3660460.3	E3660062.1
Y-Coordinate	N500987.2	N501026.7	N501065.7	N501100.6	N501129.9
Elevation (ft)	4.8	4.6	4.9	5.0	5.4
a. Wet Unit Weight (lbs/cf)	121.5	122.6	122.1	117.1	121.6
b. Dry Unit Weight (lbs/cf)	98.1	98.1	96.4	87.5	97.9
c. Lab Moisture Content (%)	23.9	25.0	26.7	33.8	24.2
d. Density Correction Factor					
e. Corrected Unit Weight (lbs/cf)					
f. Compaction Curve Control No.	2609-001	2609-001	2609-001	2609-001	2609-001
g. Opt. Moisture (Control C) (%)	26.4	26.4	26.4	26.4	26.4
h. Max. Dry Unit Weight (CC)(lbs/cf)	95.1	95.1	95.1	95.1	95.1
i. Compaction Required (%)	90.0	90.0	90.0	90.0	90.0
j. Degree of Compaction (%)	103.2	103.2	101.4	92.0	102.9
k. Difference-Opt. Moisture (+/-%)	-2.5	-1.4	0.3	7.4	-2.2

Test ID					
Retest of Test ID					
Station					
Offset					
Lift Number					
X-Coordinate					
Y-Coordinate					
Elevation (ft)					
a. Wet Unit Weight (lbs/cf)					
b. Dry Unit Weight (lbs/cf)					
c. Lab Moisture Content (%)					
d. Density Correction Factor					
e. Corrected Unit Weight (lbs/cf)					
f. Compaction Curve Control No.					
g. Opt. Moisture (Control C) (%)					
h. Max. Dry Unit Weight (CC)(lbs/cf)					
i. Compaction Required (%)					
j. Degree of Compaction (%)					
k. Difference-Opt. Moisture (+/-%)					

Remarks: Wet Density on Sand Cone Test ID # 16: 117.8 PCF

TOLUNAY-WONG ENGINEERS, INC.

Field Density - Nuclear Method - ASTM D 6938

Laboratory	Tolunay-Wong Engineers, inc.		**Report Number**	2928	
USACE Contract Number	W912P8-09-D-0046-0008		**Contractor**	Phylway, Inc.	
Project	WBV-14C.2 Phase 2, First Lift		**Date**	9/14/2010	
Source of Material	Willow Bend Pit	Feature	EMBANKMENT	Visual Description (ASTM D 2488)	G-BR. CLAY
Gauge Make	Troxler	Gauge Model	3430	Gauge Serial Number	26414
Standardization Data DS	1875	Adjustment Data		Mode (BS - DT 50,100,150,200)	DT150
Standardization Data MS	715	Moisture Test Method Used*	ASTM D2216	Correction Used for Moist. Test	
Tested By	B. LANDERS	Checked By	G. LeCoq	Submitted By	G. LeCoq

* Identify whether by D2216, D4643, or D4959

Test ID	47	48	49		
Retest of Test ID	2868-41	2854-37			
Station	139+03	119+36	110+68		
Offset	F.S. +22'	F.S. +12'	F.S. +1'		
Lift Number	1	4	3		
X-Coordinate	E3661854.2	E3659892.3	E3659587.8		
Y-Coordinate	N500893.4	N501050.6	N501730.1		
Elevation (ft)	4.8	6.8	6.9		
a. Wet Unit Weight (lbs/cf)	119.1	115.0	117.8		
b. Dry Unit Weight (lbs/cf)	96.6	92.3	95.2		
c. Lab Moisture Content (%)	23.3	24.6	23.7		
d. Density Correction Factor					
e. Corrected Unit Weight (lbs/cf)					
f. Compaction Curve Control No.	2653-008	2609-001	2854-040		
g. Opt. Moisture (Control C) (%)	23.1	26.4	23.9		
h. Max. Dry Unit Weight (CC)(lbs/cf)	99.7	95.1	95.9		
i. Compaction Required (%)	90.0	90.0	90.0		
j. Degree of Compaction (%)	96.9	97.1	99.3		
k. Difference-Opt. Moisture (+/-%)	0.2	-1.8	-0.2		

Test ID					
Retest of Test ID					
Station					
Offset					
Lift Number					
X-Coordinate					
Y-Coordinate					
Elevation (ft)					
a. Wet Unit Weight (lbs/cf)					
b. Dry Unit Weight (lbs/cf)					
c. Lab Moisture Content (%)					
d. Density Correction Factor					
e. Corrected Unit Weight (lbs/cf)					
f. Compaction Curve Control No.					
g. Opt. Moisture (Control C) (%)					
h. Max. Dry Unit Weight (CC)(lbs/cf)					
i. Compaction Required (%)					
j. Degree of Compaction (%)					
k. Difference-Opt. Moisture (+/-%)					

Remarks: Wet Density on Sand Cone Test ID # 48: 112.1 PCF

TOLUNAY-WONG ENGINEERS, INC.

Field Density - Nuclear Method - ASTM D 6938

Laboratory	Tolunay-Wong Engineers, inc.		**Report Number**	2928	
USACE Contract Number	W912P8-09-D-0046 0008		**Contractor**	Phylway, Inc.	
Project	WBV-14C.2 Phase 2, First Lift		**Date**	9/14/2010	
Source of Material	Willow Bend Pit	Feature	EMBANKMENT	Visual Description (ASTM D 2488)	G-BR. CLAY
Gauge Make	Troxler	Gauge Model	3430	Gauge Serial Number	26414
Standardization Data DS	1875	Adjustment Data		Mode (BS - DT 50,100,150,200)	DT150
Standardization Data MS	715	Moisture Test Method Used*	ASTM D2216	Correction Used for Moist. Test	
Tested By	B. LANDERS	Checked By	G. LeCoq	Submitted By	G. LeCoq

* Identify whether by D2216, D4643, or D4959

Test ID	47	48	49		
Retest of Test ID	33	37			
Station	139+03	119+36	110+68		
Offset	F.S. +22'	F.S. +12'	F.S. +1'		
Lift Number	1	4	3		
X-Coordinate	E3661854.2	E3659892.3	E3659587.8		
Y-Coordinate	N500893.4	N501050.6	N501730.1		
Elevation (ft)	4.8	6.8	6.9		
a. Wet Unit Weight (lbs/cf)	119.1	115.0	117.8		
b. Dry Unit Weight (lbs/cf)	96.6	92.3	95.2		
c. Lab Moisture Content (%)	23.3	24.6	23.7		
d. Density Correction Factor					
e. Corrected Unit Weight (lbs/cf)					
f. Compaction Curve Control No.	2653-008	2609-001	2854-040		
g. Opt. Moisture (Control C) (%)	23.1	26.4	23.9		
h. Max. Dry Unit Weight (CC)(lbs/cf)	99.7	95.1	95.9		
i. Compaction Required (%)	90.0	90.0	90.0		
j. Degree of Compaction (%)	96.9	97.1	99.3		
k. Difference-Opt. Moisture (+/-%)	0.2	-1.8	-0.2		

Test ID					
Retest of Test ID					
Station					
Offset					
Lift Number					
X-Coordinate					
Y-Coordinate					
Elevation (ft)					
a. Wet Unit Weight (lbs/cf)					
b. Dry Unit Weight (lbs/cf)					
c. Lab Moisture Content (%)					
d. Density Correction Factor					
e. Corrected Unit Weight (lbs/cf)					
f. Compaction Curve Control No.					
g. Opt. Moisture (Control C) (%)					
h. Max. Dry Unit Weight (CC)(lbs/cf)					
i. Compaction Required (%)					
j. Degree of Compaction (%)					
k. Difference-Opt. Moisture (+/-%)					

Remarks: Wet Density on Sand Cone Test ID # 48: 112.1 PCF

TOLUNAY-WONG ENGINEERS, INC.

Field Density - Nuclear Method - ASTM D 6938

Laboratory	Tolunay-Wong Engineers, inc.		**Report Number**	2942	
USACE Contract Number	W912P8-09-D-0046 0008		**Contractor**	Phylway, Inc.	
Project	WBV-14C.2 Phase 2, First Lift		**Date**	9/17/2010	
Source of Material	Willow Bend Pit	Feature	EMBANKMENT	Visual Description (ASTM D 2488)	G-BR. CLAY
Gauge Make	Troxler	Gauge Model	3430	Gauge Serial Number	26414
Standardization Data DS	2298	Adjustment Data		Mode (BS - DT 50,100,150,200)	DT150
Standardization Data MS	585	Moisture Test Method Used*	ASTM D2216	Correction Used for Moist. Test	
Tested By	B. LANDERS	Checked By	G. LeCoq	Submitted By	G. LeCoq

* Identify whether by D2216, D4643, or D4959

Test ID	58	59	60	61	62
Retest of Test ID		56		54	
Station	110+81	175+01	170+03	119+13	119+59
Offset	C/L -3.2	F.S. +25.4'	F.S. +28.6'	C/L +2.5'	P.S. -8.2'
Lift Number	5	2	2	6	7
X-Coordinate	E3659588.6	E3665443.3	E3664945.9	E3659870.9	E3659917.5
Y-Coordinate	N501716.1	N500648.2	N500678.4	N501061.8	N501069.3
Elevation (ft)	8.2	5.7	5.8	8.3	10.9
a. Wet Unit Weight (lbs/cf)	116.3	115.9	116.1	114.9	114.3
b. Dry Unit Weight (lbs/cf)	93.8	90.0	90.6	92.9	89.3
c. Lab Moisture Content (%)	24.0	28.8	28.1	23.7	27.9
d. Density Correction Factor					
e. Corrected Unit Weight (lbs/cf)					
f. Compaction Curve Control No.	2854-040	2854-040	2854-040	2854-040	2854-040
g. Opt. Moisture (Control C) (%)	23.9	23.9	23.9	23.9	23.9
h. Max. Dry Unit Weight (CC)(lbs/cf)	95.9	95.9	95.9	95.9	95.9
i. Compaction Required (%)	90.0	90.0	90.0	90.0	90.0
j. Degree of Compaction (%)	97.8	93.8	94.5	96.9	93.1
k. Difference-Opt. Moisture (+/-%)	0.1	4.9	4.2	-0.2	4.0

Test ID					
Retest of Test ID					
Station					
Offset					
Lift Number					
X-Coordinate					
Y-Coordinate					
Elevation (ft)					
a. Wet Unit Weight (lbs/cf)					
b. Dry Unit Weight (lbs/cf)					
c. Lab Moisture Content (%)					
d. Density Correction Factor					
e. Corrected Unit Weight (lbs/cf)					
f. Compaction Curve Control No.					
g. Opt. Moisture (Control C) (%)					
h. Max. Dry Unit Weight (CC)(lbs/cf)					
i. Compaction Required (%)					
j. Degree of Compaction (%)					
k. Difference-Opt. Moisture (+/-%)					

Remarks:

TOLUNAY-WONG ENGINEERS, INC.

Field Density - Nuclear Method - ASTM D 6938

Laboratory	Tolunay-Wong Engineers, inc.		**Report Number**	2968	
USACE Contract Number	W912P8-09-D-0046 0008		**Contractor**	Phylway, Inc.	
Project	WBV-14C.2 Phase 2, First Lift		**Date**	9/18/2010	
Source of Material	Willow Bend Pit	Feature	EMBANKMENT	Visual Description (ASTM D 2488)	G-BR. CLAY
Gauge Make	Troxler	Gauge Model	3430	Gauge Serial Number	26414
Standardization Data DS	1881	Adjustment Data		Mode (BS - DT 50,100,150,200)	DT150
Standardization Data MS	710	Moisture Test Method Used*	ASTM D2216	Correction Used for Moist. Test	
Tested By	B. LANDERS	Checked By	G. LeCoq	Submitted By	G. LeCoq

* Identify whether by D2216, D4643, or D4959

Test ID	63	64	65		
Retest of Test ID					
Station	110+75	119+26	119+84		
Offset	F.S. + 8.4	C/L +2.9	P.S. -126		
Lift Number	6	8	1		
X-Coordinate	E3659578.8	E3659883.4	E3659951.9		
Y-Coordinate	N501724.5	N501060.6	N501184.8		
Elevation (ft)	9.2	12.2	2.6		
a. Wet Unit Weight (lbs/cf)	107.2	113.2	118.1		
b. Dry Unit Weight (lbs/cf)	87.2	90.9	92.1		
c. Lab Moisture Content (%)	22.8	24.6	28.2		
d. Density Correction Factor					
e. Corrected Unit Weight (lbs/cf)					
f. Compaction Curve Control No.	2854-040	2854-040	2854-040		
g. Opt. Moisture (Control C) (%)	23.9	23.9	23.9		
h. Max. Dry Unit Weight (CC)(lbs/cf)	95.9	95.9	95.9		
i. Compaction Required (%)	90.0	90.0	90.0		
j. Degree of Compaction (%)	90.9	94.8	96.0		
k. Difference-Opt. Moisture (+/-%)	-1.1	0.7	4.3		

Test ID					
Retest of Test ID					
Station					
Offset					
Lift Number					
X-Coordinate					
Y-Coordinate					
Elevation (ft)					
a. Wet Unit Weight (lbs/cf)					
b. Dry Unit Weight (lbs/cf)					
c. Lab Moisture Content (%)					
d. Density Correction Factor					
e. Corrected Unit Weight (lbs/cf)					
f. Compaction Curve Control No.					
g. Opt. Moisture (Control C) (%)					
h. Max. Dry Unit Weight (CC)(lbs/cf)					
i. Compaction Required (%)					
j. Degree of Compaction (%)					
k. Difference-Opt. Moisture (+/-%)					

Remarks:

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory		**Lab Type**	QC	**Report No**	3829
USACE Contract No	W912P8-09-D-0046-0007	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-15a.2 Phase 2, First Lift			**Sample Date**	1/24/2011
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	26414
Density Standardization	1878	**Moisture Standardization**	717	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	1/24/2011 - 5:30 P.M.	**Oven Stop Time (Date Time)**	1/25/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	R. Fisher	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers
Test No	729	730			
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit			
Feature	Levee Embankment	Levee Embankment			
Visual Description	G. BR. CLAY	G. BR. CLAY			
Station	427+15	431+48			
Offset	P.S. -24.9	P.S. -16.3			
Lift No	8	8			
Latitude (°N)	29.870093	29.870083			
Longitude (°W)	90.191332	90.189963			
Elevation (ft)	8.5	9.0			
Transmission Mode	DT 300	DT 300			
Moisture Test (Oven) ASTM D 2216					
Tare No	DT01	DT25			
Wet Soil + Tare Mass (g)	395.24	392.51			
Dry Soil + Tare Mass (g)	348.16	353.56			
Tare Mass (g)	171.87	205.70			
Moisture Content (%)	**26.7**	**26.3**			
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	117.6	115.4			
Dry Unit Weight (lbs/ft³)	92.8	91.4			
Proctor No	2285-028	2285-028			
Optimum Moisture (Proctor) (%)	23.6	23.6			
Max Dry Unit Weight (Proctor) (lbs/ft³)	97.5	97.5			
Degree of Compaction (%)	**95.2**	**93.7**			
Difference from Optimum Moisture (+/-%)	**3.1**	**2.7**			
Test Status					
Min Compaction (%)	90.0	90.0			
Max Above Optimum Moisture (%)	5.0	5.0			
Max Below Optimum Moisture (%)	3.0	3.0			
Test Result	**Pass**	**Pass**			
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4506
USACE Contract No	W912P8-09-D-0046-0007	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-15a.2 Phase 2, First Lift			**Sample Date**	4/28/2011
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	26414
Density Standardization	1880	**Moisture Standardization**	715	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	4/28/2011 - 5:00 P.M.	**Oven Stop Time (Date Time)**	4/29/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	R. Fisher	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers
Test No	1014	1015			
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit			
Feature	Levee Embankment	Levee Embankment			
Visual Description	G. BR. CLAY	G. BR. CLAY			
Station	480+32	317+80			
Offset	P.S. -98.9	P.S. -0.8			
Lift No	6	8			
Latitude (°N)	29.870244	29.870457			
Longitude (°W)	90.176477	90.255799			
Elevation (ft)	-1.7	10.7			
Transmission Mode	DT 300	DT 300			
Moisture Test (Oven) ASTM D 2216					
Tare No	DT11	DT50			
Wet Soil + Tare Mass (g)	394.23	395.33			
Dry Soil + Tare Mass (g)	344.98	350.30			
Tare Mass (g)	180.96	180.76			
Moisture Content (%)	**30.0**	**26.6**			
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	112.1	112.9			
Dry Unit Weight (lbs/ft³)	86.2	89.2			
Proctor No	4506	2504-102			
Optimum Moisture (Proctor) (%)	29.3	28.8			
Max Dry Unit Weight (Proctor) (lbs/ft³)	89.1	88.7			
Degree of Compaction (%)	**96.7**	**100.6**			
Difference from Optimum Moisture (+/-%)	**0.7**	**-2.2**			
Test Status					
Min Compaction (%)	90.0	90.0			
Max Above Optimum Moisture (%)	5.0	5.0			
Max Below Optimum Moisture (%)	3.0	3.0			
Test Result	**Pass**	**Pass**			
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4517
USACE Contract No	W912P8-09-D-0046-0007	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-15a.2 Phase 2, First Lift			**Sample Date**	4/29/2011
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	26414
Density Standardization	1880	**Moisture Standardization**	709	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	4/29/2011 - 4:00 P.M.	**Oven Stop Time (Date Time)**	4/30/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	R. Fisher	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	1016	1017	1018	1019	1020
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G. BR. CLAY	G. BR. CLAY	G. BR. CLAY	G. BR. CLAY	G. BR. CLAY
Station	317+60	483+46	481+40	473+62	317+54
Offset	F.S. +3.8	P.S. -101.9	P.S. -137.0	P.S. -35.7	F.S. +3.2
Lift No	9	6	6	6	10
Latitude (°N)	29.870455	29.870393	29.870386	29.870045	29.870460
Longitude (°W)	90.225865	90.173661	90.174286	90.176676	90.225883
Elevation (ft)	12.0	0.8	-1.6	2.5	12.3
Transmission Mode	DT 300	DT 300	DT 300	DT 300	DT 150
Moisture Test (Oven) ASTM D 2216					
Tare No	DT08	DT30	DT50	DT11	DT41
Wet Soil + Tare Mass (g)	393.21	397.49	400.81	395.13	397.70
Dry Soil + Tare Mass (g)	347.06	356.55	350.68	342.77	348.51
Tare Mass (g)	187.46	203.36	180.76	180.97	177.96
Moisture Content (%)	**28.9**	**26.7**	**29.5**	**32.4**	**28.8**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	112.2	110.4	107.9	112.6	113.4
Dry Unit Weight (lbs/ft³)	87.0	87.1	83.3	85.0	88.0
Proctor No	2504-102	4506	4506	4506	2504-102
Optimum Moisture (Proctor) (%)	28.8	29.3	29.3	29.3	28.8
Max Dry Unit Weight (Proctor) (lbs/ft³)	88.7	89.1	89.1	89.1	88.7
Degree of Compaction (%)	**98.1**	**97.8**	**93.5**	**95.4**	**99.2**
Difference from Optimum Moisture (+/-%)	**0.1**	**-2.6**	**0.2**	**3.1**	**0.0**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4523
USACE Contract No	W912P8-09-D-0046-0007	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-15a.2 Phase 2, First Lift			**Sample Date**	4/30/2011
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	26414
Density Standardization	1893	**Moisture Standardization**	707	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	4/30/2011 - 5:00 P.M.	**Oven Stop Time (Date Time)**	5/1/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	R. Fisher	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	1021	1022	1023	1024	
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	
Visual Description	G. BR. CLAY	G. BR. CLAY	G. BR. CLAY	G. BR. CLAY	
Station	317+61	512+34	508+61	504+88	
Offset	F.S. +3.5	F.S. +53.5	F.S. +59.9	F.S. +65.6	
Lift No	11	2	2	2	
Latitude (°N)	29.870455	29.875817	29.874895	29.873973	
Longitude (°W)	90.225863	90.167727	90.168242	90.168771	
Elevation (ft)	12.8	5.9	6.0	5.7	
Transmission Mode	DT 150	DT 300	DT 300	DT 300	
Moisture Test (Oven) ASTM D 2216					
Tare No	DT04	DT45	DT21	DT01	
Wet Soil + Tare Mass (g)	400.26	395.26	399.34	394.10	
Dry Soil + Tare Mass (g)	367.67	337.69	349.96	335.97	
Tare Mass (g)	233.54	177.27	211.67	171.89	
Moisture Content (%)	**24.3**	**35.9**	**35.7**	**35.4**	
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	114.7	106.6	106.1	109.8	
Dry Unit Weight (lbs/ft³)	92.3	78.4	78.2	81.1	
Proctor No	2294-041	4506	4506	4506	
Optimum Moisture (Proctor) (%)	23.3	29.3	29.3	29.3	
Max Dry Unit Weight (Proctor) (lbs/ft³)	99.6	89.1	89.1	89.1	
Degree of Compaction (%)	**92.7**	**88.0**	**87.8**	**91.0**	
Difference from Optimum Moisture (+/-%)	**1.0**	**6.6**	**6.4**	**6.1**	
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	
Test Result	**Pass**	**Fail**	**Fail**	**Fail**	
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	2970
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	1
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	9/20/2010
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	26414
Transmission Mode	DT 150	**Density Standardization**	1888	**Moisture Standardization**	711
Oven Start Time (Date Time)	9/20/2010 - 7:00 P.M.	**Oven Stop Time (Date Time)**	9/21/2010 - 7:00 A.M.	**Oven Used**	21-350-ER
Field Tested By	Bryan Landers	**Lab Tested By**	Bryan Landers	**Reviewed By**	G. Lecoq
Submitted By	G. Lecoq				

Test No	66	67	68	69	70
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY
Station	119+47	119+42	120+97	128+75	110+84
Offset	C/L +3.7	P.S. -104	F.S. +20.5'	UNCOMPACTED FILL	P.S. -6'
Lift No	9	2	2		7
Latitude (°N)	29.872373	29.872668	29.872291		29.874182
Longitude (°W)	90.137265	90.137251	90.136797		90.138233
Elevation (ft)	13.5	3.7	5.6		9.8
Moisture Test (Oven) ASTM D 2216					
Tare No	DT47	DT43	DT45	DT49	DT44
Wet Soil + Tare Mass (g)	394.16	392.55	394.94	393.41	391.22
Dry Soil + Tare Mass (g)	356.64	351.04	350.60	345.75	348.56
Tare Mass (g)	178.18	179.93	177.37	176.41	176.01
Moisture Content (%)	**21.0**	**24.3**	**25.6**	**28.1**	**24.7**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	109.9	108.9	122.9		112.7
Dry Unit Weight (lbs/ft³)	90.8	87.6	97.9	0.0	90.4
Proctor No	2854-040	2854-040	2854-040		2854-040
Optimum Moisture (Proctor) (%)	23.9	23.9	23.9		23.9
Max Dry Unit Weight (Proctor) (lbs/ft³)	95.9	95.9	95.9		95.9
Degree of Compaction (%)	**94.7**	**91.3**	**102.1**		**94.3**
Difference from Optimum Moisture (+/-%)	**-2.9**	**0.4**	**1.7**		**0.8**
Test Status					
Min Compaction (%)	90.0	90.0	90.0		90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0		5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0		3.0
Test Result	**Pass**	**Pass**	**Pass**	**Info Only**	**Pass**
Remarks					
Version	**MVNQS10-100625**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	2970
USACE Contract No	W912P8-09-D-0046 0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	9/20/2010
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	26414
Transmission Mode	DT 150	**Density Standardization**	1888	**Moisture Standardization**	711
Oven Start Time (Date Time)	9/20/2010 - 7:00 P.M.	**Oven Stop Time (Date Time)**	9/21/2010 - 7:00 A.M.	**Oven Used**	21-350-ER
Field Tested By	Bryan Landers	**Lab Tested By**	Bryan Landers	**Reviewed By**	G. Lecoq
Submitted By	G. Lecoq				

Test No	66	67	68	69	70
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY
Station	119+47	119+42	120+97	128+75	110+84
Offset	C/L +3.7	P.S. -104	F.S. +20.5'	UNCOMPACTED FILL	P.S. -6'
Lift No	9	2	2		7
Latitude (°N)	29.940320	29.940615	29.940224		29.942158
Longitude (°W)	86.090660	86.090634	86.090195		86.091555
Elevation (ft)	13.5	3.7	5.6		9.8
Moisture Test (Oven) ASTM D 2216					
Tare No	DT47	DT43	DT45	DT49	DT44
Wet Soil + Tare Mass (g)	394.16	392.55	394.94	393.41	391.22
Dry Soil + Tare Mass (g)	356.64	351.04	350.60	345.75	348.56
Tare Mass (g)	178.18	179.93	177.37	176.41	176.01
Moisture Content (%)	**21.0**	**24.3**	**25.6**	**28.1**	**24.7**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	109.9	108.9	122.9		112.7
Dry Unit Weight (lbs/ft³)	90.8	87.6	97.9	0.0	90.4
Proctor No	2854-040	2854-040	2854-040		2854-040
Optimum Moisture (Proctor) (%)	23.9	23.9	23.9		23.9
Max Dry Unit Weight (Proctor) (lbs/ft³)	95.9	95.9	95.9		95.9
Degree of Compaction (%)	**94.7**	**91.3**	**102.1**		**94.3**
Difference from Optimum Moisture (+/-%)	**-2.9**	**0.4**	**1.7**		**0.8**
Test Status					
Min Compaction (%)	90.0	90.0	90.0		90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0		5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0		3.0
Test Result	**Pass**	**Pass**	**Pass**		**Pass**
Remarks					
Version	**MVNQS10-100625**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	2987
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	1
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	9/22/2010
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	33119
Transmission Mode	DT 150	**Density Standardization**	2303	**Moisture Standardization**	587
Oven Start Time (Date Time)	9/22/2010 - 7:00 P.M.	**Oven Stop Time (Date Time)**	9/22/2010 - 7:00 A.M.	**Oven Used**	21-350-ER
Field Tested By	RODNEY FISHER	**Lab Tested By**	RODNEY FISHER	**Reviewed By**	B. LANDERS
Submitted By	B. LANDERS				

Test No	71	72	73	74	75
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY
Station	111+17	119+60	119+92	110+91	119+20
Offset	F.S. +14'	C/L +3.2'	F.S. +133.9'	C/L +1.4	C/L +1.7
Lift No	8	10	3	9	11
Latitude (°N)	29.942087	29.940317	29.940678	29.942147	29.940333
Longitude (°W)	86.091644	86.090620	86.090468	86.091583	86.090745
Elevation (ft)	10.4	13.2	3.4	12.1	14.0
Moisture Test (Oven) ASTM D 2216					
Tare No	ML24	ML14	ML23	DT31	DT40
Wet Soil + Tare Mass (g)	492.10	440.80	495.10	394.67	391.16
Dry Soil + Tare Mass (g)	447.50	409.00	449.00	360.45	351.04
Tare Mass (g)	272.61	274.78	272.40	211.01	176.25
Moisture Content (%)	**25.5**	**23.7**	**26.1**	**22.9**	**23.0**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	113.6	121.4	118.8	111.4	116.7
Dry Unit Weight (lbs/ft³)	90.5	98.1	94.2	90.6	94.9
Proctor No	2854-040	2854-040	2854-040	2854-040	2854-040
Optimum Moisture (Proctor) (%)	23.9	23.9	23.9	23.9	23.9
Max Dry Unit Weight (Proctor) (lbs/ft³)	95.9	95.9	95.9	95.9	95.9
Degree of Compaction (%)	**94.4**	**102.3**	**98.2**	**94.5**	**99.0**
Difference from Optimum Moisture (+/-%)	**1.6**	**-0.2**	**2.2**	**-1.0**	**-0.9**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-100625**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	2987
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	2
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	9/22/2010
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	33119
Transmission Mode	DT 150	**Density Standardization**	2303	**Moisture Standardization**	587
Oven Start Time (Date Time)	9/22/2010 - 7:00 P.M.	**Oven Stop Time (Date Time)**	9/22/2010 - 7:00 A.M.	**Oven Used**	21-350-ER
Field Tested By	RODNEY FISHER	**Lab Tested By**	RODNEY FISHER	**Reviewed By**	B. LANDERS
Submitted By	B. LANDERS				

Test No	71	72	73	74	75
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY
Station	111+17	119+60	119+92	110+91	119+20
Offset	F.S. +14'	C/L +3.2'	F.S. +133.9'	C/L +1.4	C/L +1.7
Lift No	8	10	3	9	11
Latitude (°N)	29.874108	29.872371	29.872736	29.974170	29.872384
Longitude (°W)	90.138319	90.137225	90.137087	90.138260	90.137350
Elevation (ft)	10.4	13.2	3.4	12.1	14.0
Moisture Test (Oven) ASTM D 2216					
Tare No	ML24	ML14	ML23	DT31	DT40
Wet Soil + Tare Mass (g)	492.10	440.80	495.10	394.67	391.16
Dry Soil + Tare Mass (g)	447.50	409.00	449.00	360.45	351.04
Tare Mass (g)	272.61	274.78	272.40	211.01	176.25
Moisture Content (%)	**25.5**	**23.7**	**26.1**	**22.9**	**23.0**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	113.6	121.4	118.8	111.4	116.7
Dry Unit Weight (lbs/ft³)	90.5	98.1	94.2	90.6	94.9
Proctor No	2854-040	2854-040	2854-040	2854-040	2854-040
Optimum Moisture (Proctor) (%)	23.9	23.9	23.9	23.9	23.9
Max Dry Unit Weight (Proctor) (lbs/ft³)	95.9	95.9	95.9	95.9	95.9
Degree of Compaction (%)	**94.4**	**102.3**	**98.2**	**94.5**	**99.0**
Difference from Optimum Moisture (+/-%)	**1.6**	**-0.2**	**2.2**	**-1.0**	**-0.9**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-100625**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	2987
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	1
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	9/22/2010
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	33119
Transmission Mode	DT 150	**Density Standardization**	2303	**Moisture Standardization**	587
Oven Start Time (Date Time)	9/22/2010 - 7:00 P.M.	**Oven Stop Time (Date Time)**	9/22/2010 - 7:00 A.M.	**Oven Used**	21-350-ER
Field Tested By	RODNEY FISHER	**Lab Tested By**	RODNEY FISHER	**Reviewed By**	B. LANDERS
Submitted By	B. LANDERS				
Test No	76	77	78		
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit		
Feature	Levee Embankment	Levee Embankment	Levee Embankment		
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY		
Station	125+02	129+99	110+95		
Offset	F.S. +43.0	F.S. +28'	C/L +4.5		
Lift No	2	2	10		
Latitude (°N)	26.940029	29.939903	29.942135		
Longitude (°W)	86.088935	86.087373	86.091598		
Elevation (ft)	4.6	5.2	13.0		
Moisture Test (Oven) ASTM D 2216					
Tare No	DT48	DT30	DT51		
Wet Soil + Tare Mass (g)	395.93	398.53	395.55		
Dry Soil + Tare Mass (g)	352.15	356.06	351.23		
Tare Mass (g)	183.50	203.36	140.14		
Moisture Content (%)	**26.0**	**27.8**	**21.0**		
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	117.5	121.7	116.1		
Dry Unit Weight (lbs/ft³)	93.3	95.2	96.0		
Proctor No	2854-040	2854-040	2854-040		
Optimum Moisture (Proctor) (%)	23.9	23.9	23.9		
Max Dry Unit Weight (Proctor) (lbs/ft³)	95.9	95.9	95.9		
Degree of Compaction (%)	**97.3**	**99.3**	**100.1**		
Difference from Optimum Moisture (+/-%)	**2.1**	**3.9**	**-2.9**		
Test Status					
Min Compaction (%)	90.0	90.0	90.0		
Max Above Optimum Moisture (%)	5.0	5.0	5.0		
Max Below Optimum Moisture (%)	3.0	3.0	3.0		
Test Result	**Pass**	**Pass**	**Pass**		
Remarks					
Version	**MVNQS10-100625**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	2987
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	2
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	9/22/2010
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	33119
Transmission Mode	DT 150	**Density Standardization**	2303	**Moisture Standardization**	587
Oven Start Time (Date Time)	9/22/2010 - 7:00 P.M.	**Oven Stop Time (Date Time)**	9/22/2010 - 7:00 A.M.	**Oven Used**	21-350-ER
Field Tested By	RODNEY FISHER	**Lab Tested By**	RODNEY FISHER	**Reviewed By**	B. LANDERS
Submitted By	B. LANDERS				
Test No	76	77	78		
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit		
Feature	Levee Embankment	Levee Embankment	Levee Embankment		
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY		
Station	125+02	129+99	110+95		
Offset	F.S. +43.0	F.S. +28'	C/L +4.5		
Lift No	2	2	10		
Latitude (°N)	29.872135	29.872057	29.874158		
Longitude (°W)	90.135531	90.133965	90.138275		
Elevation (ft)	4.6	5.2	13.0		
Moisture Test (Oven) ASTM D 2216					
Tare No	DT48	DT30	DT51		
Wet Soil + Tare Mass (g)	395.93	398.53	395.55		
Dry Soil + Tare Mass (g)	352.15	356.06	351.23		
Tare Mass (g)	183.50	203.36	140.14		
Moisture Content (%)	**26.0**	**27.8**	**21.0**		
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	117.5	121.7	116.1		
Dry Unit Weight (lbs/ft³)	93.3	95.2	96.0		
Proctor No	2854-040	2854-040	2854-040		
Optimum Moisture (Proctor) (%)	23.9	23.9	23.9		
Max Dry Unit Weight (Proctor) (lbs/ft³)	95.9	95.9	95.9		
Degree of Compaction (%)	**97.3**	**99.3**	**100.1**		
Difference from Optimum Moisture (+/-%)	**2.1**	**3.9**	**-2.9**		
Test Status					
Min Compaction (%)	90.0	90.0	90.0		
Max Above Optimum Moisture (%)	5.0	5.0	5.0		
Max Below Optimum Moisture (%)	3.0	3.0	3.0		
Test Result	**Pass**	**Pass**	**Pass**		
Remarks					
Version	**MVNQS10-100625**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	2987
USACE Contract No	W912P8-09-D-0046 0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	9/22/2010
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	33119
Transmission Mode	DT 150	**Density Standardization**	2303	**Moisture Standardization**	587
Oven Start Time (Date Time)	9/22/2010 - 7:00 P.M.	**Oven Stop Time (Date Time)**	9/22/2010 - 7:00 A.M.	**Oven Used**	21-350-ER
Field Tested By	RODNEY FISHER	**Lab Tested By**	RODNEY FISHER	**Reviewed By**	B. LANDERS
Submitted By	B. LANDERS				
Test No	76	77	78		
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit		
Feature	Levee Embankment	Levee Embankment	Levee Embankment		
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY		
Station	125+02	129+99	110+95		
Offset	F.S. +43.0	F.S. +28'	C/L +4.5		
Lift No	2	2	10		
Latitude (°N)	26.940029	29.939903	29.942135		
Longitude (°W)	86.088935	86.087373	86.091598		
Elevation (ft)	4.6	5.2	13.0		
Moisture Test (Oven) ASTM D 2216					
Tare No	DT48	DT30	DT51		
Wet Soil + Tare Mass (g)	395.93	398.53	395.55		
Dry Soil + Tare Mass (g)	352.15	356.06	351.23		
Tare Mass (g)	183.50	203.36	140.14		
Moisture Content (%)	**26.0**	**27.8**	**21.0**		
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	117.5	121.7	116.1		
Dry Unit Weight (lbs/ft³)	93.3	95.2	96.0		
Proctor No	2854-040	2854-040	2854-040		
Optimum Moisture (Proctor) (%)	23.9	23.9	23.9		
Max Dry Unit Weight (Proctor) (lbs/ft³)	95.9	95.9	95.9		
Degree of Compaction (%)	**97.3**	**99.3**	**100.1**		
Difference from Optimum Moisture (+/-%)	**2.1**	**3.9**	**-2.9**		
Test Status					
Min Compaction (%)	90.0	90.0	90.0		
Max Above Optimum Moisture (%)	5.0	5.0	5.0		
Max Below Optimum Moisture (%)	3.0	3.0	3.0		
Test Result	**Pass**	**Pass**	**Pass**		
Remarks					
Version	**MVNQS10-100625**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	3002
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	1
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	9/23/2010
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	26414
Transmission Mode	DT 150	**Density Standardization**	1886	**Moisture Standardization**	708
Oven Start Time (Date Time)	9/23/2010 - 8:00 P.M.	**Oven Stop Time (Date Time)**	9/24/2010 - 8:00 A.M.	**Oven Used**	21-350-ER
Field Tested By	TREVOR MCCLAIN	**Lab Tested By**	RODNEY FISHER	**Reviewed By**	B. LANDERS
Submitted By	B. LANDERS				

Test No	79	80	81	82	83
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY
Station	110+56	107+05	103+06	135+97	140+02
Offset	C/L	F.S. +8.8	C/L +2.5	F.S. +22'	F.S. +26.5
Lift No	11	1	1	2	2
Latitude (°N)	29.942234	29.943171	29.944216	29.939724	29.939578
Longitude (°W)	86.091552	86.091264	86.090892	86.085496	86.084229
Elevation (ft)	3.6	5.0	5.8	5.3	4.7
Moisture Test (Oven) ASTM D 2216					
Tare No	DT14	DT20	DT04	DT25	DT46
Wet Soil + Tare Mass (g)	390.70	390.63	399.87	398.23	396.00
Dry Soil + Tare Mass (g)	364.85	348.97	362.74	359.03	357.05
Tare Mass (g)	245.08	212.67	233.44	205.71	177.89
Moisture Content (%)	**21.6**	**30.6**	**28.7**	**25.6**	**21.7**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	116.1	113.0	104.1	118.2	110.3
Dry Unit Weight (lbs/ft³)	95.5	86.5	80.9	94.1	90.6
Proctor No	2854-040	2854-040	2854-040	2854-040	2854-040
Optimum Moisture (Proctor) (%)	23.9	23.9	23.9	23.9	23.9
Max Dry Unit Weight (Proctor) (lbs/ft³)	95.9	95.9	95.9	95.9	95.9
Degree of Compaction (%)	**99.6**	**90.2**	**84.4**	**98.1**	**94.5**
Difference from Optimum Moisture (+/-%)	**-2.3**	**6.7**	**4.8**	**1.7**	**-2.2**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Fail**	**Fail**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-100625**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	3002
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	2
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	9/23/2010
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	26414
Transmission Mode	DT 150	**Density Standardization**	1886	**Moisture Standardization**	708
Oven Start Time (Date Time)	9/23/2010 - 8:00 P.M.	**Oven Stop Time (Date Time)**	9/24/2010 - 8:00 A.M.	**Oven Used**	21-350-ER
Field Tested By	TREVOR MCCLAIN	**Lab Tested By**	RODNEY FISHER	**Reviewed By**	B. LANDERS
Submitted By	B. LANDERS				

Test No	79	80	81	82	83
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY
Station	110+56	107+05	103+06	135+97	140+02
Offset	C/L	F.S. +8.8	C/L +2.5	F.S. +22'	F.S. +26.5
Lift No	11	1	1	2	2
Latitude (°N)	29.874259	29.875204	29.876259	29.871936	90.130812
Longitude (°W)	90.138233	90.137983	90.137654	90.132084	29.871829
Elevation (ft)	3.6	5.0	5.8	5.3	4.7
Moisture Test (Oven) ASTM D 2216					
Tare No	DT14	DT20	DT04	DT25	DT46
Wet Soil + Tare Mass (g)	390.70	390.63	399.87	398.23	396.00
Dry Soil + Tare Mass (g)	364.85	348.97	362.74	359.03	357.05
Tare Mass (g)	245.08	212.67	233.44	205.71	177.89
Moisture Content (%)	**21.6**	**30.6**	**28.7**	**25.6**	**21.7**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	116.1	113.0	104.1	118.2	110.3
Dry Unit Weight (lbs/ft³)	95.5	86.5	80.9	94.1	90.6
Proctor No	2854-040	2854-040	2854-040	2854-040	2854-040
Optimum Moisture (Proctor) (%)	23.9	23.9	23.9	23.9	23.9
Max Dry Unit Weight (Proctor) (lbs/ft³)	95.9	95.9	95.9	95.9	95.9
Degree of Compaction (%)	**99.6**	**90.2**	**84.4**	**98.1**	**94.5**
Difference from Optimum Moisture (+/-%)	**-2.3**	**6.7**	**4.8**	**1.7**	**-2.2**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Fail**	**Fail**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-100625**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	3002
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	1
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	9/23/2010
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	26414
Transmission Mode	DT 150	**Density Standardization**	1886	**Moisture Standardization**	708
Oven Start Time (Date Time)	9/23/2010 - 8:00 P.M.	**Oven Stop Time (Date Time)**	9/24/2010 - 8:00 A.M.	**Oven Used**	21-350-ER
Field Tested By	TREVOR MCCLAIN	**Lab Tested By**	RODNEY FISHER	**Reviewed By**	B. LANDERS
Submitted By	B. LANDERS				
Test No	84	85	86		
Retest of Test ID			3002 80		
Material Source	Borrow Pit	Borrow Pit	Borrow Pit		
Feature	Levee Embankment	Levee Embankment	Levee Embankment		
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY		
Station	110+94	110+93	107+05		
Offset	F.S. +89'	F.S +4.6	F.S. +8.8		
Lift No	3	12	1		
Latitude (°N)	29.942206	29.942142	29.943171		
Longitude (°W)	86.091851	86.091595	86.091263		
Elevation (ft)	4.9	14.0	5.0		
Moisture Test (Oven) ASTM D 2216					
Tare No	DT27	DT50	DT21		
Wet Soil + Tare Mass (g)	396.12	391.41	394.04		
Dry Soil + Tare Mass (g)	361.33	352.72	352.59		
Tare Mass (g)	209.55	180.72	211.62		
Moisture Content (%)	**22.9**	**22.5**	**29.4**		
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	107.5	117.9	112.6		
Dry Unit Weight (lbs/ft³)	87.5	96.2	87.0		
Proctor No	2854-040	2854-040	2854-040		
Optimum Moisture (Proctor) (%)	23.9	23.9	23.9		
Max Dry Unit Weight (Proctor) (lbs/ft³)	95.9	95.9	95.9		
Degree of Compaction (%)	**91.2**	**100.3**	**90.7**		
Difference from Optimum Moisture (+/-%)	**-1.0**	**-1.4**	**5.5**		
Test Status					
Min Compaction (%)	90.0	90.0	90.0		
Max Above Optimum Moisture (%)	5.0	5.0	5.0		
Max Below Optimum Moisture (%)	3.0	3.0	3.0		
Test Result	**Pass**	**Pass**	**Fail**		
Remarks					
Version	**MVNQS10-100625**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	3002
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	2
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	9/23/2010
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	26414
Transmission Mode	DT 150	**Density Standardization**	1886	**Moisture Standardization**	708
Oven Start Time (Date Time)	9/23/2010 - 8:00 P.M.	**Oven Stop Time (Date Time)**	9/24/2010 - 8:00 A.M.	**Oven Used**	21-350-ER
Field Tested By	TREVOR MCCLAIN	**Lab Tested By**	RODNEY FISHER	**Reviewed By**	B. LANDERS
Submitted By	B. LANDERS				
Test No	84	85	86		
Retest of Test ID			3002 80		
Material Source	Borrow Pit	Borrow Pit	Borrow Pit		
Feature	Levee Embankment	Levee Embankment	Levee Embankment		
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY		
Station	110+94	110+93	107+05		
Offset	F.S. +89'	F.S +4.6	F.S. +8.8		
Lift No	3	12	1		
Latitude (°N)	29.874221	29.874165	29.875204		
Longitude (°W)	90.138531	90.138272	90.137983		
Elevation (ft)	4.9	14.0	5.0		
Moisture Test (Oven) ASTM D 2216					
Tare No	DT27	DT50	DT21		
Wet Soil + Tare Mass (g)	396.12	391.41	394.04		
Dry Soil + Tare Mass (g)	361.33	352.72	352.59		
Tare Mass (g)	209.55	180.72	211.62		
Moisture Content (%)	**22.9**	**22.5**	**29.4**		
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	107.5	117.9	112.6		
Dry Unit Weight (lbs/ft³)	87.5	96.2	87.0		
Proctor No	2854-040	2854-040	2854-040		
Optimum Moisture (Proctor) (%)	23.9	23.9	23.9		
Max Dry Unit Weight (Proctor) (lbs/ft³)	95.9	95.9	95.9		
Degree of Compaction (%)	**91.2**	**100.3**	**90.7**		
Difference from Optimum Moisture (+/-%)	**-1.0**	**-1.4**	**5.5**		
Test Status					
Min Compaction (%)	90.0	90.0	90.0		
Max Above Optimum Moisture (%)	5.0	5.0	5.0		
Max Below Optimum Moisture (%)	3.0	3.0	3.0		
Test Result	**Pass**	**Pass**	**Fail**		
Remarks					
Version	**MVNQS10-100625**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	3002
USACE Contract No	W912P8-09-D-0046 0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	9/23/2010
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	26414
Transmission Mode	DT 150	**Density Standardization**	1886	**Moisture Standardization**	708
Oven Start Time (Date Time)	9/23/2010 - 8:00 P.M.	**Oven Stop Time (Date Time)**	9/24/2010 - 8:00 A.M.	**Oven Used**	21-350-ER
Field Tested By	TREVOR MCCLAIN	**Lab Tested By**	RODNEY FISHER	**Reviewed By**	B. LANDERS
Submitted By	B. LANDERS				

Test No	84	85	86		
Retest of Test ID			80		
Material Source	Borrow Pit	Borrow Pit	Borrow Pit		
Feature	Levee Embankment	Levee Embankment	Levee Embankment		
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY		
Station	110+94	110+93	107+05		
Offset	F.S. +89'	F.S +4.6	F.S. +8.8		
Lift No	3	12	1		
Latitude (°N)	29.942206	29.942142	29.943171		
Longitude (°W)	86.091851	86.091595	86.091263		
Elevation (ft)	4.9	14.0	5.0		
Moisture Test (Oven) ASTM D 2216					
Tare No	DT27	DT50	DT21		
Wet Soil + Tare Mass (g)	396.12	391.41	394.04		
Dry Soil + Tare Mass (g)	361.33	352.72	352.59		
Tare Mass (g)	209.55	180.72	211.62		
Moisture Content (%)	**22.9**	**22.5**	**29.4**		
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	107.5	117.9	112.6		
Dry Unit Weight (lbs/ft³)	87.5	96.2	87.0		
Proctor No	2854-040	2854-040	2854-040		
Optimum Moisture (Proctor) (%)	23.9	23.9	23.9		
Max Dry Unit Weight (Proctor) (lbs/ft³)	95.9	95.9	95.9		
Degree of Compaction (%)	**91.2**	**100.3**	**90.7**		
Difference from Optimum Moisture (+/-%)	**-1.0**	**-1.4**	**5.5**		
Test Status					
Min Compaction (%)	90.0	90.0	90.0		
Max Above Optimum Moisture (%)	5.0	5.0	5.0		
Max Below Optimum Moisture (%)	3.0	3.0	3.0		
Test Result	**Pass**	**Pass**	**Fail**		
Remarks					
Version	**MVNQS10-100625**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	3028
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	1
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	9/28/2010
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	26414
Transmission Mode	DT 150	**Density Standardization**	2291	**Moisture Standardization**	581
Oven Start Time (Date Time)	9/28/2010 - 5:00 P.M.	**Oven Stop Time (Date Time)**	9/29/2010 - 7:00 A.M.	**Oven Used**	21-350-ER
Field Tested By	TREVOR MCCLAIN	**Lab Tested By**	RODNEY FISHER	**Reviewed By**	B. LANDERS
Submitted By	B. LANDERS				

Test No	87	88	89	90	91
Retest of Test ID	3002-86				
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY
Station	107+05	97+57	143+97	149+98	133+00
Offset	F.S. +8.8	F.S. +14.0	F.S. +8.3	F.S. +31.9	UNCOMPACTED FILL
Lift No	1	1	1	2	
Latitude (°N)	29.875204	29.877729	29.871790	29.871599	
Longitude (°W)	90.137983	90.137246	90.129564	90.127678	
Elevation (ft)	5.0	4.6	5.4	4.9	
Moisture Test (Oven) ASTM D 2216					
Tare No	DT11	DT45	DT46	DT48	DT04
Wet Soil + Tare Mass (g)	387.34	382.82	364.24	375.25	393.88
Dry Soil + Tare Mass (g)	345.79	347.02	323.49	334.13	351.25
Tare Mass (g)	180.97	177.21	177.88	183.50	233.45
Moisture Content (%)	**25.2**	**21.1**	**28.0**	**27.3**	**36.2**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	114.4	115.1	119.0	118.2	
Dry Unit Weight (lbs/ft³)	91.4	95.0	93.0	92.9	0.0
Proctor No	2854-040	2854-040	2854-040	2854-040	
Optimum Moisture (Proctor) (%)	23.9	23.9	23.9	23.9	
Max Dry Unit Weight (Proctor) (lbs/ft³)	95.9	95.9	95.9	95.9	
Degree of Compaction (%)	**95.3**	**99.1**	**97.0**	**96.9**	
Difference from Optimum Moisture (+/-%)	**1.3**	**-2.8**	**4.1**	**3.4**	
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Info Only**
Remarks					
Version	**MVNQS10-100625**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	3028
USACE Contract No	W912P8-09-D-0046 0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	9/28/2010
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	26414
Transmission Mode	DT 150	**Density Standardization**	2291	**Moisture Standardization**	581
Oven Start Time (Date Time)	9/28/2010 - 5:00 P.M.	**Oven Stop Time (Date Time)**	9/29/2010 - 7:00 A.M.	**Oven Used**	21-350-ER
Field Tested By	TREVOR MCCLAIN	**Lab Tested By**	RODNEY FISHER	**Reviewed By**	B. LANDERS
Submitted By	B. LANDERS				

Test No	87	88	89	90	91
Retest of Test ID	80				
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY
Station	107+05	97+57	143+97	149+98	133+00
Offset	F.S. +8.8	F.S. +14.0	F.S. +8.3	F.S. +31.9	UNCOMPACTED FILL
Lift No	1	1	1	2	
Latitude (°N)	29.943171	29.945672	29.939500	29.939251	
Longitude (°W)	86.091263	86.090424	86.082982	86.081104	
Elevation (ft)	5.0	4.6	5.4	4.9	
Moisture Test (Oven) ASTM D 2216					
Tare No	DT11	DT45	DT46	DT48	DT04
Wet Soil + Tare Mass (g)	387.34	382.82	364.24	375.25	393.88
Dry Soil + Tare Mass (g)	345.79	347.02	323.49	334.13	351.25
Tare Mass (g)	180.97	177.21	177.88	183.50	233.45
Moisture Content (%)	**25.2**	**21.1**	**28.0**	**27.3**	**36.2**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	114.4	115.1	119.0	118.2	
Dry Unit Weight (lbs/ft³)	91.4	95.0	93.0	92.9	0.0
Proctor No	2854-040	2854-040	2854-040	2854-040	
Optimum Moisture (Proctor) (%)	23.9	23.9	23.9	23.9	
Max Dry Unit Weight (Proctor) (lbs/ft³)	95.9	95.9	95.9	95.9	
Degree of Compaction (%)	**95.3**	**99.1**	**97.0**	**96.9**	
Difference from Optimum Moisture (+/-%)	**1.3**	**-2.8**	**4.1**	**3.4**	
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Info Only**
Remarks					
Version	**MVNQS10-100625**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	3034
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	2
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	9/29/2010
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	26414
Transmission Mode	DT 150	**Density Standardization**	1882	**Moisture Standardization**	722
Oven Start Time (Date Time)	9/29/2010 - 6:00 P.M.	**Oven Stop Time (Date Time)**	9/30/2010 - 7:00 A.M.	**Oven Used**	21-350-ER
Field Tested By	TREVOR MCCLAIN	**Lab Tested By**	RODNEY FISHER	**Reviewed By**	B. LANDERS
Submitted By	B. LANDERS				
Test No	93	94	95		
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit		
Feature	Levee Embankment	Levee Embankment	Levee Embankment		
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY		
Station	121+92	126+23	128+03		
Offset	F.S. +78'	F.S. +78'	F.S. +76.8		
Lift No	1	1	1		
Latitude (°N)	29.872112	29.872011	29.871972		
Longitude (°W)	90.136514	90.135161	90.134593		
Elevation (ft)	4.7	4.1	4.3		
Moisture Test (Oven) ASTM D 2216					
Tare No	DT30	DT48	DT46		
Wet Soil + Tare Mass (g)	392.68	392.25	396.29		
Dry Soil + Tare Mass (g)	358.77	352.51	348.56		
Tare Mass (g)	203.32	183.47	177.83		
Moisture Content (%)	**21.8**	**23.5**	**28.0**		
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	114.1	117.6	118.8		
Dry Unit Weight (lbs/ft³)	93.7	95.2	92.8		
Proctor No	2854-040	2854-040	2854-040		
Optimum Moisture (Proctor) (%)	23.9	23.9	23.9		
Max Dry Unit Weight (Proctor) (lbs/ft³)	95.9	95.9	95.9		
Degree of Compaction (%)	**97.7**	**99.3**	**96.8**		
Difference from Optimum Moisture (+/-%)	**-2.1**	**-0.4**	**4.1**		
Test Status					
Min Compaction (%)	90.0	90.0	90.0		
Max Above Optimum Moisture (%)	5.0	5.0	5.0		
Max Below Optimum Moisture (%)	3.0	3.0	3.0		
Test Result	**Pass**	**Pass**	**Pass**		
Remarks					
Version	**MVNQS10-100625**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	3034
USACE Contract No	W912P8-09-D-0046 0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	9/29/2010
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	26414
Transmission Mode	DT 150	**Density Standardization**	1882	**Moisture Standardization**	722
Oven Start Time (Date Time)	9/29/2010 - 6:00 P.M.	**Oven Stop Time (Date Time)**	9/30/2010 - 7:00 A.M.	**Oven Used**	21-350-ER
Field Tested By	TREVOR MCCLAIN	**Lab Tested By**	RODNEY FISHER	**Reviewed By**	B. LANDERS
Submitted By	B. LANDERS				
Test No	93	94	95		
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit		
Feature	Levee Embankment	Levee Embankment	Levee Embankment		
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY		
Station	121+92	122+23	128+03		
Offset	F.S. +78'	F.S. +78'	F.S. +76.8		
Lift No	1	1	1		
Latitude (°N)	29.940035	29.939893	29.939837		
Longitude (°W)	86.089919	86.088571	86.088004		
Elevation (ft)	4.7	4.1	4.3		
Moisture Test (Oven) ASTM D 2216					
Tare No	DT30	DT48	DT46		
Wet Soil + Tare Mass (g)	392.68	392.25	396.29		
Dry Soil + Tare Mass (g)	358.77	352.51	348.56		
Tare Mass (g)	203.32	183.47	177.83		
Moisture Content (%)	**21.8**	**23.5**	**28.0**		
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	114.1	117.6	118.8		
Dry Unit Weight (lbs/ft³)	93.7	95.2	92.8		
Proctor No	2854-040	2854-040	2854-040		
Optimum Moisture (Proctor) (%)	23.9	23.9	23.9		
Max Dry Unit Weight (Proctor) (lbs/ft³)	95.9	95.9	95.9		
Degree of Compaction (%)	**97.7**	**99.3**	**96.8**		
Difference from Optimum Moisture (+/-%)	**-2.1**	**-0.4**	**4.1**		
Test Status					
Min Compaction (%)	90.0	90.0	90.0		
Max Above Optimum Moisture (%)	5.0	5.0	5.0		
Max Below Optimum Moisture (%)	3.0	3.0	3.0		
Test Result	**Pass**	**Pass**	**Pass**		
Remarks					
Version	**MVNQS10-100625**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	3059
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	1
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	9/30/2010
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	26414
Transmission Mode	DT 150	**Density Standardization**	1911	**Moisture Standardization**	717
Oven Start Time (Date Time)	9/30/2010 - 3:00 P.M.	**Oven Stop Time (Date Time)**	10/1/2010 - 7:00 A.M.	**Oven Used**	21-350-ER
Field Tested By	TREVOR MCCLAIN	**Lab Tested By**	RODNEY FISHER	**Reviewed By**	B. LANDERS
Submitted By	B. LANDERS				

Test No	96	97	98	99	
Retest of Test ID		81			
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-Br Clay	
Station	93+17	103+06	154+88	138+00	
Offset	F.S. +15.6'	C/L +2.5	F.S. +37'	UNCOMPACTED FILL	
Lift No	1	1	2		
Latitude (°N)	29.878890	29.876259	29.871480		
Longitude (°W)	90.136856	90.137654	90.126138		
Elevation (ft)	4.5	5.8	5.5		
Moisture Test (Oven) ASTM D 2216					
Tare No	DT27	DT42	DT21	DT47	
Wet Soil + Tare Mass (g)	392.02	393.10	398.40	391.82	
Dry Soil + Tare Mass (g)	359.39	345.58	363.89	332.82	
Tare Mass (g)	209.56	178.17	211.59	178.14	
Moisture Content (%)	**21.8**	**28.4**	**22.7**	**38.1**	
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	117.0	108.4	112.3		
Dry Unit Weight (lbs/ft³)	96.1	84.4	91.5	0.0	
Proctor No	2854-040	2854-040	2854-040		
Optimum Moisture (Proctor) (%)	23.9	23.9	23.9		
Max Dry Unit Weight (Proctor) (lbs/ft³)	95.9	95.9	95.9		
Degree of Compaction (%)	**100.2**	**88.0**	**95.4**		
Difference from Optimum Moisture (+/-%)	**-2.1**	**4.5**	**-1.2**		
Test Status					
Min Compaction (%)	90.0	90.0	90.0		
Max Above Optimum Moisture (%)	5.0	5.0	5.0		
Max Below Optimum Moisture (%)	3.0	3.0	3.0		
Test Result	**Pass**	**Fail**	**Pass**	**Info Only**	
Remarks					
Version	**MVNQS10-100625**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	3059
USACE Contract No	W912P8-09-D-0046 0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	9/30/2010
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	26414
Transmission Mode	DT 150	**Density Standardization**	1911	**Moisture Standardization**	717
Oven Start Time (Date Time)	9/30/2010 - 3:00 P.M.	**Oven Stop Time (Date Time)**	10/1/2010 - 7:00 A.M.	**Oven Used**	21-350-ER
Field Tested By	TREVOR MCCLAIN	**Lab Tested By**	RODNEY FISHER	**Reviewed By**	B. LANDERS
Submitted By	B. LANDERS				

Test No	96	97	98	99	
Retest of Test ID		81			
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-Br Clay	
Station	93+17	103+06	154+88	138+00	
Offset	F.S. +15.6'	C/L +2.5	F.S. +37'	UNCOMPACTED FILL	
Lift No	1	1	2		
Latitude (°N)	29.946820	29.944215	29.939085		
Longitude (°W)	86.089986	86.090891	86.079568		
Elevation (ft)	4.5	5.8	5.5		
Moisture Test (Oven) ASTM D 2216					
Tare No	DT27	DT42	DT21	DT47	
Wet Soil + Tare Mass (g)	392.02	393.10	398.40	391.82	
Dry Soil + Tare Mass (g)	359.39	345.58	363.89	332.82	
Tare Mass (g)	209.56	178.17	211.59	178.14	
Moisture Content (%)	**21.8**	**28.4**	**22.7**	**38.1**	
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	117.0	108.4	112.3		
Dry Unit Weight (lbs/ft³)	96.1	84.4	91.5	0.0	
Proctor No	2854-040	2854-040	2854-040		
Optimum Moisture (Proctor) (%)	23.9	23.9	23.9		
Max Dry Unit Weight (Proctor) (lbs/ft³)	95.9	95.9	95.9		
Degree of Compaction (%)	**100.2**	**88.0**	**95.4**		
Difference from Optimum Moisture (+/-%)	**-2.1**	**4.5**	**-1.2**		
Test Status					
Min Compaction (%)	90.0	90.0	90.0		
Max Above Optimum Moisture (%)	5.0	5.0	5.0		
Max Below Optimum Moisture (%)	3.0	3.0	3.0		
Test Result	**Pass**	**Fail**	**Pass**	**Info Only**	
Remarks					
Version	**MVNQS10-100625**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	3066
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	1
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	10/1/2010
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	26414
Transmission Mode	DT 150	**Density Standardization**	1896	**Moisture Standardization**	716
Oven Start Time (Date Time)	10/1/2010 - 3:00 P.M.	**Oven Stop Time (Date Time)**	10/2/2010 - 7:00 A.M.	**Oven Used**	21-350-ER
Field Tested By	TREVOR MCCLAIN	**Lab Tested By**	RODNEY FISHER	**Reviewed By**	B. LANDERS
Submitted By	B. LANDERS				
Test No	100	101			
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit			
Feature	Levee Embankment	Levee Embankment			
Visual Description	G-BR CLAY	G-BR CLAY			
Station	121+99	107+97			
Offset	F.S. +42.5	UNCOMPACTED FILL			
Lift No	3				
Latitude (°N)	29.872207				
Longitude (°W)	90.136483				
Elevation (ft)	6.7				
Moisture Test (Oven) ASTM D 2216					
Tare No	DT11	DT40			
Wet Soil + Tare Mass (g)	393.06	396.18			
Dry Soil + Tare Mass (g)	350.13	334.77			
Tare Mass (g)	180.96	176.28			
Moisture Content (%)	**25.4**	**38.7**			
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	117.3				
Dry Unit Weight (lbs/ft³)	93.5	0.0			
Proctor No	2854-040				
Optimum Moisture (Proctor) (%)	23.9				
Max Dry Unit Weight (Proctor) (lbs/ft³)	95.9				
Degree of Compaction (%)	**97.5**				
Difference from Optimum Moisture (+/-%)	**1.5**				
Test Status					
Min Compaction (%)	90.0				
Max Above Optimum Moisture (%)	5.0				
Max Below Optimum Moisture (%)	3.0				
Test Result	**Pass**	**Info Only**			
Remarks					
Version	**MVNQS10-100625**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	3066
USACE Contract No	W912P8-09-D-0046 0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	10/1/2010
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	26414
Transmission Mode	DT 150	**Density Standardization**	1896	**Moisture Standardization**	716
Oven Start Time (Date Time)	10/1/2010 - 3:00 P.M.	**Oven Stop Time (Date Time)**	10/2/2010 - 7:00 A.M.	**Oven Used**	21-350-ER
Field Tested By	TREVOR MCCLAIN	**Lab Tested By**	RODNEY FISHER	**Reviewed By**	B. LANDERS
Submitted By	B. LANDERS				
Test No	100	101			
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit			
Feature	Levee Embankment	Levee Embankment			
Visual Description	G-BR CLAY	G-BR CLAY			
Station	121+99	107+97			
Offset	F.S. +42.5	UNCOMPACTED FILL			
Lift No	3				
Latitude (°N)	29.940130				
Longitude (°W)	86.089884				
Elevation (ft)	6.7				
Moisture Test (Oven) ASTM D 2216					
Tare No	DT11	DT40			
Wet Soil + Tare Mass (g)	393.06	396.18			
Dry Soil + Tare Mass (g)	350.13	334.77			
Tare Mass (g)	180.96	176.28			
Moisture Content (%)	**25.4**	**38.7**			
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	117.3				
Dry Unit Weight (lbs/ft³)	93.5	0.0			
Proctor No	2854-040				
Optimum Moisture (Proctor) (%)	23.9				
Max Dry Unit Weight (Proctor) (lbs/ft³)	95.9				
Degree of Compaction (%)	**97.5**				
Difference from Optimum Moisture (+/-%)	**1.5**				
Test Status					
Min Compaction (%)	90.0				
Max Above Optimum Moisture (%)	5.0				
Max Below Optimum Moisture (%)	3.0				
Test Result	**Pass**	**Info Only**			
Remarks					
Version	**MVNQS10-100625**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	3094
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	1
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	10/2/2010
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	33119
Transmission Mode	DT 150	**Density Standardization**	2272	**Moisture Standardization**	594
Oven Start Time (Date Time)	10/2/2010 - 5:00 P.M.	**Oven Stop Time (Date Time)**	10/3/2010 - 7:00 A.M.	**Oven Used**	21-350-ER
Field Tested By	TREVOR MCCLAIN	**Lab Tested By**	RODNEY FISHER	**Reviewed By**	B. LANDERS
Submitted By	B. LANDERS				

Test No	102	103	104	105	106
Retest of Test ID					81
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY
Station	128+00	131+00	133+05	180+00	103+06
Offset	F.S. +63'	F.S. +68'	F.S. +70'	UNCOMPACTED FILL	C/L +2.5'
Lift No	2	2	1		1
Latitude (°N)	29.939876	29.939762	29.939689		29.944215
Longitude (°W)	86.088007	86.087071	86.086427		86.090891
Elevation (ft)	5.3	5.0	4.2		5.8
Moisture Test (Oven) ASTM D 2216					
Tare No	DT25	DT08	DT44	DT41	DT01
Wet Soil + Tare Mass (g)	396.00	391.30	392.29	392.69	392.23
Dry Soil + Tare Mass (g)	357.85	353.78	348.25	339.06	337.38
Tare Mass (g)	205.67	187.46	175.99	177.95	171.85
Moisture Content (%)	**25.1**	**22.6**	**25.6**	**33.3**	**33.1**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	111.1	113.3	109.9		109.3
Dry Unit Weight (lbs/ft³)	88.8	92.4	87.5	0.0	82.1
Proctor No	2854-040	2854-040	2854-040		2611-003
Optimum Moisture (Proctor) (%)	23.9	23.9	23.9		30.6
Max Dry Unit Weight (Proctor) (lbs/ft³)	95.9	95.9	95.9		87.9
Degree of Compaction (%)	**92.6**	**96.4**	**91.2**		**93.4**
Difference from Optimum Moisture (+/-%)	**1.2**	**-1.3**	**1.7**		**2.5**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Info Only**	**Pass**
Remarks					
Version	**MVNQS10-100625**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	3094
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	2
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	10/2/2010
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	33119
Transmission Mode	DT 150	**Density Standardization**	2272	**Moisture Standardization**	594
Oven Start Time (Date Time)	10/2/2010 - 5:00 P.M.	**Oven Stop Time (Date Time)**	10/3/2010 - 7:00 A.M.	**Oven Used**	21-350-ER
Field Tested By	TREVOR MCCLAIN	**Lab Tested By**	RODNEY FISHER	**Reviewed By**	B. LANDERS
Submitted By	B. LANDERS				

Test No	102	103	104	105	106
Retest of Test ID					81
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY
Station	128+00	131+00	133+05	180+00	103+06
Offset	F.S. +63'	F.S. +68'	F.S. +70'	UNCOMPACTED FILL	C/L +2.5'
Lift No	2	2	1		1
Latitude (°N)	29.872011	29.871926	29.871872		29.876259
Longitude (°W)	90.134598	90.133658	90.133012		90.137654
Elevation (ft)	5.3	5.0	4.2		5.8
Moisture Test (Oven) ASTM D 2216					
Tare No	DT25	DT08	DT44	DT41	DT01
Wet Soil + Tare Mass (g)	396.00	391.30	392.29	392.69	392.23
Dry Soil + Tare Mass (g)	357.85	353.78	348.25	339.06	337.38
Tare Mass (g)	205.67	187.46	175.99	177.95	171.85
Moisture Content (%)	**25.1**	**22.6**	**25.6**	**33.3**	**33.1**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	111.1	113.3	109.9		109.3
Dry Unit Weight (lbs/ft³)	88.8	92.4	87.5	0.0	82.1
Proctor No	2854-040	2854-040	2854-040		2611-003
Optimum Moisture (Proctor) (%)	23.9	23.9	23.9		30.6
Max Dry Unit Weight (Proctor) (lbs/ft³)	95.9	95.9	95.9		87.9
Degree of Compaction (%)	**92.6**	**96.4**	**91.2**		**93.4**
Difference from Optimum Moisture (+/-%)	**1.2**	**-1.3**	**1.7**		**2.5**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Info Only**	**Pass**
Remarks					
Version	**MVNQS10-100625**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	3094
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	3
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	10/2/2010
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	33119
Transmission Mode	DT 150	**Density Standardization**	2272	**Moisture Standardization**	594
Oven Start Time (Date Time)	10/2/2010 - 5:00 P.M.	**Oven Stop Time (Date Time)**	10/3/2010 - 7:00 A.M.	**Oven Used**	21-350-ER
Field Tested By	TREVOR MCCLAIN	**Lab Tested By**	RODNEY FISHER	**Reviewed By**	B. LANDERS
Submitted By	B. LANDERS				

Test No	102	103	104	105	106
Retest of Test ID					3002+81
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY
Station	128+00	131+00	133+05	180+00	103+06
Offset	F.S. +63'	F.S. +68'	F.S. +70'	UNCOMPACTED FILL	C/L +2.5'
Lift No	2	2	1		1
Latitude (°N)	29.872011	29.871926	29.871872		29.876259
Longitude (°W)	90.134598	90.133658	90.133012		90.137654
Elevation (ft)	5.3	5.0	4.2		5.8
Moisture Test (Oven) ASTM D 2216					
Tare No	DT25	DT08	DT44	DT41	DT01
Wet Soil + Tare Mass (g)	396.00	391.30	392.29	392.69	392.23
Dry Soil + Tare Mass (g)	357.85	353.78	348.25	339.06	337.38
Tare Mass (g)	205.67	187.46	175.99	177.95	171.85
Moisture Content (%)	**25.1**	**22.6**	**25.6**	**33.3**	**33.1**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	111.1	113.3	109.9		109.3
Dry Unit Weight (lbs/ft³)	88.8	92.4	87.5	0.0	82.1
Proctor No	2854-040	2854-040	2854-040		2611-003
Optimum Moisture (Proctor) (%)	23.9	23.9	23.9		30.6
Max Dry Unit Weight (Proctor) (lbs/ft³)	95.9	95.9	95.9		87.9
Degree of Compaction (%)	**92.6**	**96.4**	**91.2**		**93.4**
Difference from Optimum Moisture (+/-%)	**1.2**	**-1.3**	**1.7**		**2.5**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Info Only**	**Pass**
Remarks					
Version	**MVNQS10-100625**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	3094
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	1
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	10/2/2010
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	33119
Transmission Mode	DT 150	**Density Standardization**	2272	**Moisture Standardization**	594
Oven Start Time (Date Time)	10/2/2010 - 5:00 P.M.	**Oven Stop Time (Date Time)**	10/3/2010 - 7:00 A.M.	**Oven Used**	21-350-ER
Field Tested By	TREVOR MCCLAIN	**Lab Tested By**	RODNEY FISHER	**Reviewed By**	B. LANDERS
Submitted By	B. LANDERS				
Test No	107	108			
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit			
Feature	Levee Embankment	Levee Embankment			
Visual Description	G-BR CLAY	BR. FAT CLAY			
Station	88+02	77+00			
Offset	F.S. +36'	PROCTOR			
Lift No	1				
Latitude (°N)	29.948180				
Longitude (°W)	86.089529				
Elevation (ft)	3.1				
Moisture Test (Oven) ASTM D 2216					
Tare No	DT04	DT08			
Wet Soil + Tare Mass (g)	393.10	395.93			
Dry Soil + Tare Mass (g)	362.54	345.28			
Tare Mass (g)	233.39	187.46			
Moisture Content (%)	**23.7**	**32.1**			
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	120.9				
Dry Unit Weight (lbs/ft³)	97.7	0.0			
Proctor No	2854-040				
Optimum Moisture (Proctor) (%)	23.9				
Max Dry Unit Weight (Proctor) (lbs/ft³)	95.9				
Degree of Compaction (%)	**101.9**				
Difference from Optimum Moisture (+/-%)	**-0.2**				
Test Status					
Min Compaction (%)	90.0				
Max Above Optimum Moisture (%)	5.0				
Max Below Optimum Moisture (%)	3.0				
Test Result	**Pass**	**Info Only**			
Remarks					
Version	**MVNQS10-100625**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	3094
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	2
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	10/2/2010
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	33119
Transmission Mode	DT 150	**Density Standardization**	2272	**Moisture Standardization**	594
Oven Start Time (Date Time)	10/2/2010 - 5:00 P.M.	**Oven Stop Time (Date Time)**	10/3/2010 - 7:00 A.M.	**Oven Used**	21-350-ER
Field Tested By	TREVOR MCCLAIN	**Lab Tested By**	RODNEY FISHER	**Reviewed By**	B. LANDERS
Submitted By	B. LANDERS				
Test No	107	108			
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit			
Feature	Levee Embankment	Levee Embankment			
Visual Description	G-BR CLAY	BR. FAT CLAY			
Station	88+02	77+00			
Offset	F.S. +36'	PROCTOR			
Lift No	1				
Latitude (°N)	29.880263				
Longitude (°W)	90.136454				
Elevation (ft)	3.1				
Moisture Test (Oven) ASTM D 2216					
Tare No	DT04	DT08			
Wet Soil + Tare Mass (g)	393.10	395.93			
Dry Soil + Tare Mass (g)	362.54	345.28			
Tare Mass (g)	233.39	187.46			
Moisture Content (%)	**23.7**	**32.1**			
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	120.9				
Dry Unit Weight (lbs/ft³)	97.7	0.0			
Proctor No	2854-040				
Optimum Moisture (Proctor) (%)	23.9				
Max Dry Unit Weight (Proctor) (lbs/ft³)	95.9				
Degree of Compaction (%)	**101.9**				
Difference from Optimum Moisture (+/-%)	**-0.2**				
Test Status					
Min Compaction (%)	90.0				
Max Above Optimum Moisture (%)	5.0				
Max Below Optimum Moisture (%)	3.0				
Test Result	**Pass**	**Info Only**			
Remarks					
Version	**MVNQS10-100625**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	3094
USACE Contract No	W912P8-09-D-0046 0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	10/2/2010
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	33119
Transmission Mode	DT 150	**Density Standardization**	2272	**Moisture Standardization**	594
Oven Start Time (Date Time)	10/2/2010 - 5:00 P.M.	**Oven Stop Time (Date Time)**	10/3/2010 - 7:00 A.M.	**Oven Used**	21-350-ER
Field Tested By	TREVOR MCCLAIN	**Lab Tested By**	RODNEY FISHER	**Reviewed By**	B. LANDERS
Submitted By	B. LANDERS				
Test No	107	108			
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit			
Feature	Levee Embankment	Levee Embankment			
Visual Description	G-BR CLAY	BR. FAT CLAY			
Station	88+02	77+00			
Offset	F.S. +36'	PROCTOR			
Lift No	1				
Latitude (°N)	29.948180				
Longitude (°W)	86.089529				
Elevation (ft)	3.1				
Moisture Test (Oven) ASTM D 2216					
Tare No	DT04	DT08			
Wet Soil + Tare Mass (g)	393.10	395.93			
Dry Soil + Tare Mass (g)	362.54	345.28			
Tare Mass (g)	233.39	187.46			
Moisture Content (%)	**23.7**	**32.1**			
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	120.9				
Dry Unit Weight (lbs/ft³)	97.7	0.0			
Proctor No	2854-040				
Optimum Moisture (Proctor) (%)	23.9				
Max Dry Unit Weight (Proctor) (lbs/ft³)	95.9				
Degree of Compaction (%)	**101.9**				
Difference from Optimum Moisture (+/-%)	**-0.2**				
Test Status					
Min Compaction (%)	90.0				
Max Above Optimum Moisture (%)	5.0				
Max Below Optimum Moisture (%)	3.0				
Test Result	**Pass**	**Info Only**			
Remarks					
Version	**MVNQS10-100625**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	3095
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	1
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	10/3/2010
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	33119
Transmission Mode	DT 150	**Density Standardization**	2279	**Moisture Standardization**	591
Oven Start Time (Date Time)	10/3/2010 - 3:00 P.M.	**Oven Stop Time (Date Time)**	10/4/2010 - 7:00 A.M.	**Oven Used**	21-350-ER
Field Tested By	TREVOR MCCLAIN	**Lab Tested By**	RODNEY FISHER	**Reviewed By**	B. LANDERS
Submitted By	B. LANDERS				
Test No	109	110	111		
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit		
Feature	Levee Embankment	Levee Embankment	Levee Embankment		
Visual Description	G-BR CLAY	G-BR CLAY	G-BR. CLAY		
Station	110+93	110+37	179+00		
Offset	P.S. -160	P.S. -147	UMCOMPACTED FILL		
Lift No	1	2			
Latitude (°N)	29.874053	29.874217			
Longitude (°W)	90.137768	90.137761			
Elevation (ft)	0.1	1.6			
Moisture Test (Oven) ASTM D 2216					
Tare No	DT01	DT41	DT44		
Wet Soil + Tare Mass (g)	393.35	391.75	398.44		
Dry Soil + Tare Mass (g)	347.31	349.47	344.10		
Tare Mass (g)	171.83	177.95	175.97		
Moisture Content (%)	**26.2**	**24.7**	**32.3**		
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	115.3	113.9			
Dry Unit Weight (lbs/ft³)	91.4	91.3	0.0		
Proctor No	2854-040	2854-040			
Optimum Moisture (Proctor) (%)	23.9	23.9			
Max Dry Unit Weight (Proctor) (lbs/ft³)	95.9	95.9			
Degree of Compaction (%)	**95.3**	**95.2**			
Difference from Optimum Moisture (+/-%)	**2.3**	**0.8**			
Test Status					
Min Compaction (%)	90.0	90.0			
Max Above Optimum Moisture (%)	5.0	5.0			
Max Below Optimum Moisture (%)	3.0	3.0			
Test Result	**Pass**	**Pass**	**Info Only**		
Remarks					
Version	**MVNQS10-100625**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	3095
USACE Contract No	W912P8-09-D-0046 0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	10/3/2010
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	33119
Transmission Mode	DT 150	**Density Standardization**	2279	**Moisture Standardization**	591
Oven Start Time (Date Time)	10/3/2010 - 3:00 P.M.	**Oven Stop Time (Date Time)**	10/4/2010 - 7:00 A.M.	**Oven Used**	21-350-ER
Field Tested By	TREVOR MCCLAIN	**Lab Tested By**	RODNEY FISHER	**Reviewed By**	B. LANDERS
Submitted By	B. LANDERS				
Test No	109	110	111		
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit		
Feature	Levee Embankment	Levee Embankment	Levee Embankment		
Visual Description	G-BR CLAY	G-BR CLAY	G-BR. CLAY		
Station	110+93	110+37	179+00		
Offset	P.S. -160	P.S. -147	UMCOMPACTED FILL		
Lift No	1	2			
Latitude (°N)	29.942014	29.942178			
Longitude (°W)	86.091095	86.091081			
Elevation (ft)	0.1	1.6			
Moisture Test (Oven) ASTM D 2216					
Tare No	DT01	DT41	DT44		
Wet Soil + Tare Mass (g)	393.35	391.75	398.44		
Dry Soil + Tare Mass (g)	347.31	349.47	344.10		
Tare Mass (g)	171.83	177.95	175.97		
Moisture Content (%)	**26.2**	**24.7**	**32.3**		
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	115.3	113.9			
Dry Unit Weight (lbs/ft³)	91.4	91.3	0.0		
Proctor No	2854-040	2854-040			
Optimum Moisture (Proctor) (%)	23.9	23.9			
Max Dry Unit Weight (Proctor) (lbs/ft³)	95.9	95.9			
Degree of Compaction (%)	**95.3**	**95.2**			
Difference from Optimum Moisture (+/-%)	**2.3**	**0.8**			
Test Status					
Min Compaction (%)	90.0	90.0			
Max Above Optimum Moisture (%)	5.0	5.0			
Max Below Optimum Moisture (%)	3.0	3.0			
Test Result	**Pass**	**Pass**			
Remarks					
Version	**MVNQS10-100625**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	3097
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	1
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	10/4/2010
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	33119
Transmission Mode	DT 150	**Density Standardization**	2290	**Moisture Standardization**	596
Oven Start Time (Date Time)	10/4/2010 - 6:00 P.M.	**Oven Stop Time (Date Time)**	10/5/2010 - 7:00 A.M.	**Oven Used**	21-350-ER
Field Tested By	TREVOR MCCLAIN	**Lab Tested By**	RODNEY FISHER	**Reviewed By**	B. LANDERS
Submitted By	B. LANDERS				
Test No	112	113	114		
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit		
Feature	Levee Embankment	Levee Embankment	Levee Embankment		
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY		
Station	110+69	82+58	110+50		
Offset	P.S. -155	F.S. +35.5	P.S. -130		
Lift No	3	1	4		
Latitude (°N)	29.874120	29.881696	29.874187		
Longitude (°W)	90.137763	90.135963	90.137830		
Elevation (ft)	1.9	3.2	3.3		
Moisture Test (Oven) ASTM D 2216					
Tare No	DT31	DT14	DT44		
Wet Soil + Tare Mass (g)	394.84	397.11	393.33		
Dry Soil + Tare Mass (g)	359.49	363.28	351.88		
Tare Mass (g)	210.97	245.04	176.01		
Moisture Content (%)	**23.8**	**28.6**	**23.6**		
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	110.9	118.0	117.6		
Dry Unit Weight (lbs/ft³)	89.6	91.8	95.1		
Proctor No	2854-040	2854-040	2854-040		
Optimum Moisture (Proctor) (%)	23.9	23.9	23.9		
Max Dry Unit Weight (Proctor) (lbs/ft³)	95.9	95.9	95.9		
Degree of Compaction (%)	**93.4**	**95.7**	**99.2**		
Difference from Optimum Moisture (+/-%)	**-0.1**	**4.7**	**-0.3**		
Test Status					
Min Compaction (%)	90.0	90.0	90.0		
Max Above Optimum Moisture (%)	5.0	5.0	5.0		
Max Below Optimum Moisture (%)	3.0	3.0	3.0		
Test Result	**Pass**	**Pass**	**Pass**		
Remarks					
Version	**MVNQS10-100625**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	3097
USACE Contract No	W912P8-09-D-0046 0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	10/4/2010
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	33119
Transmission Mode	DT 150	**Density Standardization**	2290	**Moisture Standardization**	596
Oven Start Time (Date Time)	10/4/2010 - 6:00 P.M.	**Oven Stop Time (Date Time)**	10/5/2010 - 7:00 A.M.	**Oven Used**	21-350-ER
Field Tested By	TREVOR MCCLAIN	**Lab Tested By**	RODNEY FISHER	**Reviewed By**	B. LANDERS
Submitted By	B. LANDERS				
Test No	112	113	114		
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit		
Feature	Levee Embankment	Levee Embankment	Levee Embankment		
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY		
Station	110+69	82+58	110+50		
Offset	P.S. -155	F.S. +35.5	P.S. -130		
Lift No	3	1	4		
Latitude (°N)	29.942081	29.949597	29.942150		
Longitude (°W)	86.091090	86.088980	86.091151		
Elevation (ft)	1.9	3.2	3.3		
Moisture Test (Oven) ASTM D 2216					
Tare No	DT31	DT14	DT44		
Wet Soil + Tare Mass (g)	394.84	397.11	393.33		
Dry Soil + Tare Mass (g)	359.49	363.28	351.88		
Tare Mass (g)	210.97	245.04	176.01		
Moisture Content (%)	**23.8**	**28.6**	**23.6**		
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	110.9	118.0	117.6		
Dry Unit Weight (lbs/ft³)	89.6	91.8	95.1		
Proctor No	2854-040	2854-040	2854-040		
Optimum Moisture (Proctor) (%)	23.9	23.9	23.9		
Max Dry Unit Weight (Proctor) (lbs/ft³)	95.9	95.9	95.9		
Degree of Compaction (%)	**93.4**	**95.7**	**99.2**		
Difference from Optimum Moisture (+/-%)	**-0.1**	**4.7**	**-0.3**		
Test Status					
Min Compaction (%)	90.0	90.0	90.0		
Max Above Optimum Moisture (%)	5.0	5.0	5.0		
Max Below Optimum Moisture (%)	3.0	3.0	3.0		
Test Result	**Pass**	**Pass**	**Pass**		
Remarks					
Version	**MVNQS10-100625**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	3131
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	1
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	10/7/2010
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	33119
Transmission Mode	DT 150	**Density Standardization**	2291	**Moisture Standardization**	590
Oven Start Time (Date Time)	10/7/2010 - 5:30 P.M.	**Oven Stop Time (Date Time)**	10/8/2010 - 7:00 A.M.	**Oven Used**	21-350-ER
Field Tested By	TREVOR MCCLAIN	**Lab Tested By**	RODNEY FISHER	**Reviewed By**	B. LANDERS
Submitted By	B. LANDERS				
Test No	121	122			
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit			
Feature	Levee Embankment	Levee Embankment			
Visual Description	G-BR CLAY	G-BR CLAY			
Station	105+96	96+00			
Offset	F.S. +37	F.S. +18			
Lift No	2	2			
Latitude (°N)	29.875511	29.878145			
Longitude (°W)	90.137986	90.137116			
Elevation (ft)	4.1	5.1			
Moisture Test (Oven) ASTM D 2216					
Tare No	DT21	DT01			
Wet Soil + Tare Mass (g)	393.16	394.61			
Dry Soil + Tare Mass (g)	355.13	346.13			
Tare Mass (g)	211.55	171.89			
Moisture Content (%)	**26.5**	**27.8**			
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	117.0	119.3			
Dry Unit Weight (lbs/ft³)	92.5	93.3			
Proctor No	2854-040	2854-040			
Optimum Moisture (Proctor) (%)	23.9	23.9			
Max Dry Unit Weight (Proctor) (lbs/ft³)	95.9	95.9			
Degree of Compaction (%)	**96.5**	**97.3**			
Difference from Optimum Moisture (+/-%)	**2.6**	**3.9**			
Test Status					
Min Compaction (%)	90.0	90.0			
Max Above Optimum Moisture (%)	5.0	5.0			
Max Below Optimum Moisture (%)	3.0	3.0			
Test Result	**Pass**	**Pass**			
Remarks					
Version	**MVNQS10-100625**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	3131
USACE Contract No	W912P8-09-D-0046 0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	10/7/2010
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	33119
Transmission Mode	DT 150	**Density Standardization**	2291	**Moisture Standardization**	590
Oven Start Time (Date Time)	10/7/2010 - 5:30 P.M.	**Oven Stop Time (Date Time)**	10/8/2010 - 7:00 A.M.	**Oven Used**	21-350-ER
Field Tested By	TREVOR MCCLAIN	**Lab Tested By**	RODNEY FISHER	**Reviewed By**	B. LANDERS
Submitted By	B. LANDERS				
Test No	121	122			
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit			
Feature	Levee Embankment	Levee Embankment			
Visual Description	G-BR CLAY	G-BR CLAY			
Station	105+96	96+00			
Offset	F.S. +37	F.S. +18			
Lift No	2	2			
Latitude (°N)	29.943478	29.946084			
Longitude (°W)	86.091254	86.090277			
Elevation (ft)	4.1	5.1			
Moisture Test (Oven) ASTM D 2216					
Tare No	DT21	DT01			
Wet Soil + Tare Mass (g)	393.16	394.61			
Dry Soil + Tare Mass (g)	355.13	346.13			
Tare Mass (g)	211.55	171.89			
Moisture Content (%)	**26.5**	**27.8**			
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	117.0	119.3			
Dry Unit Weight (lbs/ft³)	92.5	93.3			
Proctor No	2854-040	2854-040			
Optimum Moisture (Proctor) (%)	23.9	23.9			
Max Dry Unit Weight (Proctor) (lbs/ft³)	95.9	95.9			
Degree of Compaction (%)	**96.5**	**97.3**			
Difference from Optimum Moisture (+/-%)	**2.6**	**3.9**			
Test Status					
Min Compaction (%)	90.0	90.0			
Max Above Optimum Moisture (%)	5.0	5.0			
Max Below Optimum Moisture (%)	3.0	3.0			
Test Result	**Pass**	**Pass**			
Remarks					
Version	**MVNQS10-100625**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	3177
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	10/13/2010
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	33119
Transmission Mode	DT 150	**Density Standardization**	2279	**Moisture Standardization**	592
Oven Start Time (Date Time)	10/13/2010 - 4:00 P.M.	**Oven Stop Time (Date Time)**	10/14/2010 - 7:00 A.M.	**Oven Used**	21-350-ER
Field Tested By	TREVOR MCCLAIN	**Lab Tested By**	RODNEY FISHER	**Reviewed By**	B. LANDERS
Submitted By	B. LANDERS				

Test No	134	135	136	137	
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY	
Station	77+94	72+98	67+92	63+00	
Offset	F.S. +22'	F.S. 21'	F.S. 46'	F.S. 22'	
Lift No	1	1	1	1	
Latitude (°N)	29.882907	29.884216	29.885201	29.885827	
Longitude (°W)	90.135504	90.135054	90.135245	90.136639	
Elevation (ft)	4.4	4.5	3.0	4.2	
Moisture Test (Oven) ASTM D 2216					
Tare No	DT48	DT47	DT43	DT24	
Wet Soil + Tare Mass (g)	393.64	400.51	390.80	394.20	
Dry Soil + Tare Mass (g)	346.88	358.36	351.26	355.82	
Tare Mass (g)	183.52	178.15	179.92	206.49	
Moisture Content (%)	**28.6**	**23.4**	**23.1**	**25.7**	
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	115.8	115.6	106.4	121.5	
Dry Unit Weight (lbs/ft³)	90.0	93.7	86.4	96.7	
Proctor No	2854-040	2854-040	2854-040	2854-040	
Optimum Moisture (Proctor) (%)	23.9	23.9	23.9	23.9	
Max Dry Unit Weight (Proctor) (lbs/ft³)	95.9	95.9	95.9	95.9	
Degree of Compaction (%)	**93.8**	**97.7**	**90.1**	**100.8**	
Difference from Optimum Moisture (+/-%)	**4.7**	**-0.5**	**-0.8**	**1.8**	
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	
Remarks					
Version	**MVNQS10-100625**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	3183
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	10/14/2010
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	33119
Transmission Mode	DT 150	**Density Standardization**	2269	**Moisture Standardization**	591
Oven Start Time (Date Time)	10/14/2010 - 5:00 P.M.	**Oven Stop Time (Date Time)**	10/15/2010 - 7:00 A.M.	**Oven Used**	21-350-ER
Field Tested By	TREVOR MCCLAIN	**Lab Tested By**	RODNEY FISHER	**Reviewed By**	B. LANDERS
Submitted By	B. LANDERS				
Test No	138				
Retest of Test ID					
Material Source	Borrow Pit				
Feature	Levee Embankment				
Visual Description	G-BR CLAY				
Station	159+45				
Offset	F.S. +54'				
Lift No	2				
Latitude (°N)	29.871336				
Longitude (°W)	90.124706				
Elevation (ft)	4.5				
Moisture Test (Oven) ASTM D 2216					
Tare No	DT41				
Wet Soil + Tare Mass (g)	398.73				
Dry Soil + Tare Mass (g)	351.00				
Tare Mass (g)	177.96				
Moisture Content (%)	**27.6**				
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	119.6				
Dry Unit Weight (lbs/ft³)	93.7				
Proctor No	2854-040				
Optimum Moisture (Proctor) (%)	23.9				
Max Dry Unit Weight (Proctor) (lbs/ft³)	95.9				
Degree of Compaction (%)	**97.7**				
Difference from Optimum Moisture (+/-%)	**3.7**				
Test Status					
Min Compaction (%)	90.0				
Max Above Optimum Moisture (%)	5.0				
Max Below Optimum Moisture (%)	3.0				
Test Result	**Pass**				
Remarks					
Version	**MVNQS10-100625**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	3200
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	10/16/2010
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	33119
Transmission Mode	DT 150	**Density Standardization**	2284	**Moisture Standardization**	588
Oven Start Time (Date Time)	10/16/2010 - 3:00 P.M.	**Oven Stop Time (Date Time)**	10/17/2010 - 7:00 A.M.	**Oven Used**	21-350-ER
Field Tested By	TREVOR MCCLAIN	**Lab Tested By**	RODNEY FISHER	**Reviewed By**	B. LANDERS
Submitted By	B. LANDERS				

Test No	146	147	148	149	150
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY
Station	55+69	52+23	48+62	42+43	164+53
Offset	F.S. +57'	F.S. +4	F.S. +14	F.S. +18	F.S. +46
Lift No	1	1	1	1	2
Latitude (°N)	29.886461	29.886399	29.886575	29.887135	29.871250
Longitude (°W)	90.138671	90.139659	90.140788	90.167946	90.123105
Elevation (ft)	4.0	5.1	4.1	4.5	4.5
Moisture Test (Oven) ASTM D 2216					
Tare No	DT44	DT31	DT14	DT40	DT42
Wet Soil + Tare Mass (g)	394.21	395.01	391.72	398.88	398.53
Dry Soil + Tare Mass (g)	349.91	358.90	360.38	349.30	350.57
Tare Mass (g)	175.99	210.95	245.06	176.28	178.15
Moisture Content (%)	**25.5**	**24.4**	**27.2**	**28.7**	**27.8**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	119.1	118.3	115.3	112.1	112.9
Dry Unit Weight (lbs/ft³)	94.9	95.1	90.6	87.1	88.3
Proctor No	2854-040	2854-040	2854-040	2854-040	2854-040
Optimum Moisture (Proctor) (%)	23.9	23.9	23.9	23.9	23.9
Max Dry Unit Weight (Proctor) (lbs/ft³)	95.9	95.9	95.9	95.9	95.9
Degree of Compaction (%)	**99.0**	**99.2**	**94.5**	**90.8**	**92.1**
Difference from Optimum Moisture (+/-%)	**1.6**	**0.5**	**3.3**	**4.8**	**3.9**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-100625**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	3202
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	10/17/2010
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	33119
Transmission Mode	DT 150	**Density Standardization**	2252	**Moisture Standardization**	583
Oven Start Time (Date Time)	10/17/2010 - 5:00 P.M.	**Oven Stop Time (Date Time)**	10/18/2010 - 7:00 A.M.	**Oven Used**	21-350-ER
Field Tested By	TREVOR MCCLAIN	**Lab Tested By**	RODNEY FISHER	**Reviewed By**	B. LANDERS
Submitted By	B. LANDERS				
Test No	153	154			
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit			
Feature	Levee Embankment	Levee Embankment			
Visual Description	G-BR CLAY	G-BR CLAY			
Station	38+02	32+16			
Offset	F.S. +8	F.S. +10			
Lift No	1	1			
Latitude (°N)	29.887179	29.887499			
Longitude (°W)	90.144058	90.145869			
Elevation (ft)	4.6	4.3			
Moisture Test (Oven) ASTM D 2216					
Tare No	DT44	DT31			
Wet Soil + Tare Mass (g)	394.66	396.06			
Dry Soil + Tare Mass (g)	348.56	357.80			
Tare Mass (g)	176.09	211.04			
Moisture Content (%)	**26.7**	**26.1**			
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	111.2	110.6			
Dry Unit Weight (lbs/ft³)	87.8	87.7			
Proctor No	2854-040	2854-040			
Optimum Moisture (Proctor) (%)	23.9	23.9			
Max Dry Unit Weight (Proctor) (lbs/ft³)	95.9	95.9			
Degree of Compaction (%)	**91.6**	**91.4**			
Difference from Optimum Moisture (+/-%)	**2.8**	**2.2**			
Test Status					
Min Compaction (%)	90.0	90.0			
Max Above Optimum Moisture (%)	5.0	5.0			
Max Below Optimum Moisture (%)	3.0	3.0			
Test Result	**Pass**	**Pass**			
Remarks					
Version	**MVNQS10-100625**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	3218
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	10/19/2010
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	33119
Transmission Mode	DT 150	**Density Standardization**	2255	**Moisture Standardization**	592
Oven Start Time (Date Time)	10/19/2010 - 5:00 P.M.	**Oven Stop Time (Date Time)**	10/20/2010 - 7:00 A.M.	**Oven Used**	21-350-ER
Field Tested By	TREVOR MCCLAIN	**Lab Tested By**	RODNEY FISHER	**Reviewed By**	B. LANDERS
Submitted By	B. LANDERS				

Test No	158	159	160	161	
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY	
Station	77+07	71+99	81+04	28+07	
Offset	F.S. +16.8	F.S. +36	F.S. +25	F.S. +34	
Lift No	2	2	2	1	
Latitude (°N)	29.883132	29.884487	29.882097	29.887666	
Longitude (°W)	90.135411	90.135009	90.135792	90.147150	
Elevation (ft)	5.6	4.8	5.0	4.1	
Moisture Test (Oven) ASTM D 2216					
Tare No	DT40	DT14	DT31	DT43	
Wet Soil + Tare Mass (g)	391.96	398.39	391.64	399.91	
Dry Soil + Tare Mass (g)	345.25	371.40	355.87	354.51	
Tare Mass (g)	176.25	245.02	210.94	179.91	
Moisture Content (%)	**27.6**	**21.4**	**24.7**	**26.0**	
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	104.5	115.9	105.3	112.7	
Dry Unit Weight (lbs/ft³)	81.9	95.5	84.4	89.4	
Proctor No	3094-108	2854-040	3094-108	2854-040	
Optimum Moisture (Proctor) (%)	24.0	23.9	24.0	23.9	
Max Dry Unit Weight (Proctor) (lbs/ft³)	90.1	95.9	90.1	95.9	
Degree of Compaction (%)	**90.9**	**99.6**	**93.7**	**93.2**	
Difference from Optimum Moisture (+/-%)	**3.6**	**-2.5**	**0.7**	**2.1**	
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	
Remarks					
Version	**MVNQS10-100625**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	3236
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	10/21/2010
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	33119
Transmission Mode	DT 150	**Density Standardization**	2288	**Moisture Standardization**	535
Oven Start Time (Date Time)	10/21/2010 - 5:00 P.M.	**Oven Stop Time (Date Time)**	10/22/2010 - 7:00 A.M.	**Oven Used**	21-350-ER
Field Tested By	TREVOR MCCLAIN	**Lab Tested By**	RODNEY FISHER	**Reviewed By**	B. LANDERS
Submitted By	B. LANDERS				
Test No	165	166			
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit			
Feature	Levee Embankment	Levee Embankment			
Visual Description	G-BR CLAY	G-BR CLAY			
Station	22+54	17+89			
Offset	F.S. +30	F.S. +22			
Lift No	1	1			
Latitude (°N)	29.887983	29.888264			
Longitude (°W)	90.148855	90.150286			
Elevation (ft)	3.0	4.0			
Moisture Test (Oven) ASTM D 2216					
Tare No	DT44	DT41			
Wet Soil + Tare Mass (g)	391.86	396.49			
Dry Soil + Tare Mass (g)	355.93	348.03			
Tare Mass (g)	176.98	177.99			
Moisture Content (%)	**20.1**	**28.5**			
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	119.4	114.7			
Dry Unit Weight (lbs/ft³)	99.4	89.3			
Proctor No	2653-008	2854-040			
Optimum Moisture (Proctor) (%)	23.1	23.9			
Max Dry Unit Weight (Proctor) (lbs/ft³)	99.7	95.9			
Degree of Compaction (%)	**99.7**	**93.1**			
Difference from Optimum Moisture (+/-%)	**-3.0**	**4.6**			
Test Status					
Min Compaction (%)	90.0	90.0			
Max Above Optimum Moisture (%)	5.0	5.0			
Max Below Optimum Moisture (%)	3.0	3.0			
Test Result	**Pass**	**Pass**			
Remarks					
Version	**MVNQS10-100625**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	3266
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	10/26/2010
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	33119
Transmission Mode	DT 150	**Density Standardization**	2271	**Moisture Standardization**	594
Oven Start Time (Date Time)	10/26/2010 - 5:30 P.M.	**Oven Stop Time (Date Time)**	10/27/2010 - 7:00 A.M.	**Oven Used**	21-350-ER
Field Tested By	TREVOR MCCLAIN	**Lab Tested By**	RODNEY FISHER	**Reviewed By**	B. LANDERS
Submitted By	B. LANDERS				

Test No	168	169	170	171	172
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY
Station	179+04	174+35	169+78	101+97	91+01
Offset	F.S. +67	F.S. +65	F.S. +82	F.S. +26	F.S. +28
Lift No	1	1	1	2	2
Latitude (°N)	29.870821	29.870989	29.871040	29.876567	29.879469
Longitude (°W)	90.118594	90.120020	90.121463	90.137643	90.136701
Elevation (ft)	3.8	4.2	4.5	4.7	4.4
Moisture Test (Oven) ASTM D 2216					
Tare No	DT02	DT11	DT44	DT41	DT27
Wet Soil + Tare Mass (g)	392.79	394.90	393.39	396.10	398.95
Dry Soil + Tare Mass (g)	354.38	361.17	352.90	352.06	352.80
Tare Mass (g)	178.91	180.98	176.00	177.99	209.55
Moisture Content (%)	**21.9**	**18.7**	**22.9**	**25.3**	**32.2**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	118.3	117.5	119.6	115.7	112.5
Dry Unit Weight (lbs/ft³)	97.0	99.0	97.3	92.3	85.1
Proctor No	3179-126	3179-126	3179-126	2854-040	3183-130
Optimum Moisture (Proctor) (%)	19.6	19.6	19.6	23.9	27.6
Max Dry Unit Weight (Proctor) (lbs/ft³)	100.9	100.9	100.9	95.9	87.5
Degree of Compaction (%)	**96.1**	**98.1**	**96.4**	**96.2**	**97.3**
Difference from Optimum Moisture (+/-%)	**2.3**	**-0.9**	**3.3**	**1.4**	**4.6**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-100625**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	3266
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	10/26/2010
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	33119
Transmission Mode	DT 150	**Density Standardization**	2271	**Moisture Standardization**	594
Oven Start Time (Date Time)	10/26/2010 - 5:30 P.M.	**Oven Stop Time (Date Time)**	10/27/2010 - 7:00 A.M.	**Oven Used**	21-350-ER
Field Tested By	TREVOR MCCLAIN	**Lab Tested By**	RODNEY FISHER	**Reviewed By**	B. LANDERS
Submitted By	B. LANDERS				
Test No	173	174	175		
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit		
Feature	Levee Embankment	Levee Embankment	Levee Embankment		
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY		
Station	86+05	66+64	61+98		
Offset	F.S. +24	F.S. +26	F.S. +14		
Lift No	2	2	2		
Latitude (°N)	29.880773	29.885375	29.886008		
Longitude (°W)	90.136242	90.135603	90.136884		
Elevation (ft)	5.1	4.9	5.5		
Moisture Test (Oven) ASTM D 2216					
Tare No	DT45	DT47	DT31		
Wet Soil + Tare Mass (g)	390.32	397.24	392.42		
Dry Soil + Tare Mass (g)	350.10	359.96	358.68		
Tare Mass (g)	170.22	178.16	210.97		
Moisture Content (%)	**22.4**	**20.5**	**22.8**		
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	121.0	115.9	118.5		
Dry Unit Weight (lbs/ft³)	98.9	96.2	96.5		
Proctor No	3179-126	3179-126	3179-126		
Optimum Moisture (Proctor) (%)	19.6	19.6	19.6		
Max Dry Unit Weight (Proctor) (lbs/ft³)	100.9	100.9	100.9		
Degree of Compaction (%)	**98.0**	**95.3**	**95.6**		
Difference from Optimum Moisture (+/-%)	**2.8**	**0.9**	**3.2**		
Test Status					
Min Compaction (%)	90.0	90.0	90.0		
Max Above Optimum Moisture (%)	5.0	5.0	5.0		
Max Below Optimum Moisture (%)	3.0	3.0	3.0		
Test Result	**Pass**	**Pass**	**Pass**		
Remarks					
Version	**MVNQS10-100625**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	3284
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	10/28/2010
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	33119
Transmission Mode	DT 150	**Density Standardization**	2286	**Moisture Standardization**	597
Oven Start Time (Date Time)	10/28/2010 - 5:00 P.M.	**Oven Stop Time (Date Time)**	10/29/2010 - 7:00 A.M.	**Oven Used**	21-350-ER
Field Tested By	TREVOR MCCLAIN	**Lab Tested By**	RODNEY FISHER	**Reviewed By**	B. LANDERS
Submitted By	B. LANDERS				

Test No	179	180	181	182	183
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Ramp
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY
Station	51+37	46+43	41+60	7+41	12+45
Offset	P.S. -92	P.S. -93	P.S. -90	F.S. +9	F.S. +9
Lift No	1	1	1	1	1
Latitude (°N)	29.886706	29.886982	29.887246	29.888877	29.888600
Longitude (°W)	90.139867	90.141393	90.142891	90.153521	90.151960
Elevation (ft)	2.5	1.8	2.0	5.4	4.9
Moisture Test (Oven) ASTM D 2216					
Tare No	DT02	DT27	DT41	DT44	DT11
Wet Soil + Tare Mass (g)	391.68	394.05	399.20	390.39	393.53
Dry Soil + Tare Mass (g)	354.23	356.53	358.50	342.74	350.64
Tare Mass (g)	178.87	209.53	177.97	175.98	180.97
Moisture Content (%)	**21.4**	**25.5**	**22.5**	**28.6**	**25.3**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	125.7	117.3	123.8	116.8	117.6
Dry Unit Weight (lbs/ft³)	103.5	93.5	101.1	90.8	93.9
Proctor No	3179-126	3180-127	3179-126	3180-127	3180-127
Optimum Moisture (Proctor) (%)	19.6	24.0	19.6	24.0	24.0
Max Dry Unit Weight (Proctor) (lbs/ft³)	100.9	95.8	100.9	95.8	95.8
Degree of Compaction (%)	**102.6**	**97.6**	**100.2**	**94.8**	**98.0**
Difference from Optimum Moisture (+/-%)	**1.8**	**1.5**	**2.9**	**4.6**	**1.3**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-100625**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	3291
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	10/29/2010
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	33119
Transmission Mode	DT 150	**Density Standardization**	2263	**Moisture Standardization**	593
Oven Start Time (Date Time)	10/29/2010 - 1:00 P.M.	**Oven Stop Time (Date Time)**	10/30/2010 - 7:00 A.M.	**Oven Used**	21-350-ER
Field Tested By	TREVOR MCCLAIN	**Lab Tested By**	RODNEY FISHER	**Reviewed By**	B. LANDERS
Submitted By	B. LANDERS				
Test No	185				
Retest of Test ID					
Material Source	Borrow Pit				
Feature	Levee Embankment				
Visual Description	G-BR CLAY				
Station	180+00				
Offset	F.S. +69'				
Lift No	2				
Latitude (°N)	29.870753				
Longitude (°W)	90.118301				
Elevation (ft)	4.7				
Moisture Test (Oven) ASTM D 2216					
Tare No	DT44				
Wet Soil + Tare Mass (g)	391.07				
Dry Soil + Tare Mass (g)	348.38				
Tare Mass (g)	176.00				
Moisture Content (%)	**24.8**				
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	110.6				
Dry Unit Weight (lbs/ft³)	88.6				
Proctor No	3180-127				
Optimum Moisture (Proctor) (%)	24.0				
Max Dry Unit Weight (Proctor) (lbs/ft³)	95.8				
Degree of Compaction (%)	**92.5**				
Difference from Optimum Moisture (+/-%)	**0.8**				
Test Status					
Min Compaction (%)	90.0				
Max Above Optimum Moisture (%)	5.0				
Max Below Optimum Moisture (%)	3.0				
Test Result	**Pass**				
Remarks					
Version	**MVNQS10-100625**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	3297
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	1
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	10/30/2010
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	33119
Transmission Mode	DT 150	**Density Standardization**	2293	**Moisture Standardization**	596
Oven Start Time (Date Time)	10/30/2010 - 5:30 P.M.	**Oven Stop Time (Date Time)**	10/31/2010 - 7:00 A.M.	**Oven Used**	21-350-ER
Field Tested By	TREVOR MCCLAIN	**Lab Tested By**	RODNEY FISHER	**Reviewed By**	B. LANDERS
Submitted By	B. LANDERS				

Test No	186	187	188	189	190
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY
Station	3+41	160+00	161+00	58+34	51+92
Offset	F.S. 17	F.S.45	F.S. 66	F.S. 60	F.S. 27
Lift No	1	1	1	2	2
Latitude (°N)	29.889078	29.871045	29.871270	29.886307	29.886354
Longitude (°W)	90.154759	90.122646	90.124224	90.137885	90.139774
Elevation (ft)	4.4	5.0	4.4	4.7	4.1
Moisture Test (Oven) ASTM D 2216					
Tare No	DT48	DT49	DT44	DT14	DT40
Wet Soil + Tare Mass (g)	396.67	396.41	392.42	391.60	394.83
Dry Soil + Tare Mass (g)	355.22	359.77	353.32	362.13	352.23
Tare Mass (g)	183.46	176.35	176.02	245.02	176.22
Moisture Content (%)	**24.1**	**20.0**	**22.1**	**25.2**	**24.2**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	122.7	125.1	120.7	118.0	115.0
Dry Unit Weight (lbs/ft³)	98.9	104.3	98.9	94.2	92.6
Proctor No	3179-126	3179-126	3179-126	3180-127	3180-127
Optimum Moisture (Proctor) (%)	19.6	19.6	19.6	24.0	24.0
Max Dry Unit Weight (Proctor) (lbs/ft³)	100.9	100.9	100.9	95.8	95.8
Degree of Compaction (%)	**98.0**	**103.4**	**98.0**	**98.3**	**96.7**
Difference from Optimum Moisture (+/-%)	**4.5**	**0.4**	**2.5**	**1.2**	**0.2**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-100625**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory		**Lab Type**	QC	**Report No**	3297
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	10/30/2010
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	33119
Transmission Mode	DT 150	**Density Standardization**	2293	**Moisture Standardization**	596
Oven Start Time (Date Time)	10/30/2010 - 5:30 P.M.	**Oven Stop Time (Date Time)**	10/31/2010 - 7:00 A.M.	**Oven Used**	21-350-ER
Field Tested By	TREVOR MCCLAIN	**Lab Tested By**	RODNEY FISHER	**Reviewed By**	B. LANDERS
Submitted By	B. LANDERS				

Test No	186	187	188	189	190
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY
Station	3+41	160+00	161+00	58+34	51+92
Offset	F.S. 17	F.S.45	F.S. 66	F.S. 60	F.S. 27
Lift No	1	1	1	2	2
Latitude (°N)	29.889078	29.871045	29.871270	29.886307	29.886354
Longitude (°W)	90.154759	90.122646	90.124224	90.137885	90.139774
Elevation (ft)	4.4	5.0	4.4	4.7	4.1
Moisture Test (Oven) ASTM D 2216					
Tare No	DT48	DT49	DT44	DT14	DT40
Wet Soil + Tare Mass (g)	396.67	396.41	392.42	391.60	394.83
Dry Soil + Tare Mass (g)	355.22	359.77	353.32	362.13	352.23
Tare Mass (g)	183.46	176.35	176.02	245.02	176.22
Moisture Content (%)	**24.1**	**20.0**	**22.1**	**25.2**	**24.2**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	122.7	125.1	120.7	118.0	115.0
Dry Unit Weight (lbs/ft³)	98.9	104.3	98.9	94.2	92.6
Proctor No	3179-126	3179-126	3179-126	3180-127	3180-127
Optimum Moisture (Proctor) (%)	19.6	19.6	19.6	24.0	24.0
Max Dry Unit Weight (Proctor) (lbs/ft³)	100.9	100.9	100.9	95.8	95.8
Degree of Compaction (%)	**98.0**	**103.4**	**98.0**	**98.3**	**96.7**
Difference from Optimum Moisture (+/-%)	**4.5**	**0.4**	**2.5**	**1.2**	**0.2**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-100625**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	3297
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	1
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	10/30/2010
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	33119
Transmission Mode	DT 150	**Density Standardization**	2293	**Moisture Standardization**	596
Oven Start Time (Date Time)	10/30/2010 - 5:30 P.M.	**Oven Stop Time (Date Time)**	10/31/2010 - 7:00 A.M.	**Oven Used**	21-350-ER
Field Tested By	TREVOR MCCLAIN	**Lab Tested By**	RODNEY FISHER	**Reviewed By**	B. LANDERS
Submitted By	B. LANDERS				
Test No	191	192	193	194	195
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY
Station	47+92	42+93	35+96	34+01	26+76
Offset	F.S. 26	F.S. 25	F.S. 11.1	F.S. 20	F.S. 26
Lift No	2	2	2	2	2
Latitude (°N)	29.886578	29.886857	29.887286	29.887370	29.887747
Longitude (°W)	90.141010	90.142550	90.144695	90.145305	90.147487
Elevation (ft)	4.5	5.2	5.0	4.8	4.6
Moisture Test (Oven) ASTM D 2216					
Tare No	DT42	DT43	DT50	DT24	DT46
Wet Soil + Tare Mass (g)	396.04	397.89	391.40	391.42	394.96
Dry Soil + Tare Mass (g)	341.61	353.19	349.19	351.87	356.28
Tare Mass (g)	178.13	179.86	180.68	206.38	177.84
Moisture Content (%)	**33.3**	**25.8**	**25.0**	**27.2**	**21.7**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	116.2	116.6	119.7	115.6	117.8
Dry Unit Weight (lbs/ft³)	87.2	92.7	95.8	90.9	96.8
Proctor No	3178-125	3180-127	3180-127	3180-127	3179-126
Optimum Moisture (Proctor) (%)	26.2	24.0	24.0	24.0	19.6
Max Dry Unit Weight (Proctor) (lbs/ft³)	91.7	95.8	95.8	95.8	100.9
Degree of Compaction (%)	**95.1**	**96.8**	**100.0**	**94.9**	**95.9**
Difference from Optimum Moisture (+/-%)	**7.1**	**1.8**	**1.0**	**3.2**	**2.1**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Fail**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-100625**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory		**Lab Type**	QC	**Report No**	3297
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	10/30/2010
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	33119
Transmission Mode	DT 150	**Density Standardization**	2293	**Moisture Standardization**	596
Oven Start Time (Date Time)	10/30/2010 - 5:30 P.M.	**Oven Stop Time (Date Time)**	10/31/2010 - 7:00 A.M.	**Oven Used**	21-350-ER
Field Tested By	TREVOR MCCLAIN	**Lab Tested By**	RODNEY FISHER	**Reviewed By**	B. LANDERS
Submitted By	B. LANDERS				

Test No	191	192	193	194	195
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY
Station	47+92	42+93	35+96	34+01	26+76
Offset	F.S. 26	F.S. 25	F.S. 11.1	F.S. 20	F.S. 26
Lift No	2	2	2	2	2
Latitude (°N)	29.886578	29.886857	29.887286	29.887370	29.887747
Longitude (°W)	90.141010	90.142550	90.144695	90.145305	90.147487
Elevation (ft)	4.5	5.2	5.0	4.8	4.6
Moisture Test (Oven) ASTM D 2216					
Tare No	DT42	DT43	DT50	DT24	DT46
Wet Soil + Tare Mass (g)	396.04	397.89	391.40	391.42	394.96
Dry Soil + Tare Mass (g)	341.61	353.19	349.19	351.87	356.28
Tare Mass (g)	178.13	179.86	180.68	206.38	177.84
Moisture Content (%)	**33.3**	**25.8**	**25.0**	**27.2**	**21.7**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	116.2	116.6	119.7	115.6	117.8
Dry Unit Weight (lbs/ft³)	87.2	92.7	95.8	90.9	96.8
Proctor No	3178-125	3180-127	3180-127	3180-127	3179-126
Optimum Moisture (Proctor) (%)	26.2	24.0	24.0	24.0	19.6
Max Dry Unit Weight (Proctor) (lbs/ft³)	91.7	95.8	95.8	95.8	100.9
Degree of Compaction (%)	**95.1**	**96.8**	**100.0**	**94.9**	**95.9**
Difference from Optimum Moisture (+/-%)	**7.1**	**1.8**	**1.0**	**3.2**	**2.1**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Fail**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-100625**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	3297
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	1
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	10/30/2010
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	33119
Transmission Mode	DT 150	**Density Standardization**	2293	**Moisture Standardization**	596
Oven Start Time (Date Time)	10/30/2010 - 5:30 P.M.	**Oven Stop Time (Date Time)**	10/31/2010 - 7:00 A.M.	**Oven Used**	21-350-ER
Field Tested By	TREVOR MCCLAIN	**Lab Tested By**	RODNEY FISHER	**Reviewed By**	B. LANDERS
Submitted By	B. LANDERS				
Test No	196				
Retest of Test ID					
Material Source	Borrow Pit				
Feature	Levee Embankment				
Visual Description	G-BR CLAY				
Station	24+02				
Offset	F.S. 30				
Lift No	2				
Latitude (°N)	29.887898				
Longitude (°W)	90.148398				
Elevation (ft)	4.8				
Moisture Test (Oven) ASTM D 2216					
Tare No	DT02				
Wet Soil + Tare Mass (g)	392.58				
Dry Soil + Tare Mass (g)	347.96				
Tare Mass (g)	178.88				
Moisture Content (%)	**26.4**				
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	117.5				
Dry Unit Weight (lbs/ft³)	93.0				
Proctor No	3180-127				
Optimum Moisture (Proctor) (%)	24.0				
Max Dry Unit Weight (Proctor) (lbs/ft³)	95.8				
Degree of Compaction (%)	**97.1**				
Difference from Optimum Moisture (+/-%)	**2.4**				
Test Status					
Min Compaction (%)	90.0				
Max Above Optimum Moisture (%)	5.0				
Max Below Optimum Moisture (%)	3.0				
Test Result	**Pass**				
Remarks					
Version	**MVNQS10-100625**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory		**Lab Type**	QC	**Report No**	3297
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	10/30/2010
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	33119
Transmission Mode	DT 150	**Density Standardization**	2293	**Moisture Standardization**	596
Oven Start Time (Date Time)	10/30/2010 - 5:30 P.M.	**Oven Stop Time (Date Time)**	10/31/2010 - 7:00 A.M.	**Oven Used**	21-350-ER
Field Tested By	TREVOR MCCLAIN	**Lab Tested By**	RODNEY FISHER	**Reviewed By**	B. LANDERS
Submitted By	B. LANDERS				
Test No	196				
Retest of Test ID					
Material Source	Borrow Pit				
Feature	Levee Embankment				
Visual Description	G-BR CLAY				
Station	24+02				
Offset	F.S. 30				
Lift No	2				
Latitude (°N)	29.887898				
Longitude (°W)	90.148398				
Elevation (ft)	4.8				
Moisture Test (Oven) ASTM D 2216					
Tare No	DT02				
Wet Soil + Tare Mass (g)	392.58				
Dry Soil + Tare Mass (g)	347.96				
Tare Mass (g)	178.88				
Moisture Content (%)	**26.4**				
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	117.5				
Dry Unit Weight (lbs/ft³)	93.0				
Proctor No	3180-127				
Optimum Moisture (Proctor) (%)	24.0				
Max Dry Unit Weight (Proctor) (lbs/ft³)	95.8				
Degree of Compaction (%)	**97.1**				
Difference from Optimum Moisture (+/-%)	**2.4**				
Test Status					
Min Compaction (%)	90.0				
Max Above Optimum Moisture (%)	5.0				
Max Below Optimum Moisture (%)	3.0				
Test Result	**Pass**				
Remarks					
Version	**MVNQS10-100625**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	3299
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	10/31/2010
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	33119
Transmission Mode	DT 150	**Density Standardization**	2293	**Moisture Standardization**	596
Oven Start Time (Date Time)	10/31/2010 - 1:00 P.M.	**Oven Stop Time (Date Time)**	11/1/2010 - 7:00 A.M.	**Oven Used**	21-350-ER
Field Tested By	TREVOR MCCLAIN	**Lab Tested By**	RODNEY FISHER	**Reviewed By**	B. LANDERS
Submitted By	B. LANDERS				

Test No	203	204	205	206	207
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY
Station	173+01	166+13	161+05	165+02	13+00
Offset	F.S. +100	F.S. +83	F.S. + 94	F.S. +92	F.S. +24
Lift No	2	2	2	2	2
Latitude (°N)	29.870921	29.871116	29.871192	29.871113	29.888527
Longitude (°W)	90.120451	90.122613	90.124214	90.122963	90.151800
Elevation (ft)	4.2	4.8	4.1	4.1	4.9
Moisture Test (Oven) ASTM D 2216					
Tare No	DT20	DT44	DT11	DT45	DT49
Wet Soil + Tare Mass (g)	399.28	399.49	397.00	396.49	391.54
Dry Soil + Tare Mass (g)	357.63	354.45	352.72	348.41	347.29
Tare Mass (g)	212.64	176.00	180.96	177.19	176.36
Moisture Content (%)	**28.7**	**25.2**	**25.8**	**28.1**	**25.9**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	109.5	115.9	115.1	115.4	112.6
Dry Unit Weight (lbs/ft³)	85.1	92.6	91.5	90.1	89.4
Proctor No	3178-125	3180-127	3180-127	3180-127	3180-127
Optimum Moisture (Proctor) (%)	26.2	24.0	24.0	24.0	24.0
Max Dry Unit Weight (Proctor) (lbs/ft³)	91.7	95.8	95.8	95.8	95.8
Degree of Compaction (%)	**92.8**	**96.7**	**95.5**	**94.1**	**93.3**
Difference from Optimum Moisture (+/-%)	**2.5**	**1.2**	**1.8**	**4.1**	**1.9**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-100625**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	3299
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	10/31/2010
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	33119
Transmission Mode	DT 150	**Density Standardization**	2293	**Moisture Standardization**	596
Oven Start Time (Date Time)	10/31/2010 - 1:00 P.M.	**Oven Stop Time (Date Time)**	11/1/2010 - 7:00 A.M.	**Oven Used**	21-350-ER
Field Tested By	TREVOR MCCLAIN	**Lab Tested By**	RODNEY FISHER	**Reviewed By**	B. LANDERS
Submitted By	B. LANDERS				
Test No	208	209	210		
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit		
Feature	Levee Embankment	Levee Embankment	Levee Embankment		
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY		
Station	7+98	3+00	17+95		
Offset	F.S. +22	F.S. +24	F.S. +19		
Lift No	2	2	2		
Latitude (°N)	29.888810	29.889081	29.888266		
Longitude (°W)	90.153352	90.154890	90.150266		
Elevation (ft)	4.9	4.8	5.2		
Moisture Test (Oven) ASTM D 2216					
Tare No	DT41	DT27	DT48		
Wet Soil + Tare Mass (g)	395.21	397.14	393.84		
Dry Soil + Tare Mass (g)	349.57	361.11	347.53		
Tare Mass (g)	177.96	209.55	183.49		
Moisture Content (%)	**26.6**	**23.8**	**28.2**		
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	113.9	115.7	112.0		
Dry Unit Weight (lbs/ft³)	90.0	93.5	87.4		
Proctor No	3180-127	3180-127	3180-127		
Optimum Moisture (Proctor) (%)	24.0	24.0	24.0		
Max Dry Unit Weight (Proctor) (lbs/ft³)	95.8	95.8	95.8		
Degree of Compaction (%)	**93.9**	**97.6**	**91.2**		
Difference from Optimum Moisture (+/-%)	**2.6**	**-0.2**	**4.2**		
Test Status					
Min Compaction (%)	90.0	90.0	90.0		
Max Above Optimum Moisture (%)	5.0	5.0	5.0		
Max Below Optimum Moisture (%)	3.0	3.0	3.0		
Test Result	**Pass**	**Pass**	**Pass**		
Remarks					
Version	**MVNQS10-100625**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	3301
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	11/1/2010
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	33119
Transmission Mode	DT 150	**Density Standardization**	2292	**Moisture Standardization**	595
Oven Start Time (Date Time)	11/1/2010 - 5:00 P.M.	**Oven Stop Time (Date Time)**	11/2/2010 - 7:00 A.M.	**Oven Used**	21-350-ER
Field Tested By	TREVOR MCCLAIN	**Lab Tested By**	RODNEY FISHER	**Reviewed By**	B. LANDERS
Submitted By	B. LANDERS				

Test No	212	213	214	215	216
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY
Station	108+99	103+92	98+86	93+99	153+09
Offset	F.S. +82	F.S. +89	F.S. +82	F.S. +75	F.S. +80
Lift No	1	1	1	1	1
Latitude (°N)	29.874747	29.876088	29.877433	29.878719	29.871399
Longitude (°W)	90.138357	90.137988	90.137571	90.137109	90.126712
Elevation (ft)	4.1	3.5	3.7	4.0	4.7
Moisture Test (Oven) ASTM D 2216					
Tare No	DT41	DT14	DT48	DT27	DT08
Wet Soil + Tare Mass (g)	395.98	400.32	394.77	394.87	393.85
Dry Soil + Tare Mass (g)	354.30	368.63	349.78	354.03	351.09
Tare Mass (g)	177.96	245.05	183.46	209.53	187.42
Moisture Content (%)	**23.6**	**25.6**	**27.1**	**28.3**	**26.1**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	120.8	120.9	118.8	117.2	119.0
Dry Unit Weight (lbs/ft³)	97.7	96.3	93.5	91.3	94.4
Proctor No	3179-126	3180-127	3180-127	3180-127	3180-127
Optimum Moisture (Proctor) (%)	19.6	24.0	24.0	24.0	24.0
Max Dry Unit Weight (Proctor) (lbs/ft³)	100.9	95.8	95.8	95.8	95.8
Degree of Compaction (%)	**96.8**	**100.5**	**97.6**	**95.3**	**98.5**
Difference from Optimum Moisture (+/-%)	**4.0**	**1.6**	**3.1**	**4.3**	**2.1**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-100625**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	3354
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	11/6/2010
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	33119
Transmission Mode	DT 150	**Density Standardization**	2274	**Moisture Standardization**	588
Oven Start Time (Date Time)	11/6/2010 - 1:00 P.M.	**Oven Stop Time (Date Time)**	11/7/2010 - 7:00 A.M.	**Oven Used**	21-350-ER
Field Tested By	CHANG	**Lab Tested By**	RODNEY FISHER	**Reviewed By**	B. LANDERS
Submitted By	B. LANDERS				
Test No	217	218	219		
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit		
Feature	Levee Embankment	Levee Embankment	Levee Embankment		
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY		
Station	124+84	86+96	82+10		
Offset	F.S. +91'	F.S. +83'	F.S. +77'		
Lift No	2	1	1		
Latitude (°N)	29.872005	29.880580	29.881855		
Longitude (°W)	90.135601	90.136501	90.136046		
Elevation (ft)	4.3	4.1	4.3		
Moisture Test (Oven) ASTM D 2216					
Tare No	DT27	DT48	DT41		
Wet Soil + Tare Mass (g)	394.55	392.03	391.99		
Dry Soil + Tare Mass (g)	355.27	348.70	342.42		
Tare Mass (g)	209.55	183.48	177.98		
Moisture Content (%)	**27.0**	**26.2**	**30.1**		
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	108.1	113.6	116.5		
Dry Unit Weight (lbs/ft³)	85.1	90.0	89.5		
Proctor No	3186-133	2653-008	3186-133		
Optimum Moisture (Proctor) (%)	26.5	23.1	26.5		
Max Dry Unit Weight (Proctor) (lbs/ft³)	91.6	99.7	91.6		
Degree of Compaction (%)	**92.9**	**90.3**	**97.7**		
Difference from Optimum Moisture (+/-%)	**0.5**	**3.1**	**3.6**		
Test Status					
Min Compaction (%)	90.0	90.0	90.0		
Max Above Optimum Moisture (%)	5.0	5.0	5.0		
Max Below Optimum Moisture (%)	3.0	3.0	3.0		
Test Result	**Pass**	**Pass**	**Pass**		
Remarks					
Version	**MVNQS10-100625**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	3356
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	11/7/2010
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	33119
Transmission Mode	DT 150	**Density Standardization**	2273	**Moisture Standardization**	582
Oven Start Time (Date Time)	11/7/2010 - 3:00 P.M.	**Oven Stop Time (Date Time)**	11/8/2010 - 7:00 A.M.	**Oven Used**	21-350-ER
Field Tested By	CHANG	**Lab Tested By**	RODNEY FISHER	**Reviewed By**	B. LANDERS
Submitted By	B. LANDERS				

Test No	220	221	222	223	224
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY
Station	75+98	74+05	67+99	62+95	58+90
Offset	F.S. +77	F.S. +67	F.S. +72	F.S. +53	F.S. +85
Lift No	1	1	1	1	1
Latitude (°N)	29.883470	29.883971	29.885126	29.885764	29.886208
Longitude (°W)	90.135496	90.135292	90.135252	90.136709	90.137696
Elevation (ft)	4.6	4.8	4.3	5.0	4.4
Moisture Test (Oven) ASTM D 2216					
Tare No	DT45	DT31	DT01	DT41	DT48
Wet Soil + Tare Mass (g)	397.32	398.25	395.76	398.08	396.50
Dry Soil + Tare Mass (g)	354.18	358.95	346.06	351.53	354.89
Tare Mass (g)	177.18	210.90	171.86	177.94	183.48
Moisture Content (%)	**24.4**	**26.5**	**28.5**	**26.8**	**24.3**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	116.0	112.1	116.4	120.3	117.7
Dry Unit Weight (lbs/ft³)	93.2	88.6	90.6	94.9	94.7
Proctor No	3180-127	3180-127	3180-127	3180-127	3180-127
Optimum Moisture (Proctor) (%)	24.0	24.0	24.0	24.0	24.0
Max Dry Unit Weight (Proctor) (lbs/ft³)	95.8	95.8	95.8	95.8	95.8
Degree of Compaction (%)	**97.3**	**92.5**	**94.6**	**99.1**	**98.9**
Difference from Optimum Moisture (+/-%)	**0.4**	**2.5**	**4.5**	**2.8**	**0.3**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-100625**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	3356
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	11/7/2010
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	33119
Transmission Mode	DT 150	**Density Standardization**	2273	**Moisture Standardization**	582
Oven Start Time (Date Time)	11/7/2010 - 3:00 P.M.	**Oven Stop Time (Date Time)**	11/8/2010 - 7:00 A.M.	**Oven Used**	21-350-ER
Field Tested By	CHANG	**Lab Tested By**	RODNEY FISHER	**Reviewed By**	B. LANDERS
Submitted By	B. LANDERS				
Test No	225	226			
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit			
Feature	Levee Embankment	Levee Embankment			
Visual Description	G-BR CLAY	G-BR CLAY			
Station	178+39	180+58			
Offset	F.S. +74	F.S. +69			
Lift No	3	3			
Latitude (°N)	29.870845	29.870714			
Longitude (°W)	90.118797	90.118124			
Elevation (ft)	6.2	6.1			
Moisture Test (Oven) ASTM D 2216					
Tare No	DT08	DT11			
Wet Soil + Tare Mass (g)	397.79	395.80			
Dry Soil + Tare Mass (g)	354.76	352.37			
Tare Mass (g)	187.41	180.92			
Moisture Content (%)	**25.7**	**25.3**			
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	110.5	117.3			
Dry Unit Weight (lbs/ft³)	87.9	93.6			
Proctor No	3180-127	3180-127			
Optimum Moisture (Proctor) (%)	24.0	24.0			
Max Dry Unit Weight (Proctor) (lbs/ft³)	95.8	95.8			
Degree of Compaction (%)	**91.8**	**97.7**			
Difference from Optimum Moisture (+/-%)	**1.7**	**1.3**			
Test Status					
Min Compaction (%)	90.0	90.0			
Max Above Optimum Moisture (%)	5.0	5.0			
Max Below Optimum Moisture (%)	3.0	3.0			
Test Result	**Pass**	**Pass**			
Remarks					
Version	**MVNQS10-100625**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	3363
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	11/9/2010
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	33119
Transmission Mode	DT 150	**Density Standardization**	2236	**Moisture Standardization**	589
Oven Start Time (Date Time)	11/9/2010 - 4:00 P.M.	**Oven Stop Time (Date Time)**	11/10/2010 - 7:00 A.M.	**Oven Used**	21-350-ER
Field Tested By	CHANG	**Lab Tested By**	RODNEY FISHER	**Reviewed By**	B. LANDERS
Submitted By	B. LANDERS				

Test No	227	228	229	230	
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY	
Station	107+60	101+91	175+72	147+88	
Offset	F.S. +91	F.S. +96	F.S. +56	F.S. +88	
Lift No	2	2	3	1	
Latitude (°N)	29.875111	29.876630	29.870986	29.871489	
Longitude (°W)	90.138281	90.137852	90.119588	90.128355	
Elevation (ft)	5.2	4.8	6.6	3.8	
Moisture Test (Oven) ASTM D 2216					
Tare No	DT40	DT14	DT43	DT42	
Wet Soil + Tare Mass (g)	496.80	606.40	569.10	503.30	
Dry Soil + Tare Mass (g)	428.80	528.60	484.30	438.10	
Tare Mass (g)	176.30	245.00	180.00	178.20	
Moisture Content (%)	**26.9**	**27.4**	**27.9**	**25.1**	
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	112.1	119.5	115.2	118.1	
Dry Unit Weight (lbs/ft³)	88.3	93.8	90.1	94.4	
Proctor No	3180-127	3180-127	3180-127	3180-127	
Optimum Moisture (Proctor) (%)	24.0	24.0	24.0	24.0	
Max Dry Unit Weight (Proctor) (lbs/ft³)	95.8	95.8	95.8	95.8	
Degree of Compaction (%)	**92.2**	**97.9**	**94.1**	**98.5**	
Difference from Optimum Moisture (+/-%)	**2.9**	**3.4**	**3.9**	**1.1**	
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	
Remarks					
Version	**MVNQS10-100625**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	3371
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	11/10/2010
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	33119
Transmission Mode	DT 150	**Density Standardization**	2262	**Moisture Standardization**	589
Oven Start Time (Date Time)	11/10/2010 - 4:00 P.M.	**Oven Stop Time (Date Time)**	11/11/2010 - 7:00 A.M.	**Oven Used**	21-350-ER
Field Tested By	CHANG	**Lab Tested By**	RODNEY FISHER	**Reviewed By**	B. LANDERS
Submitted By	B. LANDERS				

Test No	231	232	233	234	
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY	
Station	96+83	92+31	143+72	137+67	
Offset	F.S. +64	F.S. +53	F.S. +101	F.S. +84	
Lift No	2	2	1	1	
Latitude (°N)	29.877961	29.879144	29.871542	29.871725	
Longitude (°W)	90.137333	90.136893	90.129666	90.131567	
Elevation (ft)	5.5	6.0	3.4	4.7	
Moisture Test (Oven) ASTM D 2216					
Tare No	DT43	DT42	DT45	DT14	
Wet Soil + Tare Mass (g)	426.60	422.60	482.90	568.50	
Dry Soil + Tare Mass (g)	374.80	363.60	414.80	494.40	
Tare Mass (g)	179.80	178.10	177.20	245.00	
Moisture Content (%)	**26.6**	**31.8**	**28.7**	**29.7**	
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	117.9	115.7	118.8	118.6	
Dry Unit Weight (lbs/ft³)	93.1	87.8	92.3	91.4	
Proctor No	3180-127	3182-129	3180-127	3178-125	
Optimum Moisture (Proctor) (%)	24.0	29.4	24.0	26.2	
Max Dry Unit Weight (Proctor) (lbs/ft³)	95.8	88.2	95.8	91.7	
Degree of Compaction (%)	**97.2**	**99.5**	**96.3**	**99.7**	
Difference from Optimum Moisture (+/-%)	**2.6**	**2.4**	**4.7**	**3.5**	
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	
Remarks					
Version	**MVNQS10-100625**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	3379
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	11/11/2010
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	33119
Transmission Mode	DT 150	**Density Standardization**	2280	**Moisture Standardization**	590
Oven Start Time (Date Time)	11/11/2010 - 5:00 P.M.	**Oven Stop Time (Date Time)**	11/12/2010 - 7:00 A.M.	**Oven Used**	21-350-ER
Field Tested By	CHANG	**Lab Tested By**	RODNEY FISHER	**Reviewed By**	B. LANDERS
Submitted By	B. LANDERS				

Test No	237	238	239	240	241
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY
Station	172+24	169+75	167+25	164+71	68+46
Offset	F.S. +63	F.S. +55	F.S. +51	F.S. +76	F.S. +86
Lift No	3	3	3	3	3
Latitude (°N)	29.871040	29.871115	29.871179	29.871163	29.885044
Longitude (°W)	90.120684	90.121146	90.122250	90.123056	90.135129
Elevation (ft)	6.3	6.2	6.2	5.3	4.8
Moisture Test (Oven) ASTM D 2216					
Tare No	DT25	DT01	DT47	DT31	DT02
Wet Soil + Tare Mass (g)	392.73	400.27	394.83	391.11	396.48
Dry Soil + Tare Mass (g)	349.91	345.90	343.55	352.70	342.74
Tare Mass (g)	205.66	171.88	178.16	210.93	178.87
Moisture Content (%)	**29.7**	**31.2**	**31.0**	**27.1**	**32.8**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	118.8	117.8	119.2	118.4	115.8
Dry Unit Weight (lbs/ft³)	91.6	89.8	91.0	93.2	87.2
Proctor No	3178-125	3178-125	3178-125	3180-127	3182-129
Optimum Moisture (Proctor) (%)	26.2	26.2	26.2	24.0	29.4
Max Dry Unit Weight (Proctor) (lbs/ft³)	91.7	91.7	91.7	95.8	88.2
Degree of Compaction (%)	**99.9**	**97.9**	**99.2**	**97.3**	**98.9**
Difference from Optimum Moisture (+/-%)	**3.5**	**5.0**	**4.8**	**3.1**	**3.4**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-100625**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	3379
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	11/11/2010
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	33119
Transmission Mode	DT 150	**Density Standardization**	2280	**Moisture Standardization**	590
Oven Start Time (Date Time)	11/11/2010 - 5:00 P.M.	**Oven Stop Time (Date Time)**	11/12/2010 - 7:00 A.M.	**Oven Used**	21-350-ER
Field Tested By	CHANG	**Lab Tested By**	RODNEY FISHER	**Reviewed By**	B. LANDERS
Submitted By	B. LANDERS				

Test No	242	243	244		
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit		
Feature	Levee Embankment	Levee Embankment	Levee Embankment		
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY		
Station	66+06	63+50	61+12		
Offset	F.S. +55	F.S. +42	F.S. +85		
Lift No	3	3	3		
Latitude (°N)	29.885354	29.885699	29.886083		
Longitude (°W)	90.135802	90.136547	90.137272		
Elevation (ft)	5.6	5.9	5.6		
Moisture Test (Oven) ASTM D 2216					
Tare No	DT14	DT45	DT42		
Wet Soil + Tare Mass (g)	399.34	393.79	394.01		
Dry Soil + Tare Mass (g)	363.74	347.05	344.20		
Tare Mass (g)	245.03	177.19	178.11		
Moisture Content (%)	**30.0**	**27.5**	**30.0**		
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	116.7	116.0	118.9		
Dry Unit Weight (lbs/ft³)	89.8	91.0	91.5		
Proctor No	3178-125	3178-125	3178-125		
Optimum Moisture (Proctor) (%)	26.2	26.2	26.2		
Max Dry Unit Weight (Proctor) (lbs/ft³)	91.7	91.7	91.7		
Degree of Compaction (%)	**97.9**	**99.2**	**99.8**		
Difference from Optimum Moisture (+/-%)	**3.8**	**1.3**	**3.8**		
Test Status					
Min Compaction (%)	90.0	90.0	90.0		
Max Above Optimum Moisture (%)	5.0	5.0	5.0		
Max Below Optimum Moisture (%)	3.0	3.0	3.0		
Test Result	**Pass**	**Pass**	**Pass**		
Remarks					
Version	**MVNQS10-100625**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	3384
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	11/12/2010
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	33119
Transmission Mode	DT 150	**Density Standardization**	2252	**Moisture Standardization**	591
Oven Start Time (Date Time)	11/12/2010 - 6:00 P.M.	**Oven Stop Time (Date Time)**	11/13/2010 - 7:00 A.M.	**Oven Used**	21-350-ER
Field Tested By	CHANG	**Lab Tested By**	RODNEY FISHER	**Reviewed By**	B. LANDERS
Submitted By	B. LANDERS				

Test No	245	246	247	248	249
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY
Station	181+02	162+97	160+16	158+50	85+93
Offset	C/L	F.S. +77	F.S. +81	F.S. +71	F.S. +62
Lift No	4	3	3	3	2
Latitude (°N)	29.870864	29.871198	29.871261	29.871311	29.880966
Longitude (°W)	90.117936	90.123605	90.126059	90.125015	90.136301
Elevation (ft)	9.1	5.3	5.2	5.5	6.1
Moisture Test (Oven) ASTM D 2216					
Tare No	DT30	DT49	DT50	DT42	DT45
Wet Soil + Tare Mass (g)	395.27	393.32	395.43	396.83	390.91
Dry Soil + Tare Mass (g)	345.91	348.70	344.36	341.12	337.96
Tare Mass (g)	203.90	176.34	180.67	178.13	177.18
Moisture Content (%)	**34.8**	**25.9**	**31.2**	**34.2**	**32.9**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	113.1	118.2	115.4	113.5	116.2
Dry Unit Weight (lbs/ft³)	83.9	93.9	88.0	84.6	87.4
Proctor No	3178-125	3180-127	3178-125	3178-125	3182-129
Optimum Moisture (Proctor) (%)	26.2	24.0	26.2	26.2	29.4
Max Dry Unit Weight (Proctor) (lbs/ft³)	91.7	95.8	91.7	91.7	88.2
Degree of Compaction (%)	**91.5**	**98.0**	**96.0**	**92.3**	**99.1**
Difference from Optimum Moisture (+/-%)	**8.6**	**1.9**	**5.0**	**8.0**	**3.5**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Fail**	**Pass**	**Pass**	**Fail**	**Pass**
Remarks					
Version	**MVNQS10-100625**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	3384
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	11/12/2010
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	33119
Transmission Mode	DT 150	**Density Standardization**	2252	**Moisture Standardization**	591
Oven Start Time (Date Time)	11/12/2010 - 6:00 P.M.	**Oven Stop Time (Date Time)**	11/13/2010 - 7:00 A.M.	**Oven Used**	21-350-ER
Field Tested By	CHANG	**Lab Tested By**	RODNEY FISHER	**Reviewed By**	B. LANDERS
Submitted By	B. LANDERS				

Test No	250	251	252	253	254
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY
Station	84+02	175+12	169+06	164+04	71+99
Offset	F.S. +50	P.S. -10	C/L	C/L	F.S. +71
Lift No	2	4	4	4	2
Latitude (°N)	29.881327	29.871181	29.871267	29.871354	29.884517
Longitude (°W)	90.136139	90.119762	90.121674	90.123253	90.135119
Elevation (ft)	6.1	8.7	8.4	8.2	5.8
Moisture Test (Oven) ASTM D 2216					
Tare No	DT14	DT02	DT31	DT47	DT01
Wet Soil + Tare Mass (g)	394.11	394.45	395.15	390.40	389.60
Dry Soil + Tare Mass (g)	363.77	349.63	354.50	345.02	344.52
Tare Mass (g)	244.99	178.85	210.93	178.11	171.85
Moisture Content (%)	**25.5**	**26.2**	**28.3**	**27.2**	**26.1**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	120.5	116.8	113.0	117.9	118.1
Dry Unit Weight (lbs/ft³)	96.0	92.6	88.1	92.7	93.7
Proctor No	3180-127	3180-127	3180-127	3180-127	3180-127
Optimum Moisture (Proctor) (%)	24.0	24.0	24.0	24.0	24.0
Max Dry Unit Weight (Proctor) (lbs/ft³)	95.8	95.8	95.8	95.8	95.8
Degree of Compaction (%)	**100.2**	**96.7**	**92.0**	**96.8**	**97.8**
Difference from Optimum Moisture (+/-%)	**1.5**	**2.2**	**4.3**	**3.2**	**2.1**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-100625**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	3384
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	11/12/2010
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	33119
Transmission Mode	DT 150	**Density Standardization**	2252	**Moisture Standardization**	591
Oven Start Time (Date Time)	11/12/2010 - 6:00 P.M.	**Oven Stop Time (Date Time)**	11/13/2010 - 7:00 A.M.	**Oven Used**	21-350-ER
Field Tested By	CHANG	**Lab Tested By**	RODNEY FISHER	**Reviewed By**	B. LANDERS
Submitted By	B. LANDERS				
Test No	255				
Retest of Test ID					
Material Source	Borrow Pit				
Feature	Levee Embankment				
Visual Description	G-BR CLAY				
Station	78+03				
Offset	F.S. +61				
Lift No	2				
Latitude (°N)	29.882914				
Longitude (°W)	90.135632				
Elevation (ft)	5.1				
Moisture Test (Oven) ASTM D 2216					
Tare No	DT25				
Wet Soil + Tare Mass (g)	390.88				
Dry Soil + Tare Mass (g)	352.00				
Tare Mass (g)	205.72				
Moisture Content (%)	**26.6**				
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	113.9				
Dry Unit Weight (lbs/ft³)	90.0				
Proctor No	3178-125				
Optimum Moisture (Proctor) (%)	26.2				
Max Dry Unit Weight (Proctor) (lbs/ft³)	91.7				
Degree of Compaction (%)	**98.1**				
Difference from Optimum Moisture (+/-%)	**0.4**				
Test Status					
Min Compaction (%)	90.0				
Max Above Optimum Moisture (%)	5.0				
Max Below Optimum Moisture (%)	3.0				
Test Result	**Pass**				
Remarks					
Version	**MVNQS10-100625**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	3391
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	2
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	11/14/2010
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2282	**Moisture Standardization**	530	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	11/14/2010 - 5:00 P.M.	**Oven Stop Time (Date Time)**	11/15/2010 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	Rodney Fisher	**Reviewed By**	B. Landers

Test No	267	268	269	270	271
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY
Station	82+90	81+25	122+96	124+50	126+51
Offset	C/L	C/L	C/L	P.S. -13	C/L
Lift No	3	3	4	3	3
Latitude (°N)	29.881579	29.882014	29.872313	29.872303	29.872238
Longitude (°W)	90.135852	90.135721	90.136166	90.135674	90.135069
Elevation (ft)	7.2	7.4	8.4	8.0	8.4
Transmission Mode	DT 300	DT 300	DT 300	DT 300	DT 300
Moisture Test (Oven) ASTM D 2216					
Tare No	DT30	DT49	DT50	DT48	DT45
Wet Soil + Tare Mass (g)	395.99	396.43	391.42	394.66	400.67
Dry Soil + Tare Mass (g)	352.70	350.11	342.88	349.10	349.14
Tare Mass (g)	203.34	176.38	180.72	183.49	177.25
Moisture Content (%)	**29.0**	**26.7**	**29.9**	**27.5**	**30.0**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	109.4	121.6	107.1	112.2	117.8
Dry Unit Weight (lbs/ft³)	84.8	96.0	82.4	88.0	90.6
Proctor No	3180-127	3184-131	3185-132	3180-127	3180-127
Optimum Moisture (Proctor) (%)	24.0	21.9	28.5	24.0	24.0
Max Dry Unit Weight (Proctor) (lbs/ft³)	95.8	93.8	90.0	95.8	95.8
Degree of Compaction (%)	**88.5**	**102.3**	**91.6**	**91.9**	**94.6**
Difference from Optimum Moisture (+/-%)	**5.0**	**4.8**	**1.4**	**3.5**	**6.0**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Fail**	**PASS**	**PASS**	**PASS**	**Fail**
Remarks					
Version	**MVNQS10-101021**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	3423
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	11/19/2010
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	26414
Density Standardization	1884	**Moisture Standardization**	690	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	11/19/2010 - 5:00 P.M.	**Oven Stop Time (Date Time)**	11/20/2010 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	Rodney Fisher	**Reviewed By**	B. Landers
Test No	272	273	274	275	276
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G-BR Clay	G-BR Clay	G-BR Clay	G-BR Clay	G-BR Clay
Station	127+62	130+00	132+50	135+03	137+52
Offset	C/L	C/L	C/L	P.S. -6'	C/L
Lift No	3	3	3	3	3
Latitude (°N)	29.872209	29.872137	29.872091	29.872037	29.871950
Longitude (°W)	90.134701	90.133955	90.133169	90.132367	90.131591
Elevation (ft)	8.1	8.3	8.6	8.3	8.2
Transmission Mode	DT 150	DT 300	DT 300	DT 300	DT 300
Moisture Test (Oven) ASTM D 2216					
Tare No	DT21	DT41	DT47	DT46	DT43
Wet Soil + Tare Mass (g)	391.12	382.82	383.09	380.57	382.07
Dry Soil + Tare Mass (g)	352.92	335.14	329.99	331.45	336.97
Tare Mass (g)	211.57	177.97	178.15	177.90	179.93
Moisture Content (%)	**27.0**	**30.3**	**35.0**	**32.0**	**28.7**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	119.3	114.9	114.1	110.4	116.1
Dry Unit Weight (lbs/ft³)	93.9	88.2	84.5	83.6	90.2
Proctor No	3180-127	3178-125	2611-003	3186-133	3180-127
Optimum Moisture (Proctor) (%)	24.0	26.2	30.6	26.5	24.0
Max Dry Unit Weight (Proctor) (lbs/ft³)	95.8	91.7	87.9	91.6	95.8
Degree of Compaction (%)	**98.0**	**96.2**	**96.1**	**91.3**	**94.2**
Difference from Optimum Moisture (+/-%)	**3.0**	**4.1**	**4.4**	**5.5**	**4.7**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Fail**	**Pass**
Remarks	12" TEST ALSO TAKEN ON ID 272 WD: 120.2				
Version	**MVNQS10-101021**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	3423
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	11/19/2010
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	26414
Density Standardization	1884	**Moisture Standardization**	690	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	11/19/2010 - 5:00 P.M.	**Oven Stop Time (Date Time)**	11/20/2010 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	Rodney Fisher	**Reviewed By**	B. Landers
Test No	277				
Retest of Test ID					
Material Source	Borrow Pit				
Feature	Levee Embankment				
Visual Description	G-BR CLAY				
Station	139+96				
Offset	C/L				
Lift No	3				
Latitude (°N)	29.871893				
Longitude (°W)	90.130825				
Elevation (ft)	7.9				
Transmission Mode	DT 300				
Moisture Test (Oven) ASTM D 2216					
Tare No	DT08				
Wet Soil + Tare Mass (g)	388.03				
Dry Soil + Tare Mass (g)	338.28				
Tare Mass (g)	187.45				
Moisture Content (%)	**33.0**				
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	113.9				
Dry Unit Weight (lbs/ft³)	85.6				
Proctor No	2611-003				
Optimum Moisture (Proctor) (%)	30.6				
Max Dry Unit Weight (Proctor) (lbs/ft³)	87.9				
Degree of Compaction (%)	**97.4**				
Difference from Optimum Moisture (+/-%)	**2.4**				
Test Status					
Min Compaction (%)	90.0				
Max Above Optimum Moisture (%)	5.0				
Max Below Optimum Moisture (%)	3.0				
Test Result	**Pass**				
Remarks					
Version	**MVNQS10-101021**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	3429
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	11/21/2010
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2266	**Moisture Standardization**	596	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	11/21/2010 - 3:00 P.M.	**Oven Stop Time (Date Time)**	11/22/2010 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	Rodney Fisher	**Reviewed By**	B. Landers
Test No	278	279	280	281	282
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY
Station	64+00	71+22	73+25	76+53	79+00
Offset	C/L	C/L	C/L	C/L	F.S. +9
Lift No	4	3	3	3	3
Latitude (°N)	29.885738	29.884661	29.884122	29.883269	29.882617
Longitude (°W)	90.136325	90.134831	90.134992	90.135335	90.135564
Elevation (ft)	7.4	8.1	8.0	7.8	8.4
Transmission Mode	DT 300	DT 300	DT 300	DT 300	DT 150
Moisture Test (Oven) ASTM D 2216					
Tare No	DT02	DT45	DT48	DT50	DT49
Wet Soil + Tare Mass (g)	390.59	394.48	394.57	397.88	395.47
Dry Soil + Tare Mass (g)	335.78	345.14	344.56	339.92	341.06
Tare Mass (g)	178.95	177.28	183.57	180.74	176.40
Moisture Content (%)	**34.9**	**29.4**	**31.1**	**36.4**	**33.0**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	115.2	118.8	111.2	113.5	120.0
Dry Unit Weight (lbs/ft³)	85.4	91.8	84.8	83.2	90.2
Proctor No	3186-133	3186-133	3185-132	3185-132	3186-133
Optimum Moisture (Proctor) (%)	26.5	26.5	28.5	28.5	26.5
Max Dry Unit Weight (Proctor) (lbs/ft³)	91.6	91.6	90.0	90.0	91.6
Degree of Compaction (%)	**93.2**	**100.2**	**94.2**	**92.4**	**98.5**
Difference from Optimum Moisture (+/-%)	**8.4**	**2.9**	**2.6**	**7.9**	**6.5**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Fail**	**Pass**	**Pass**	**Fail**	**Fail**
Remarks	TEST ID 282 SAND CONE. 12" WD = 117.0				
Version	**MVNQS10-101021**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	3429
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	11/21/2010
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2266	**Moisture Standardization**	596	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	11/21/2010 - 3:00 P.M.	**Oven Stop Time (Date Time)**	11/22/2010 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	Rodney Fisher	**Reviewed By**	B. Landers
Test No	283	284	285	286	287
Retest of Test ID	3391-267			3388-260	
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY
Station	82+90	87+54	94+58	98+48	103+27
Offset	C/L	P.S. -12	C/L	C/L -2.0	C/L
Lift No	3	4	4	3	4
Latitude (°N)	29.881579	29.880353	29.878508	29.877487	29.876198
Longitude (°W)	90.135852	90.136265	90.136956	90.137324	90.137645
Elevation (ft)	7.2	8.0	8.0	7.2	7.9
Transmission Mode	DT 300	DT 300	DT 300	DT 300	DT 300
Moisture Test (Oven) ASTM D 2216					
Tare No	DT21	DT41	DT47	DT46	DT30
Wet Soil + Tare Mass (g)	397.07	394.86	391.74	397.62	393.08
Dry Soil + Tare Mass (g)	350.30	338.30	336.04	343.53	354.00
Tare Mass (g)	211.64	178.03	178.16	177.90	203.35
Moisture Content (%)	**33.7**	**35.3**	**35.3**	**32.7**	**25.9**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	113.0	113.6	116.3	118.1	118.4
Dry Unit Weight (lbs/ft³)	84.5	84.0	86.0	89.0	94.0
Proctor No	3186-133	3186-133	3185-132	3186-133	3180-127
Optimum Moisture (Proctor) (%)	26.5	26.5	28.5	26.5	24.0
Max Dry Unit Weight (Proctor) (lbs/ft³)	91.6	91.6	90.0	91.6	95.8
Degree of Compaction (%)	**92.2**	**91.7**	**95.6**	**97.2**	**98.1**
Difference from Optimum Moisture (+/-%)	**7.2**	**8.8**	**6.8**	**6.2**	**1.9**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Fail**	**Fail**	**Fail**	**Fail**	**Pass**
Remarks					
Version	**MVNQS10-101021**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	3429
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	11/21/2010
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2266	**Moisture Standardization**	596	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	11/21/2010 - 3:00 P.M.	**Oven Stop Time (Date Time)**	11/22/2010 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	Rodney Fisher	**Reviewed By**	B. Landers
Test No	288	289	290		
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit		
Feature	Levee Embankment	Levee Embankment	Levee Embankment		
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY		
Station	108+13	98+91	94+59		
Offset	F.S. +12	P.S. -152	P.S. -152		
Lift No	4	1	1		
Latitude (°N)	29.874916	29.877260	29.878384		
Longitude (°W)	90.138078	90.136858	90.136475		
Elevation (ft)	8.4	-0.1	-1.4		
Transmission Mode	DT 300	DT 150	DT 150		
Moisture Test (Oven) ASTM D 2216					
Tare No	DT51	DT53	DT44		
Wet Soil + Tare Mass (g)	397.42	398.41	392.51		
Dry Soil + Tare Mass (g)	329.45	339.21	335.47		
Tare Mass (g)	140.14	141.07	176.03		
Moisture Content (%)	**35.9**	**29.9**	**35.8**		
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	118.0	111.8	110.5		
Dry Unit Weight (lbs/ft³)	86.8	86.1	81.4		
Proctor No	3184-131	3185-132	3186-133		
Optimum Moisture (Proctor) (%)	21.9	28.5	26.5		
Max Dry Unit Weight (Proctor) (lbs/ft³)	93.8	90.0	91.6		
Degree of Compaction (%)	**92.5**	**95.7**	**88.9**		
Difference from Optimum Moisture (+/-%)	**14.0**	**1.4**	**9.3**		
Test Status					
Min Compaction (%)	90.0	90.0	90.0		
Max Above Optimum Moisture (%)	5.0	5.0	5.0		
Max Below Optimum Moisture (%)	3.0	3.0	3.0		
Test Result	**Fail**	**Pass**	**Fail**		
Remarks					
Version	**MVNQS10-101021**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	3439
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	11/23/2010
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	26414
Density Standardization		**Moisture Standardization**		**Oven Used**	21-350-ER
Oven Start Time (Date Time)	11/23/2010 - 3:30 P.M.	**Oven Stop Time (Date Time)**	11/24/2010 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	Rodney Fisher	**Reviewed By**	B. Landers
Test No	294	295	296	297	298
Retest of Test ID	3429-284	3429-283	3429-282	3429-281	
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY
Station	87+54	82+90	79+00	76+53	69+06
Offset	P.S. -12	C/L	F.S. +19	C/L	F.S. +39
Lift No	4	3	3	3	4
Latitude (°N)	29.880353	29.881579	29.882617	29.883269	29.885114
Longitude (°W)	90.136265	90.135852	90.135564	90.135335	90.134926
Elevation (ft)	8.0	7.2	8.4	7.8	6.3
Transmission Mode	DT 300	DT 300	DT 300	DT 300	DT 300
Moisture Test (Oven) ASTM D 2216					
Tare No	DT48	DT50	DT41	DT49	DT21
Wet Soil + Tare Mass (g)	399.50	399.20	395.27	394.38	397.58
Dry Soil + Tare Mass (g)	349.77	340.84	338.53	332.09	355.52
Tare Mass (g)	183.47	180.73	177.99	176.37	211.60
Moisture Content (%)	**29.9**	**36.4**	**35.3**	**40.0**	**29.2**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	114.7	111.8	115.4	112.4	117.1
Dry Unit Weight (lbs/ft³)	88.3	82.0	85.3	80.3	90.6
Proctor No	3185-132	3183-130	3183-130	3183-130	3184-131
Optimum Moisture (Proctor) (%)	28.5	27.6	27.6	27.6	21.9
Max Dry Unit Weight (Proctor) (lbs/ft³)	90.0	87.5	87.5	87.5	93.8
Degree of Compaction (%)	**98.1**	**93.7**	**97.5**	**91.8**	**96.6**
Difference from Optimum Moisture (+/-%)	**1.4**	**8.8**	**7.7**	**12.4**	**7.3**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Fail**	**Fail**	**Fail**	**Fail**
Remarks					
Version	**MVNQS10-101021**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	3439
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	11/23/2010
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	26414
Density Standardization		**Moisture Standardization**		**Oven Used**	21-350-ER
Oven Start Time (Date Time)	11/23/2010 - 3:30 P.M.	**Oven Stop Time (Date Time)**	11/24/2010 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	Rodney Fisher	**Reviewed By**	B. Landers
Test No	299				
Retest of Test ID	3429-278				
Material Source	Borrow Pit				
Feature	Levee Embankment				
Visual Description	G-BR CLAY				
Station	64+00				
Offset	C/L				
Lift No	4				
Latitude (°N)	29.885738				
Longitude (°W)	90.136325				
Elevation (ft)	7.4				
Transmission Mode	DT 300				
Moisture Test (Oven) ASTM D 2216					
Tare No	DT47				
Wet Soil + Tare Mass (g)	393.39				
Dry Soil + Tare Mass (g)	342.90				
Tare Mass (g)	178.14				
Moisture Content (%)	**30.6**				
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	114.2				
Dry Unit Weight (lbs/ft³)	87.4				
Proctor No	3185-132				
Optimum Moisture (Proctor) (%)	28.5				
Max Dry Unit Weight (Proctor) (lbs/ft³)	90.0				
Degree of Compaction (%)	**97.1**				
Difference from Optimum Moisture (+/-%)	**2.1**				
Test Status					
Min Compaction (%)	90.0				
Max Above Optimum Moisture (%)	5.0				
Max Below Optimum Moisture (%)	3.0				
Test Result	**Pass**				
Remarks					
Version	**MVNQS10-101021**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	3448
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	11/24/2010
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	26414
Density Standardization	2235	**Moisture Standardization**	589	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	11/29/2010 - 1:30 P.M.	**Oven Stop Time (Date Time)**	11/30/2010 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	Rodney Fisher	**Reviewed By**	B. Landers
Test No	300	301	302	303	304
Retest of Test ID	3423-275	3429-290			
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY
Station	135+03	94+59	88+03	83+07	78+02
Offset	P.S. -6'	P.S. -152	P.S. -143	P.S. -151	P.S. -142
Lift No	3	1	1	1	1
Latitude (°N)	29.872037	29.878384	29.880115	29.881426	29.882758
Longitude (°W)	90.132367	90.136475	90.135915	90.135899	90.135014
Elevation (ft)	8.3	-1.4	-1.1	-0.8	-0.4
Transmission Mode	DT 300	DT 150	DT 150	DT 150	DT 150
Moisture Test (Oven) ASTM D 2216					
Tare No	DT47	DT21	DT49	DT41	DT50
Wet Soil + Tare Mass (g)	393.66	392.73	398.40	398.30	393.25
Dry Soil + Tare Mass (g)	341.43	340.96	344.36	349.86	346.91
Tare Mass (g)	178.04	211.58	176.30	177.99	180.61
Moisture Content (%)	**32.0**	**40.0**	**32.2**	**28.2**	**27.9**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	115.5	107.8	112.0	109.3	112.2
Dry Unit Weight (lbs/ft³)	87.5	77.0	84.7	85.3	87.7
Proctor No	3186-133	3183-130	3185-132	3185-132	3180-127
Optimum Moisture (Proctor) (%)	26.5	27.6	28.5	28.5	24.0
Max Dry Unit Weight (Proctor) (lbs/ft³)	91.6	87.5	90.0	90.0	95.8
Degree of Compaction (%)	**95.5**	**88.0**	**94.1**	**94.8**	**91.5**
Difference from Optimum Moisture (+/-%)	**5.5**	**12.4**	**3.7**	**-0.3**	**3.9**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Fail**	**Fail**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-101021**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	3448
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	11/24/2010
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	26414
Density Standardization	2235	**Moisture Standardization**	589	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	11/29/2010 - 1:30 P.M.	**Oven Stop Time (Date Time)**	11/30/2010 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	Rodney Fisher	**Reviewed By**	B. Landers
Test No	305	306			
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit			
Feature	Levee Embankment	Levee Embankment			
Visual Description	G-BR CLAY	G-BR CLAY			
Station	73+08	71+50			
Offset	P.S. -141	C/L			
Lift No	1	4			
Latitude (°N)	29.884061	29.884588			
Longitude (°W)	90.134571	90.134858			
Elevation (ft)	-0.1	9.1			
Transmission Mode	DT 150	DT 300			
Moisture Test (Oven) ASTM D 2216					
Tare No	DT46	DT48			
Wet Soil + Tare Mass (g)	392.10	391.75			
Dry Soil + Tare Mass (g)	338.36	343.16			
Tare Mass (g)	177.86	183.47			
Moisture Content (%)	**33.5**	**30.4**			
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	113.2	109.0			
Dry Unit Weight (lbs/ft³)	84.8	83.6			
Proctor No	3186-133	3186-133			
Optimum Moisture (Proctor) (%)	26.5	26.5			
Max Dry Unit Weight (Proctor) (lbs/ft³)	91.6	91.6			
Degree of Compaction (%)	**92.6**	**91.3**			
Difference from Optimum Moisture (+/-%)	**7.0**	**3.9**			
Test Status					
Min Compaction (%)	90.0	90.0			
Max Above Optimum Moisture (%)	5.0	5.0			
Max Below Optimum Moisture (%)	3.0	3.0			
Test Result	**Fail**	**Pass**			
Remarks					
Version	**MVNQS10-101021**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	3485
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	12/3/2010
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2242	**Moisture Standardization**	596	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	12/3/2010 - 5:30 P.M.	**Oven Stop Time (Date Time)**	12/4/2010 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	Rodney Fisher	**Reviewed By**	B. Landers

Test No	309	310	311	312	313
Retest of Test ID	3448-305	3448-301	3439-295	3439-296	3439-297
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY
Station	73+08	94+59	82+90	79+00	76+53
Offset	P.S. - 141	P.S. -152	C/L	F.S. +9	C/L
Lift No	1	1	3	3	3
Latitude (°N)	29.884061	29.878384	29.881579	29.882617	29.883269
Longitude (°W)	90.134571	90.136475	90.135852	90.135564	90.135335
Elevation (ft)	-0.1	-1.4	7.2	8.4	7.8
Transmission Mode	DT 150	DT 150	DT 300	DT 300	DT 300
Moisture Test (Oven) ASTM D 2216					
Tare No	DT14	DT47	DT11	DT27	DT24
Wet Soil + Tare Mass (g)	395.90	393.01	394.92	398.55	395.13
Dry Soil + Tare Mass (g)	358.11	344.44	344.93	356.05	349.59
Tare Mass (g)	244.95	178.06	181.19	209.48	206.36
Moisture Content (%)	**33.4**	**29.2**	**30.5**	**29.0**	**31.8**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	114.5	113.5	113.8	119.6	117.5
Dry Unit Weight (lbs/ft³)	85.8	87.8	87.2	92.7	89.2
Proctor No	3185-132	3186-133	3185-132	3186-133	3183-130
Optimum Moisture (Proctor) (%)	28.5	26.5	28.5	26.5	27.6
Max Dry Unit Weight (Proctor) (lbs/ft³)	90.0	91.6	90.0	91.6	87.5
Degree of Compaction (%)	**95.3**	**95.9**	**96.9**	**101.2**	**101.9**
Difference from Optimum Moisture (+/-%)	**4.9**	**2.7**	**2.0**	**2.5**	**4.2**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-101021**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	3485
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	12/3/2010
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2242	**Moisture Standardization**	596	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	12/3/2010 - 5:30 P.M.	**Oven Stop Time (Date Time)**	12/4/2010 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	Rodney Fisher	**Reviewed By**	B. Landers
Test No	314				
Retest of Test ID	3439-298				
Material Source	Borrow Pit				
Feature	Levee Embankment				
Visual Description	G-BR CLAY				
Station	69+06				
Offset	F.S. +39				
Lift No	4				
Latitude (°N)	29.885114				
Longitude (°W)	90.134926				
Elevation (ft)	6.3				
Transmission Mode	DT 300				
Moisture Test (Oven) ASTM D 2216					
Tare No	DT45				
Wet Soil + Tare Mass (g)	396.89				
Dry Soil + Tare Mass (g)	345.21				
Tare Mass (g)	177.16				
Moisture Content (%)	**30.8**				
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	115.4				
Dry Unit Weight (lbs/ft³)	88.2				
Proctor No	3186-133				
Optimum Moisture (Proctor) (%)	26.5				
Max Dry Unit Weight (Proctor) (lbs/ft³)	91.6				
Degree of Compaction (%)	**96.3**				
Difference from Optimum Moisture (+/-%)	**4.3**				
Test Status					
Min Compaction (%)	90.0				
Max Above Optimum Moisture (%)	5.0				
Max Below Optimum Moisture (%)	3.0				
Test Result	**Pass**				
Remarks	TEST ID 314 12" WD: 122.3				
Version	**MVNQS10-101021**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	3492
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	12/4/2010
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2264	**Moisture Standardization**	594	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	12/4/2010 - 5:30 P.M.	**Oven Stop Time (Date Time)**	12/5/2010 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	Rodney Fisher	**Reviewed By**	B. Landers
Test No	315	316			
Retest of Test ID	3448-300	3391-271			
Material Source	Borrow Pit	Borrow Pit			
Feature	Levee Embankment	Levee Embankment			
Visual Description	G-BR CLAY	G-BR CLAY			
Station	135+03	126+51			
Offset	P.S. -6	C/L			
Lift No	3	3			
Latitude (°N)	29.872037	29.872238			
Longitude (°W)	90.132367	90.135069			
Elevation (ft)	8.3	8.4			
Transmission Mode	DT 300	DT 300			
Moisture Test (Oven) ASTM D 2216					
Tare No	DT49	DT31			
Wet Soil + Tare Mass (g)	395.95	395.83			
Dry Soil + Tare Mass (g)	349.80	359.11			
Tare Mass (g)	176.32	210.95			
Moisture Content (%)	**26.6**	**24.8**			
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	116.5	119.9			
Dry Unit Weight (lbs/ft³)	92.0	96.1			
Proctor No	3034-92	3034-92			
Optimum Moisture (Proctor) (%)	24.8	24.8			
Max Dry Unit Weight (Proctor) (lbs/ft³)	94.8	94.8			
Degree of Compaction (%)	**97.0**	**101.4**			
Difference from Optimum Moisture (+/-%)	**1.8**	**0.0**			
Test Status					
Min Compaction (%)	90.0	90.0			
Max Above Optimum Moisture (%)	5.0	5.0			
Max Below Optimum Moisture (%)	3.0	3.0			
Test Result	**Pass**	**Pass**			
Remarks					
Version	**MVNQS10-101021**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	3499
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	12/6/2010
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2269	**Moisture Standardization**	588	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	12/6/2010 - 5:00 P.M.	**Oven Stop Time (Date Time)**	12/7/2010 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	Rodney Fisher	**Reviewed By**	B. Landers
Test No	317	318	319		
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit		
Feature	Levee Embankment	Levee Embankment	Levee Embankment		
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY		
Station	126+01	133+02	96+06		
Offset	C/L	C/L	C/L		
Lift No	4	4	4		
Latitude (°N)	29.872223	29.872076	29.878110		
Longitude (°W)	90.135227	90.133027	90.137048		
Elevation (ft)	9.0	9.6	8.5		
Transmission Mode	DT 300	DT 300	DT 300		
Moisture Test (Oven) ASTM D 2216					
Tare No	DT27	DT11	DT47		
Wet Soil + Tare Mass (g)	396.31	398.55	396.97		
Dry Soil + Tare Mass (g)	356.69	344.33	341.28		
Tare Mass (g)	209.51	180.93	178.09		
Moisture Content (%)	**26.9**	**33.2**	**34.1**		
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	116.2	114.8	121.3		
Dry Unit Weight (lbs/ft³)	91.6	86.2	90.5		
Proctor No	3181-128	3183-130	3182-129		
Optimum Moisture (Proctor) (%)	22.5	27.6	29.4		
Max Dry Unit Weight (Proctor) (lbs/ft³)	92.8	87.5	88.2		
Degree of Compaction (%)	**98.7**	**98.5**	**102.6**		
Difference from Optimum Moisture (+/-%)	**4.4**	**5.6**	**4.7**		
Test Status					
Min Compaction (%)	90.0	90.0	90.0		
Max Above Optimum Moisture (%)	5.0	5.0	5.0		
Max Below Optimum Moisture (%)	3.0	3.0	3.0		
Test Result	**Pass**	**Fail**	**Pass**		
Remarks					
Version	**MVNQS10-101021**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	3506
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	12/7/2010
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2267	**Moisture Standardization**	592	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	12/7/2010 - 6:00 P.M.	**Oven Stop Time (Date Time)**	12/8/2010 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	Rodney Fisher	**Reviewed By**	B. Landers
Test No	320	321	322	323	324
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY
Station	92+72	87+00	82+03	77+00	72+03
Offset	P.S. -148	P.S. -143	P.S. -140	P.S. -138	P.S. -141
Lift No	2	2	2	2	2
Latitude (°N)	29.878880	29.880392	29.881702	29.883032	29.884338
Longitude (°W)	90.136320	90.135817	90.135381	90.134933	90.134479
Elevation (ft)	-0.8	0.2	0.5	0.6	0.4
Transmission Mode	DT 300	DT 300	DT 300	DT 300	DT 150
Moisture Test (Oven) ASTM D 2216					
Tare No	DT21	DT44	DT02	DT48	DT30
Wet Soil + Tare Mass (g)	397.44	393.24	400.42	391.51	394.46
Dry Soil + Tare Mass (g)	349.74	344.58	352.53	342.66	356.22
Tare Mass (g)	211.56	175.99	178.82	183.43	203.27
Moisture Content (%)	**34.5**	**28.9**	**27.6**	**30.7**	**25.0**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	114.4	114.9	106.9	105.4	106.1
Dry Unit Weight (lbs/ft³)	85.1	89.1	83.8	80.6	84.9
Proctor No	3185-132	3291-184	3180-127	3034-92	3180-127
Optimum Moisture (Proctor) (%)	28.5	21.9	24.0	24.8	24.0
Max Dry Unit Weight (Proctor) (lbs/ft³)	90.0	99.5	95.8	94.8	95.8
Degree of Compaction (%)	**94.6**	**89.5**	**87.5**	**85.0**	**88.6**
Difference from Optimum Moisture (+/-%)	**6.0**	**7.0**	**3.6**	**5.9**	**1.0**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Fail**	**Fail**	**Fail**	**Fail**	**Fail**
Remarks	ID #324 12" TEST WD: 114.0				
Version	**MVNQS10-101021**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	3506
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	12/7/2010
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2267	**Moisture Standardization**	592	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	12/7/2010 - 6:00 P.M.	**Oven Stop Time (Date Time)**	12/8/2010 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	Rodney Fisher	**Reviewed By**	B. Landers
Test No	325	326	327	328	
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY	
Station	83+07	78+03	67+00	64+55	
Offset	C/L	C/L	F.S. -15	F.S. -11	
Lift No	4	4	5	5	
Latitude (°N)	29.881480	29.882864	29.885375	29.885621	
Longitude (°W)	90.135892	90.135437	90.135484	90.136206	
Elevation (ft)	9.2	9.0	9.1	9.0	
Transmission Mode	DT 300	DT 300	DT 300	DT 300	
Moisture Test (Oven) ASTM D 2216					
Tare No	DT20	DT53	DT42	DT01	
Wet Soil + Tare Mass (g)	395.19	392.61	392.08	391.54	
Dry Soil + Tare Mass (g)	356.17	341.02	347.19	343.48	
Tare Mass (g)	212.62	141.01	178.16	171.85	
Moisture Content (%)	**27.2**	**25.8**	**26.6**	**28.0**	
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	118.3	109.5	114.2	114.4	
Dry Unit Weight (lbs/ft³)	93.0	87.0	90.2	89.4	
Proctor No	3180-127	3180-127	3180-127	3180-127	
Optimum Moisture (Proctor) (%)	24.0	24.0	24.0	24.0	
Max Dry Unit Weight (Proctor) (lbs/ft³)	95.8	95.8	95.8	95.8	
Degree of Compaction (%)	**97.1**	**90.8**	**94.2**	**93.3**	
Difference from Optimum Moisture (+/-%)	**3.2**	**1.8**	**2.6**	**4.0**	
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	
Remarks					
Version	**MVNQS10-101021**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	3510
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	12/8/2010
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2291	**Moisture Standardization**	594	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	12/8/2010 - 3:00 P.M.	**Oven Stop Time (Date Time)**	12/9/2010 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	Rodney Fisher	**Reviewed By**	B. Landers
Test No	329				
Retest of Test ID					
Material Source	Borrow Pit				
Feature	Levee Embankment				
Visual Description	G-BR CLAY				
Station	73+02				
Offset	C/L				
Lift No	5				
Latitude (°N)	29.884188				
Longitude (°W)	90.134993				
Elevation (ft)	9.8				
Transmission Mode	DT 300				
Moisture Test (Oven) ASTM D 2216					
Tare No	DT08				
Wet Soil + Tare Mass (g)	393.09				
Dry Soil + Tare Mass (g)	342.68				
Tare Mass (g)	187.42				
Moisture Content (%)	**32.5**				
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	113.3				
Dry Unit Weight (lbs/ft³)	85.5				
Proctor No	3094-108				
Optimum Moisture (Proctor) (%)	24.0				
Max Dry Unit Weight (Proctor) (lbs/ft³)	90.1				
Degree of Compaction (%)	**94.9**				
Difference from Optimum Moisture (+/-%)	**8.5**				
Test Status					
Min Compaction (%)	90.0				
Max Above Optimum Moisture (%)	5.0				
Max Below Optimum Moisture (%)	3.0				
Test Result	**Fail**				
Remarks					
Version	**MVNQS10-101021**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	3520
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	12/9/2010
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2246	**Moisture Standardization**	591	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	12/9/2010 - 6:00 P.M.	**Oven Stop Time (Date Time)**	12/10/2010 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	Rodney Fisher	**Reviewed By**	B. Landers
Test No	334	335	336	337	338
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY
Station	52+58	47+63	42+55	37+48	31+76
Offset	P.S. -141	P.S. -156	P.S. -145	P.S. -152	P.S. -126
Lift No	1	1	1	1	1
Latitude (°N)	29.886811	29.887087	29.887339	29.887642	29.887947
Longitude (°W)	90.139634	90.140982	90.142561	90.144122	90.146213
Elevation (ft)	1.2	0.4	0.5	0.7	1.0
Transmission Mode	DT 300	DT 300	DT 300	DT 300	DT 150
Moisture Test (Oven) ASTM D 2216					
Tare No	DT43	DT27	DT11	DT46	DT47
Wet Soil + Tare Mass (g)	391.83	391.79	400.54	394.66	394.80
Dry Soil + Tare Mass (g)	350.73	357.79	355.49	350.51	346.24
Tare Mass (g)	179.90	209.50	180.92	177.89	178.13
Moisture Content (%)	**24.1**	**22.9**	**25.8**	**25.6**	**28.9**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	112.3	112.5	116.9	114.8	119.2
Dry Unit Weight (lbs/ft³)	90.5	91.5	92.9	91.4	92.5
Proctor No	3180-127	3180-127	3180-127	3180-127	3180-127
Optimum Moisture (Proctor) (%)	24.0	24.0	24.0	24.0	24.0
Max Dry Unit Weight (Proctor) (lbs/ft³)	95.8	95.8	95.8	95.8	95.8
Degree of Compaction (%)	**94.5**	**95.5**	**97.0**	**95.4**	**96.6**
Difference from Optimum Moisture (+/-%)	**0.1**	**-1.1**	**1.8**	**1.6**	**4.9**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-101021**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	3533
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	12/10/2010
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2262	**Moisture Standardization**	596	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	12/10/2010 - 6:00 P.M.	**Oven Stop Time (Date Time)**	12/11/2010 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	Rodney Fisher	**Reviewed By**	B. Landers

Test No	339	340	341	342	343
Retest of Test ID	3433-291	3506-321	3506-322	3506-323	3506-324
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY
Station	108+13	87+00	82+03	77+00	72+03
Offset	F.S. +12	P.S. -143	P.S. -140	P.S. -138	P.S. -141
Lift No	4	2	2	2	2
Latitude (°N)	29.874916	29.880392	29.881702	29.883032	29.884338
Longitude (°W)	90.138078	90.135817	90.135381	90.134933	90.134479
Elevation (ft)	8.4	0.2	0.5	0.6	0.4
Transmission Mode	DT 300	DT 300	DT 300	DT 300	DT 150
Moisture Test (Oven) ASTM D 2216					
Tare No	DT14	DT21	DT41	DT02	DT48
Wet Soil + Tare Mass (g)	398.84	395.41	398.43	396.47	393.77
Dry Soil + Tare Mass (g)	361.30	354.79	357.47	348.62	350.79
Tare Mass (g)	244.98	211.50	175.94	178.81	183.54
Moisture Content (%)	**32.3**	**28.3**	**22.6**	**28.2**	**25.7**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	110.5	113.4	116.1	104.5	117.9
Dry Unit Weight (lbs/ft³)	83.5	88.4	94.7	81.5	93.8
Proctor No	3185-132	3186-133	3180-127	3186-133	3291-184
Optimum Moisture (Proctor) (%)	28.5	26.5	24.0	26.5	21.9
Max Dry Unit Weight (Proctor) (lbs/ft³)	90.0	91.6	95.8	91.6	99.5
Degree of Compaction (%)	**92.8**	**96.5**	**98.9**	**89.0**	**94.3**
Difference from Optimum Moisture (+/-%)	**3.8**	**1.8**	**-1.4**	**1.7**	**3.8**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Fail**	**Pass**
Remarks					
Version	**MVNQS10-101021**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	3533
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	12/10/2010
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2262	**Moisture Standardization**	596	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	12/10/2010 - 6:00 P.M.	**Oven Stop Time (Date Time)**	12/11/2010 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	Rodney Fisher	**Reviewed By**	B. Landers
Test No	344	345	346		
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit		
Feature	Levee Embankment	Levee Embankment	Levee Embankment		
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY		
Station	27+51	22+50	17+51		
Offset	P.S. -151	P.S. -145	P.S. -152		
Lift No	1	1	1		
Latitude (°N)	29.888193	29.888457	29.888755		
Longitude (°W)	90.147203	90.148756	90.150295		
Elevation (ft)	0.2	0.5	0.5		
Transmission Mode	DT 150	DT 150	DT 150		
Moisture Test (Oven) ASTM D 2216					
Tare No	DT30	DT20	DT42		
Wet Soil + Tare Mass (g)	392.12	394.06	394.79		
Dry Soil + Tare Mass (g)	350.55	354.94	349.09		
Tare Mass (g)	203.33	212.57	178.17		
Moisture Content (%)	**28.2**	**27.5**	**26.7**		
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	118.4	118.7	110.6		
Dry Unit Weight (lbs/ft³)	92.4	93.1	87.3		
Proctor No	2854-40	3180-127	2854-40		
Optimum Moisture (Proctor) (%)	23.9	24.0	23.9		
Max Dry Unit Weight (Proctor) (lbs/ft³)	95.9	95.8	95.9		
Degree of Compaction (%)	**96.4**	**97.2**	**91.0**		
Difference from Optimum Moisture (+/-%)	**4.3**	**3.5**	**2.8**		
Test Status					
Min Compaction (%)	90.0	90.0	90.0		
Max Above Optimum Moisture (%)	5.0	5.0	5.0		
Max Below Optimum Moisture (%)	3.0	3.0	3.0		
Test Result	**Pass**	**Pass**	**Pass**		
Remarks					
Version	**MVNQS10-101021**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	3544
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	12/13/2010
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2271	**Moisture Standardization**	588	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	12/13/2010 - 6:00 P.M.	**Oven Stop Time (Date Time)**	12/14/2010 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	Rodney Fisher	**Reviewed By**	B. Landers
Test No	347	348	349	350	351
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY
Station	52+44	47+52	12+53	7+51	2+50
Offset	F.S. +63.3	F.S. +69.6	P.S. -150.2	P.S. -136.6	P.S. -139.8
Lift No	1	1	1	1	1
Latitude (°N)	29.886249	29.886484	29.889024	29.889265	29.889550
Longitude (°W)	90.139558	90.141161	90.151835	90.153395	90.154941
Elevation (ft)	4.6	4.5	0.3	0.4	0.2
Transmission Mode	DT 150	DT 150	DT 150	DT 150	DT 150
Moisture Test (Oven) ASTM D 2216					
Tare No	DT45	DT21	DT44	DT02	DT48
Wet Soil + Tare Mass (g)	390.01	391.57	392.96	393.83	398.46
Dry Soil + Tare Mass (g)	351.11	351.57	350.20	351.22	356.75
Tare Mass (g)	177.11	211.51	175.96	178.83	183.48
Moisture Content (%)	**22.4**	**28.6**	**24.5**	**24.7**	**24.1**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	105.4	113.7	112.4	109.8	109.0
Dry Unit Weight (lbs/ft³)	86.1	88.4	90.3	88.1	87.8
Proctor No	3462-307	3462-307	3291-184	3034-92	3034-92
Optimum Moisture (Proctor) (%)	28.8	28.8	21.9	24.8	24.8
Max Dry Unit Weight (Proctor) (lbs/ft³)	89.1	89.1	99.5	94.8	94.8
Degree of Compaction (%)	**96.6**	**99.2**	**90.8**	**92.9**	**92.6**
Difference from Optimum Moisture (+/-%)	**-6.4**	**-0.2**	**2.6**	**-0.1**	**-0.7**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Fail**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-101021**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	3603
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	12/21/2010
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	26414
Density Standardization	1873	**Moisture Standardization**	710	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	12/21/2010 - 5:00 P.M.	**Oven Stop Time (Date Time)**	12/22/2010 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	Rodney Fisher	**Reviewed By**	B. Landers
Test No	360				
Retest of Test ID	3544-347				
Material Source	Borrow Pit				
Feature	Levee Embankment				
Visual Description	G-BR CLAY				
Station	52+44				
Offset	F.S. -63.3				
Lift No	1				
Latitude (°N)	29.886249				
Longitude (°W)	90.139558				
Elevation (ft)	4.6				
Transmission Mode	DT 150				
Moisture Test (Oven) ASTM D 2216					
Tare No	DT30				
Wet Soil + Tare Mass (g)	395.82				
Dry Soil + Tare Mass (g)	359.76				
Tare Mass (g)	203.37				
Moisture Content (%)	**23.1**				
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	118.9				
Dry Unit Weight (lbs/ft³)	96.6				
Proctor No	3467-308				
Optimum Moisture (Proctor) (%)	22.6				
Max Dry Unit Weight (Proctor) (lbs/ft³)	97.8				
Degree of Compaction (%)	**98.8**				
Difference from Optimum Moisture (+/-%)	**0.5**				
Test Status					
Min Compaction (%)	90.0				
Max Above Optimum Moisture (%)	5.0				
Max Below Optimum Moisture (%)	3.0				
Test Result	**Pass**				
Remarks					
Version	**MVNQS10-101021**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	3712
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	1
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	1/8/2011
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2287	**Moisture Standardization**	592	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	1/8/2011 - 10:30 A.M.	**Oven Stop Time (Date Time)**	1/9/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	Rodney Fisher	**Reviewed By**	B. Landers
Test No	363	364			
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit			
Feature	Levee Embankment	Levee Embankment			
Visual Description	G-BR CLAY	G-BR CLAY			
Station	27+49	17+53			
Offset	F.S. +59	F.S. +56.6			
Lift No	1	1			
Latitude (°N)	29.887629	29.888188			
Longitude (°W)	90.147345	90.150040			
Elevation (ft)	4.4	4.6			
Transmission Mode	DT 150	DT 150			
Moisture Test (Oven) ASTM D 2216					
Tare No	DT08	DT27			
Wet Soil + Tare Mass (g)	392.31	400.13			
Dry Soil + Tare Mass (g)	348.26	351.54			
Tare Mass (g)	187.43	209.51			
Moisture Content (%)	**27.4**	**34.2**			
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	118.7	116.0			
Dry Unit Weight (lbs/ft³)	93.2	86.4			
Proctor No	3467-308	3467-308			
Optimum Moisture (Proctor) (%)	22.6	22.6			
Max Dry Unit Weight (Proctor) (lbs/ft³)	97.8	97.8			
Degree of Compaction (%)	**95.3**	**88.3**			
Difference from Optimum Moisture (+/-%)	**4.8**	**11.6**			
Test Status					
Min Compaction (%)	90.0	90.0			
Max Above Optimum Moisture (%)	5.0	5.0			
Max Below Optimum Moisture (%)	3.0	3.0			
Test Result	**Pass**	**Fail**			
Remarks					
Version	**MVNQS10-101021**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	3712
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	1/8/2011
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2287	**Moisture Standardization**	592	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	1/8/2011 - 10:30 A.M.	**Oven Stop Time (Date Time)**	1/9/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	Rodney Fisher	**Reviewed By**	B. Landers
Test No	363	364			
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit			
Feature	Levee Embankment	Levee Embankment			
Visual Description	G-BR CLAY	G-BR CLAY			
Station	27+49	17+53			
Offset	F.S. +59	F.S. +56.6			
Lift No	1	1			
Latitude (°N)	29.887629	29.888188			
Longitude (°W)	90.147345	90.150040			
Elevation (ft)	4.4	4.6			
Transmission Mode	DT 150	DT 150			
Moisture Test (Oven) ASTM D 2216					
Tare No	DT08	DT27			
Wet Soil + Tare Mass (g)	392.31	400.13			
Dry Soil + Tare Mass (g)	348.26	351.54			
Tare Mass (g)	187.43	209.51			
Moisture Content (%)	**27.4**	**34.2**			
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	118.7	116.0			
Dry Unit Weight (lbs/ft³)	93.2	86.4			
Proctor No	3467-308	3467-308			
Optimum Moisture (Proctor) (%)	22.6	22.6			
Max Dry Unit Weight (Proctor) (lbs/ft³)	97.8	97.8			
Degree of Compaction (%)	**95.3**	**88.3**			
Difference from Optimum Moisture (+/-%)	**4.8**	**11.6**			
Test Status					
Min Compaction (%)	90.0	90.0			
Max Above Optimum Moisture (%)	5.0	5.0			
Max Below Optimum Moisture (%)	3.0	3.0			
Test Result	**Pass**	**Pass**			
Remarks					
Version	**MVNQS10-101021**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	3754
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	1/14/2011
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2248	**Moisture Standardization**	599	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	1/14/2011 - 5:00 P.M.	**Oven Stop Time (Date Time)**	1/15/2011 - 7:00 A.M.	**Submitted By**	B. LANDERS
Field Tested By	CHANG	**Lab Tested By**	RODNEY	**Reviewed By**	B. LANDERS
Test No	366	367	368		
Retest of Test ID		3712+364			
Material Source	Borrow Pit	Borrow Pit	Borrow Pit		
Feature	Levee Embankment	Levee Embankment	Levee Embankment		
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY		
Station	22+49	17+53	12+65		
Offset	F.S. +64.0	F.S. +56.6	F.S. +44.6		
Lift No	1	1	1		
Latitude (°N)	29.887897	29.888188	29.888492		
Longitude (°W)	90.148907	90.150407	90.151914		
Elevation (ft)	4.3	4.6	4.6		
Transmission Mode	DT 150	DT 150	DT 150		
Moisture Test (Oven) ASTM D 2216					
Tare No	DT21	DT49	DT08		
Wet Soil + Tare Mass (g)	390.50	395.31	397.93		
Dry Soil + Tare Mass (g)	352.41	348.49	355.74		
Tare Mass (g)	211.51	176.31	187.40		
Moisture Content (%)	**27.0**	**27.2**	**25.1**		
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	115.5	116.0	115.0		
Dry Unit Weight (lbs/ft³)	90.9	91.2	91.9		
Proctor No	3467-308	3467-308	3467-308		
Optimum Moisture (Proctor) (%)	22.6	22.6	22.6		
Max Dry Unit Weight (Proctor) (lbs/ft³)	97.8	97.8	97.8		
Degree of Compaction (%)	**92.9**	**93.3**	**94.0**		
Difference from Optimum Moisture (+/-%)	**4.4**	**4.6**	**2.5**		
Test Status					
Min Compaction (%)	90.0	90.0	90.0		
Max Above Optimum Moisture (%)	5.0	5.0	5.0		
Max Below Optimum Moisture (%)	3.0	3.0	3.0		
Test Result	**Pass**	**Pass**	**Pass**		
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	3772A
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	1/17/2011
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2246	**Moisture Standardization**	591	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	1/17/2011 - 7:00 P.M.	**Oven Stop Time (Date Time)**	1/18/2011 - 7:00 A.M.	**Submitted By**	B. LANDERS
Field Tested By	CHANG	**Lab Tested By**	RODNEY	**Reviewed By**	B. LANDERS
Test No	369	370	371	372	373
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY
Station	7+54	2+49	145+04	150+03	155+06
Offset	F.S. +40	F.S. +48	C/L	F.S. +7	C/L
Lift No	1	1	3	3	3
Latitude (°N)	29.888788	29.889044	29.871627	29.871665	29.871585
Longitude (°W)	90.153500	90.155065	90.129227	90.127659	90.126072
Elevation (ft)	5.1	5.1	8.0	8.0	8.1
Transmission Mode	DT 150	DT 150	DT 300	DT 300	DT 300
Moisture Test (Oven) ASTM D 2216					
Tare No	DT24	DT40	DT01	DT02	DT20
Wet Soil + Tare Mass (g)	392.80	394.86	394.70	393.81	394.74
Dry Soil + Tare Mass (g)	358.29	348.10	338.86	339.71	344.51
Tare Mass (g)	206.41	176.22	171.84	178.85	212.66
Moisture Content (%)	**22.7**	**27.2**	**33.4**	**33.6**	**38.1**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	121.1	113.7	112.6	114.6	101.1
Dry Unit Weight (lbs/ft³)	98.7	89.4	84.4	85.8	73.2
Proctor No	3467-308	3745	2762-24	3555	3555
Optimum Moisture (Proctor) (%)	22.6	23.5	26.6	30.0	30.0
Max Dry Unit Weight (Proctor) (lbs/ft³)	97.8	95.8	92.1	86.6	86.6
Degree of Compaction (%)	**100.9**	**93.3**	**91.6**	**99.1**	**84.5**
Difference from Optimum Moisture (+/-%)	**0.1**	**3.7**	**6.8**	**3.6**	**8.1**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Fail**	**Pass**	**Fail**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	3772B
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	1/17/2011
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2246	**Moisture Standardization**	591	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	1/17/2011 - 7:00 P.M.	**Oven Stop Time (Date Time)**	1/18/2011 - 7:00 A.M.	**Submitted By**	B. LANDERS
Field Tested By	CHANG	**Lab Tested By**	RODNEY	**Reviewed By**	B. LANDERS
Test No	374	375	376	377	378
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY
Station	160+03	165+03	170+03	175+03	180+02
Offset	F.S. +6.4	P.S. -10.1	P.S. -10.8	P.S. -8	C/L
Lift No	4	5	5	5	5
Latitude (°N)	29.871455	29.871394	29.871291	29.871177	29.870943
Longitude (°W)	90.124512	90.122935	90.121363	90.119787	90.118240
Elevation (ft)	8.0	10.1	10.1	10.1	10.2
Transmission Mode	DT 300	DT 300	DT 300	DT 300	DT 300
Moisture Test (Oven) ASTM D 2216					
Tare No	DT11	DT45	DT21	DT49	DT08
Wet Soil + Tare Mass (g)	394.84	395.44	397.69	392.97	394.49
Dry Soil + Tare Mass (g)	341.56	346.17	349.54	345.48	344.00
Tare Mass (g)	180.97	177.19	211.57	176.47	187.48
Moisture Content (%)	**33.2**	**29.2**	**34.9**	**28.1**	**32.3**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	109.1	116.6	111.0	116.9	113.4
Dry Unit Weight (lbs/ft³)	81.9	90.2	82.3	91.3	85.7
Proctor No	3555	3180-127	3180-127	3180-127	2854-40
Optimum Moisture (Proctor) (%)	30.0	24.0	24.0	24.0	23.9
Max Dry Unit Weight (Proctor) (lbs/ft³)	86.6	95.8	95.8	95.8	95.9
Degree of Compaction (%)	**94.6**	**94.2**	**85.9**	**95.3**	**89.4**
Difference from Optimum Moisture (+/-%)	**3.2**	**5.2**	**10.9**	**4.1**	**8.4**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Fail**	**Fail**	**Pass**	**Fail**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	3772C
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	1
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	1/17/2011
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2246	**Moisture Standardization**	591	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	1/17/2011 - 7:00 P.M.	**Oven Stop Time (Date Time)**	1/18/2011 - 7:00 A.M.	**Submitted By**	B. LANDERS
Field Tested By	CHANG	**Lab Tested By**	RODNEY	**Reviewed By**	B. LANDERS

Test No	379	380	381		
Retest of Test ID			3297+191		
Material Source	Borrow Pit	Borrow Pit	Borrow Pit		
Feature	Levee Embankment	Levee Embankment	Levee Embankment		
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY		
Station	53+00	49+50	46+50		
Offset	F.S. +36.7	F.S. +36	F.S. +31		
Lift No	2	2	2		
Latitude (°N)	29.886349	29.886467	29.886645		
Longitude (°W)	90.139402	90.140540	90.141448		
Elevation (ft)	5.7	5.4	5.3		
Transmission Mode	DT 300	DT 300	DT 300		
Moisture Test (Oven) ASTM D 2216					
Tare No	DT41	DT42	DT44		
Wet Soil + Tare Mass (g)	393.42	393.12	390.44		
Dry Soil + Tare Mass (g)	347.51	345.99	339.23		
Tare Mass (g)	177.99	178.18	176.02		
Moisture Content (%)	**27.1**	**28.1**	**31.4**		
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	110.8	121.5	113.6		
Dry Unit Weight (lbs/ft³)	87.2	94.8	86.5		
Proctor No	3745	3467-308	3467-308		
Optimum Moisture (Proctor) (%)	23.5	22.6	22.6		
Max Dry Unit Weight (Proctor) (lbs/ft³)	95.8	97.8	97.8		
Degree of Compaction (%)	**91.0**	**96.9**	**88.4**		
Difference from Optimum Moisture (+/-%)	**3.6**	**5.5**	**8.8**		
Test Status					
Min Compaction (%)	90.0	90.0	90.0		
Max Above Optimum Moisture (%)	5.0	5.0	5.0		
Max Below Optimum Moisture (%)	3.0	3.0	3.0		
Test Result	**Pass**	**Fail**	**Fail**		
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	3772C
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	1/17/2011
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2246	**Moisture Standardization**	591	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	1/17/2011 - 7:00 P.M.	**Oven Stop Time (Date Time)**	1/18/2011 - 7:00 A.M.	**Submitted By**	B. LANDERS
Field Tested By	CHANG	**Lab Tested By**	RODNEY	**Reviewed By**	B. LANDERS
Test No	379	380	381		
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit		
Feature	Levee Embankment	Levee Embankment	Levee Embankment		
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY		
Station	53+00	49+50	46+50		
Offset	F.S. +36.7	F.S. +36	F.S. +31		
Lift No	2	2	2		
Latitude (°N)	29.886349	29.886467	29.886645		
Longitude (°W)	90.139402	90.140540	90.141448		
Elevation (ft)	5.7	5.4	5.3		
Transmission Mode	DT 300	DT 300	DT 300		
Moisture Test (Oven) ASTM D 2216					
Tare No	DT41	DT42	DT44		
Wet Soil + Tare Mass (g)	393.42	393.12	390.44		
Dry Soil + Tare Mass (g)	347.51	345.99	339.23		
Tare Mass (g)	177.99	178.18	176.02		
Moisture Content (%)	**27.1**	**28.1**	**31.4**		
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	110.8	121.5	113.6		
Dry Unit Weight (lbs/ft³)	87.2	94.8	86.5		
Proctor No	3745	3467-308	3467-308		
Optimum Moisture (Proctor) (%)	23.5	22.6	22.6		
Max Dry Unit Weight (Proctor) (lbs/ft³)	95.8	97.8	97.8		
Degree of Compaction (%)	**91.0**	**96.9**	**88.4**		
Difference from Optimum Moisture (+/-%)	**3.6**	**5.5**	**8.8**		
Test Status					
Min Compaction (%)	90.0	90.0	90.0		
Max Above Optimum Moisture (%)	5.0	5.0	5.0		
Max Below Optimum Moisture (%)	3.0	3.0	3.0		
Test Result	**Pass**	**Fail**	**Fail**		
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	3827
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	1/23/2011
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2307	**Moisture Standardization**	595	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	1/23/2011 - 5:00 P.M.	**Oven Stop Time (Date Time)**	1/24/2011 - 7:00 A.M.	**Submitted By**	B. LANDERS
Field Tested By	CHANG	**Lab Tested By**	RODNEY	**Reviewed By**	B. LANDERS
Test No	382	383	384		
Retest of Test ID	3772+371	3772+380	3772+381		
Material Source	Borrow Pit	Borrow Pit	Borrow Pit		
Feature	Levee Embankment	Levee Embankment	Levee Embankment		
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY		
Station	145+04	49+50	46+50		
Offset	C/L	F.S. +36	F.S. +31		
Lift No	4	2	2		
Latitude (°N)	29.871627	29.886467	29.886645		
Longitude (°W)	90.129227	90.140540	90.141448		
Elevation (ft)	8.0	5.4	5.3		
Transmission Mode	DT 300	DT 300	DT 150		
Moisture Test (Oven) ASTM D 2216					
Tare No	DT31	DT04	DT25		
Wet Soil + Tare Mass (g)	396.46	391.07	391.78		
Dry Soil + Tare Mass (g)	353.87	358.10	355.27		
Tare Mass (g)	211.01	233.43	205.69		
Moisture Content (%)	**29.8**	**26.4**	**24.4**		
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	117.5	115.6	111.4		
Dry Unit Weight (lbs/ft³)	90.5	91.5	89.5		
Proctor No	2762-24	3467-308	3745		
Optimum Moisture (Proctor) (%)	26.6	22.6	23.5		
Max Dry Unit Weight (Proctor) (lbs/ft³)	92.1	97.8	95.8		
Degree of Compaction (%)	**98.3**	**93.6**	**93.4**		
Difference from Optimum Moisture (+/-%)	**3.2**	**3.8**	**0.9**		
Test Status					
Min Compaction (%)	90.0	90.0	90.0		
Max Above Optimum Moisture (%)	5.0	5.0	5.0		
Max Below Optimum Moisture (%)	3.0	3.0	3.0		
Test Result	**Pass**	**Pass**	**Pass**		
Remarks	12" WD ON TEST ID 384 116.0				
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	3830
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	1/24/2011
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2240	**Moisture Standardization**	588	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	1/24/2011 - 3:00 P.M.	**Oven Stop Time (Date Time)**	1/25/2011 - 7:00 A.M.	**Submitted By**	B. LANDERS
Field Tested By	CHANG	**Lab Tested By**	RODNEY	**Reviewed By**	B. LANDERS
Test No	385	386			
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit			
Feature	Levee Embankment	Levee Embankment			
Visual Description	G-BR CLAY	G-BR CLAY			
Station	12+95	9+92			
Offset	F.S. +23.5	F.S. +54			
Lift No	2	2			
Latitude (°N)	29.888532	29.888618			
Longitude (°W)	90.151814	90.152773			
Elevation (ft)	6.3	6.1			
Transmission Mode	DT 300	DT 300			
Moisture Test (Oven) ASTM D 2216					
Tare No	DT04	DT31			
Wet Soil + Tare Mass (g)	399.50	392.51			
Dry Soil + Tare Mass (g)	363.81	354.67			
Tare Mass (g)	233.42	210.94			
Moisture Content (%)	**27.4**	**26.3**			
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	110.6	118.1			
Dry Unit Weight (lbs/ft³)	86.8	93.5			
Proctor No	3462-307	3467-308			
Optimum Moisture (Proctor) (%)	28.8	22.6			
Max Dry Unit Weight (Proctor) (lbs/ft³)	89.1	97.8			
Degree of Compaction (%)	**97.4**	**95.6**			
Difference from Optimum Moisture (+/-%)	**-1.4**	**3.7**			
Test Status					
Min Compaction (%)	90.0	90.0			
Max Above Optimum Moisture (%)	5.0	5.0			
Max Below Optimum Moisture (%)	3.0	3.0			
Test Result	**Pass**	**Pass**			
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	3873
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	1/29/2011
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2292	**Moisture Standardization**	595	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	1/29/2011 - 4:00 P.M.	**Oven Stop Time (Date Time)**	1/30/2011 - 7:00 A.M.	**Submitted By**	B. LANDERS
Field Tested By	CHANG	**Lab Tested By**	RODNEY	**Reviewed By**	B. LANDERS

Test No	406	407	408	409	410
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY
Station	6+92	5+04	2+02	40+95	38+06
Offset	F.S. +32	C/L	F.S. +64	F.S. +27	F.S. +56
Lift No	2	2	2	2	2
Latitude (°N)	29.888847	29.889018	29.889028	29.886964	29.887048
Longitude (°W)	90.153686	90.154250	90.155211	90.143167	90.144075
Elevation (ft)	6.7	7.4	5.7	5.6	5.3
Transmission Mode	DT 300	DT 300	DT 300	DT 300	DT 300
Moisture Test (Oven) ASTM D 2216					
Tare No	dt21	dt11	dt20	dt45	dt08
Wet Soil + Tare Mass (g)	395.42	396.03	397.00	391.32	392.11
Dry Soil + Tare Mass (g)	353.36	338.01	351.39	337.53	340.04
Tare Mass (g)	211.60	181.02	212.68	177.20	187.44
Moisture Content (%)	**29.7**	**37.0**	**32.9**	**33.5**	**34.1**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	113.0	113.5	115.2	112.9	115.3
Dry Unit Weight (lbs/ft³)	87.1	82.8	86.7	84.6	86.0
Proctor No	3649	3815	3815	3815	3815
Optimum Moisture (Proctor) (%)	24.1	29.6	29.6	29.6	29.6
Max Dry Unit Weight (Proctor) (lbs/ft³)	94.8	88.9	88.9	88.9	88.9
Degree of Compaction (%)	**91.9**	**93.1**	**97.5**	**95.2**	**96.7**
Difference from Optimum Moisture (+/-%)	**5.6**	**7.4**	**3.3**	**3.9**	**4.5**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Fail**	**Fail**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4012
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	2/18/2011
Gauge Make	HUMBOLDT	**Gauge Model**	5001 C	**Gauge Serial No**	2492
Density Standardization	3036.4	**Moisture Standardization**	481.2	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	2/17/2011 - 8:30 P.M.	**Oven Stop Time (Date Time)**	2/18/2011 - 8:30 A.M.	**Submitted By**	B. LANDERS
Field Tested By	CHANG	**Lab Tested By**	RODNEY	**Reviewed By**	B. LANDERS
Test No	430	431	432	433	434
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY
Station	62+41	68+00	72+01	77+01	83+96
Offset	C/L	C/L	C/L	C/L	P.S. -11
Lift No	6	6	6	6	6
Latitude (°N)	29.885991	29.885314	29.884454	29.883133	29.881294
Longitude (°W)	90.136731	90.135170	90.134904	90.135348	90.135945
Elevation (ft)	10.5	10.7	10.7	10.7	10.7
Transmission Mode	DT 300	DT 300	DT 300	DT 300	DT 300
Moisture Test (Oven) ASTM D 2216					
Tare No	DT48	DT43	DT40	DT47	DT21
Wet Soil + Tare Mass (g)	388.60	390.25	393.65	395.34	393.60
Dry Soil + Tare Mass (g)	339.42	344.07	345.89	342.07	349.26
Tare Mass (g)	183.46	179.91	176.25	178.16	211.65
Moisture Content (%)	**31.5**	**28.1**	**28.2**	**32.5**	**32.2**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	109.0	106.7	103.8	108.8	109.5
Dry Unit Weight (lbs/ft³)	82.9	83.3	81.0	82.1	82.8
Proctor No	2762-24	2762-24	3555	3555	3555
Optimum Moisture (Proctor) (%)	26.6	26.6	30.0	30.0	30.0
Max Dry Unit Weight (Proctor) (lbs/ft³)	92.1	92.1	86.6	86.6	86.6
Degree of Compaction (%)	**90.0**	**90.4**	**93.5**	**94.8**	**95.6**
Difference from Optimum Moisture (+/-%)	**4.9**	**1.5**	**-1.8**	**2.5**	**2.2**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks	Test Id 433 12" WD 101.6				
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4017
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	2/20/2011
Gauge Make	HUMBOLDT	**Gauge Model**	5001 C	**Gauge Serial No**	2492
Density Standardization	3022.1	**Moisture Standardization**	474.5	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	2/20/2011 - 4:00 P.M.	**Oven Stop Time (Date Time)**	2/21/2011 - 7:00 A.M.	**Submitted By**	B. LANDERS
Field Tested By	CHANG	**Lab Tested By**	RODNEY	**Reviewed By**	B. LANDERS

Test No	435	436	437	438	
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY	
Station	29+00	31+00	35+00	44+50	
Offset	F.S. +57	F.S. +48	F.S. +55	F.S. +57	
Lift No	2	2	2	2	
Latitude (°N)	29.887557	29.887462	29.887223	29.886687	
Longitude (°W)	90.146875	90.146251	90.145023	90.142088	
Elevation (ft)	4.9	4.6	4.7	5.2	
Transmission Mode	DT 300	DT 300	DT 300	DT 300	
Moisture Test (Oven) ASTM D 2216					
Tare No	DT20	DT48	DT42	DT44	
Wet Soil + Tare Mass (g)	392.76	394.69	396.36	397.28	
Dry Soil + Tare Mass (g)	347.09	343.34	340.45	335.62	
Tare Mass (g)	212.60	183.47	178.09	175.96	
Moisture Content (%)	**34.0**	**32.1**	**34.4**	**38.6**	
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	117.5	117.3	114.1	108.8	
Dry Unit Weight (lbs/ft³)	87.7	88.8	84.9	78.5	
Proctor No	3815	3815	3815	3824	
Optimum Moisture (Proctor) (%)	29.6	29.6	29.6	33.7	
Max Dry Unit Weight (Proctor) (lbs/ft³)	88.9	88.9	88.9	82.9	
Degree of Compaction (%)	**98.7**	**99.9**	**95.5**	**94.7**	
Difference from Optimum Moisture (+/-%)	**4.4**	**2.5**	**4.8**	**4.9**	
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4019A
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	2/21/2011
Gauge Make	HUMBOLDT	**Gauge Model**	5001 C	**Gauge Serial No**	2492
Density Standardization	3003.1	**Moisture Standardization**	477.1	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	2/21/2011 - 5:00 P.M.	**Oven Stop Time (Date Time)**	2/22/2011 - 7:00 A.M.	**Submitted By**	B. LANDERS
Field Tested By	CHANG	**Lab Tested By**	RODNEY	**Reviewed By**	B. LANDERS

Test No	440	441	442	443	444
Retest of Test ID	3384+248		3506+323		
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY
Station	158+50	71+04	77+00	81+00	85+93
Offset	F.S. +71	P.S. -141	P.S. -138	P.S. -139	P.S. -139
Lift No	3	3	2	3	3
Latitude (°N)	29.871311	29.884600	29.883032	29.881977	29.880677
Longitude (°W)	90.125015	90.134390	90.134933	90.135292	90.135741
Elevation (ft)	5.5	1.6	0.6	1.6	1.2
Transmission Mode	DT 300	DT 300	DT 300	DT 300	DT 150
Moisture Test (Oven) ASTM D 2216					
Tare No	DT21	DT44	DT25	DT31	DT30
Wet Soil + Tare Mass (g)	397.39	394.01	392.03	391.02	393.54
Dry Soil + Tare Mass (g)	359.09	336.82	354.30	348.11	350.73
Tare Mass (g)	211.64	176.01	205.72	210.97	203.36
Moisture Content (%)	**26.0**	**35.6**	**25.4**	**31.3**	**29.0**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	122.5	112.4	117.5	110.6	110.2
Dry Unit Weight (lbs/ft³)	97.2	82.9	93.7	84.2	85.4
Proctor No	3291-184	3804	3180-127	3815	3815
Optimum Moisture (Proctor) (%)	21.9	31.1	24.0	29.6	29.6
Max Dry Unit Weight (Proctor) (lbs/ft³)	99.5	85.5	95.8	88.9	88.9
Degree of Compaction (%)	**97.7**	**97.0**	**97.8**	**94.7**	**96.1**
Difference from Optimum Moisture (+/-%)	**4.1**	**4.5**	**1.4**	**1.7**	**-0.6**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks	TEST ID 444 12" WD 113.8				
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4019B
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	2/21/2011
Gauge Make	HUMBOLDT	**Gauge Model**	5001 C	**Gauge Serial No**	2492
Density Standardization	3003.1	**Moisture Standardization**	477.1	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	2/21/2011 - 5:00 P.M.	**Oven Stop Time (Date Time)**	2/22/2011 - 7:00 A.M.	**Submitted By**	B. LANDERS
Field Tested By	CHANG	**Lab Tested By**	RODNEY	**Reviewed By**	B. LANDERS

Test No	445	446	447	448	
Retest of Test ID	3506+320				
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY	
Station	92+72	97+00	94+05	89+03	
Offset	P.S. -148	P.S. -138	C/L	C/L	
Lift No	2	2	6	6	
Latitude (°N)	29.878880	29.877760	29.878641	29.879973	
Longitude (°W)	90.136320	90.136732	90.136866	90.136448	
Elevation (ft)	-0.8	1.1	10.8	10.8	
Transmission Mode	DT 300	DT 300	DT 300	DT 300	
Moisture Test (Oven) ASTM D 2216					
Tare No	DT46	DT11	DT24	DT41	
Wet Soil + Tare Mass (g)	392.47	397.10	392.55	392.78	
Dry Soil + Tare Mass (g)	346.19	348.41	348.52	350.21	
Tare Mass (g)	177.87	180.97	206.45	178.01	
Moisture Content (%)	**27.5**	**29.1**	**31.0**	**24.7**	
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	111.9	115.0	112.6	112.0	
Dry Unit Weight (lbs/ft³)	87.8	89.1	86.0	89.8	
Proctor No	3178-125	3649	2762-24	3550	
Optimum Moisture (Proctor) (%)	26.2	24.1	26.6	26.0	
Max Dry Unit Weight (Proctor) (lbs/ft³)	91.7	94.8	92.1	92.3	
Degree of Compaction (%)	**95.7**	**94.0**	**93.4**	**97.3**	
Difference from Optimum Moisture (+/-%)	**1.3**	**5.0**	**4.4**	**-1.3**	
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4049
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	2/22/2011
Gauge Make	Humboldt	**Gauge Model**	5001C	**Gauge Serial No**	2492
Density Standardization	3006.1	**Moisture Standardization**	474.9	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	2/22/2011 - 4:00 P.M.	**Oven Stop Time (Date Time)**	2/23/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	449	450	451	452	453
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY
Station	26+01	23+06	20+07	91+98	87+01
Offset	F.S. +6	F.S. +24	F.S. +42	C/L	C/L
Lift No	2	2	2	7	7
Latitude (°N)	29.887853	29.887970	29.888089	29.879189	29.880504
Longitude (°W)	90.147767	90.148691	90.149625	90.136692	90.136260
Elevation (ft)	5.9	5.9	5.4	11.7	11.7
Transmission Mode	DT 300	DT 300	DT 300	DT 300	DT 300
Moisture Test (Oven) ASTM D 2216					
Tare No	DT21	DT50	DT48	DT20	DT43
Wet Soil + Tare Mass (g)	391.26	390.65	395.38	393.75	392.10
Dry Soil + Tare Mass (g)	347.52	333.47	332.96	351.09	345.32
Tare Mass (g)	211.62	180.72	183.48	212.66	179.91
Moisture Content (%)	**32.2**	**37.4**	**41.8**	**30.8**	**28.3**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	110.2	111.0	112.2	109.0	121.1
Dry Unit Weight (lbs/ft³)	83.4	80.8	79.1	83.3	94.4
Proctor No	3815	3824	3824	3555	3550
Optimum Moisture (Proctor) (%)	29.6	33.7	33.7	30.0	26.0
Max Dry Unit Weight (Proctor) (lbs/ft³)	88.9	82.9	82.9	86.6	92.3
Degree of Compaction (%)	**93.8**	**97.5**	**95.4**	**96.2**	**102.3**
Difference from Optimum Moisture (+/-%)	**2.6**	**3.7**	**8.1**	**0.8**	**2.3**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Fail**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4051
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	2/23/2011
Gauge Make	Humboldt	**Gauge Model**	5001C	**Gauge Serial No**	2492
Density Standardization	2999.4	**Moisture Standardization**	476.7	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	2/23/2011 - 3:30 P.M.	**Oven Stop Time (Date Time)**	2/24/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	454	455	456	457	458
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY
Station	77+91	82+96	73+05	65+95	62+50
Offset	C/L	C/L	C/L	C/L	C/L
Lift No	7	7	7	7	7
Latitude (°N)	29.882901	29.881568	29.884180	29.885506	29.885971
Longitude (°W)	90.135442	90.135893	90.135000	90.135779	90.136723
Elevation (ft)	11.7	11.7	11.7	11.7	11.5
Transmission Mode	DT 300	DT 300	DT 300	DT 300	DT 300
Moisture Test (Oven) ASTM D 2216					
Tare No	DT02	DT45	DT14	DT04	DT01
Wet Soil + Tare Mass (g)	391.09	393.38	393.16	399.99	392.67
Dry Soil + Tare Mass (g)	348.09	348.97	358.05	366.33	347.09
Tare Mass (g)	178.87	177.19	245.05	233.42	171.83
Moisture Content (%)	**25.4**	**25.9**	**31.1**	**25.3**	**26.0**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	104.5	107.3	105.4	114.9	110.4
Dry Unit Weight (lbs/ft³)	83.3	85.2	80.4	91.7	87.6
Proctor No	2762-24	2762-24	3555	3550	2762-24
Optimum Moisture (Proctor) (%)	26.6	26.6	30.0	26.0	26.6
Max Dry Unit Weight (Proctor) (lbs/ft³)	92.1	92.1	86.6	92.3	92.1
Degree of Compaction (%)	**90.4**	**92.5**	**92.8**	**99.3**	**95.1**
Difference from Optimum Moisture (+/-%)	**-1.2**	**-0.7**	**1.1**	**-0.7**	**-0.6**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks	Test Id 454 12" WD 102.8				
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4057
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	2/24/2011
Gauge Make	Humboldt	**Gauge Model**	5001C	**Gauge Serial No**	2492
Density Standardization	3014.3	**Moisture Standardization**	477	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	2/24/2011 - 2:30 P.M.	**Oven Stop Time (Date Time)**	2/25/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers
Test No	459	460			
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit			
Feature	Levee Embankment	Levee Embankment			
Visual Description	G-BR CLAY	G-BR CLAY			
Station	103+01	108+02			
Offset	P.S. -131	P.S. -138			
Lift No	1	1			
Latitude (°N)	29.876184	29.874843			
Longitude (°W)	90.137242	90.137609			
Elevation (ft)	1.2	0.8			
Transmission Mode	DT 150	DT 150			
Moisture Test (Oven) ASTM D 2216					
Tare No	DT31	DT25			
Wet Soil + Tare Mass (g)	393.95	392.72			
Dry Soil + Tare Mass (g)	347.93	345.31			
Tare Mass (g)	210.97	205.69			
Moisture Content (%)	**33.6**	**34.0**			
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	112.1	106.8			
Dry Unit Weight (lbs/ft³)	83.9	79.7			
Proctor No	3815	3804			
Optimum Moisture (Proctor) (%)	29.6	31.1			
Max Dry Unit Weight (Proctor) (lbs/ft³)	88.9	85.5			
Degree of Compaction (%)	**94.4**	**93.2**			
Difference from Optimum Moisture (+/-%)	**4.0**	**2.9**			
Test Status					
Min Compaction (%)	90.0	90.0			
Max Above Optimum Moisture (%)	5.0	5.0			
Max Below Optimum Moisture (%)	3.0	3.0			
Test Result	**Pass**	**Pass**			
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4094
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	3/1/2011
Gauge Make	Humboldt	**Gauge Model**	5001C	**Gauge Serial No**	2492
Density Standardization	3003.8	**Moisture Standardization**	470.4	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	3/1/2011 - 1:30 P.M.	**Oven Stop Time (Date Time)**	3/2/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers
Test No	461				
Retest of Test ID	4049+451				
Material Source	Borrow Pit				
Feature	Levee Embankment				
Visual Description	G-BR CLAY				
Station	20+07				
Offset	F.S. +42				
Lift No	2				
Latitude (°N)	29.888089				
Longitude (°W)	90.149625				
Elevation (ft)	5.4				
Transmission Mode	DT 300				
Moisture Test (Oven) ASTM D 2216					
Tare No	DT02				
Wet Soil + Tare Mass (g)	393.34				
Dry Soil + Tare Mass (g)	340.49				
Tare Mass (g)	178.89				
Moisture Content (%)	**32.7**				
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	110.9				
Dry Unit Weight (lbs/ft³)	83.6				
Proctor No	3804				
Optimum Moisture (Proctor) (%)	31.1				
Max Dry Unit Weight (Proctor) (lbs/ft³)	85.5				
Degree of Compaction (%)	**97.8**				
Difference from Optimum Moisture (+/-%)	**1.6**				
Test Status					
Min Compaction (%)	90.0				
Max Above Optimum Moisture (%)	5.0				
Max Below Optimum Moisture (%)	3.0				
Test Result	**Pass**				
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4103A
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	3/2/2011
Gauge Make	Humboldt	**Gauge Model**	5001C	**Gauge Serial No**	2492
Density Standardization	3005.1	**Moisture Standardization**	476.9	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	3/2/2011 - 4:30 P.M.	**Oven Stop Time (Date Time)**	3/3/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	463	464	465	466	467
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY
Station	10+13	14+95	143+96	145+99	148+24
Offset	F.S. +31	F.S. +57	F.S. +16	F.S. +16	C/L
Lift No	3	3	3	3	3
Latitude (°N)	29.888668	29.888332	29.871770	29.871726	29.871709
Longitude (°W)	90.152693	90.151219	90.129569	90.128931	90.128220
Elevation (ft)	6.4	6.1	6.8	6.8	7.0
Transmission Mode	DT 300	DT 300	DT 150	DT 300	DT 300
Moisture Test (Oven) ASTM D 2216					
Tare No	DT08	DT24	DT31	DT49	DT47
Wet Soil + Tare Mass (g)	391.28	398.67	400.48	392.96	396.05
Dry Soil + Tare Mass (g)	332.46	360.78	357.08	343.90	352.97
Tare Mass (g)	187.46	206.45	211.00	176.37	178.12
Moisture Content (%)	**40.6**	**24.6**	**29.7**	**29.3**	**24.6**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	115.9	117.1	123.0	121.0	113.7
Dry Unit Weight (lbs/ft³)	82.4	94.0	94.8	93.6	91.3
Proctor No	3824	3649	3034-92	3034-92	3186-133
Optimum Moisture (Proctor) (%)	33.7	24.1	24.8	24.8	26.5
Max Dry Unit Weight (Proctor) (lbs/ft³)	82.9	94.8	94.8	94.8	91.6
Degree of Compaction (%)	**99.4**	**99.2**	**100.0**	**98.7**	**99.7**
Difference from Optimum Moisture (+/-%)	**6.9**	**0.5**	**4.9**	**4.5**	**-1.9**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Fail**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks	TEST ID 465 12" WD 121.0				
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4103B
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	3/2/2011
Gauge Make	Humboldt	**Gauge Model**	5001C	**Gauge Serial No**	2492
Density Standardization	3005.1	**Moisture Standardization**	476.9	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	3/2/2011 - 4:30 P.M.	**Oven Stop Time (Date Time)**	3/3/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers
Test No	468	469	470		
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit		
Feature	Levee Embankment	Levee Embankment	Levee Embankment		
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY		
Station	150+72	153+22	155+74		
Offset	F.S. +11	F.S. +19	F.S. +23		
Lift No	3	3	3		
Latitude (°N)	29.871640	29.871565	29.871501		
Longitude (°W)	90.127440	90.126657	90.125865		
Elevation (ft)	6.8	6.7	6.6		
Transmission Mode	DT 300	DT 300	DT 300		
Moisture Test (Oven) ASTM D 2216					
Tare No	DT02	DT01	DT04		
Wet Soil + Tare Mass (g)	391.00	393.60	395.25		
Dry Soil + Tare Mass (g)	341.99	335.32	360.39		
Tare Mass (g)	178.87	171.87	233.49		
Moisture Content (%)	**30.0**	**35.7**	**27.5**		
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	118.9	117.1	118.9		
Dry Unit Weight (lbs/ft³)	91.5	86.3	93.3		
Proctor No	3186-133	3178-125	3178-125		
Optimum Moisture (Proctor) (%)	26.5	26.2	26.2		
Max Dry Unit Weight (Proctor) (lbs/ft³)	91.6	91.7	91.7		
Degree of Compaction (%)	**99.9**	**94.1**	**101.7**		
Difference from Optimum Moisture (+/-%)	**3.5**	**9.5**	**1.3**		
Test Status					
Min Compaction (%)	90.0	90.0	90.0		
Max Above Optimum Moisture (%)	5.0	5.0	5.0		
Max Below Optimum Moisture (%)	3.0	3.0	3.0		
Test Result	**Pass**	**Fail**	**Pass**		
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4113A
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	3/3/2011
Gauge Make	Humboldt	**Gauge Model**	5001C	**Gauge Serial No**	2492
Density Standardization	3008.6	**Moisture Standardization**	477.8	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	3/3/2011 - 4:30 P.M.	**Oven Stop Time (Date Time)**	3/4/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	471	472	473	474	475
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY
Station	42+03	37+99	32+00	29+93	26+01
Offset	P.S. -153	P.S. -142	P.S. -142	P.S. -142	P.S. -139
Lift No	2	2	2	2	2
Latitude (°N)	29.887390	29.887587	29.887918	29.888034	29.888246
Longitude (°W)	90.142715	90.143972	90.145823	90.146462	90.147676
Elevation (ft)	0.9	1.3	1.1	1.4	1.4
Transmission Mode	DT 300	DT 300	DT 300	DT 300	DT 150
Moisture Test (Oven) ASTM D 2216					
Tare No	DT04	DT02	DT01	DT47	DT49
Wet Soil + Tare Mass (g)	393.30	394.49	397.60	394.54	395.42
Dry Soil + Tare Mass (g)	359.35	348.03	350.65	353.63	351.59
Tare Mass (g)	233.45	178.89	171.90	178.16	176.37
Moisture Content (%)	**27.0**	**27.5**	**26.3**	**23.3**	**25.0**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	120.5	114.0	116.5	112.6	113.8
Dry Unit Weight (lbs/ft³)	94.9	89.4	92.2	91.3	91.0
Proctor No	3034-92	3178-125	3178-125	2854-40	3034-92
Optimum Moisture (Proctor) (%)	24.8	26.2	26.2	23.9	24.8
Max Dry Unit Weight (Proctor) (lbs/ft³)	94.8	91.7	91.7	95.9	94.8
Degree of Compaction (%)	**100.1**	**97.5**	**100.5**	**95.2**	**96.0**
Difference from Optimum Moisture (+/-%)	**2.2**	**1.3**	**0.1**	**-0.6**	**0.2**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks	TEST ID 475 12" WD 119.0				
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4113B
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	3/3/2011
Gauge Make	Humboldt	**Gauge Model**	5001C	**Gauge Serial No**	2492
Density Standardization	3008.6	**Moisture Standardization**	477.8	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	3/3/2011 - 4:30 P.M.	**Oven Stop Time (Date Time)**	3/4/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	476	477	478		
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit		
Feature	Levee Embankment	Levee Embankment	Levee Embankment		
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY		
Station	21+91	17+96	71+03		
Offset	P.S. -136	P.S. -141	C/L		
Lift No	2	2	8		
Latitude (°N)	29.888465	29.888700	29.884710		
Longitude (°W)	90.148943	90.150160	90.134812		
Elevation (ft)	1.5	1.5	12.8		
Transmission Mode	DT 300	DT 300	DT 300		
Moisture Test (Oven) ASTM D 2216					
Tare No	DT31	DT24	DT08		
Wet Soil + Tare Mass (g)	391.24	396.20	392.97		
Dry Soil + Tare Mass (g)	352.78	357.02	348.34		
Tare Mass (g)	210.96	206.43	187.44		
Moisture Content (%)	**27.1**	**26.0**	**27.7**		
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	118.8	122.6	103.7		
Dry Unit Weight (lbs/ft³)	93.5	97.3	81.2		
Proctor No	3034-92	3180-127	3555		
Optimum Moisture (Proctor) (%)	24.8	24.0	30.0		
Max Dry Unit Weight (Proctor) (lbs/ft³)	94.8	95.8	86.6		
Degree of Compaction (%)	**98.6**	**101.6**	**93.8**		
Difference from Optimum Moisture (+/-%)	**2.3**	**2.0**	**-2.3**		
Test Status					
Min Compaction (%)	90.0	90.0	90.0		
Max Above Optimum Moisture (%)	5.0	5.0	5.0		
Max Below Optimum Moisture (%)	3.0	3.0	3.0		
Test Result	**Pass**	**Pass**	**Pass**		
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4169
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	3/12/2011
Gauge Make	Humboldt	**Gauge Model**	5001C	**Gauge Serial No**	2492
Density Standardization	3012.9	**Moisture Standardization**	484.9	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	3/12/2011 - 3:00 P.M.	**Oven Stop Time (Date Time)**	3/13/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers
Test No	479	480	481		
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit		
Feature	Levee Embankment	Levee Embankment	Levee Embankment		
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY		
Station	63+58	68+93	75+97		
Offset	C/L	C/L	C/L		
Lift No	8	8	8		
Latitude (°N)	29.885774	29.885213	29.883416		
Longitude (°W)	90.136454	90.134901	90.135277		
Elevation (ft)	12.6	12.7	12.2		
Transmission Mode	DT 300	DT 300	DT 300		
Moisture Test (Oven) ASTM D 2216					
Tare No	DT25	DT41	DT44		
Wet Soil + Tare Mass (g)	399.71	393.42	393.20		
Dry Soil + Tare Mass (g)	357.54	348.99	338.25		
Tare Mass (g)	205.71	178.01	176.01		
Moisture Content (%)	**27.8**	**26.0**	**33.9**		
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	121.0	113.2	115.0		
Dry Unit Weight (lbs/ft³)	94.7	89.8	85.9		
Proctor No	3550	3550	3555		
Optimum Moisture (Proctor) (%)	26.0	26.0	30.0		
Max Dry Unit Weight (Proctor) (lbs/ft³)	92.3	92.3	86.6		
Degree of Compaction (%)	**102.6**	**97.3**	**99.2**		
Difference from Optimum Moisture (+/-%)	**1.8**	**0.0**	**3.9**		
Test Status					
Min Compaction (%)	90.0	90.0	90.0		
Max Above Optimum Moisture (%)	5.0	5.0	5.0		
Max Below Optimum Moisture (%)	3.0	3.0	3.0		
Test Result	**Pass**	**Pass**	**Pass**		
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4213A
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	3/19/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	25042
Density Standardization	2116	**Moisture Standardization**	638	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	3/19/2011 - 5:00 P.M.	**Oven Stop Time (Date Time)**	3/20/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	499	500	501	502	503
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY
Station	143+00	148+08	153+02	158+03	178+01
Offset	CL	FS 7	FS 7.2	CL	CL
Lift No	4	4	4	4	6
Latitude (°N)	29.871839	29.871705	29.871602	29.871500	29.871073
Longitude (°W)	90.129865	90.128272	90.126717	90.125140	90.118858
Elevation (ft)	8.0	7.8	7.8	7.9	10.9
Transmission Mode	DT 300	DT 300	DT 300	DT 300	DT 300
Moisture Test (Oven) ASTM D 2216					
Tare No	DT14	DT01	DT49	DT45	DT11
Wet Soil + Tare Mass (g)	397.86	396.77	393.45	395.50	394.75
Dry Soil + Tare Mass (g)	359.00	341.62	339.75	334.65	336.99
Tare Mass (g)	245.05	171.87	176.40	177.24	180.95
Moisture Content (%)	**34.1**	**32.5**	**32.9**	**38.7**	**37.0**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	111.9	104.8	107.0	109.2	110.4
Dry Unit Weight (lbs/ft³)	83.4	79.1	80.5	78.7	80.6
Proctor No	3824	3824	3824	3824	3824
Optimum Moisture (Proctor) (%)	33.7	33.7	33.7	33.7	33.7
Max Dry Unit Weight (Proctor) (lbs/ft³)	82.9	82.9	82.9	82.9	82.9
Degree of Compaction (%)	**100.6**	**95.4**	**97.1**	**94.9**	**97.2**
Difference from Optimum Moisture (+/-%)	**0.4**	**-1.2**	**-0.8**	**5.0**	**3.3**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4213B
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	3/19/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	25042
Density Standardization	2116	**Moisture Standardization**	638	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	3/19/2011 - 5:00 P.M.	**Oven Stop Time (Date Time)**	3/20/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers
Test No	504	505	506		
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit		
Feature	Levee Embankment	Levee Embankment	Levee Embankment		
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY		
Station	173+03	168+04	163+09		
Offset	PS -8	CL	PS -10		
Lift No	6	6	6		
Latitude (°N)	29.871219	29.871311	29.871437		
Longitude (°W)	90.120419	90.121990	90.123545		
Elevation (ft)	10.9	10.8	10.8		
Transmission Mode	DT 300	DT 300	DT 150		
Moisture Test (Oven) ASTM D 2216					
Tare No	DT50	DT48	DT31		
Wet Soil + Tare Mass (g)	391.29	392.75	396.47		
Dry Soil + Tare Mass (g)	333.76	337.46	348.92		
Tare Mass (g)	180.72	183.50	210.98		
Moisture Content (%)	**37.6**	**35.9**	**34.5**		
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	115.3	110.4	113.8		
Dry Unit Weight (lbs/ft³)	83.8	81.2	84.6		
Proctor No	3824	3824	3804		
Optimum Moisture (Proctor) (%)	33.7	33.7	31.1		
Max Dry Unit Weight (Proctor) (lbs/ft³)	82.9	82.9	85.5		
Degree of Compaction (%)	**101.1**	**97.9**	**98.9**		
Difference from Optimum Moisture (+/-%)	**3.9**	**2.2**	**3.4**		
Test Status					
Min Compaction (%)	90.0	90.0	90.0		
Max Above Optimum Moisture (%)	5.0	5.0	5.0		
Max Below Optimum Moisture (%)	3.0	3.0	3.0		
Test Result	**Pass**	**Pass**	**Pass**		
Remarks	TEST ID 506 12" WD 111.7				
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4217A
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	3/20/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	25042
Density Standardization	2121	**Moisture Standardization**	633	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	3/20/2011 - 5:00 P.M.	**Oven Stop Time (Date Time)**	3/21/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	507	508	509	510	511
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY
Station	122+14	127+08	132+00	136+90	141+01
Offset	CL	CL	CL	PS -6	CL
Lift No	6	5	5	5	5
Latitude (°N)	29.872321	29.872208	29.872083	29.871992	29.871894
Longitude (°W)	90.136425	90.134873	90.133326	90.131783	90.130492
Elevation (ft)	10.2	10.2	10.1	10.1	10.0
Transmission Mode	DT 300	DT 300	DT 300	DT 300	DT 300
Moisture Test (Oven) ASTM D 2216					
Tare No	DT46	DT02	DT25	DT47	DT44
Wet Soil + Tare Mass (g)	391.48	392.79	392.48	390.83	399.07
Dry Soil + Tare Mass (g)	332.43	334.52	351.25	340.03	345.54
Tare Mass (g)	177.87	178.85	205.69	178.13	175.97
Moisture Content (%)	**38.2**	**37.4**	**28.3**	**31.4**	**31.6**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	109.7	116.4	113.7	102.4	115.6
Dry Unit Weight (lbs/ft³)	79.4	84.7	88.6	77.9	87.8
Proctor No	3824	3824	3804	3824	3815
Optimum Moisture (Proctor) (%)	33.7	33.7	31.1	33.7	29.6
Max Dry Unit Weight (Proctor) (lbs/ft³)	82.9	82.9	85.5	82.9	88.9
Degree of Compaction (%)	**95.8**	**102.2**	**103.6**	**94.0**	**98.8**
Difference from Optimum Moisture (+/-%)	**4.5**	**3.7**	**-2.8**	**-2.3**	**2.0**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4217B
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	3/20/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	25042
Density Standardization	2121	**Moisture Standardization**	633	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	3/20/2011 - 5:00 P.M.	**Oven Stop Time (Date Time)**	3/21/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers
Test No	512				
Retest of Test ID					
Material Source	Borrow Pit				
Feature	Levee Embankment				
Visual Description	G-BR CLAY				
Station	122+12				
Offset	PS -142				
Lift No	1				
Latitude (°N)	29.872712				
Longitude (°W)	90.136393				
Elevation (ft)	2.0				
Transmission Mode	DT 150				
Moisture Test (Oven) ASTM D 2216					
Tare No	DT43				
Wet Soil + Tare Mass (g)	392.54				
Dry Soil + Tare Mass (g)	347.70				
Tare Mass (g)	179.88				
Moisture Content (%)	**26.7**				
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	113.3				
Dry Unit Weight (lbs/ft³)	89.4				
Proctor No	3185-132				
Optimum Moisture (Proctor) (%)	28.5				
Max Dry Unit Weight (Proctor) (lbs/ft³)	90.0				
Degree of Compaction (%)	**99.3**				
Difference from Optimum Moisture (+/-%)	**-1.8**				
Test Status					
Min Compaction (%)	90.0				
Max Above Optimum Moisture (%)	5.0				
Max Below Optimum Moisture (%)	3.0				
Test Result	**Pass**				
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4240
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	3/23/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	25042
Density Standardization	2120	**Moisture Standardization**	641	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	3/23/2011 - 5:00 P.M.	**Oven Stop Time (Date Time)**	3/24/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers
Test No	520	521			
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit			
Feature	Levee Embankment	Levee Embankment			
Visual Description	G-BR CLAY	G-BR CLAY			
Station	44+04	39+00			
Offset	FS 18	FS 28			
Lift No	3	3			
Latitude (°N)	29.886818	29.887070			
Longitude (°W)	90.142201	90.143768			
Elevation (ft)	6.7	6.6			
Transmission Mode	DT 300	DT 300			
Moisture Test (Oven) ASTM D 2216					
Tare No	DT40	DT04			
Wet Soil + Tare Mass (g)	395.10	394.86			
Dry Soil + Tare Mass (g)	334.51	354.09			
Tare Mass (g)	176.22	233.44			
Moisture Content (%)	**38.3**	**33.8**			
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	111.6	109.1			
Dry Unit Weight (lbs/ft³)	80.7	81.5			
Proctor No	3824	3824			
Optimum Moisture (Proctor) (%)	33.7	33.7			
Max Dry Unit Weight (Proctor) (lbs/ft³)	82.9	82.9			
Degree of Compaction (%)	**97.3**	**98.3**			
Difference from Optimum Moisture (+/-%)	**4.6**	**0.1**			
Test Status					
Min Compaction (%)	90.0	90.0			
Max Above Optimum Moisture (%)	5.0	5.0			
Max Below Optimum Moisture (%)	3.0	3.0			
Test Result	**Pass**	**Pass**			
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4248A
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	3/24/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	25042
Density Standardization	2132	**Moisture Standardization**	636	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	3/24/2011 - 5:00 P.M.	**Oven Stop Time (Date Time)**	3/25/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	522	523	524	525	526
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY
Station	107+07	101+99	96+99	102+00	107+02
Offset	PS -82	PS -73	CL	CL	CL
Lift No	1	1	7	7	7
Latitude (°N)	29.875133	29.876494	29.877876	29.876542	29.875202
Longitude (°W)	90.137709	90.137340	90.137167	90.137575	90.137957
Elevation (ft)	4.4	4.6	11.5	11.4	11.4
Transmission Mode	DT 150	DT 150	DT 300	DT 300	DT 300
Moisture Test (Oven) ASTM D 2216					
Tare No	DT41	DT27	DT43	DT44	DT08
Wet Soil + Tare Mass (g)	394.65	391.69	392.00	397.30	396.87
Dry Soil + Tare Mass (g)	348.92	348.14	344.99	358.42	354.43
Tare Mass (g)	177.98	209.55	179.90	176.00	187.47
Moisture Content (%)	**26.8**	**31.4**	**28.5**	**21.3**	**25.4**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	120.4	115.1	108.1	110.0	106.9
Dry Unit Weight (lbs/ft³)	95.0	87.6	84.1	90.7	85.2
Proctor No	3181-128	3183-130	3183-130	3178-125	3181-128
Optimum Moisture (Proctor) (%)	22.3	27.6	27.6	26.2	22.3
Max Dry Unit Weight (Proctor) (lbs/ft³)	92.9	87.5	87.5	91.7	92.9
Degree of Compaction (%)	**102.3**	**100.1**	**96.1**	**98.9**	**91.7**
Difference from Optimum Moisture (+/-%)	**4.5**	**3.8**	**0.9**	**-4.9**	**3.1**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Fail**	**Pass**
Remarks	Test Id 526 12" WD 105.8				
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4248B
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	3/24/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	25042
Density Standardization	2132	**Moisture Standardization**	636	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	3/24/2011 - 5:00 P.M.	**Oven Stop Time (Date Time)**	3/25/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers
Test No	527	528			
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit			
Feature	Levee Embankment	Levee Embankment			
Visual Description	G-BR CLAY	G-BR CLAY			
Station	34+01	28+98			
Offset	CL	CL			
Lift No	3	3			
Latitude (°N)	29.887430	29.887692			
Longitude (°W)	90.145290	90.146849			
Elevation (ft)	6.7	6.4			
Transmission Mode	DT 300	DT 300			
Moisture Test (Oven) ASTM D 2216					
Tare No	DT42	DT04			
Wet Soil + Tare Mass (g)	400.12	396.09			
Dry Soil + Tare Mass (g)	339.09	357.64			
Tare Mass (g)	178.16	233.42			
Moisture Content (%)	**37.9**	**31.0**			
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	107.8	112.4			
Dry Unit Weight (lbs/ft³)	78.2	85.8			
Proctor No	3824	3804			
Optimum Moisture (Proctor) (%)	33.7	31.1			
Max Dry Unit Weight (Proctor) (lbs/ft³)	82.9	85.5			
Degree of Compaction (%)	**94.3**	**100.4**			
Difference from Optimum Moisture (+/-%)	**4.2**	**-0.1**			
Test Status					
Min Compaction (%)	90.0	90.0			
Max Above Optimum Moisture (%)	5.0	5.0			
Max Below Optimum Moisture (%)	3.0	3.0			
Test Result	**Pass**	**Pass**			
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4250A
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	3/22/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	25042
Density Standardization	2106	**Moisture Standardization**	641	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	3/22/2011 - 5:00 P.M.	**Oven Stop Time (Date Time)**	3/23/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	513	514	515	516	517
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY
Station	54+00	49+04	97+03	91+96	87+00
Offset	FS 39	FS 20	PS -83	PS -73.1	PS -72
Lift No	3	3	1	1	1
Latitude (°N)	29.886392	29.886532	29.877793	29.879139	29.880448
Longitude (°W)	90.139090	90.140660	90.136905	90.136478	90.136033
Elevation (ft)	6.4	6.7	4.6	4.8	4.7
Transmission Mode	DT 300	DT 300	DT 150	DT 150	DT 150
Moisture Test (Oven) ASTM D 2216					
Tare No	DT48	DT50	DT25	DT02	DT46
Wet Soil + Tare Mass (g)	392.15	393.53	393.18	398.98	391.59
Dry Soil + Tare Mass (g)	340.38	339.36	357.92	356.32	349.12
Tare Mass (g)	183.43	180.73	205.75	178.89	177.88
Moisture Content (%)	**33.0**	**34.1**	**23.2**	**24.0**	**24.8**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	110.4	114.6	114.1	115.6	118.8
Dry Unit Weight (lbs/ft³)	83.0	85.5	92.6	93.2	95.2
Proctor No	3824	3804	3034-92	3181-128	3181-128
Optimum Moisture (Proctor) (%)	33.7	31.1	24.8	22.3	22.3
Max Dry Unit Weight (Proctor) (lbs/ft³)	82.9	85.5	94.8	92.9	92.9
Degree of Compaction (%)	**100.1**	**100.0**	**97.7**	**100.3**	**102.5**
Difference from Optimum Moisture (+/-%)	**-0.7**	**3.0**	**-1.6**	**1.7**	**2.5**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4250B
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	3/22/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	25042
Density Standardization	2106	**Moisture Standardization**	641	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	3/22/2011 - 5:00 P.M.	**Oven Stop Time (Date Time)**	3/23/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers
Test No	518	519			
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit			
Feature	Levee Embankment	Levee Embankment			
Visual Description	G-BR CLAY	G-BR CLAY			
Station	82+00	77+00			
Offset	PS -77	PS -77			
Lift No	1	1			
Latitude (°N)	29.881761	29.883079			
Longitude (°W)	90.135570	90.135121			
Elevation (ft)	4.6	4.6			
Transmission Mode	DT 150	DT 150			
Moisture Test (Oven) ASTM D 2216					
Tare No	DT45	DT49			
Wet Soil + Tare Mass (g)	393.11	394.16			
Dry Soil + Tare Mass (g)	346.84	345.25			
Tare Mass (g)	177.24	176.38			
Moisture Content (%)	**27.3**	**29.0**			
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	121.1	121.7			
Dry Unit Weight (lbs/ft³)	95.1	94.3			
Proctor No	3185-132	3185-132			
Optimum Moisture (Proctor) (%)	28.5	26.5			
Max Dry Unit Weight (Proctor) (lbs/ft³)	90.0	90.0			
Degree of Compaction (%)	**105.7**	**104.8**			
Difference from Optimum Moisture (+/-%)	**-1.2**	**2.5**			
Test Status					
Min Compaction (%)	90.0	90.0			
Max Above Optimum Moisture (%)	5.0	5.0			
Max Below Optimum Moisture (%)	3.0	3.0			
Test Result	**Pass**	**Pass**			
Remarks	Test taken in Haul Rode resulting in high compaction.				
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4256A
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	3/25/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	25042
Density Standardization	2134	**Moisture Standardization**	634	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	3/25/2011 - 5:00 P.M.	**Oven Stop Time (Date Time)**	3/26/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	529	530	531	532	533
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY
Station	139+10	134+00	129+05	124+12	121+58
Offset	CL	CL	CL	CL	CL
Lift No	6	6	6	6	7
Latitude (°N)	29.871937	29.872051	29.872163	29.872279	29.872335
Longitude (°W)	90.131093	90.132696	90.134252	90.135802	90.136600
Elevation (ft)	11.0	11.1	11.1	11.2	11.1
Transmission Mode	DT 300	DT 300	DT 300	DT 300	DT 300
Moisture Test (Oven) ASTM D 2216					
Tare No	DT04	DT42	DT44	DT08	DT43
Wet Soil + Tare Mass (g)	391.87	395.43	392.17	396.51	394.35
Dry Soil + Tare Mass (g)	356.46	345.30	344.17	344.14	345.38
Tare Mass (g)	233.46	178.20	176.07	187.47	179.93
Moisture Content (%)	**28.8**	**30.0**	**28.6**	**33.4**	**29.6**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	114.6	115.5	113.5	110.1	112.2
Dry Unit Weight (lbs/ft³)	89.0	88.8	88.3	82.5	86.6
Proctor No	3550	3550	3815	3815	3815
Optimum Moisture (Proctor) (%)	26.0	26.0	29.6	29.6	29.6
Max Dry Unit Weight (Proctor) (lbs/ft³)	92.3	92.3	88.9	88.9	88.9
Degree of Compaction (%)	**96.4**	**96.2**	**99.3**	**92.8**	**97.4**
Difference from Optimum Moisture (+/-%)	**2.8**	**4.0**	**-1.0**	**3.8**	**0.0**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4256B
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	3/25/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	25042
Density Standardization	2134	**Moisture Standardization**	634	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	3/25/2011 - 5:00 P.M.	**Oven Stop Time (Date Time)**	3/26/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	534	535	536	537	
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY	
Station	160+98	156+16	151+00	146+03	
Offset	CL	CL	CL	FS 10	
Lift No	5	5	5	5	
Latitude (°N)	29.871487	29.871540	29.871665	29.871740	
Longitude (°W)	90.124397	90.125727	90.127349	90.128917	
Elevation (ft)	9.2	9.1	9.1	9.0	
Transmission Mode	DT 300	DT 300	DT 150	DT 300	
Moisture Test (Oven) ASTM D 2216					
Tare No	DT27	DT41	DT40	DT49	
Wet Soil + Tare Mass (g)	392.28	392.18	395.61	394.85	
Dry Soil + Tare Mass (g)	342.56	338.94	340.85	341.32	
Tare Mass (g)	209.57	178.03	176.28	176.40	
Moisture Content (%)	**37.4**	**33.1**	**33.3**	**32.5**	
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	112.7	105.9	100.0	104.5	
Dry Unit Weight (lbs/ft³)	82.0	79.6	75.0	78.9	
Proctor No	3824	3804	3804	3824	
Optimum Moisture (Proctor) (%)	33.7	31.1	31.1	33.7	
Max Dry Unit Weight (Proctor) (lbs/ft³)	82.9	85.5	85.5	82.9	
Degree of Compaction (%)	**98.9**	**93.1**	**87.7**	**95.2**	
Difference from Optimum Moisture (+/-%)	**3.7**	**2.0**	**2.2**	**-1.2**	
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	
Test Result	**Pass**	**Pass**	**Fail**	**Pass**	
Remarks	TEST ID 536 12" WD 99.7				
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4264
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	3/26/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	25042
Density Standardization	2126	**Moisture Standardization**	640	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	3/26/2011 - 4:00 P.M. P.M.	**Oven Stop Time (Date Time)**	3/27/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers
Test No	538	539			
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit			
Feature	Levee Embankment	Levee Embankment			
Visual Description	G-BR CLAY	G-BR CLAY			
Station	19+08	23+97			
Offset	F.S. +7.5	C/L			
Lift No	3	3			
Latitude (°N)	29.888237	29.887971			
Longitude (°W)	90.149909	90.148397			
Elevation (ft)	7.2	7.3			
Transmission Mode	DT 300	DT 300			
Moisture Test (Oven) ASTM D 2216					
Tare No	DT30	DT31			
Wet Soil + Tare Mass (g)	394.37	394.65			
Dry Soil + Tare Mass (g)	346.17	350.66			
Tare Mass (g)	203.34	211.00			
Moisture Content (%)	**33.7**	**31.5**			
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	114.9	107.2			
Dry Unit Weight (lbs/ft³)	85.9	81.5			
Proctor No	3815	3824			
Optimum Moisture (Proctor) (%)	29.6	33.7			
Max Dry Unit Weight (Proctor) (lbs/ft³)	88.9	82.9			
Degree of Compaction (%)	**96.6**	**98.3**			
Difference from Optimum Moisture (+/-%)	**4.1**	**-2.2**			
Test Status					
Min Compaction (%)	90.0	90.0			
Max Above Optimum Moisture (%)	5.0	5.0			
Max Below Optimum Moisture (%)	3.0	3.0			
Test Result	**Pass**	**Pass**			
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4268
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	1
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	3/28/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	25042
Density Standardization	2112	**Moisture Standardization**	637	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	3/28/2011 - 5:45 P.M.	**Oven Stop Time (Date Time)**	3/29/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	540	541	542	543	544
Retest of Test ID					4256+536
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY
Station	79+93	85+00	89+98	94+82	151+00
Offset	C/L	C/L	C/L	C/L	CL
Lift No	9	9	9	9	5
Latitude (°N)	29.882371	29.881028	29.879721	29.878499	29.871665
Longitude (°W)	90.135629	90.136061	90.136528	90.136930	90.127349
Elevation (ft)	12.9	12.9	12.9	13.0	9.1
Transmission Mode	DT 150	DT 150	DT 150	DT 150	DT 150
Moisture Test (Oven) ASTM D 2216					
Tare No	DT24	DT21	DT49	DT40	DT41
Wet Soil + Tare Mass (g)	394.66	391.80	396.71	399.78	396.77
Dry Soil + Tare Mass (g)	354.42	356.20	335.79	358.99	343.50
Tare Mass (g)	206.48	211.63	176.38	176.26	178.02
Moisture Content (%)	**27.2**	**24.6**	**38.2**	**22.3**	**32.2**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	114.9	103.6	107.5	104.1	114.5
Dry Unit Weight (lbs/ft³)	90.3	83.1	77.8	85.1	86.6
Proctor No	2762-24	2762-24	3824	3824	3804
Optimum Moisture (Proctor) (%)	26.6	26.6	33.7	33.7	31.1
Max Dry Unit Weight (Proctor) (lbs/ft³)	92.1	92.1	82.9	82.9	85.5
Degree of Compaction (%)	**98.0**	**90.2**	**93.8**	**102.7**	**101.3**
Difference from Optimum Moisture (+/-%)	**0.6**	**-2.0**	**4.5**	**-11.4**	**1.1**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Fail**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4268
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	3/28/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	25042
Density Standardization	2112	**Moisture Standardization**	637	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	3/28/2011 - 5:45 P.M.	**Oven Stop Time (Date Time)**	3/29/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	540	541	542	543	544
Retest of Test ID					4256+538
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY
Station	79+93	85+00	89+98	94+82	151+00
Offset	C/L	C/L	C/L	C/L	CL
Lift No	9	9	9	9	5
Latitude (°N)	29.882371	29.881028	29.879721	29.878499	29.871665
Longitude (°W)	90.135629	90.136061	90.136528	90.136930	90.127349
Elevation (ft)	12.9	12.9	12.9	13.0	9.1
Transmission Mode	DT 150	DT 150	DT 150	DT 150	DT 150
Moisture Test (Oven) ASTM D 2216					
Tare No	DT24	DT21	DT49	DT40	DT41
Wet Soil + Tare Mass (g)	394.66	391.80	396.71	399.78	396.77
Dry Soil + Tare Mass (g)	354.42	356.20	335.79	358.99	343.50
Tare Mass (g)	206.48	211.63	176.38	176.26	178.02
Moisture Content (%)	**27.2**	**24.6**	**38.2**	**22.3**	**32.2**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	114.9	103.6	107.5	104.1	114.5
Dry Unit Weight (lbs/ft³)	90.3	83.1	77.8	85.1	86.6
Proctor No	2762-24	2762-24	3824	3824	3804
Optimum Moisture (Proctor) (%)	26.6	26.6	33.7	33.7	31.1
Max Dry Unit Weight (Proctor) (lbs/ft³)	92.1	92.1	82.9	82.9	85.5
Degree of Compaction (%)	**98.0**	**90.2**	**93.8**	**102.7**	**101.3**
Difference from Optimum Moisture (+/-%)	**0.6**	**-2.0**	**4.5**	**-11.4**	**1.1**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Fail**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4281A
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	3/29/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	25042
Density Standardization	2120	**Moisture Standardization**	642	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	3/29/2011 - 6:00 P.M.	**Oven Stop Time (Date Time)**	3/30/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	545	546	547	548	549
Retest of Test ID	4103+463				
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY
Station	10+13	6+03	2+98	122+90	126+45
Offset	F.S. +31	C/L	C/L	C/L	C/L
Lift No	3	3	3	8	7
Latitude (°N)	29.888668	29.888985	29.889142	29.872309	29.872232
Longitude (°W)	90.152693	90.153937	90.154893	90.136188	90.135073
Elevation (ft)	6.4	7.5	7.5	12.2	12.0
Transmission Mode	DT 300	DT 150	DT 300	DT 300	DT 300
Moisture Test (Oven) ASTM D 2216					
Tare No	DT08	DT43	DT27	DT41	DT40
Wet Soil + Tare Mass (g)	394.57	397.55	396.31	396.42	396.81
Dry Soil + Tare Mass (g)	349.82	336.20	349.52	343.91	348.09
Tare Mass (g)	187.47	179.92	209.65	177.97	176.31
Moisture Content (%)	**27.6**	**39.3**	**33.5**	**31.6**	**28.4**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	110.5	98.9	111.4	114.7	109.1
Dry Unit Weight (lbs/ft³)	86.6	71.0	83.4	87.2	85.0
Proctor No	3815	3804	3824	3555	3555
Optimum Moisture (Proctor) (%)	29.6	31.1	33.7	30.0	30.0
Max Dry Unit Weight (Proctor) (lbs/ft³)	88.9	85.5	82.9	86.6	86.6
Degree of Compaction (%)	**97.4**	**83.0**	**100.6**	**100.7**	**98.2**
Difference from Optimum Moisture (+/-%)	**-2.0**	**8.2**	**-0.2**	**1.6**	**-1.6**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Fail**	**Pass**	**Pass**	**Pass**
Remarks	TEST ID 546 12" WD 107.2				
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4281B
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	3/29/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	25042
Density Standardization	2120	**Moisture Standardization**	642	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	3/29/2011 - 6:00 P.M.	**Oven Stop Time (Date Time)**	3/30/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers
Test No	550	551	552		
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit		
Feature	Levee Embankment	Levee Embankment	Levee Embankment		
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY		
Station	131+32	136+57	141+00		
Offset	C/L	P.S. -8	P.S. -9		
Lift No	7	7	7		
Latitude (°N)	29.872105	29.872005	29.871904		
Longitude (°W)	90.133538	90.131888	90.130497		
Elevation (ft)	12.1	11.9	11.8		
Transmission Mode	DT 300	DT 300	DT 300		
Moisture Test (Oven) ASTM D 2216					
Tare No	DT49	DT20	DT21		
Wet Soil + Tare Mass (g)	396.00	396.63	397.58		
Dry Soil + Tare Mass (g)	351.02	358.38	357.56		
Tare Mass (g)	176.41	212.73	211.70		
Moisture Content (%)	**25.8**	**26.3**	**27.4**		
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	109.3	107.9	117.4		
Dry Unit Weight (lbs/ft³)	86.9	85.4	92.2		
Proctor No	3550	3550	3550		
Optimum Moisture (Proctor) (%)	26.0	26.0	26.0		
Max Dry Unit Weight (Proctor) (lbs/ft³)	92.3	92.3	92.3		
Degree of Compaction (%)	**94.1**	**92.5**	**99.9**		
Difference from Optimum Moisture (+/-%)	**-0.2**	**0.3**	**1.4**		
Test Status					
Min Compaction (%)	90.0	90.0	90.0		
Max Above Optimum Moisture (%)	5.0	5.0	5.0		
Max Below Optimum Moisture (%)	3.0	3.0	3.0		
Test Result	**Pass**	**Pass**	**Pass**		
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4305
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	1
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	4/1/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2245	**Moisture Standardization**	592	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	4/01/2011 - 6:00 P.M.	**Oven Stop Time (Date Time)**	4/02/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	553	554	555		
Retest of Test ID	4268-543	4248-525	4248-526		
Material Source	Borrow Pit	Borrow Pit	Borrow Pit		
Feature	Levee Embankment	Levee Embankment	Levee Embankment		
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY		
Station	94+82	102+00	107+02		
Offset	C/L	CL	CL		
Lift No	9	7	7		
Latitude (°N)	29.878499	29.876542	29.875202		
Longitude (°W)	90.136930	90.137575	90.137957		
Elevation (ft)	13.0	11.4	11.4		
Transmission Mode	DT 150	DT 300	DT 300		
Moisture Test (Oven) ASTM D 2216					
Tare No	DT42	DT44	DT21		
Wet Soil + Tare Mass (g)	392.30	397.91	390.37		
Dry Soil + Tare Mass (g)	349.60	347.60	353.49		
Tare Mass (g)	178.21	176.04	211.65		
Moisture Content (%)	**24.9**	**29.3**	**26.0**		
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	114.8	119.5	120.4		
Dry Unit Weight (lbs/ft³)	91.9	92.4	95.6		
Proctor No	2762-24	2762-24	2762-24		
Optimum Moisture (Proctor) (%)	26.6	26.6	26.6		
Max Dry Unit Weight (Proctor) (lbs/ft³)	92.1	92.1	92.1		
Degree of Compaction (%)	**99.8**	**100.3**	**103.8**		
Difference from Optimum Moisture (+/-%)	**-1.7**	**2.7**	**-0.6**		
Test Status					
Min Compaction (%)	90.0	90.0	90.0		
Max Above Optimum Moisture (%)	5.0	5.0	5.0		
Max Below Optimum Moisture (%)	3.0	3.0	3.0		
Test Result	**Pass**	**Pass**	**Pass**		
Remarks	Qa lab's test failed at station 107+02 and TWE was requested to retest the area with QA lab even though TWE yeilded passing test on first shot. Request was made by Core on-site inspectors.				
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4305
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	4/1/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2245	**Moisture Standardization**	592	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	4/01/2011 - 6:00 P.M.	**Oven Stop Time (Date Time)**	4/02/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers
Test No	553	554	555		
Retest of Test ID	4268-543	4248-525	4248-526		
Material Source	Borrow Pit	Borrow Pit	Borrow Pit		
Feature	Levee Embankment	Levee Embankment	Levee Embankment		
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY		
Station	94+82	102+00	107+02		
Offset	C/L	CL	CL		
Lift No	9	7	7		
Latitude (°N)	29.878499	29.876542	29.875202		
Longitude (°W)	90.136930	90.137575	90.137957		
Elevation (ft)	13.0	11.4	11.4		
Transmission Mode	DT 150	DT 300	DT 300		
Moisture Test (Oven) ASTM D 2216					
Tare No	DT42	DT44	DT21		
Wet Soil + Tare Mass (g)	392.30	397.91	390.37		
Dry Soil + Tare Mass (g)	349.60	347.60	353.49		
Tare Mass (g)	178.21	176.04	211.65		
Moisture Content (%)	**24.9**	**29.3**	**26.0**		
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	114.8	119.5	120.4		
Dry Unit Weight (lbs/ft³)	91.9	92.4	95.6		
Proctor No	2762-24	2762-24	2762-24		
Optimum Moisture (Proctor) (%)	26.6	26.6	26.6		
Max Dry Unit Weight (Proctor) (lbs/ft³)	92.1	92.1	92.1		
Degree of Compaction (%)	**99.8**	**100.3**	**103.8**		
Difference from Optimum Moisture (+/-%)	**-1.7**	**2.7**	**-0.6**		
Test Status					
Min Compaction (%)	90.0	90.0	90.0		
Max Above Optimum Moisture (%)	5.0	5.0	5.0		
Max Below Optimum Moisture (%)	3.0	3.0	3.0		
Test Result	**Pass**	**Pass**	**Pass**		
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4316A
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	4/4/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2211	**Moisture Standardization**	593	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	4/4/2011 - 6:30 P.M.	**Oven Stop Time (Date Time)**	43/5/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	556	557	558	559	560
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY
Station	127+38	132+32	137+19	142+61	147+07
Offset	P.S. -131	P.S. -136	P.S. -134	P.S. -143	P.S. -141
Lift No	1	1	1	1	1
Latitude (°N)	29.872557	29.872455	29.872336	29.872235	29.872135
Longitude (°W)	90.134742	90.133190	90.131658	90.129955	90.128551
Elevation (ft)	2.6	2.4	2.4	2.1	1.8
Transmission Mode	DT 150	DT 150	DT 150	DT 150	DT 150
Moisture Test (Oven) ASTM D 2216					
Tare No	DT45	DT11	DT14	DT46	DT47
Wet Soil + Tare Mass (g)	399.42	396.55	399.17	393.37	398.14
Dry Soil + Tare Mass (g)	346.70	336.52	365.69	340.11	338.03
Tare Mass (g)	177.25	180.97	245.06	177.86	178.15
Moisture Content (%)	**31.1**	**38.6**	**27.8**	**32.8**	**37.6**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	111.7	106.6	109.8	112.7	108.9
Dry Unit Weight (lbs/ft³)	85.2	76.9	85.9	84.9	79.1
Proctor No	3815	3824	3815	3815	3824
Optimum Moisture (Proctor) (%)	29.6	33.7	29.6	29.6	33.7
Max Dry Unit Weight (Proctor) (lbs/ft³)	88.9	82.9	88.9	88.9	82.9
Degree of Compaction (%)	**95.8**	**92.8**	**96.6**	**95.5**	**95.4**
Difference from Optimum Moisture (+/-%)	**1.5**	**4.9**	**-1.8**	**3.2**	**3.9**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4316B
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	4/4/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2211	**Moisture Standardization**	593	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	4/4/2011 - 6:30 P.M.	**Oven Stop Time (Date Time)**	43/5/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	561	562	563	564	565
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY
Station	152+05	157+12	158+94	154+03	149+00
Offset	P.S. -138	P.S. -140	P.S. -20	P.S. -8	C/L
Lift No	1	1	6	6	6
Latitude (°N)	29.872022	29.871920	29.871559	29.871623	29.871727
Longitude (°W)	90.126986	90.125390	90.124847	90.126394	90.127978
Elevation (ft)	1.7	1.8	10.1	10.2	10.1
Transmission Mode	DT 150	DT 150	DT 300	DT 300	DT 300
Moisture Test (Oven) ASTM D 2216					
Tare No	DT31	DT30	DT01	DT48	DT50
Wet Soil + Tare Mass (g)	397.83	393.98	398.89	391.91	397.51
Dry Soil + Tare Mass (g)	353.82	348.84	351.32	344.96	350.69
Tare Mass (g)	210.99	203.34	171.90	183.54	180.70
Moisture Content (%)	**30.8**	**31.0**	**26.5**	**29.1**	**27.5**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	111.2	113.2	116.7	114.6	113.3
Dry Unit Weight (lbs/ft³)	85.0	86.4	92.3	88.8	88.9
Proctor No	3815	3815	3649	3649	3649
Optimum Moisture (Proctor) (%)	29.6	29.6	24.1	24.1	24.1
Max Dry Unit Weight (Proctor) (lbs/ft³)	88.9	88.9	94.8	94.8	94.8
Degree of Compaction (%)	**95.6**	**97.2**	**97.4**	**93.7**	**93.8**
Difference from Optimum Moisture (+/-%)	**1.2**	**1.4**	**2.4**	**5.0**	**3.4**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4316C
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	1
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	4/4/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2211	**Moisture Standardization**	593	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	4/4/2011 - 6:30 P.M.	**Oven Stop Time (Date Time)**	43/5/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	566	567	568	569	570
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY
Station	144+06	138+90	134+08	129+03	124+03
Offset	P.S. -15	F.S. +5	C/L	C/L	C/L
Lift No	6	8	8	8	8
Latitude (°N)	29.871855	29.871914	29.872047	29.872147	29.872275
Longitude (°W)	90.129528	90.131165	90.132670	90.134259	90.135832
Elevation (ft)	10.1	12.8	13.0	13.0	12.8
Transmission Mode	DT 300	DT 300	DT 300	DT 300	DT 300
Moisture Test (Oven) ASTM D 2216					
Tare No	DT24	DT04	DT02	DT21	DT44
Wet Soil + Tare Mass (g)	400.21	392.75	396.69	390.71	398.40
Dry Soil + Tare Mass (g)	360.51	353.38	345.31	346.57	349.87
Tare Mass (g)	206.51	233.46	178.89	211.62	176.06
Moisture Content (%)	**25.8**	**32.8**	**30.9**	**32.7**	**27.9**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	114.1	115.3	113.9	115.1	114.6
Dry Unit Weight (lbs/ft³)	90.7	86.8	87.0	86.7	89.6
Proctor No	3649	3555	3555	4171	4171
Optimum Moisture (Proctor) (%)	24.1	30.0	30.0	22.9	22.9
Max Dry Unit Weight (Proctor) (lbs/ft³)	94.8	86.6	86.6	96.5	96.5
Degree of Compaction (%)	**95.7**	**100.2**	**100.5**	**89.8**	**92.8**
Difference from Optimum Moisture (+/-%)	**1.7**	**2.8**	**0.9**	**9.8**	**5.0**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Fail**	**Pass**
Remarks	TEST ID 566 12" WD 111.8				
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4316C
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	4/4/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2211	**Moisture Standardization**	593	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	4/4/2011 - 6:30 P.M.	**Oven Stop Time (Date Time)**	43/5/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	566	567	568	569	570
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY
Station	144+06	138+90	134+08	29+03	24+03
Offset	P.S. -15	F.S. +5	C/L	C/L	C/L
Lift No	6	8	8	8	8
Latitude (°N)	29.871855	29.871914	29.872047	29.872147	29.872275
Longitude (°W)	90.129528	90.131165	90.132670	90.134259	90.135832
Elevation (ft)	10.1	12.8	13.0	13.0	12.8
Transmission Mode	DT 300	DT 300	DT 300	DT 300	DT 300
Moisture Test (Oven) ASTM D 2216					
Tare No	DT24	DT04	DT02	DT21	DT44
Wet Soil + Tare Mass (g)	400.21	392.75	396.69	390.71	398.40
Dry Soil + Tare Mass (g)	360.51	353.38	345.31	346.57	349.87
Tare Mass (g)	206.51	233.46	178.89	211.62	176.06
Moisture Content (%)	**25.8**	**32.8**	**30.9**	**32.7**	**27.9**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	114.1	115.3	113.9	115.1	114.6
Dry Unit Weight (lbs/ft³)	90.7	86.8	87.0	86.7	89.6
Proctor No	3649	3555	3555	4171	4171
Optimum Moisture (Proctor) (%)	24.1	30.0	30.0	22.9	22.9
Max Dry Unit Weight (Proctor) (lbs/ft³)	94.8	86.6	86.6	96.5	96.5
Degree of Compaction (%)	**95.7**	**100.2**	**100.5**	**89.8**	**92.8**
Difference from Optimum Moisture (+/-%)	**1.7**	**2.8**	**0.9**	**9.8**	**5.0**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Fail**	**Pass**
Remarks	TEST ID 566 12" WD 111.8				
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4316D
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	4/4/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2211	**Moisture Standardization**	593	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	4/4/2011 - 6:30 P.M.	**Oven Stop Time (Date Time)**	43/5/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	571	572	573	574	575
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY
Station	122+03	179+02	174+05	169+03	164+09
Offset	C/L	C/L	C/L	C/L	C/L
Lift No	9	7	7	7	7
Latitude (°N)	29.872316	29.870998	29.871166	29.871287	29.871389
Longitude (°W)	90.136460	90.118550	90.120100	90.121677	90.123234
Elevation (ft)	12.8	12.1	12.0	12.0	11.9
Transmission Mode	DT 300	DT 300	DT 300	DT 300	DT 300
Moisture Test (Oven) ASTM D 2216					
Tare No	DT41	DT24	DT50	DT48	DT01
Wet Soil + Tare Mass (g)	399.20	398.72	393.62	393.78	393.10
Dry Soil + Tare Mass (g)	345.80	349.11	333.48	336.28	333.30
Tare Mass (g)	178.02	206.41	180.71	183.46	171.82
Moisture Content (%)	**31.8**	**34.8**	**39.4**	**37.6**	**37.0**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	111.8	110.0	106.9	107.9	105.8
Dry Unit Weight (lbs/ft³)	84.8	81.6	76.7	78.4	77.2
Proctor No	3555	3804	3804	3804	3804
Optimum Moisture (Proctor) (%)	30.0	31.1	31.1	31.1	31.1
Max Dry Unit Weight (Proctor) (lbs/ft³)	86.6	85.5	85.5	85.5	85.5
Degree of Compaction (%)	**97.9**	**95.4**	**89.7**	**91.7**	**90.3**
Difference from Optimum Moisture (+/-%)	**1.8**	**3.7**	**8.3**	**6.5**	**5.9**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Fail**	**Fail**	**Fail**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4316E
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	4/4/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2211	**Moisture Standardization**	593	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	4/4/2011 - 6:30 P.M.	**Oven Stop Time (Date Time)**	43/5/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	576	577	578	579	580
Retest of Test ID		2690+14			
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY
Station	162+01	164+83	167+02	172+02	177+00
Offset	P.S. -151	P.S. -83	P.S. -130	P.S. -131	P.S. -130
Lift No	1	1	1	1	1
Latitude (°N)	29.871846	29.871600	29.871683	29.871581	29.871468
Longitude (°W)	90.123864	90.122981	90.122279	90.120734	90.119147
Elevation (ft)	1.7	5.0	2.1	2.2	2.3
Transmission Mode	DT 150	DT 150	DT 150	DT 150	DT 150
Moisture Test (Oven) ASTM D 2216					
Tare No	DT30	DT31	DT47	DT46	DT14
Wet Soil + Tare Mass (g)	395.67	396.27	398.84	394.37	400.28
Dry Soil + Tare Mass (g)	348.50	360.92	342.30	339.92	357.14
Tare Mass (g)	203.31	210.97	178.12	177.86	245.05
Moisture Content (%)	**32.5**	**23.6**	**34.4**	**33.6**	**38.5**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	110.5	123.6	111.3	106.9	105.3
Dry Unit Weight (lbs/ft³)	83.4	100.0	82.8	80.0	76.0
Proctor No	3815	3291-184	3815	3815	3824
Optimum Moisture (Proctor) (%)	29.6	21.9	29.6	29.6	33.7
Max Dry Unit Weight (Proctor) (lbs/ft³)	88.9	99.5	88.9	88.9	82.9
Degree of Compaction (%)	**93.8**	**100.5**	**93.1**	**90.0**	**91.7**
Difference from Optimum Moisture (+/-%)	**2.9**	**1.7**	**4.8**	**4.0**	**4.8**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4347
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	1
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	4/7/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2238	**Moisture Standardization**	546	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	4/7/2011 - 4:30 P.M.	**Oven Stop Time (Date Time)**	4/8/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	581	582	583	584	
Retest of Test ID	4281A+546				
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY	
Station	6+03	96+10	100+98	106+00	
Offset	C/L	C/L	C/L	C/L	
Lift No	3	8	8	8	
Latitude (°N)	29.888985	29.878109	29.876823	29.875493	
Longitude (°W)	90.153937	90.137087	90.137496	90.137888	
Elevation (ft)	7.5	12.0	12.2	12.0	
Transmission Mode	DT 300	DT 300	DT 300	DT 300	
Moisture Test (Oven) ASTM D 2216					
Tare No	DT48	DT01	DT30	DT45	
Wet Soil + Tare Mass (g)	397.14	400.48	393.71	393.96	
Dry Soil + Tare Mass (g)	349.49	339.28	346.12	339.98	
Tare Mass (g)	183.55	171.89	203.39	177.25	
Moisture Content (%)	**28.7**	**36.6**	**33.3**	**33.2**	
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	103.8	108.3	107.6	108.7	
Dry Unit Weight (lbs/ft³)	80.7	79.3	80.7	81.6	
Proctor No	3804	3824	3804	3804	
Optimum Moisture (Proctor) (%)	31.1	33.7	31.1	31.1	
Max Dry Unit Weight (Proctor) (lbs/ft³)	85.5	82.9	85.5	85.5	
Degree of Compaction (%)	**94.4**	**95.7**	**94.4**	**95.4**	
Difference from Optimum Moisture (+/-%)	**-2.4**	**2.9**	**2.2**	**2.1**	
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4347
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	4/7/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2238	**Moisture Standardization**	546	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	4/7/2011 - 4:30 P.M.	**Oven Stop Time (Date Time)**	4/8/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	581	582	583	584	
Retest of Test ID	4281A+581				
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY	
Station	6+03	96+10	100+98	106+00	
Offset	C/L	C/L	C/L	C/L	
Lift No	3	8	8	8	
Latitude (°N)	29.888985	29.878109	29.876823	29.875493	
Longitude (°W)	90.153937	90.137087	90.137496	90.137888	
Elevation (ft)	7.5	12.0	12.2	12.0	
Transmission Mode	DT 300	DT 300	DT 300	DT 300	
Moisture Test (Oven) ASTM D 2216					
Tare No	DT48	DT01	DT30	DT45	
Wet Soil + Tare Mass (g)	397.14	400.48	393.71	393.96	
Dry Soil + Tare Mass (g)	349.49	339.28	346.12	339.98	
Tare Mass (g)	183.55	171.89	203.39	177.25	
Moisture Content (%)	**28.7**	**36.6**	**33.3**	**33.2**	
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	103.8	108.3	107.6	108.7	
Dry Unit Weight (lbs/ft³)	80.7	79.3	80.7	81.6	
Proctor No	3804	3824	3804	3804	
Optimum Moisture (Proctor) (%)	31.1	33.7	31.1	31.1	
Max Dry Unit Weight (Proctor) (lbs/ft³)	85.5	82.9	85.5	85.5	
Degree of Compaction (%)	**94.4**	**95.7**	**94.4**	**95.4**	
Difference from Optimum Moisture (+/-%)	**-2.4**	**2.9**	**2.2**	**2.1**	
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4369A
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	4/11/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2245	**Moisture Standardization**	592	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	4/11/2011 - 6:30 P.M.	**Oven Stop Time (Date Time)**	4/12/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	585	586	587	588	589
Retest of Test ID	4316+573	4316+574	4316+575	4316+569	
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY
Station	174+05	169+03	164+09	129+03	16+01
Offset	C/L	C/L	C/L	C/L	F.S +10
Lift No	7	7	7	8	4
Latitude (°N)	29.871166	29.871287	29.871389	29.872147	29.888401
Longitude (°W)	90.120100	90.121677	90.123234	90.134259	90.150860
Elevation (ft)	12.0	12.0	11.9	13.0	8.4
Transmission Mode	DT 300	DT 150	DT 300	DT 300	DT 300
Moisture Test (Oven) ASTM D 2216					
Tare No	DT47	DT46	DT14	DT43	DT04
Wet Soil + Tare Mass (g)	397.09	396.03	395.20	394.27	398.67
Dry Soil + Tare Mass (g)	339.94	338.99	355.77	339.55	355.01
Tare Mass (g)	178.26	177.94	245.17	179.97	233.47
Moisture Content (%)	**35.3**	**35.4**	**35.7**	**34.3**	**35.9**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	111.2	109.7	109.2	109.0	106.6
Dry Unit Weight (lbs/ft³)	82.2	81.0	80.5	81.2	78.4
Proctor No	3804	3804	3804	3804	3804
Optimum Moisture (Proctor) (%)	31.1	31.1	31.1	31.1	31.1
Max Dry Unit Weight (Proctor) (lbs/ft³)	85.5	85.5	85.5	85.5	85.5
Degree of Compaction (%)	**96.1**	**94.7**	**94.2**	**95.0**	**91.7**
Difference from Optimum Moisture (+/-%)	**4.2**	**4.3**	**4.6**	**3.2**	**4.8**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks	TEST ID 586 12" WD 111.4				
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4369B
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	4/11/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2245	**Moisture Standardization**	592	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	4/11/2011 - 6:30 P.M.	**Oven Stop Time (Date Time)**	4/12/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	590	591	592	593	594
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY
Station	20+53	28+35	30+47	35+05	43+02
Offset	F.S. +21	C/L	C/L	P.S. -10	C/L
Lift No	4	4	4	4	4
Latitude (°N)	29.888118	29.887741	29.887637	29.887395	29.886992
Longitude (°W)	90.149472	90.147038	90.146383	90.144965	90.142858
Elevation (ft)	8.5	8.3	8.2	8.2	8.2
Transmission Mode	DT 300	DT 300	DT 300	DT 300	DT 300
Moisture Test (Oven) ASTM D 2216					
Tare No	DT02	DT21	DT44	DT41	DT20
Wet Soil + Tare Mass (g)	396.55	398.43	397.50	393.59	396.37
Dry Soil + Tare Mass (g)	340.06	351.94	340.25	340.89	348.23
Tare Mass (g)	178.93	211.66	176.09	178.04	212.69
Moisture Content (%)	**35.1**	**33.1**	**34.9**	**32.4**	**35.5**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	110.9	104.6	105.3	105.7	105.8
Dry Unit Weight (lbs/ft³)	82.1	78.6	78.1	79.8	78.1
Proctor No	3824	3824	3824	3824	3824
Optimum Moisture (Proctor) (%)	33.7	33.7	33.7	33.7	33.7
Max Dry Unit Weight (Proctor) (lbs/ft³)	82.9	82.9	82.9	82.9	82.9
Degree of Compaction (%)	**99.0**	**94.8**	**94.2**	**96.3**	**94.2**
Difference from Optimum Moisture (+/-%)	**1.4**	**-0.6**	**1.2**	**-1.3**	**1.8**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4400A
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	4/14/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2228	**Moisture Standardization**	592	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	4/14/2011 - 6:00 P.M.	**Oven Stop Time (Date Time)**	4/15/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	595	596	597	598	599
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY
Station	81+98	86+97	92+01	97+00	102+00
Offset	P.S. -130	P.S. -131	P.S. -130	P.S. -143	P.S. -136
Lift No	4	4	4	3	2
Latitude (°N)	29.881725	29.880410	29.879081	29.877754	29.876450
Longitude (°W)	90.135407	90.135852	90.136308	90.136721	90.137546
Elevation (ft)	2.6	2.2	2.1	1.9	1.4
Transmission Mode	DT 300	DT 150	DT 300	DT 300	DT 300
Moisture Test (Oven) ASTM D 2216					
Tare No	DT20	DT41	DT44	DT21	DT02
Wet Soil + Tare Mass (g)	394.28	397.25	396.40	400.20	396.54
Dry Soil + Tare Mass (g)	350.31	345.99	339.43	355.76	339.54
Tare Mass (g)	212.71	177.99	176.06	211.64	178.92
Moisture Content (%)	**32.0**	**30.5**	**34.9**	**30.8**	**35.5**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	107.7	112.2	106.0	107.4	104.3
Dry Unit Weight (lbs/ft³)	81.6	86.0	78.6	82.1	77.0
Proctor No	3815	3815	3804	3815	3804
Optimum Moisture (Proctor) (%)	29.6	29.6	31.1	29.6	31.1
Max Dry Unit Weight (Proctor) (lbs/ft³)	88.9	88.9	85.5	88.9	85.5
Degree of Compaction (%)	**91.8**	**96.7**	**91.9**	**92.4**	**90.1**
Difference from Optimum Moisture (+/-%)	**2.4**	**0.9**	**3.8**	**1.2**	**4.4**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks	TEST ID 596 12" WD 109.8				
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4400B
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	4/14/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2228	**Moisture Standardization**	592	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	4/14/2011 - 6:00 P.M.	**Oven Stop Time (Date Time)**	4/15/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	600	601	602	603	604
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY
Station	107+02	144+94	150+00	155+00	159+95
Offset	P.S. -133	C/L	C/L	C/L	C/L
Lift No	2	7	7	7	7
Latitude (°N)	29.875113	29.871793	29.871687	28.495910	29.871462
Longitude (°W)	90.137546	90.129257	90.127664	90.142501	90.124536
Elevation (ft)	1.2	11.3	11.0	10.9	11.1
Transmission Mode	DT 300	DT 300	DT 300	DT 300	DT 300
Moisture Test (Oven) ASTM D 2216					
Tare No	DT04	DT43	DT14	DT46	DT47
Wet Soil + Tare Mass (g)	395.51	400.66	398.89	399.87	391.71
Dry Soil + Tare Mass (g)	354.48	358.46	369.99	356.90	346.22
Tare Mass (g)	233.45	179.93	245.15	177.90	178.18
Moisture Content (%)	**33.9**	**23.6**	**23.1**	**24.0**	**27.1**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	103.4	108.3	108.7	108.2	111.8
Dry Unit Weight (lbs/ft³)	77.2	87.6	88.3	87.3	88.0
Proctor No	3824	3550	3550	3550	3550
Optimum Moisture (Proctor) (%)	33.7	26.0	26.0	26.0	26.0
Max Dry Unit Weight (Proctor) (lbs/ft³)	82.9	92.3	92.3	92.3	92.3
Degree of Compaction (%)	**93.1**	**94.9**	**95.7**	**94.6**	**95.3**
Difference from Optimum Moisture (+/-%)	**0.2**	**-2.4**	**-2.9**	**-2.0**	**1.1**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4408
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	4/15/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2231	**Moisture Standardization**	593	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	4/15/2011 - 1:00 P.M.	**Oven Stop Time (Date Time)**	4/16/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	605	606	607	608	
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY	
Station	28+00	32+96	38+02	43+04	
Offset	F.S. +21	F.S. +14	F.S. +19	F.S. +18	
Lift No	4	4	4	4	
Latitude (°N)	29.887703	29.887444	29.887151	29.886874	
Longitude (°W)	90.147161	90.145624	90.144064	90.142513	
Elevation (ft)	7.4	7.3	7.5	7.5	
Transmission Mode	DT 300	DT 150	DT 300	DT 300	
Moisture Test (Oven) ASTM D 2216					
Tare No	DT40	DT49	DT45	DT08	
Wet Soil + Tare Mass (g)	398.90	396.14	396.56	400.18	
Dry Soil + Tare Mass (g)	338.45	340.70	339.15	350.03	
Tare Mass (g)	176.28	176.42	177.26	187.46	
Moisture Content (%)	**37.3**	**33.7**	**35.5**	**30.8**	
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	108.9	107.9	107.2	102.7	
Dry Unit Weight (lbs/ft³)	79.3	80.7	79.1	78.5	
Proctor No	3824	3824	3804	3804	
Optimum Moisture (Proctor) (%)	33.7	33.7	31.1	31.1	
Max Dry Unit Weight (Proctor) (lbs/ft³)	82.9	82.9	85.5	85.5	
Degree of Compaction (%)	**95.7**	**97.3**	**92.5**	**91.8**	
Difference from Optimum Moisture (+/-%)	**3.6**	**0.0**	**4.4**	**-0.3**	
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	
Remarks	TEST ID 606 12" WD 113.2				
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4413
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	4/17/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2241	**Moisture Standardization**	590	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	4/17/2011 - 3:00 P.M.	**Oven Stop Time (Date Time)**	4/16/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	609	610	611		
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit		
Feature	Levee Embankment	Levee Embankment	Levee Embankment		
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY		
Station	58+90	58+65	59+61		
Offset	CL	CL	CL		
Lift No	1	2	3		
Latitude (°N)	29.886443	29.886457	29.886406		
Longitude (°W)	90.137644	90.137717	90.137419		
Elevation (ft)	1.3	2.3	3.0		
Transmission Mode	DT 300	DT 300	DT 300		
Moisture Test (Oven) ASTM D 2216					
Tare No	DT48	DT24	DT50		
Wet Soil + Tare Mass (g)	395.01	398.74	396.76		
Dry Soil + Tare Mass (g)	353.92	359.98	357.10		
Tare Mass (g)	183.48	206.45	180.72		
Moisture Content (%)	**24.1**	**25.2**	**22.5**		
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	120.5	122.9	121.5		
Dry Unit Weight (lbs/ft³)	97.1	98.2	99.2		
Proctor No	3291-184	3291-184	3291-184		
Optimum Moisture (Proctor) (%)	21.9	21.9	21.9		
Max Dry Unit Weight (Proctor) (lbs/ft³)	99.5	99.5	99.5		
Degree of Compaction (%)	**97.6**	**98.7**	**99.7**		
Difference from Optimum Moisture (+/-%)	**2.2**	**3.3**	**0.6**		
Test Status					
Min Compaction (%)	90.0	90.0	90.0		
Max Above Optimum Moisture (%)	5.0	5.0	5.0		
Max Below Optimum Moisture (%)	3.0	3.0	3.0		
Test Result	**Pass**	**Pass**	**Pass**		
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4445A
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	4/19/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2220	**Moisture Standardization**	587	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	4/19/2011 - 7:00 P.M.	**Oven Stop Time (Date Time)**	4/20/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	612	613	614	615	616
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY
Station	59+59	59+85	120+22	122+60	125+13
Offset	C/L	C/L	P.S. -13.0	P.S. -109.8	P.S. -115.8
Lift No	1	2	2	2	2
Latitude (°N)	29.886408	29.886395	29.872722	29.872610	29.872568
Longitude (°W)	90.137425	90.137345	90.136994	90.136250	90.135453
Elevation (ft)	4.2	5.3	4.3	5.0	4.2
Transmission Mode	DT 300	DT 300	DT 300	DT 300	DT 150
Moisture Test (Oven) ASTM D 2216					
Tare No	DT01	DT30	DT27	DT50	DT24
Wet Soil + Tare Mass (g)	399.20	395.16	392.70	397.43	395.76
Dry Soil + Tare Mass (g)	359.98	354.56	347.87	350.36	352.89
Tare Mass (g)	171.87	203.36	209.61	180.78	206.46
Moisture Content (%)	**20.8**	**26.9**	**32.4**	**27.8**	**29.3**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	111.1	111.8	113.4	110.2	108.9
Dry Unit Weight (lbs/ft³)	92.0	88.1	85.6	86.2	84.2
Proctor No	3291-184	3186-133	4502	4502	4502
Optimum Moisture (Proctor) (%)	21.9	26.5	28.2	28.2	28.2
Max Dry Unit Weight (Proctor) (lbs/ft³)	99.5	91.6	91.6	91.6	91.6
Degree of Compaction (%)	**92.5**	**96.2**	**93.4**	**94.1**	**91.9**
Difference from Optimum Moisture (+/-%)	**-1.1**	**0.4**	**4.2**	**-0.4**	**1.1**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks	Test id 616 12" wd 111.0				
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4445B
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	4/19/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2220	**Moisture Standardization**	587	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	4/19/2011 - 7:00 P.M.	**Oven Stop Time (Date Time)**	4/20/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers
Test No	617	618	619		
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit		
Feature	Levee Embankment	Levee Embankment	Levee Embankment		
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY		
Station	105+52	100+52	95+55		
Offset	C/L	C/L	C/L		
Lift No	9	9	9		
Latitude (°N)	29.875605	29.876937	29.878252		
Longitude (°W)	90.137847	90.137456	90.137036		
Elevation (ft)	13.0	13.0	12.9		
Transmission Mode	DT 300	DT 300	DT 300		
Moisture Test (Oven) ASTM D 2216					
Tare No	DT48	DT52	DT42		
Wet Soil + Tare Mass (g)	396.11	393.68	400.03		
Dry Soil + Tare Mass (g)	343.65	337.84	349.23		
Tare Mass (g)	183.51	138.97	178.19		
Moisture Content (%)	**32.8**	**28.1**	**29.7**		
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	115.0	112.6	112.1		
Dry Unit Weight (lbs/ft³)	86.6	87.9	86.4		
Proctor No	4502	4502	4502		
Optimum Moisture (Proctor) (%)	28.2	28.2	28.2		
Max Dry Unit Weight (Proctor) (lbs/ft³)	91.6	91.6	91.6		
Degree of Compaction (%)	**94.5**	**96.0**	**94.3**		
Difference from Optimum Moisture (+/-%)	**4.6**	**-0.1**	**1.5**		
Test Status					
Min Compaction (%)	90.0	90.0	90.0		
Max Above Optimum Moisture (%)	5.0	5.0	5.0		
Max Below Optimum Moisture (%)	3.0	3.0	3.0		
Test Result	**Pass**	**Pass**	**Pass**		
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4461A
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	4/20/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2226	**Moisture Standardization**	592	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	4/20/2011 - 7:00 P.M.	**Oven Stop Time (Date Time)**	4/21/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	620	621	622	623	624
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY
Station	47+21	52+00	127+60	130+02	132+67
Offset	C/L	F.S. +7.0	P.S. -94.2	P.S. -100.0	P.S. -107.0
Lift No	4	4	2	2	2
Latitude (°N)	29.886675	29.886404	29.872451	29.872410	29.872368
Longitude (°W)	90.141216	90.139736	90.134684	90.133923	90.133086
Elevation (ft)	7.9	7.9	5.3	4.8	4.7
Transmission Mode	DT 300	DT 300	DT 300	DT 300	DT 300
Moisture Test (Oven) ASTM D 2216					
Tare No	DT49	DT45	DT01	DT08	DT30
Wet Soil + Tare Mass (g)	395.64	395.18	396.14	394.80	395.71
Dry Soil + Tare Mass (g)	338.17	342.01	342.66	348.13	350.27
Tare Mass (g)	176.41	177.25	171.89	187.46	203.37
Moisture Content (%)	**35.5**	**32.3**	**31.3**	**29.0**	**30.9**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	106.9	103.5	109.6	107.4	108.7
Dry Unit Weight (lbs/ft³)	78.9	78.2	83.5	83.3	83.0
Proctor No	3804	3804	4502	4502	4502
Optimum Moisture (Proctor) (%)	31.1	31.1	28.2	28.2	28.2
Max Dry Unit Weight (Proctor) (lbs/ft³)	85.5	85.5	91.6	91.6	91.6
Degree of Compaction (%)	**92.3**	**91.5**	**91.2**	**90.9**	**90.6**
Difference from Optimum Moisture (+/-%)	**4.4**	**1.2**	**3.1**	**0.8**	**2.7**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**PASS**	**PASS**	**PASS**	**PASS**	**PASS**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4461B
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	4/20/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2226	**Moisture Standardization**	592	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	4/20/2011 - 7:00 P.M.	**Oven Stop Time (Date Time)**	4/21/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	625	626	627	628	629
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY
Station	135+18	137+84	140+02	142+62	58+42
Offset	P.S. -98.0	P.S. -84.0	P.S. -84.0	P.S. -90	C/L
Lift No	2	2	2	2	3
Latitude (°N)	29.872285	29.872185	29.872132	29.872090	29.886476
Longitude (°W)	90.132298	90.131465	90.130782	90.129965	90.137786
Elevation (ft)	5.0	5.5	5.6	5.0	6.1
Transmission Mode	DT 300	DT 150	DT 300	DT 300	DT 300
Moisture Test (Oven) ASTM D 2216					
Tare No	DT27	DT48	DT24	DT50	DT42
Wet Soil + Tare Mass (g)	395.92	397.84	395.21	395.66	392.75
Dry Soil + Tare Mass (g)	353.17	352.52	351.70	348.67	344.03
Tare Mass (g)	209.57	183.53	206.46	180.75	178.35
Moisture Content (%)	**29.8**	**26.8**	**30.0**	**28.0**	**29.4**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	107.9	112.7	112.9	108.1	109.1
Dry Unit Weight (lbs/ft³)	83.1	88.9	86.8	84.5	84.3
Proctor No	3815	4502	4502	4502	4502
Optimum Moisture (Proctor) (%)	29.6	28.2	28.2	28.2	28.2
Max Dry Unit Weight (Proctor) (lbs/ft³)	88.9	91.6	91.6	91.6	91.6
Degree of Compaction (%)	**93.5**	**97.1**	**94.8**	**92.2**	**92.0**
Difference from Optimum Moisture (+/-%)	**0.2**	**-1.4**	**1.8**	**-0.2**	**1.2**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks	Test ID 626 12" wd 114.2				
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4479A
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	4/25/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2224	**Moisture Standardization**	585	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	4/25/2011 - 6:00 P.M.	**Oven Stop Time (Date Time)**	4/26/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	630	631	632	633	634
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY
Station	145+10	147+67	150+08	152+62	155+14
Offset	P.S. -80	P.S. -111	P.S. -106	P.S. -106	P.S. -121
Lift No	2	2	2	2	2
Latitude (°N)	29.872010	29.872041	29.871975	29.871920	29.871908
Longitude (°W)	90.129189	90.128371	90.127616	90.126813	90.126019
Elevation (ft)	5.8	4.5	4.7	4.4	4.0
Transmission Mode	DT 300	DT 300	DT 300	DT 300	DT 300
Moisture Test (Oven) ASTM D 2216					
Tare No	DT43	DT14	DT46	DT47	DT41
Wet Soil + Tare Mass (g)	394.80	392.21	396.70	391.66	394.97
Dry Soil + Tare Mass (g)	347.35	357.52	347.98	350.25	353.40
Tare Mass (g)	179.93	245.14	177.91	178.17	178.01
Moisture Content (%)	**28.3**	**30.9**	**28.6**	**24.1**	**23.7**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	113.1	115.4	113.7	115.5	114.5
Dry Unit Weight (lbs/ft³)	88.2	88.2	88.4	93.1	92.6
Proctor No	4502	4502	3649	3649	3649
Optimum Moisture (Proctor) (%)	28.2	28.2	24.1	24.1	24.1
Max Dry Unit Weight (Proctor) (lbs/ft³)	91.6	91.6	94.8	94.8	94.8
Degree of Compaction (%)	**96.3**	**96.3**	**93.2**	**98.2**	**97.7**
Difference from Optimum Moisture (+/-%)	**0.1**	**2.7**	**4.5**	**0.0**	**-0.4**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4479B
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	4/25/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2224	**Moisture Standardization**	585	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	4/25/2011 - 6:00 P.M.	**Oven Stop Time (Date Time)**	4/26/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers
Test No	635	636			
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit			
Feature	Levee Embankment	Levee Embankment			
Visual Description	G-BR CLAY	G-BR CLAY			
Station	157+57	160+09			
Offset	P.S. -122	P.S. -134			
Lift No	2	2			
Latitude (°N)	29.871861	29.871840			
Longitude (°W)	90.125253	90.124458			
Elevation (ft)	4.0	3.8			
Transmission Mode	DT 300	DT 150			
Moisture Test (Oven) ASTM D 2216					
Tare No	DT44	DT02			
Wet Soil + Tare Mass (g)	392.51	400.44			
Dry Soil + Tare Mass (g)	341.41	358.61			
Tare Mass (g)	176.05	178.93			
Moisture Content (%)	**30.9**	**23.3**			
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	111.2	110.1			
Dry Unit Weight (lbs/ft³)	85.0	89.3			
Proctor No	4502	4502			
Optimum Moisture (Proctor) (%)	28.2	28.2			
Max Dry Unit Weight (Proctor) (lbs/ft³)	91.6	91.6			
Degree of Compaction (%)	**92.8**	**97.5**			
Difference from Optimum Moisture (+/-%)	**2.7**	**-4.9**			
Test Status					
Min Compaction (%)	90.0	90.0			
Max Above Optimum Moisture (%)	5.0	5.0			
Max Below Optimum Moisture (%)	3.0	3.0			
Test Result	**Pass**	**Fail**			
Remarks	TEST ID 636 12" WD 114.7				
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4486
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	1
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	4/26/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2219	**Moisture Standardization**	598	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	4/26/2011 - 4:00 P.M.	**Oven Stop Time (Date Time)**	4/27/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	637	638	639	640	641
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY
Station	143+09	148+00	153+08	158+13	60+28
Offset	C/L	C/L	C/L	C/L	P.S. -11
Lift No	8	8	8	8	4
Latitude (°N)	29.871826	29.871726	29.871618	29.871519	29.886394
Longitude (°W)	90.129839	90.128293	90.126696	90.125108	90.137206
Elevation (ft)	12.2	12.3	12.2	12.2	7.3
Transmission Mode	DT 300	DT 300	DT 300	DT 300	DT 300
Moisture Test (Oven) ASTM D 2216					
Tare No	DT02	DT44	DT41	DT47	DT46
Wet Soil + Tare Mass (g)	398.57	392.66	392.30	394.31	397.66
Dry Soil + Tare Mass (g)	360.94	345.80	351.04	347.11	351.48
Tare Mass (g)	178.94	176.03	178.03	178.20	177.88
Moisture Content (%)	**20.7**	**27.6**	**23.8**	**27.9**	**26.6**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	113.5	109.9	108.4	118.2	115.3
Dry Unit Weight (lbs/ft³)	94.0	86.1	87.6	92.4	91.1
Proctor No	3550	3550	3550	3550	3550
Optimum Moisture (Proctor) (%)	26.0	26.0	26.0	26.0	26.0
Max Dry Unit Weight (Proctor) (lbs/ft³)	92.3	92.3	92.3	92.3	92.3
Degree of Compaction (%)	**101.8**	**93.3**	**94.9**	**100.1**	**98.7**
Difference from Optimum Moisture (+/-%)	**-5.3**	**1.6**	**-2.2**	**1.9**	**0.6**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Fail**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks	WRONG PROCTOR WAS USED FOR TEST ID 637, 638, 639 AND 640 ON FIRST ISSUED REPORT.				
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4486
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	4/26/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2219	**Moisture Standardization**	598	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	4/26/2011 - 4:00 P.M.	**Oven Stop Time (Date Time)**	4/27/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	637	638	639	640	641
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY
Station	143+09	148+00	153+08	158+13	60+28
Offset	C/L	C/L	C/L	C/L	P.S. -11
Lift No	8	8	8	8	4
Latitude (°N)	29.871826	29.871726	29.871618	29.871519	29.886394
Longitude (°W)	90.129839	90.128293	90.126696	90.125108	90.137206
Elevation (ft)	12.2	12.3	12.2	12.2	7.3
Transmission Mode	DT 300	DT 300	DT 300	DT 300	DT 300
Moisture Test (Oven) ASTM D 2216					
Tare No	DT02	DT44	DT41	DT47	DT46
Wet Soil + Tare Mass (g)	398.57	392.66	392.30	394.31	397.66
Dry Soil + Tare Mass (g)	360.94	345.80	351.04	347.11	351.48
Tare Mass (g)	178.94	176.03	178.03	178.20	177.88
Moisture Content (%)	**20.7**	**27.6**	**23.8**	**27.9**	**26.6**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	113.5	109.9	108.4	118.2	115.3
Dry Unit Weight (lbs/ft³)	94.0	86.1	87.6	92.4	91.1
Proctor No	4502	4502	4502	4502	3550
Optimum Moisture (Proctor) (%)	28.2	28.2	28.2	28.2	26.0
Max Dry Unit Weight (Proctor) (lbs/ft³)	91.6	91.6	91.6	91.6	92.3
Degree of Compaction (%)	**102.6**	**94.0**	**95.6**	**100.9**	**98.7**
Difference from Optimum Moisture (+/-%)	**-7.5**	**-0.6**	**-4.4**	**-0.3**	**0.6**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Fail**	**Pass**	**Fail**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4502
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	4/27/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2221	**Moisture Standardization**	593	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	4/27/2011 - 4:00 P.M.	**Oven Stop Time (Date Time)**	4/28/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	643	644	645	646	
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY	
Station	163+11	168+05	173+13	178+29	
Offset	C/L	C/L	C/L	C/L	
Lift No	8	8	8	8	
Latitude (°N)	29.871415	29.871296	29.871189	29.871041	
Longitude (°W)	90.123542	90.121988	90.120391	90.118776	
Elevation (ft)	12.8	12.9	12.9	12.8	
Transmission Mode	DT 300	DT 300	DT 300	DT 300	
Moisture Test (Oven) ASTM D 2216					
Tare No	DT20	DT42	DT40	DT01	
Wet Soil + Tare Mass (g)	397.81	393.21	394.65	391.66	
Dry Soil + Tare Mass (g)	358.42	340.80	350.09	342.88	
Tare Mass (g)	212.69	178.19	176.29	171.92	
Moisture Content (%)	**27.0**	**32.2**	**25.6**	**28.5**	
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	118.1	110.7	116.4	109.0	
Dry Unit Weight (lbs/ft³)	93.0	83.7	92.7	84.8	
Proctor No	3649	4502	4502	4502	
Optimum Moisture (Proctor) (%)	24.1	28.2	28.2	28.2	
Max Dry Unit Weight (Proctor) (lbs/ft³)	94.8	91.6	91.6	91.6	
Degree of Compaction (%)	**98.1**	**91.4**	**101.2**	**92.6**	
Difference from Optimum Moisture (+/-%)	**2.9**	**4.0**	**-2.6**	**0.3**	
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4507
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	4/28/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2239	**Moisture Standardization**	588	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	4/28/2011 - 5:00 P.M.	**Oven Stop Time (Date Time)**	4/29/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers
Test No	647	648			
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit			
Feature	Levee Embankment	Levee Embankment			
Visual Description	G-BR CLAY	G-BR CLAY			
Station	46+00	51+06			
Offset	C/L	C/L			
Lift No	5	5			
Latitude (°N)	29.886762	29.886488			
Longitude (°W)	90.141583	90.140019			
Elevation (ft)	8.8	8.9			
Transmission Mode	DT 150	DT 300			
Moisture Test (Oven) ASTM D 2216					
Tare No	DT30	DT41			
Wet Soil + Tare Mass (g)	394.99	394.73			
Dry Soil + Tare Mass (g)	354.61	348.68			
Tare Mass (g)	203.37	178.01			
Moisture Content (%)	**26.7**	**27.0**			
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	106.2	109.3			
Dry Unit Weight (lbs/ft³)	83.8	86.1			
Proctor No	4502	3815			
Optimum Moisture (Proctor) (%)	28.2	29.6			
Max Dry Unit Weight (Proctor) (lbs/ft³)	91.6	88.9			
Degree of Compaction (%)	**91.5**	**96.9**			
Difference from Optimum Moisture (+/-%)	**-1.5**	**-2.6**			
Test Status					
Min Compaction (%)	90.0	90.0			
Max Above Optimum Moisture (%)	5.0	5.0			
Max Below Optimum Moisture (%)	3.0	3.0			
Test Result	**Pass**	**Pass**			
Remarks	ID 647 12 WD 109.5				
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4518
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	4/29/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2241	**Moisture Standardization**	599	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	4/29/2011 - 4:00 P.M.	**Oven Stop Time (Date Time)**	4/30/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers
Test No	649	650	651	652	
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY	
Station	41+05	36+90	26+19	31+00	
Offset	C/L	C/L	F.S. +8	P.S. -7	
Lift No	5	5	5	5	
Latitude (°N)	29.887028	29.887270	29.887838	29.887612	
Longitude (°W)	90.143117	90.144395	90.147715	90.146217	
Elevation (ft)	8.9	8.8	8.5	8.6	
Transmission Mode	DT 300	DT 300	DT 300	DT 300	
Moisture Test (Oven) ASTM D 2216					
Tare No	DT01	DT21	DT45	DT04	
Wet Soil + Tare Mass (g)	395.62	394.28	398.20	395.54	
Dry Soil + Tare Mass (g)	340.30	352.14	345.77	361.42	
Tare Mass (g)	171.83	211.60	177.22	233.45	
Moisture Content (%)	**32.8**	**30.0**	**31.1**	**26.7**	
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	111.2	105.5	107.1	112.7	
Dry Unit Weight (lbs/ft³)	83.7	81.2	81.7	89.0	
Proctor No	3815	3804	3815	4502	
Optimum Moisture (Proctor) (%)	29.6	31.1	29.6	28.2	
Max Dry Unit Weight (Proctor) (lbs/ft³)	88.9	85.5	88.9	91.6	
Degree of Compaction (%)	**94.2**	**95.0**	**91.9**	**97.2**	
Difference from Optimum Moisture (+/-%)	**3.2**	**-1.1**	**1.5**	**-1.5**	
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4524A
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	4/30/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2234	**Moisture Standardization**	589	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	4/30/2011 - 5:00 P.M.	**Oven Stop Time (Date Time)**	5/1/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	653	654	655	656	657
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY
Station	1+40	6+54	10+95	16+63	22+05
Offset	P.S. -7	P.S. -6	F.S. +8	C/L	C/L
Lift No	4	4	4	5	5
Latitude (°N)	29.889192	29.888968	29.888684	29.888387	29.888078
Longitude (°W)	90.155381	90.153777	90.152423	90.150665	90.148991
Elevation (ft)	8.2	8.4	8.2	9.0	9.0
Transmission Mode	DT 300	DT 300	DT 300	DT 300	DT 150
Moisture Test (Oven) ASTM D 2216					
Tare No	DT41	DT11	DT50	DT30	DT46
Wet Soil + Tare Mass (g)	400.17	394.23	397.63	400.67	397.69
Dry Soil + Tare Mass (g)	365.69	353.70	350.65	356.73	349.96
Tare Mass (g)	178.03	180.98	180.75	203.37	177.89
Moisture Content (%)	**18.4**	**23.5**	**27.7**	**28.7**	**27.7**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	108.6	109.7	112.1	106.2	109.7
Dry Unit Weight (lbs/ft³)	91.7	88.8	87.8	82.5	85.9
Proctor No	3815	3815	4502	3815	3815
Optimum Moisture (Proctor) (%)	29.6	29.6	28.2	29.6	29.6
Max Dry Unit Weight (Proctor) (lbs/ft³)	88.9	88.9	91.6	88.9	88.9
Degree of Compaction (%)	**103.1**	**99.9**	**95.9**	**92.8**	**96.6**
Difference from Optimum Moisture (+/-%)	**-11.2**	**-6.1**	**-0.5**	**-0.9**	**-1.9**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Fail**	**Fail**	**Pass**	**Pass**	**Pass**
Remarks	ID 657 12" WD 111.8				
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4524B
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	4/30/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2234	**Moisture Standardization**	589	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	4/30/2011 - 5:00 P.M.	**Oven Stop Time (Date Time)**	5/1/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers
Test No	658				
Retest of Test ID					
Material Source	Borrow Pit				
Feature	Levee Embankment				
Visual Description	G-BR CLAY				
Station	55+75				
Offset	P.S. -8				
Lift No	1				
Latitude (°N)	29.886634				
Longitude (°W)	90.138608				
Elevation (ft)	4.4				
Transmission Mode	DT 300				
Moisture Test (Oven) ASTM D 2216					
Tare No	DT08				
Wet Soil + Tare Mass (g)	396.10				
Dry Soil + Tare Mass (g)	358.41				
Tare Mass (g)	187.46				
Moisture Content (%)	**22.0**				
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	115.3				
Dry Unit Weight (lbs/ft³)	94.5				
Proctor No	4171				
Optimum Moisture (Proctor) (%)	22.9				
Max Dry Unit Weight (Proctor) (lbs/ft³)	96.5				
Degree of Compaction (%)	**97.9**				
Difference from Optimum Moisture (+/-%)	**-0.9**				
Test Status					
Min Compaction (%)	90.0				
Max Above Optimum Moisture (%)	5.0				
Max Below Optimum Moisture (%)	3.0				
Test Result	**Pass**				
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4527A
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	5/1/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2237	**Moisture Standardization**	597	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	5/1/2011 - 5:30 P.M.	**Oven Stop Time (Date Time)**	5/2/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	659	660	661	662	663
Retest of Test ID		4486+637	4486+639	4479B+636	
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY
Station	56+39	143+09	153+08	160+09	179+92
Offset	C/L	C/L	C/L	P.S. -134	P.S. -66
Lift No	2	8	8	2	2
Latitude (°N)	29.886562	29.871826	29.871618	29.871840	29.871118
Longitude (°W)	90.138421	90.129839	90.126696	90.124458	90.118224
Elevation (ft)	5.2	11.7	12.0	3.8	6.3
Transmission Mode	DT 300	DT 300	DT 300	DT 300	DT 300
Moisture Test (Oven) ASTM D 2216					
Tare No	DT43	DT31	DT08	DT46	DT30
Wet Soil + Tare Mass (g)	394.95	394.60	400.41	399.90	396.55
Dry Soil + Tare Mass (g)	353.20	359.12	360.09	354.15	355.09
Tare Mass (g)	179.93	210.99	187.48	177.90	203.37
Moisture Content (%)	**24.1**	**24.0**	**23.4**	**26.0**	**27.3**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	115.0	115.3	111.4	110.6	107.4
Dry Unit Weight (lbs/ft³)	92.7	93.0	90.3	87.8	84.4
Proctor No	4171	3550	3550	4502	3815
Optimum Moisture (Proctor) (%)	22.9	26.0	26.0	28.2	29.6
Max Dry Unit Weight (Proctor) (lbs/ft³)	96.5	92.3	92.3	91.6	88.9
Degree of Compaction (%)	**96.1**	**100.8**	**97.8**	**95.9**	**94.9**
Difference from Optimum Moisture (+/-%)	**1.2**	**-2.0**	**-2.6**	**-2.2**	**-2.3**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks	TEST ID 639 WAS RETESTED BECAUSE THE WRONG PROCTOR WAS USED ON REPORT 4486. REPORT 4486 HAS BEEN REVISED AND RESUBMITTED WITH CORRECT PROCTOR.				
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4527B
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	5/1/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2237	**Moisture Standardization**	597	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	5/1/2011 - 5:30 P.M.	**Oven Stop Time (Date Time)**	5/2/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	664	665	666	667	668
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY
Station	177+55	175+12	172+64	170+00	167+50
Offset	P.S. -67	P.S. -56	P.S. -68	P.S. -61	P.S. -84
Lift No	2	2	2	2	2
Latitude (°N)	29.871279	29.871307	29.871390	29.871428	29.871544
Longitude (°W)	90.118950	90.119749	90.120528	90.121359	90.122139
Elevation (ft)	6.6	6.4	6.3	6.6	5.8
Transmission Mode	DT 300	DT 300	DT 300	DT 150	DT 300
Moisture Test (Oven) ASTM D 2216					
Tare No	DT50	DT11	DT41	DT01	DT21
Wet Soil + Tare Mass (g)	400.99	393.08	394.24	400.93	397.20
Dry Soil + Tare Mass (g)	353.27	349.24	347.81	348.64	356.11
Tare Mass (g)	180.75	181.04	178.13	171.89	211.65
Moisture Content (%)	**27.7**	**26.1**	**27.4**	**29.6**	**28.4**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	107.9	109.4	107.3	108.0	113.1
Dry Unit Weight (lbs/ft³)	84.5	86.8	84.2	83.3	88.1
Proctor No	4502	4502	4502	4502	3815
Optimum Moisture (Proctor) (%)	28.2	28.2	28.2	28.2	29.6
Max Dry Unit Weight (Proctor) (lbs/ft³)	91.6	91.6	91.6	91.6	88.9
Degree of Compaction (%)	**92.2**	**94.8**	**91.9**	**90.9**	**99.1**
Difference from Optimum Moisture (+/-%)	**-0.5**	**-2.1**	**-0.8**	**1.4**	**-1.2**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks	ID 667 12" WD 112.5				
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4527C
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	5/1/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2237	**Moisture Standardization**	597	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	5/1/2011 - 5:30 P.M.	**Oven Stop Time (Date Time)**	5/2/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers
Test No	669	670			
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit			
Feature	Levee Embankment	Levee Embankment			
Visual Description	G-BR CLAY	G-BR CLAY			
Station	165+02	162+53			
Offset	P.S. -73	P.S. -80			
Lift No	2	2			
Latitude (°N)	29.871567	29.871638			
Longitude (°W)	90.122925	90.123703			
Elevation (ft)	6.0	6.2			
Transmission Mode	DT 300	DT 300			
Moisture Test (Oven) ASTM D 2216					
Tare No	DT45	DT04			
Wet Soil + Tare Mass (g)	396.49	400.96			
Dry Soil + Tare Mass (g)	347.02	362.14			
Tare Mass (g)	177.24	233.52			
Moisture Content (%)	**29.1**	**30.2**			
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	110.7	115.2			
Dry Unit Weight (lbs/ft³)	85.7	88.5			
Proctor No	3815	3815			
Optimum Moisture (Proctor) (%)	29.6	29.6			
Max Dry Unit Weight (Proctor) (lbs/ft³)	88.9	88.9			
Degree of Compaction (%)	**96.4**	**99.6**			
Difference from Optimum Moisture (+/-%)	**-0.5**	**0.6**			
Test Status					
Min Compaction (%)	90.0	90.0			
Max Above Optimum Moisture (%)	5.0	5.0			
Max Below Optimum Moisture (%)	3.0	3.0			
Test Result	**Pass**	**Pass**			
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4533A
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	5/2/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2239	**Moisture Standardization**	597	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	5/2/2011 - 6:00 P.M.	**Oven Stop Time (Date Time)**	5/3/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers
Test No	671	672	673	674	675
Retest of Test ID			4524A+653	4524A+654	
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY
Station	101+01	106+00	1+40	6+54	98+05
Offset	P.S. -135	P.S. -128	P.S. -16	P.S. -6	P.S. -138
Lift No	3	3	4	4	4
Latitude (°N)	29.876713	29.875388	29.889192	29.888968	29.877484
Longitude (°W)	90.137089	90.137483	90.155381	90.153777	90.136829
Elevation (ft)	2.6	2.1	8.2	8.4	3.0
Transmission Mode	DT 300	DT 300	DT 300	DT 300	DT 300
Moisture Test (Oven) ASTM D 2216					
Tare No	DT40	DT20	DT25	DT24	DT27
Wet Soil + Tare Mass (g)	397.44	396.99	399.17	397.62	397.82
Dry Soil + Tare Mass (g)	348.59	360.81	367.25	356.57	352.99
Tare Mass (g)	176.28	212.68	205.65	206.49	209.59
Moisture Content (%)	**28.4**	**24.4**	**19.8**	**27.4**	**31.3**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	108.6	111.1	105.4	113.1	109.5
Dry Unit Weight (lbs/ft³)	84.6	89.3	88.0	88.8	83.4
Proctor No	4502	4502	3815	3815	4502
Optimum Moisture (Proctor) (%)	28.2	28.2	29.6	29.6	28.2
Max Dry Unit Weight (Proctor) (lbs/ft³)	91.6	91.6	88.9	88.9	91.6
Degree of Compaction (%)	**92.4**	**97.5**	**99.0**	**99.9**	**91.0**
Difference from Optimum Moisture (+/-%)	**0.2**	**-3.8**	**-9.8**	**-2.2**	**3.1**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Fail**	**Fail**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4533B
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	5/2/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2239	**Moisture Standardization**	597	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	5/2/2011 - 6:00 P.M.	**Oven Stop Time (Date Time)**	5/3/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers
Test No	676				
Retest of Test ID					
Material Source	Borrow Pit				
Feature	Levee Embankment				
Visual Description	G-BR CLAY				
Station	92+96				
Offset	P.S. -138				
Lift No	5				
Latitude (°N)	29.878827				
Longitude (°W)	90.136373				
Elevation (ft)	2.6				
Transmission Mode	DT 300				
Moisture Test (Oven) ASTM D 2216					
Tare No	DT44				
Wet Soil + Tare Mass (g)	396.19				
Dry Soil + Tare Mass (g)	343.78				
Tare Mass (g)	176.05				
Moisture Content (%)	**31.2**				
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	114.0				
Dry Unit Weight (lbs/ft³)	86.9				
Proctor No	4502				
Optimum Moisture (Proctor) (%)	28.2				
Max Dry Unit Weight (Proctor) (lbs/ft³)	91.6				
Degree of Compaction (%)	**94.9**				
Difference from Optimum Moisture (+/-%)	**3.0**				
Test Status					
Min Compaction (%)	90.0				
Max Above Optimum Moisture (%)	5.0				
Max Below Optimum Moisture (%)	3.0				
Test Result	**Pass**				
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4546
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	5/3/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2218	**Moisture Standardization**	597	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	5/3/2011 - 5:00 P.M.	**Oven Stop Time (Date Time)**	5/4/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	677	678	679	680	
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY	
Station	89+01	84+02	78+97	56+60	
Offset	P.S. -127	P.S. -136	P.S. -152	C/L	
Lift No	5	5	4	3	
Latitude (°N)	29.879873	29.881182	29.882501	29.886559	
Longitude (°W)	90.136049	90.135572	90.135070	90.138355	
Elevation (ft)	2.9	2.8	1.6	6.0	
Transmission Mode	DT 150	DT 300	DT 300	DT 300	
Moisture Test (Oven) ASTM D 2216					
Tare No	DT44	DT27	DT31	DT43	
Wet Soil + Tare Mass (g)	399.05	398.57	397.37	400.58	
Dry Soil + Tare Mass (g)	351.25	359.82	352.25	356.75	
Tare Mass (g)	176.08	209.62	211.05	179.94	
Moisture Content (%)	**27.3**	**25.8**	**32.0**	**24.8**	
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	114.0	108.5	113.2	111.5	
Dry Unit Weight (lbs/ft³)	89.6	86.2	85.8	89.3	
Proctor No	4502	4502	4502	3550	
Optimum Moisture (Proctor) (%)	28.2	28.2	28.2	26.0	
Max Dry Unit Weight (Proctor) (lbs/ft³)	91.6	91.6	91.6	92.3	
Degree of Compaction (%)	**97.8**	**94.1**	**93.7**	**96.7**	
Difference from Optimum Moisture (+/-%)	**-0.9**	**-2.4**	**3.8**	**-1.2**	
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	
Remarks	Test Id 677 12" wd 112.2				
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4558A
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	5/4/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2241	**Moisture Standardization**	539	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	5/4/2011 - 6:00 P.M.	**Oven Stop Time (Date Time)**	5/5/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	681	682	683	684	685
Retest of Test ID	4533A+673				
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY
Station	1+40	58+90	54+04	49+03	44+01
Offset	P.S. -16	F.S. +14	C/L	P.S. -5	C/L
Lift No	4	5	6	6	6
Latitude (°N)	29.889192	29.886400	29.886496	29.886602	29.886880
Longitude (°W)	90.155381	90.137648	90.139100	90.140645	90.142199
Elevation (ft)	8.2	8.1	9.8	9.7	9.8
Transmission Mode	DT 300	DT 300	DT 300	DT 300	DT 300
Moisture Test (Oven) ASTM D 2216					
Tare No	DT01	DT21	DT45	DT42	DT04
Wet Soil + Tare Mass (g)	397.58	395.21	400.62	398.96	396.03
Dry Soil + Tare Mass (g)	350.12	353.58	350.06	353.79	363.17
Tare Mass (g)	171.90	211.66	177.25	178.24	233.46
Moisture Content (%)	**26.6**	**29.3**	**29.3**	**25.7**	**25.3**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	107.1	105.6	113.2	117.7	114.9
Dry Unit Weight (lbs/ft³)	84.6	81.7	87.5	93.6	91.7
Proctor No	3815	3815	3815	3649	3649
Optimum Moisture (Proctor) (%)	29.6	29.6	29.6	24.1	24.1
Max Dry Unit Weight (Proctor) (lbs/ft³)	88.9	88.9	88.9	94.8	94.8
Degree of Compaction (%)	**95.2**	**91.9**	**98.4**	**98.7**	**96.7**
Difference from Optimum Moisture (+/-%)	**-3.0**	**-0.3**	**-0.3**	**1.6**	**1.2**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4558B
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	5/4/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2241	**Moisture Standardization**	539	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	5/4/2011 - 6:00 P.M.	**Oven Stop Time (Date Time)**	5/5/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	686	687	688	689	690
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY
Station	39+00	34+00	29+02	24+02	19+02
Offset	P.S. -11	P.S. -11	P.S. -8	C/L	C/L
Lift No	6	6	6	6	6
Latitude (°N)	29.887177	29.887455	29.887725	29.887993	29.888247
Longitude (°W)	90.143741	90.145287	90.146827	90.148375	90.149926
Elevation (ft)	9.7	9.9	9.8	9.8	9.9
Transmission Mode	DT 300	DT 150	DT 300	DT 300	DT 300
Moisture Test (Oven) ASTM D 2216					
Tare No	DT11	DT14	DT02	DT48	DT50
Wet Soil + Tare Mass (g)	393.76	398.00	400.11	394.89	398.06
Dry Soil + Tare Mass (g)	350.10	362.72	354.95	351.42	344.82
Tare Mass (g)	180.98	245.07	178.92	183.51	180.72
Moisture Content (%)	**25.8**	**30.0**	**25.7**	**25.9**	**32.4**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	109.7	117.0	111.7	110.9	107.2
Dry Unit Weight (lbs/ft³)	87.2	90.0	88.9	88.1	81.0
Proctor No	4502	4502	4502	3649	3804
Optimum Moisture (Proctor) (%)	28.2	28.2	28.2	24.1	31.1
Max Dry Unit Weight (Proctor) (lbs/ft³)	91.6	91.6	91.6	94.8	85.5
Degree of Compaction (%)	**95.2**	**98.3**	**97.1**	**92.9**	**94.7**
Difference from Optimum Moisture (+/-%)	**-2.4**	**1.8**	**-2.5**	**1.8**	**1.3**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**PASS**	**PASS**	**PASS**	**PASS**	**PASS**
Remarks	ID 687 12" WD 116.1				
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4558C
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	5/4/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2241	**Moisture Standardization**	539	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	5/4/2011 - 6:00 P.M.	**Oven Stop Time (Date Time)**	5/5/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers
Test No	691	692	693		
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit		
Feature	Levee Embankment	Levee Embankment	Levee Embankment		
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY		
Station	55+61	14+06	9+02		
Offset	F.S. +6	C/L	C/L		
Lift No	4	5	5		
Latitude (°N)	29.886602	29.888534	29.888813		
Longitude (°W)	90.138661	90.151457	90.153015		
Elevation (ft)	7.1	8.9	9.0		
Transmission Mode	DT 300	DT 300	DT 300		
Moisture Test (Oven) ASTM D 2216					
Tare No	DT41	DT31	DT30		
Wet Soil + Tare Mass (g)	400.83	400.40	399.22		
Dry Soil + Tare Mass (g)	355.38	361.57	361.27		
Tare Mass (g)	178.03	211.00	203.37		
Moisture Content (%)	**25.6**	**25.8**	**24.0**		
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	108.0	111.5	114.4		
Dry Unit Weight (lbs/ft³)	86.0	88.6	92.3		
Proctor No	3550	4502	3649		
Optimum Moisture (Proctor) (%)	26.0	28.2	24.1		
Max Dry Unit Weight (Proctor) (lbs/ft³)	92.3	91.6	94.8		
Degree of Compaction (%)	**93.2**	**96.7**	**97.4**		
Difference from Optimum Moisture (+/-%)	**-0.4**	**-2.4**	**-0.1**		
Test Status					
Min Compaction (%)	90.0	90.0	90.0		
Max Above Optimum Moisture (%)	5.0	5.0	5.0		
Max Below Optimum Moisture (%)	3.0	3.0	3.0		
Test Result	**Pass**	**Pass**	**Pass**		
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4566
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	1
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	5/5/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2238	**Moisture Standardization**	587	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	5/5/2011 - 5:00 P.M.	**Oven Stop Time (Date Time)**	5/6/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers
Test No	694	695	696		
Retest of Test ID		4533A+672			
Material Source	Borrow Pit	Borrow Pit	Borrow Pit		
Feature	Levee Embankment	Levee Embankment	Levee Embankment		
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY		
Station	109+54	106+00	70+95		
Offset	P.S. -164	F.S. +128	P.S. -144		
Lift No	1	3	4		
Latitude (°N)	29.874418	29.875388	29.884620		
Longitude (°W)	90.137648	90.137483	90.134371		
Elevation (ft)	-0.6	2.1	2.2		
Transmission Mode	DT 150	DT 300	DT 300		
Moisture Test (Oven) ASTM D 2216					
Tare No	DT20	DT25	DT43		
Wet Soil + Tare Mass (g)	400.20	392.83	399.92		
Dry Soil + Tare Mass (g)	360.43	353.75	352.00		
Tare Mass (g)	212.72	205.67	179.89		
Moisture Content (%)	**26.9**	**26.4**	**27.8**		
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	110.1	109.1	107.8		
Dry Unit Weight (lbs/ft³)	86.8	86.3	84.4		
Proctor No	4502	4502	4502		
Optimum Moisture (Proctor) (%)	28.2	28.2	28.2		
Max Dry Unit Weight (Proctor) (lbs/ft³)	91.6	91.6	91.6		
Degree of Compaction (%)	**94.8**	**94.2**	**92.1**		
Difference from Optimum Moisture (+/-%)	**-1.3**	**-1.8**	**-0.4**		
Test Status					
Min Compaction (%)	90.0	90.0	90.0		
Max Above Optimum Moisture (%)	5.0	5.0	5.0		
Max Below Optimum Moisture (%)	3.0	3.0	3.0		
Test Result	**Pass**	**Pass**	**Pass**		
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4566
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	5/5/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2238	**Moisture Standardization**	587	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	5/5/2011 - 5:00 P.M.	**Oven Stop Time (Date Time)**	5/6/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers
Test No	694	695	696		
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit		
Feature	Levee Embankment	Levee Embankment	Levee Embankment		
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY		
Station	109+54	106+00	70+95		
Offset	P.S. -164	F.S. +128	P.S. -144		
Lift No	1	3	4		
Latitude (°N)	29.874418	29.875388	29.884620		
Longitude (°W)	90.137648	90.137483	90.134371		
Elevation (ft)	-0.6	2.1	2.2		
Transmission Mode	DT 150	DT 300	DT 300		
Moisture Test (Oven) ASTM D 2216					
Tare No	DT20	DT25	DT43		
Wet Soil + Tare Mass (g)	400.20	392.83	399.92		
Dry Soil + Tare Mass (g)	360.43	353.75	352.00		
Tare Mass (g)	212.72	205.67	179.89		
Moisture Content (%)	**26.9**	**26.4**	**27.8**		
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	110.1	109.1	107.8		
Dry Unit Weight (lbs/ft³)	86.8	86.3	84.4		
Proctor No	4502	4502	4502		
Optimum Moisture (Proctor) (%)	28.2	28.2	28.2		
Max Dry Unit Weight (Proctor) (lbs/ft³)	91.6	91.6	91.6		
Degree of Compaction (%)	**94.8**	**94.2**	**92.1**		
Difference from Optimum Moisture (+/-%)	**-1.3**	**-1.8**	**-0.4**		
Test Status					
Min Compaction (%)	90.0	90.0	90.0		
Max Above Optimum Moisture (%)	5.0	5.0	5.0		
Max Below Optimum Moisture (%)	3.0	3.0	3.0		
Test Result	**Pass**	**Pass**	**Pass**		
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4572
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	5/6/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	26414
Density Standardization	1872	**Moisture Standardization**	711	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	5/6/2011 - 4:00 P.M.	**Oven Stop Time (Date Time)**	5/7/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	697	698	699	700	
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY	
Station	2+08	4+50	6+83	9+50	
Offset	P.S. -107	P.S. -103	P.S. -116	P.S. -123	
Lift No	2	2	2	2	
Latitude (°N)	29.889487	29.889342	29.889249	29.889119	
Longitude (°W)	90.155091	90.154348	90.153617	90.152789	
Elevation (ft)	2.2	2.2	1.7	1.6	
Transmission Mode	DT 150	DT 300	DT 300	DT 300	
Moisture Test (Oven) ASTM D 2216					
Tare No	DT45	DT42	DT04	DT44	
Wet Soil + Tare Mass (g)	392.43	394.77	395.90	396.01	
Dry Soil + Tare Mass (g)	345.90	349.50	361.57	349.60	
Tare Mass (g)	177.35	178.21	233.47	176.05	
Moisture Content (%)	**27.6**	**26.4**	**26.8**	**26.7**	
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	110.2	114.2	114.6	114.3	
Dry Unit Weight (lbs/ft³)	86.4	90.3	90.4	90.2	
Proctor No	3649	3649	4502	4502	
Optimum Moisture (Proctor) (%)	24.1	24.1	28.2	28.2	
Max Dry Unit Weight (Proctor) (lbs/ft³)	94.8	94.8	91.6	91.6	
Degree of Compaction (%)	**91.1**	**95.3**	**98.7**	**98.5**	
Difference from Optimum Moisture (+/-%)	**3.5**	**2.3**	**-1.4**	**-1.5**	
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	
Remarks	ID 697 12" WD 107.9				
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4583
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	5/9/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2243	**Moisture Standardization**	594	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	5/9/2011 - 7:00 P.M.	**Oven Stop Time (Date Time)**	5/10/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	701	702	703	704	
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY	
Station	3+04	120+89	122+97	124+99	
Offset	P.S. -7	P.S. -111	P.S. -82	P.S. -110	
Lift No	5	3	3	3	
Latitude (°N)	29.889163	29.872655	29.872528	29.872558	
Longitude (°W)	90.154879	90.136789	90.136143	90.135500	
Elevation (ft)	9.0	5.3	6.3	5.3	
Transmission Mode	DT 300	DT 300	DT 300	DT 300	
Moisture Test (Oven) ASTM D 2216					
Tare No	DT11	DT49	DT44	DT21	
Wet Soil + Tare Mass (g)	391.48	387.56	391.48	393.51	
Dry Soil + Tare Mass (g)	348.24	346.33	359.72	356.20	
Tare Mass (g)	181.07	176.45	176.10	211.70	
Moisture Content (%)	**25.9**	**24.3**	**17.3**	**25.8**	
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	105.8	112.8	110.7	109.1	
Dry Unit Weight (lbs/ft³)	84.0	90.7	94.4	86.7	
Proctor No	4502	3649	3649	3649	
Optimum Moisture (Proctor) (%)	28.2	24.1	24.1	24.1	
Max Dry Unit Weight (Proctor) (lbs/ft³)	91.6	94.8	94.8	94.8	
Degree of Compaction (%)	**91.7**	**95.7**	**99.6**	**91.5**	
Difference from Optimum Moisture (+/-%)	**-2.3**	**0.2**	**-6.8**	**1.7**	
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	
Test Result	**Pass**	**Pass**	**Fail**	**Pass**	
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4596
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	5/10/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2224	**Moisture Standardization**	592	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	5/10/2011 - 7:00 P.M.	**Oven Stop Time (Date Time)**	5/11/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers
Test No	705	706	707		
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit		
Feature	Levee Embankment	Levee Embankment	Levee Embankment		
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY		
Station	3+00	8+00	12+93		
Offset	C/L	C/L	C/L		
Lift No	6	6	6		
Latitude (°N)	29.889140	29.888864	29.888589		
Longitude (°W)	90.154875	90.153332	90.151806		
Elevation (ft)	9.8	9.8	9.8		
Transmission Mode	DT 300	DT 300	DT 150		
Moisture Test (Oven) ASTM D 2216					
Tare No	DT02	DT48	DT50		
Wet Soil + Tare Mass (g)	395.21	395.11	398.15		
Dry Soil + Tare Mass (g)	342.50	351.98	348.38		
Tare Mass (g)	178.97	183.56	180.77		
Moisture Content (%)	**32.2**	**25.6**	**29.7**		
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	114.5	118.2	113.8		
Dry Unit Weight (lbs/ft³)	86.6	94.1	87.7		
Proctor No	4502	3616	4502		
Optimum Moisture (Proctor) (%)	28.2	24.0	28.2		
Max Dry Unit Weight (Proctor) (lbs/ft³)	91.6	95.5	91.6		
Degree of Compaction (%)	**94.5**	**98.5**	**95.7**		
Difference from Optimum Moisture (+/-%)	**4.0**	**1.6**	**1.5**		
Test Status					
Min Compaction (%)	90.0	90.0	90.0		
Max Above Optimum Moisture (%)	5.0	5.0	5.0		
Max Below Optimum Moisture (%)	3.0	3.0	3.0		
Test Result	**Pass**	**Pass**	**Pass**		
Remarks	ID 707 12" WD 116.2				
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4605A
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	5/11/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2238	**Moisture Standardization**	594	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	5/11/2011 - 4:30 P.M.	**Oven Stop Time (Date Time)**	5/12/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	708	709	710	711	712
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY
Station	127+00	128+97	130+91	133+14	135+19
Offset	P.S. -64	P.S. -92	P.S. -104	P.S. -63	P.S. -73
Lift No	3	3	3	3	3
Latitude (°N)	29.872382	29.872414	29.872403	29.872237	29.872217
Longitude (°W)	90.134882	90.134253	90.133640	90.132950	90.132301
Elevation (ft)	6.8	5.9	5.6	6.8	6.6
Transmission Mode	DT 300	DT 300	DT 300	DT 300	DT 300
Moisture Test (Oven) ASTM D 2216					
Tare No	DT50	DT21	DT04	DT47	DT40
Wet Soil + Tare Mass (g)	392.11	393.81	396.76	399.53	394.41
Dry Soil + Tare Mass (g)	349.52	355.39	361.16	352.67	354.39
Tare Mass (g)	180.76	211.63	233.49	178.22	176.33
Moisture Content (%)	**25.2**	**26.7**	**27.9**	**26.9**	**22.5**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	117.4	117.4	115.4	115.6	113.2
Dry Unit Weight (lbs/ft³)	93.8	92.7	90.2	91.1	92.4
Proctor No	3649	3649	3649	3649	3649
Optimum Moisture (Proctor) (%)	24.1	24.1	24.1	24.1	24.1
Max Dry Unit Weight (Proctor) (lbs/ft³)	94.8	94.8	94.8	94.8	94.8
Degree of Compaction (%)	**98.9**	**97.8**	**95.1**	**96.1**	**97.5**
Difference from Optimum Moisture (+/-%)	**1.1**	**2.6**	**3.8**	**2.8**	**-1.6**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4605B
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	5/11/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2238	**Moisture Standardization**	594	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	5/11/2011 - 4:30 P.M.	**Oven Stop Time (Date Time)**	5/12/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers
Test No	713				
Retest of Test ID					
Material Source	Borrow Pit				
Feature	Levee Embankment				
Visual Description	G-BR CLAY				
Station	137+09				
Offset	P.S. -88				
Lift No	3				
Latitude (°N)	29.872212				
Longitude (°W)	90.131701				
Elevation (ft)	6.0				
Transmission Mode	DT 300				
Moisture Test (Oven) ASTM D 2216					
Tare No	DT27				
Wet Soil + Tare Mass (g)	398.46				
Dry Soil + Tare Mass (g)	361.06				
Tare Mass (g)	206.60				
Moisture Content (%)	**24.2**				
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	109.6				
Dry Unit Weight (lbs/ft³)	88.2				
Proctor No	4502				
Optimum Moisture (Proctor) (%)	28.2				
Max Dry Unit Weight (Proctor) (lbs/ft³)	91.6				
Degree of Compaction (%)	**96.3**				
Difference from Optimum Moisture (+/-%)	**-4.0**				
Test Status					
Min Compaction (%)	90.0				
Max Above Optimum Moisture (%)	5.0				
Max Below Optimum Moisture (%)	3.0				
Test Result	**Fail**				
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4613A
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	5/12/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2227	**Moisture Standardization**	594	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	5/12/2011 - 6:00 P.M.	**Oven Stop Time (Date Time)**	5/13/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	714	715	716	717	718
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.
Station	109+56	68+45	63+22	109+57	138+65
Offset	P.S. -139	P.S. -137	P.S. -135	P.S. -156	P.S. -77
Lift No	2	1	1	3	3
Latitude (°N)	29.874433	29.885624	29.886142	29.874417	29.872145
Longitude (°W)	90.137726	90.134885	90.136289	90.137673	90.131213
Elevation (ft)	1.2	1.0	2.0	1.3	6.3
Transmission Mode	DT 300	DT 300	DT 150	DT 300	DT 300
Moisture Test (Oven) ASTM D 2216					
Tare No	DT08	DT30	DT31	DT46	DT49
Wet Soil + Tare Mass (g)	396.09	400.89	397.84	399.55	400.40
Dry Soil + Tare Mass (g)	351.55	358.25	368.43	352.13	357.04
Tare Mass (g)	187.47	203.37	210.99	177.92	176.41
Moisture Content (%)	**27.1**	**27.5**	**18.7**	**27.2**	**24.0**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	117.7	115.0	110.5	116.6	115.2
Dry Unit Weight (lbs/ft³)	92.6	90.2	93.1	91.7	92.9
Proctor No	3649	4502	3649	3649	3649
Optimum Moisture (Proctor) (%)	24.1	28.2	24.1	24.1	24.1
Max Dry Unit Weight (Proctor) (lbs/ft³)	94.8	91.6	94.8	94.8	94.8
Degree of Compaction (%)	**97.7**	**98.5**	**98.2**	**96.7**	**98.0**
Difference from Optimum Moisture (+/-%)	**3.0**	**-0.7**	**-5.4**	**3.1**	**-0.1**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Fail**	**Pass**	**Pass**
Remarks	ID 717 12" WD 118.6				
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4613B
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	5/12/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2227	**Moisture Standardization**	594	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	5/12/2011 - 6:00 P.M.	**Oven Stop Time (Date Time)**	5/13/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers
Test No	719	720	721		
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit		
Feature	Levee Embankment	Levee Embankment	Levee Embankment		
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.		
Station	141+00	143+07	145+23		
Offset	P.S. -72	P.S. -73	P.S. -81		
Lift No	3	3	3		
Latitude (°N)	29.872077	29.872035	29.872011		
Longitude (°W)	90.130478	90.129827	90.129144		
Elevation (ft)	6.6	6.6	6.3		
Transmission Mode	DT 300	DT 300	DT 300		
Moisture Test (Oven) ASTM D 2216					
Tare No	DT44	DT20	DT43		
Wet Soil + Tare Mass (g)	396.71	396.53	399.38		
Dry Soil + Tare Mass (g)	349.35	358.26	352.68		
Tare Mass (g)	176.06	212.66	179.87		
Moisture Content (%)	**27.3**	**26.3**	**27.0**		
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	116.4	114.2	111.3		
Dry Unit Weight (lbs/ft³)	91.4	90.4	87.6		
Proctor No	3649	3649	3649		
Optimum Moisture (Proctor) (%)	24.1	24.1	24.1		
Max Dry Unit Weight (Proctor) (lbs/ft³)	94.8	94.8	94.8		
Degree of Compaction (%)	**96.4**	**95.4**	**92.4**		
Difference from Optimum Moisture (+/-%)	**3.2**	**2.2**	**2.9**		
Test Status					
Min Compaction (%)	90.0	90.0	90.0		
Max Above Optimum Moisture (%)	5.0	5.0	5.0		
Max Below Optimum Moisture (%)	3.0	3.0	3.0		
Test Result	**Pass**	**Pass**	**Pass**		
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4641
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	5/16/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2228	**Moisture Standardization**	591	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	5/16/2011 - 6:00 P.M.	**Oven Stop Time (Date Time)**	5/17/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	722	723	724	725	726
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.
Station	88+03	92+97	98+04	103+02	107+00
Offset	P.S. -130	P.S. -158	P.S. -147	P.S. -145	P.S. -148
Lift No	6	6	5	4	4
Latitude (°N)	29.880129	29.878804	29.877478	29.876170	29.875107
Longitude (°W)	90.135950	90.136312	90.136801	90.137197	90.137501
Elevation (ft)	2.9	2.1	2.6	2.1	2.0
Transmission Mode	DT 300	DT 300	DT 300	DT 300	DT 300
Moisture Test (Oven) ASTM D 2216					
Tare No	DT01	DT43	DT41	DT42	DT45
Wet Soil + Tare Mass (g)	398.36	395.12	397.20	397.21	395.75
Dry Soil + Tare Mass (g)	360.10	351.36	354.35	356.59	350.94
Tare Mass (g)	171.95	179.93	178.01	178.23	177.37
Moisture Content (%)	**20.3**	**25.5**	**24.3**	**22.8**	**25.8**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	111.2	117.6	120.9	108.1	111.3
Dry Unit Weight (lbs/ft³)	92.4	93.7	97.3	88.0	88.5
Proctor No	4502	3649	3649	4502	4502
Optimum Moisture (Proctor) (%)	28.2	24.1	24.1	28.2	28.2
Max Dry Unit Weight (Proctor) (lbs/ft³)	91.6	94.8	94.8	91.6	91.6
Degree of Compaction (%)	**100.9**	**98.8**	**102.6**	**96.1**	**96.6**
Difference from Optimum Moisture (+/-%)	**-7.9**	**1.4**	**0.2**	**-5.4**	**-2.4**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Fail**	**Pass**	**Pass**	**Fail**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4655A
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	5/17/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2214	**Moisture Standardization**	592	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	5/17/2011 - 5:30 P.M.	**Oven Stop Time (Date Time)**	5/18/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	727	728	729	730	731
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.
Station	82+94	77+92	73+06	68+08	52+93
Offset	P.S. -151	P.S. -131	P.S. -152	P.S. -132	F.S. +5
Lift No	6	5	5	2	7
Latitude (°N)	29.881456	29.882792	29.884057	29.885645	29.886431
Longitude (°W)	90.135430	90.135039	90.134539	90.135000	90.139440
Elevation (ft)	2.4	2.6	2.2	2.3	10.8
Transmission Mode	DT 150	DT 300	DT 300	DT 300	DT 300
Moisture Test (Oven) ASTM D 2216					
Tare No	DT50	DT48	DT20	DT21	DT44
Wet Soil + Tare Mass (g)	399.05	396.24	397.56	397.74	398.10
Dry Soil + Tare Mass (g)	372.07	362.74	362.99	362.11	353.81
Tare Mass (g)	180.71	183.53	212.65	211.63	176.07
Moisture Content (%)	**14.1**	**18.7**	**23.0**	**23.7**	**24.9**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	114.5	111.1	114.6	110.0	113.8
Dry Unit Weight (lbs/ft³)	100.4	93.6	93.2	88.9	91.1
Proctor No	3649	3649	3649	3649	4171
Optimum Moisture (Proctor) (%)	24.1	24.1	24.1	24.1	22.9
Max Dry Unit Weight (Proctor) (lbs/ft³)	94.8	94.8	94.8	94.8	96.5
Degree of Compaction (%)	**105.9**	**98.7**	**98.3**	**93.8**	**94.4**
Difference from Optimum Moisture (+/-%)	**-10.0**	**-5.4**	**-1.1**	**-0.4**	**2.0**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Fail**	**Fail**	**Pass**	**Pass**	**Pass**
Remarks	ID 727 12" WD 114.6				
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4655B
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	5/17/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2214	**Moisture Standardization**	592	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	5/17/2011 - 5:30 P.M.	**Oven Stop Time (Date Time)**	5/18/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	732	733	734	735	736
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.
Station	48+01	43+00	37+99	33+00	77+49
Offset	C/L	C/L	C/L	C/L	C/L
Lift No	7	7	7	7	10
Latitude (°N)	29.886658	29.886933	29.887218	29.887495	29.883008
Longitude (°W)	90.140961	90.142511	90.144058	90.145600	90.135388
Elevation (ft)	10.8	10.9	11.0	11.0	13.2
Transmission Mode	DT 300	DT 300	DT 300	DT 300	DT 150
Moisture Test (Oven) ASTM D 2216					
Tare No	DT49	DT46	DT31	DT30	DT08
Wet Soil + Tare Mass (g)	394.46	397.74	396.03	398.84	396.93
Dry Soil + Tare Mass (g)	350.48	349.63	358.83	349.56	363.89
Tare Mass (g)	176.41	177.97	211.10	203.39	187.50
Moisture Content (%)	**25.3**	**28.0**	**25.2**	**33.7**	**18.7**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	110.7	106.9	105.2	112.7	108.2
Dry Unit Weight (lbs/ft³)	88.3	83.5	84.0	84.3	91.2
Proctor No	3550	3555	3550	3555	4171
Optimum Moisture (Proctor) (%)	26.0	30.0	26.0	30.0	22.9
Max Dry Unit Weight (Proctor) (lbs/ft³)	92.3	86.6	92.3	86.6	96.5
Degree of Compaction (%)	**95.7**	**96.4**	**91.0**	**97.3**	**94.5**
Difference from Optimum Moisture (+/-%)	**-0.7**	**-2.0**	**-0.8**	**3.7**	**-4.2**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Fail**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4655C
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	5/17/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2214	**Moisture Standardization**	592	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	5/17/2011 - 5:30 P.M.	**Oven Stop Time (Date Time)**	5/18/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers
Test No	737	738	739		
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit		
Feature	Levee Embankment	Levee Embankment	Levee Embankment		
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.		
Station	97+49	102+55	107+43		
Offset	P.S. -6	C/L	C/L		
Lift No	10	10	10		
Latitude (°N)	29.877733	29.876392	29.875093		
Longitude (°W)	90.137178	90.137596	90.137982		
Elevation (ft)	13.1	13.2	13.2		
Transmission Mode	DT 150	DT 150	DT 150		
Moisture Test (Oven) ASTM D 2216					
Tare No	DT11	DT14	DT02		
Wet Soil + Tare Mass (g)	397.53	400.86	395.76		
Dry Soil + Tare Mass (g)	351.33	367.49	350.55		
Tare Mass (g)	181.00	245.16	178.98		
Moisture Content (%)	**27.1**	**27.3**	**26.4**		
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	107.7	114.5	106.8		
Dry Unit Weight (lbs/ft³)	84.7	89.9	84.5		
Proctor No	4502	3815	4502		
Optimum Moisture (Proctor) (%)	28.2	29.6	28.2		
Max Dry Unit Weight (Proctor) (lbs/ft³)	91.6	88.9	91.6		
Degree of Compaction (%)	**92.5**	**101.1**	**92.2**		
Difference from Optimum Moisture (+/-%)	**-1.1**	**-2.3**	**-1.8**		
Test Status					
Min Compaction (%)	90.0	90.0	90.0		
Max Above Optimum Moisture (%)	5.0	5.0	5.0		
Max Below Optimum Moisture (%)	3.0	3.0	3.0		
Test Result	**Pass**	**Pass**	**Pass**		
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4675A
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	5/19/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2214	**Moisture Standardization**	592	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	5/19/2011 - 6:00 P.M.	**Oven Stop Time (Date Time)**	5/20/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	740	741	742	743	744
Retest of Test ID	4655-736				4655-727
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.
Station	77+49	82+44	87+48	92+49	82+94
Offset	CL	CL	CL	CL	P.S. -151
Lift No	10	10	10	10	6
Latitude (°N)	29.883008	29.881707	29.880374	29.879059	29.881456
Longitude (°W)	90.135388	90.135846	90.136280	90.136755	90.135430
Elevation (ft)	13.2	13.1	13.2	13.2	2.4
Transmission Mode	DT 150	DT 150	DT 150	DT 150	DT 300
Moisture Test (Oven) ASTM D 2216					
Tare No	DT04	DT45	DT47	DT27	DT30
Wet Soil + Tare Mass (g)	395.56	396.90	397.67	397.45	397.32
Dry Soil + Tare Mass (g)	362.42	344.89	352.57	359.83	368.41
Tare Mass (g)	233.48	177.32	178.24	209.64	203.37
Moisture Content (%)	**25.7**	**31.0**	**25.9**	**25.0**	**17.5**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	118.0	112.0	113.6	113.4	116.0
Dry Unit Weight (lbs/ft³)	93.9	85.5	90.2	90.7	98.7
Proctor No	4171	4171	4502	4502	3649
Optimum Moisture (Proctor) (%)	22.9	22.9	28.2	28.2	24.1
Max Dry Unit Weight (Proctor) (lbs/ft³)	96.5	96.5	91.6	91.6	94.8
Degree of Compaction (%)	**97.3**	**88.6**	**98.5**	**99.0**	**104.1**
Difference from Optimum Moisture (+/-%)	**2.8**	**8.1**	**-2.3**	**-3.2**	**-6.6**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Fail**	**Pass**	**Fail**	**Fail**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4675B
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	5/19/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2214	**Moisture Standardization**	592	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	5/19/2011 - 6:00 P.M.	**Oven Stop Time (Date Time)**	5/20/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	745	746	747	748	749
Retest of Test ID	4655-728				
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.
Station	77+92	59+40	55+90	27+48	23+07
Offset	P.S. -131	CL	P.S. -9	P.S. -6	CL
Lift No	5	6	5	7	7
Latitude (°N)	29.886424	29.886402	29.886628	29.887807	29.888039
Longitude (°W)	90.137484	90.134996	90.138562	90.147305	90.148671
Elevation (ft)	2.6	9.1	8.0	10.9	10.9
Transmission Mode	DT 300	DT 300	DT 150	DT 300	DT 300
Moisture Test (Oven) ASTM D 2216					
Tare No	DT08	DT11	DT44	DT31	DT46
Wet Soil + Tare Mass (g)	398.75	395.57	396.37	397.34	399.37
Dry Soil + Tare Mass (g)	360.91	351.72	353.09	345.37	337.34
Tare Mass (g)	187.47	180.97	176.03	210.99	177.95
Moisture Content (%)	**21.8**	**25.7**	**24.4**	**38.7**	**38.9**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	107	112.8	110.6	111	112.9
Dry Unit Weight (lbs/ft³)	87.8	89.7	88.9	80.0	81.3
Proctor No	3649	3649	3649	4716	4716
Optimum Moisture (Proctor) (%)	24.1	24.1	24.1	34.0	34.0
Max Dry Unit Weight (Proctor) (lbs/ft³)	94.8	94.8	94.8	79.2	79.2
Degree of Compaction (%)	**92.6**	**94.6**	**93.8**	**101.0**	**102.7**
Difference from Optimum Moisture (+/-%)	**-2.3**	**1.6**	**0.3**	**4.7**	**4.9**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks	TEST ID 747 WD 12' 108.2				
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4675C
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	5/19/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2214	**Moisture Standardization**	592	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	5/19/2011 - 6:00 P.M.	**Oven Stop Time (Date Time)**	5/20/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	750	751	752	753	754
Retest of Test ID					4641-725
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.
Station	18+07	12+99	8+96	3+97	103+02
Offset	CL	CL	P.S. -9	CL	P.S. -145
Lift No	7	7	7	7	4
Latitude (°N)	29.888311	29.888605	29.888842	29.889099	29.876170
Longitude (°W)	90.150219	90.151785	90.153027	90.154567	90.137197
Elevation (ft)	11.0	11.0	10.9	10.9	2.1
Transmission Mode	DT 300	DT 300	DT 300	DT 300	DT 300
Moisture Test (Oven) ASTM D 2216					
Tare No	DT49	DT40	DT21	DT20	DT48
Wet Soil + Tare Mass (g)	396.36	397.64	394.96	399.52	393.16
Dry Soil + Tare Mass (g)	335.63	336.89	339.72	345.34	349.25
Tare Mass (g)	176.50	176.32	211.72	212.75	183.64
Moisture Content (%)	**38.2**	**37.8**	**43.2**	**40.9**	**26.5**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	112.0	108.6	110.8	101.8	116.4
Dry Unit Weight (lbs/ft³)	81.0	78.8	77.4	72.2	92.0
Proctor No	4716	4716	4716	4716	4502
Optimum Moisture (Proctor) (%)	34.0	34.0	34.0	34.0	28.2
Max Dry Unit Weight (Proctor) (lbs/ft³)	79.2	79.2	79.2	79.2	91.6
Degree of Compaction (%)	**102.3**	**99.5**	**97.7**	**91.2**	**100.4**
Difference from Optimum Moisture (+/-%)	**4.2**	**3.8**	**9.2**	**6.9**	**-1.7**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Fail**	**Fail**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4675D
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	5/19/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2214	**Moisture Standardization**	592	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	5/19/2011 - 6:00 P.M.	**Oven Stop Time (Date Time)**	5/20/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers
Test No	755				
Retest of Test ID					
Material Source	Borrow Pit				
Feature	Levee Embankment				
Visual Description	G. BR. CL.				
Station	108+86				
Offset	CL				
Lift No	6				
Latitude (°N)	29.874710				
Longitude (°W)	90.138090				
Elevation (ft)	10.7				
Transmission Mode	DT 300				
Moisture Test (Oven) ASTM D 2216					
Tare No	DT50				
Wet Soil + Tare Mass (g)	395.76				
Dry Soil + Tare Mass (g)	345.47				
Tare Mass (g)	180.92				
Moisture Content (%)	**30.6**				
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	119.1				
Dry Unit Weight (lbs/ft³)	91.2				
Proctor No	4502				
Optimum Moisture (Proctor) (%)	28.2				
Max Dry Unit Weight (Proctor) (lbs/ft³)	91.6				
Degree of Compaction (%)	**99.6**				
Difference from Optimum Moisture (+/-%)	**2.4**				
Test Status					
Min Compaction (%)	90.0				
Max Above Optimum Moisture (%)	5.0				
Max Below Optimum Moisture (%)	3.0				
Test Result	**Pass**				
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4699
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	5/23/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2261	**Moisture Standardization**	592	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	5/23/2011 - 6:00 P.M.	**Oven Stop Time (Date Time)**	5/24/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	756	757	758	759	760
Retest of Test ID	4675A+744	4675A+743		4675C+752	4675C+753
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.
Station	82+94	92+49	109+27	8+96	3+97
Offset	P.S. -151	CL	C/L	P.S. -9	CL
Lift No	6	10	7	7	7
Latitude (°N)	29.881456	29.879059	29.874604	29.888842	29.889099
Longitude (°W)	90.135430	90.136755	90.138129	90.153027	90.154576
Elevation (ft)	2.4	13.2	12.1	10.9	10.9
Transmission Mode	DT 300	DT 150	DT 300	DT 300	DT 300
Moisture Test (Oven) ASTM D 2216					
Tare No	DT21	DT24	DT50	DT25	DT41
Wet Soil + Tare Mass (g)	398.57	396.05	392.32	392.86	392.52
Dry Soil + Tare Mass (g)	369.27	359.37	329.98	343.37	334.30
Tare Mass (g)	211.68	206.46	108.73	206.65	178.06
Moisture Content (%)	**18.6**	**24.0**	**28.2**	**36.2**	**37.3**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	108.6	118.7	110.2	106.2	105.2
Dry Unit Weight (lbs/ft³)	91.6	95.7	86.0	78.0	76.6
Proctor No	3649	3649	4502	4716	4716
Optimum Moisture (Proctor) (%)	24.1	24.1	28.2	34.0	34.0
Max Dry Unit Weight (Proctor) (lbs/ft³)	94.8	94.8	91.6	79.2	79.2
Degree of Compaction (%)	**96.6**	**100.9**	**93.9**	**98.5**	**96.7**
Difference from Optimum Moisture (+/-%)	**-5.5**	**-0.1**	**0.0**	**2.2**	**3.3**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Fail**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4726
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	5/26/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2225	**Moisture Standardization**	580	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	5/26/2011 - 3:00 P.M.	**Oven Stop Time (Date Time)**	5/27/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers
Test No	765	766	767		
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit		
Feature	Levee Embankment	Levee Embankment	Levee Embankment		
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.		
Station	68+99	108+75	101+00		
Offset	P.S. -136	C/L	C/L		
Lift No	3	8	11		
Latitude (°N)	29.885547	29.874752	29.876808		
Longitude (°W)	90.134678	90.138932	90.137489		
Elevation (ft)	2.8	12.6	13.7		
Transmission Mode	DT 150	DT 300	DT 300		
Moisture Test (Oven) ASTM D 2216					
Tare No	DT48	DT24	DT14		
Wet Soil + Tare Mass (g)	399.39	399.75	399.51		
Dry Soil + Tare Mass (g)	355.49	362.30	370.60		
Tare Mass (g)	183.53	206.46	245.11		
Moisture Content (%)	**25.5**	**24.0**	**23.0**		
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	115.5	110.9	107.6		
Dry Unit Weight (lbs/ft³)	92.0	89.4	87.5		
Proctor No	4502	3815	4502		
Optimum Moisture (Proctor) (%)	28.2	29.6	28.2		
Max Dry Unit Weight (Proctor) (lbs/ft³)	91.6	88.9	91.6		
Degree of Compaction (%)	**100.4**	**100.6**	**95.5**		
Difference from Optimum Moisture (+/-%)	**-2.7**	**-5.6**	**-5.2**		
Test Status					
Min Compaction (%)	90.0	90.0	90.0		
Max Above Optimum Moisture (%)	5.0	5.0	5.0		
Max Below Optimum Moisture (%)	3.0	3.0	3.0		
Test Result	**Pass**	**Fail**	**Fail**		
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4746
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	6/1/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2225	**Moisture Standardization**	541	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	6/1/2011 - 6:00 P.M.	**Oven Stop Time (Date Time)**	6/2/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers
Test No	775	776	777		
Retest of Test ID		4726+766			
Material Source	Borrow Pit	Borrow Pit	Borrow Pit		
Feature	Levee Embankment	Levee Embankment	Levee Embankment		
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.		
Station	55+99	108+75	66+70		
Offset	C/L	C/L	F.S. +99		
Lift No	6	8	4		
Latitude (°N)	29.886602	29.874752	29.885180		
Longitude (°W)	90.138540	90.138932	90.135664		
Elevation (ft)	9.7	12.6	4.8		
Transmission Mode	DT 300	DT 300	DT 150		
Moisture Test (Oven) ASTM D 2216					
Tare No	DT08	DT48	DT49		
Wet Soil + Tare Mass (g)	398.30	399.40	396.94		
Dry Soil + Tare Mass (g)	350.10	344.84	354.02		
Tare Mass (g)	187.48	183.52	176.40		
Moisture Content (%)	**29.6**	**33.8**	**24.2**		
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	106.1	111.0	117.1		
Dry Unit Weight (lbs/ft³)	81.9	83.0	94.3		
Proctor No	3815	3815	3550		
Optimum Moisture (Proctor) (%)	29.6	29.6	26.0		
Max Dry Unit Weight (Proctor) (lbs/ft³)	88.9	88.9	92.3		
Degree of Compaction (%)	**92.1**	**93.4**	**102.2**		
Difference from Optimum Moisture (+/-%)	**0.0**	**4.2**	**-1.8**		
Test Status					
Min Compaction (%)	90.0	90.0	90.0		
Max Above Optimum Moisture (%)	5.0	5.0	5.0		
Max Below Optimum Moisture (%)	3.0	3.0	3.0		
Test Result	**Pass**	**Pass**	**Pass**		
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4748A
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	5/31/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2228	**Moisture Standardization**	588	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	5/31/2011 - 5:30 P.M.	**Oven Stop Time (Date Time)**	6/1/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	768	769	770	771	772
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.
Station	98+49	93+50	88+57	83+57	57+48
Offset	F.S. + 68	F.S. +93	F.S. +94	F.S. +73	C/L
Lift No	4	4	4	4	5
Latitude (°N)	29.877530	29.878863	29.880165	29.881465	29.886520
Longitude (°W)	90.137493	90.137117	90.136678	90.136166	90.138081
Elevation (ft)	5.8	4.8	5.0	6.4	8.5
Transmission Mode	DT 150	DT 150	DT 150	DT 150	DT 300
Moisture Test (Oven) ASTM D 2216					
Tare No	DT21	DT42	DT02	DT43	DT44
Wet Soil + Tare Mass (g)	398.80	394.98	391.73	399.63	395.48
Dry Soil + Tare Mass (g)	360.08	346.17	345.61	354.71	348.63
Tare Mass (g)	211.64	178.21	178.93	179.97	176.08
Moisture Content (%)	**26.1**	**29.1**	**27.7**	**25.7**	**27.2**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	111.3	111.5	114.6	108.6	107.6
Dry Unit Weight (lbs/ft³)	88.3	86.4	89.7	86.4	84.6
Proctor No	4502	3804	4502	4502	4502
Optimum Moisture (Proctor) (%)	28.2	31.1	28.2	28.2	28.2
Max Dry Unit Weight (Proctor) (lbs/ft³)	91.6	85.5	91.6	91.6	91.6
Degree of Compaction (%)	**96.4**	**101.1**	**97.9**	**94.3**	**92.4**
Difference from Optimum Moisture (+/-%)	**-2.1**	**-2.0**	**-0.5**	**-2.5**	**-1.0**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4748B
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	5/31/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2228	**Moisture Standardization**	588	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	5/31/2011 - 5:30 P.M.	**Oven Stop Time (Date Time)**	6/1/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers
Test No	773	774			
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit			
Feature	Levee Embankment	Levee Embankment			
Visual Description	G. BR. CL.	G. BR. CL.			
Station	78+56	73+50			
Offset	F.S. +78	F.S. +85			
Lift No	4	4			
Latitude (°N)	29.882789	29.884129			
Longitude (°W)	90.135729	90.135293			
Elevation (ft)	5.5	5.3			
Transmission Mode	DT 150	DT 150			
Moisture Test (Oven) ASTM D 2216					
Tare No	DT27	DT11			
Wet Soil + Tare Mass (g)	397.87	396.82			
Dry Soil + Tare Mass (g)	361.93	352.55			
Tare Mass (g)	209.60	180.97			
Moisture Content (%)	**23.6**	**25.8**			
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	119.8	114.7			
Dry Unit Weight (lbs/ft³)	96.9	91.2			
Proctor No	4171	3550			
Optimum Moisture (Proctor) (%)	22.9	26.0			
Max Dry Unit Weight (Proctor) (lbs/ft³)	96.5	92.3			
Degree of Compaction (%)	**100.4**	**98.8**			
Difference from Optimum Moisture (+/-%)	**0.7**	**-0.2**			
Test Status					
Min Compaction (%)	90.0	90.0			
Max Above Optimum Moisture (%)	5.0	5.0			
Max Below Optimum Moisture (%)	3.0	3.0			
Test Result	**Pass**	**Pass**			
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4762A
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	6/2/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2216	**Moisture Standardization**	593	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	6/2/2011 - 6:00 P.M.	**Oven Stop Time (Date Time)**	6/3/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	778	779	780	781	782
Retest of Test ID	4675A+744	4605A+711	4605A+712	4605B+713	4675A+742
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.
Station	82+94	133+14	135+19	137+09	87+48
Offset	P.S. -151	P.S. -63	P.S. -73	P.S. -88	C/L
Lift No	6	3	3	3	10
Latitude (°N)	29.881456	29.872237	29.872217	29.872218	29.880374
Longitude (°W)	90.135430	90.132950	90.132301	90.132301	90.136280
Elevation (ft)	2.4	6.8	6.6	6.0	13.2
Transmission Mode	DT 300	DT 150	DT 300	DT 300	DT 150
Moisture Test (Oven) ASTM D 2216					
Tare No	DT25	DT41	DT04	DT30	DT49
Wet Soil + Tare Mass (g)	394.98	395.33	400.00	394.15	396.30
Dry Soil + Tare Mass (g)	357.27	350.52	366.37	354.52	346.92
Tare Mass (g)	205.64	177.97	233.44	203.33	176.40
Moisture Content (%)	**24.9**	**26.0**	**25.3**	**26.2**	**29.0**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	114.6	117.5	112.4	110.6	117.9
Dry Unit Weight (lbs/ft³)	91.8	93.3	89.7	87.6	91.4
Proctor No	4502	3649	4502	4502	4502
Optimum Moisture (Proctor) (%)	28.2	24.1	28.2	28.2	28.2
Max Dry Unit Weight (Proctor) (lbs/ft³)	91.6	94.8	91.6	91.6	91.6
Degree of Compaction (%)	**100.2**	**98.4**	**97.9**	**95.6**	**99.8**
Difference from Optimum Moisture (+/-%)	**-3.3**	**1.9**	**-2.9**	**-2.0**	**0.8**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Fail**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks	ID 779 12 WD 118.6				
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4762B
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	6/2/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2216	**Moisture Standardization**	593	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	6/2/2011 - 6:00 P.M.	**Oven Stop Time (Date Time)**	6/3/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers
Test No	783	784	785		
Retest of Test ID	4675A+740	4726-767			
Material Source	Borrow Pit	Borrow Pit	Borrow Pit		
Feature	Levee Embankment	Levee Embankment	Levee Embankment		
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.		
Station	77+49	101+00	97+99		
Offset	C/L	C/L	F.S. +15		
Lift No	10	11	11		
Latitude (°N)	29.883008	29.876808	29.877620		
Longitude (°W)	90.135388	90.137489	90.137288		
Elevation (ft)	13.2	13.7	11.3		
Transmission Mode	DT 150	DT 150	DT 150		
Moisture Test (Oven) ASTM D 2216					
Tare No	DT48	DT08	DT14		
Wet Soil + Tare Mass (g)	394.68	398.28	400.80		
Dry Soil + Tare Mass (g)	346.24	352.29	367.51		
Tare Mass (g)	183.50	187.44	245.03		
Moisture Content (%)	**29.8**	**27.9**	**27.2**		
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	117.0	113.0	113.8		
Dry Unit Weight (lbs/ft³)	90.1	88.4	89.5		
Proctor No	3815	3815	3815		
Optimum Moisture (Proctor) (%)	29.6	29.6	29.6		
Max Dry Unit Weight (Proctor) (lbs/ft³)	88.9	88.9	88.9		
Degree of Compaction (%)	**101.3**	**99.4**	**100.7**		
Difference from Optimum Moisture (+/-%)	**0.2**	**-1.7**	**-2.4**		
Test Status					
Min Compaction (%)	90.0	90.0	90.0		
Max Above Optimum Moisture (%)	5.0	5.0	5.0		
Max Below Optimum Moisture (%)	3.0	3.0	3.0		
Test Result	**Pass**	**Pass**	**Pass**		
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4798
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	6/3/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2227	**Moisture Standardization**	592	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	6/3/2011 - 3:00 P.M.	**Oven Stop Time (Date Time)**	6/4/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers
Test No	786	787	788		
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit		
Feature	Levee Embankment	Levee Embankment	Levee Embankment		
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.		
Station	105+15	100+95	92+68		
Offset	P.S. -150	P.S. -155	C/L		
Lift No	5	5	11		
Latitude (°N)	29.875600	29.876714	29.879007		
Longitude (°W)	90.137348	90.137009	90.136761		
Elevation (ft)	2.9	2.9	13.7		
Transmission Mode	DT 150	DT 150	DT 150		
Moisture Test (Oven) ASTM D 2216					
Tare No	DT50	DT14	DT08		
Wet Soil + Tare Mass (g)	393.15	393.99	387.31		
Dry Soil + Tare Mass (g)	346.03	361.05	343.52		
Tare Mass (g)	180.75	245.06	187.47		
Moisture Content (%)	**28.5**	**28.4**	**28.1**		
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	114.2	109.2	112.3		
Dry Unit Weight (lbs/ft³)	88.9	85.0	87.7		
Proctor No	3815	4502	3815		
Optimum Moisture (Proctor) (%)	29.6	28.2	29.6		
Max Dry Unit Weight (Proctor) (lbs/ft³)	88.9	91.6	88.9		
Degree of Compaction (%)	**100.0**	**92.8**	**98.7**		
Difference from Optimum Moisture (+/-%)	**-1.1**	**0.2**	**-1.5**		
Test Status					
Min Compaction (%)	90.0	90.0	90.0		
Max Above Optimum Moisture (%)	5.0	5.0	5.0		
Max Below Optimum Moisture (%)	3.0	3.0	3.0		
Test Result	**Pass**	**Pass**	**Pass**		
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4828A
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	6/7/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2225	**Moisture Standardization**	592	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	6/7/2011 - 6:00 P.M.	**Oven Stop Time (Date Time)**	6/8/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	789	790	791	792	793
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.
Station	96+31	91+00	108+85	87+57	82+50
Offset	P.S. -103	P.S. -99	C/L	C/L	C/L
Lift No	6	7	9	11	11
Latitude (°N)	29.877967	29.879370	29.874714	29.880357	29.881689
Longitude (°W)	90.136778	90.136311	90.138100	90.136317	90.135841
Elevation (ft)	4.0	4.0	13.2	13.6	13.7
Transmission Mode	DT 150	DT 150	DT 150	DT 150	DT 150
Moisture Test (Oven) ASTM D 2216					
Tare No	DT04	DT41	DT25	DT01	DT08
Wet Soil + Tare Mass (g)	393.56	399.42	397.01	393.55	398.46
Dry Soil + Tare Mass (g)	359.23	349.43	354.21	346.38	349.22
Tare Mass (g)	233.48	178.02	205.68	171.90	187.48
Moisture Content (%)	**27.3**	**29.2**	**28.8**	**27.0**	**30.4**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	113.0	114.4	114.3	113.2	115.7
Dry Unit Weight (lbs/ft³)	88.8	88.5	88.7	89.1	88.7
Proctor No	3815	3815	3815	3815	3815
Optimum Moisture (Proctor) (%)	29.6	29.6	29.6	29.6	29.6
Max Dry Unit Weight (Proctor) (lbs/ft³)	88.9	88.9	88.9	88.9	88.9
Degree of Compaction (%)	**99.9**	**99.6**	**99.8**	**100.2**	**99.8**
Difference from Optimum Moisture (+/-%)	**-2.3**	**-0.4**	**-0.8**	**-2.6**	**0.8**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4828B
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	6/7/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2225	**Moisture Standardization**	592	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	6/7/2011 - 6:00 P.M.	**Oven Stop Time (Date Time)**	6/8/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	794	795	796	797	798
Retest of Test ID		4613A+716			
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.
Station	87+60	63+22	77+55	72+62	67+45
Offset	P.S. -108	P.S. -135	C/L	C/L	C/L
Lift No	7	1	11	10	10
Latitude (°N)	29.880260	29.886142	29.882997	29.884291	29.885372
Longitude (°W)	90.135979	90.136289	90.135408	90.134950	90.135330
Elevation (ft)	3.5	2.0	13.6	13.8	13.7
Transmission Mode	DT 150	DT 150	DT 150	DT 150	DT 150
Moisture Test (Oven) ASTM D 2216					
Tare No	DT14	DT50	DT24	DT46	DT47
Wet Soil + Tare Mass (g)	396.68	398.65	395.64	400.73	396.33
Dry Soil + Tare Mass (g)	362.91	351.69	351.23	353.17	348.87
Tare Mass (g)	245.07	180.73	206.47	177.89	178.17
Moisture Content (%)	**28.7**	**27.5**	**30.7**	**27.1**	**27.8**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	121.4	117.5	115.2	113.3	113.8
Dry Unit Weight (lbs/ft³)	94.3	92.2	88.1	89.1	89.0
Proctor No	4502	4502	3815	4502	4502
Optimum Moisture (Proctor) (%)	28.2	28.2	29.6	28.2	28.2
Max Dry Unit Weight (Proctor) (lbs/ft³)	91.6	91.6	88.9	91.6	91.6
Degree of Compaction (%)	**102.9**	**100.7**	**99.1**	**97.3**	**97.2**
Difference from Optimum Moisture (+/-%)	**0.5**	**-0.7**	**1.1**	**-1.1**	**-0.4**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4828C
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	6/7/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2225	**Moisture Standardization**	592	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	6/7/2011 - 6:00 P.M.	**Oven Stop Time (Date Time)**	6/8/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers
Test No	799				
Retest of Test ID	4762A+778				
Material Source	Borrow Pit				
Feature	Levee Embankment				
Visual Description	G. BR. CL.				
Station	82+94				
Offset	P.S. -151				
Lift No	6				
Latitude (°N)	29.881456				
Longitude (°W)	90.135430				
Elevation (ft)	2.4				
Transmission Mode	DT 300				
Moisture Test (Oven) ASTM D 2216					
Tare No	DT31				
Wet Soil + Tare Mass (g)	398.35				
Dry Soil + Tare Mass (g)	359.30				
Tare Mass (g)	211.04				
Moisture Content (%)	**26.3**				
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	114.4				
Dry Unit Weight (lbs/ft³)	90.6				
Proctor No	4502				
Optimum Moisture (Proctor) (%)	28.2				
Max Dry Unit Weight (Proctor) (lbs/ft³)	91.6				
Degree of Compaction (%)	**98.9**				
Difference from Optimum Moisture (+/-%)	**-1.9**				
Test Status					
Min Compaction (%)	90.0				
Max Above Optimum Moisture (%)	5.0				
Max Below Optimum Moisture (%)	3.0				
Test Result	**Pass**				
Remarks	ID 799 12 WD 109.8				
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4849A
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	6/9/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2240	**Moisture Standardization**	591	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	6/9/2011 - 5:00 P.M.	**Oven Stop Time (Date Time)**	6/10/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	800	801	802	803	804
Retest of Test ID	4583+703				
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.
Station	122+97	108+39	59+31	150+50	152+47
Offset	P.S. -82	C/L	F.S. +7	P.S. -52	P.S. -84
Lift No	3	11	7	3	3
Latitude (°N)	29.872528	29.874835	29.886398	29.871819	29.871865
Longitude (°W)	90.136143	90.138055	90.137518	90.127492	90.126867
Elevation (ft)	6.3	13.7	10.2	7.2	6.1
Transmission Mode	DT 300	DT 150	DT 300	DT 300	DT 300
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-43	DT-44	DT-27	DT-11	DT-20
Wet Soil + Tare Mass (g)	391.88	391.98	400.37	395.35	399.22
Dry Soil + Tare Mass (g)	349.60	335.76	358.24	344.90	360.05
Tare Mass (g)	179.95	176.04	209.60	180.99	212.68
Moisture Content (%)	**24.9**	**35.2**	**28.3**	**30.8**	**26.6**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	119.4	112.2	117.6	120.9	120.5
Dry Unit Weight (lbs/ft³)	95.6	83.0	91.7	92.4	95.2
Proctor No	3649	3804	3815	4502	4502
Optimum Moisture (Proctor) (%)	24.1	31.1	29.6	28.2	28.2
Max Dry Unit Weight (Proctor) (lbs/ft³)	94.8	85.5	88.9	91.6	91.6
Degree of Compaction (%)	**100.8**	**97.1**	**103.1**	**100.9**	**103.9**
Difference from Optimum Moisture (+/-%)	**0.8**	**4.1**	**-1.3**	**2.6**	**-1.6**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4849B
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	6/9/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2240	**Moisture Standardization**	591	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	6/9/2011 - 5:00 P.M.	**Oven Stop Time (Date Time)**	6/10/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers
Test No	805				
Retest of Test ID					
Material Source	Borrow Pit				
Feature	Levee Embankment				
Visual Description	G. BR. CL.				
Station	154+38				
Offset	P.S. -96				
Lift No	3				
Latitude (°N)	29.871856				
Longitude (°W)	90.126265				
Elevation (ft)	5.9				
Transmission Mode	DT 300				
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-40				
Wet Soil + Tare Mass (g)	399.56				
Dry Soil + Tare Mass (g)	345.10				
Tare Mass (g)	176.28				
Moisture Content (%)	**32.3**				
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	119.0				
Dry Unit Weight (lbs/ft³)	89.9				
Proctor No	4502				
Optimum Moisture (Proctor) (%)	28.2				
Max Dry Unit Weight (Proctor) (lbs/ft³)	91.6				
Degree of Compaction (%)	**98.1**				
Difference from Optimum Moisture (+/-%)	**4.1**				
Test Status					
Min Compaction (%)	90.0				
Max Above Optimum Moisture (%)	5.0				
Max Below Optimum Moisture (%)	3.0				
Test Result	**Pass**				
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4876
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	6/13/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2256	**Moisture Standardization**	588	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	6/13/2011 - 5:30 P.M.	**Oven Stop Time (Date Time)**	6/14/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	R. Fisher	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers
Test No	806	807	808	809	
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.	
Station	146+31	148+44	156+63	158+63	
Offset	P.S. -78	P.S. -99	P.S. -84	P.S. -87	
Lift No	3	3	3	3	
Latitude (°N)	29.871980	29.871991	28.632241	29.871741	
Longitude (°W)	90.128805	90.128133	90.140366	90.124929	
Elevation (ft)	6.3	5.7	6.5	6.1	
Transmission Mode	DT 300	DT 300	DT 300	DT 150	
Moisture Test (Oven) ASTM D 2216					
Tare No	DT50	DT14	DT08	DT08	
Wet Soil + Tare Mass (g)	392.74	394.29	395.66	393.43	
Dry Soil + Tare Mass (g)	350.51	360.91	351.30	347.08	
Tare Mass (g)	180.73	245.08	187.47	171.87	
Moisture Content (%)	**24.9**	**28.8**	**27.1**	**26.5**	
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	119.4	114.6	118.1	116.0	
Dry Unit Weight (lbs/ft³)	95.6	89.0	92.9	91.7	
Proctor No	3649	4502	4502	4502	
Optimum Moisture (Proctor) (%)	24.1	28.2	28.2	28.2	
Max Dry Unit Weight (Proctor) (lbs/ft³)	94.8	91.6	91.6	91.6	
Degree of Compaction (%)	**100.8**	**97.2**	**101.4**	**100.1**	
Difference from Optimum Moisture (+/-%)	**0.8**	**0.6**	**-1.1**	**-1.7**	
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	
Remarks	ID 809 12" WD 115.0				
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4900
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	6/14/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2202	**Moisture Standardization**	598	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	6/14/2011 - 5:00 P.M.	**Oven Stop Time (Date Time)**	6/15/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	R. Fisher	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers
Test No	810	811	812		
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit		
Feature	Levee Embankment	Levee Embankment	Levee Embankment		
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.		
Station	68+29	72+99	78+05		
Offset	PS-103	PS-132	PS-128		
Lift No	4	6	6		
Latitude (°N)	29.885552	29.884097	29.882761		
Longitude (°W)	90.134970	90.134591	90.135060		
Elevation (ft)	4.0	3.5	3.4		
Transmission Mode	DT 150	DT 150	DT 150		
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-25	DT-41	DT-		
Wet Soil + Tare Mass (g)	397.60	394.60	396.21		
Dry Soil + Tare Mass (g)	354.97	347.76	362.22		
Tare Mass (g)	205.67	178.01	233.46		
Moisture Content (%)	**28.6**	**27.6**	**26.4**		
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	120.7	111.2	108.3		
Dry Unit Weight (lbs/ft³)	93.9	87.1	85.7		
Proctor No	4502	3815	4502		
Optimum Moisture (Proctor) (%)	28.2	29.6	28.2		
Max Dry Unit Weight (Proctor) (lbs/ft³)	91.6	88.9	91.6		
Degree of Compaction (%)	**102.5**	**98.0**	**93.6**		
Difference from Optimum Moisture (+/-%)	**0.4**	**-2.0**	**-1.8**		
Test Status					
Min Compaction (%)	90.0	90.0	90.0		
Max Above Optimum Moisture (%)	5.0	5.0	5.0		
Max Below Optimum Moisture (%)	3.0	3.0	3.0		
Test Result	**Pass**	**Pass**	**Pass**		
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4914A
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	6/16/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2255	**Moisture Standardization**	596	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	6/16/2011 - 5:30 P.M.	**Oven Stop Time (Date Time)**	6/17/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	R. Fisher	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	813	814	815	816	817
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.
Station	161+33	163+19	165+12	166+95	169+08
Offset	P.S. -135	P.S. -111	P.S. -111	P.S. -139	P.S. -138
Lift No	3	3	3	3	3
Latitude (°N)	29.871817	29.871710	29.871671	29.871708	29.871662
Longitude (°W)	90.124067	90.123490	90.122879	90.122301	90.121628
Elevation (ft)	4.7	5.3	5.5	4.5	4.6
Transmission Mode	DT 300	DT 300	DT 300	DT 300	DT 300
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-02	DT-31	DT-47	DT-21	DT-42
Wet Soil + Tare Mass (g)	395.73	394.29	395.27	395.31	398.46
Dry Soil + Tare Mass (g)	344.64	353.13	349.25	354.50	348.02
Tare Mass (g)	178.89	210.98	178.17	211.61	178.18
Moisture Content (%)	**30.8**	**29.0**	**26.9**	**28.6**	**29.7**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	117.7	114.8	110.8	114.5	115.0
Dry Unit Weight (lbs/ft³)	90.0	89.0	87.3	89.0	88.7
Proctor No	3815	3815	3815	3815	3815
Optimum Moisture (Proctor) (%)	29.6	29.6	29.6	29.6	29.6
Max Dry Unit Weight (Proctor) (lbs/ft³)	88.9	88.9	88.9	88.9	88.9
Degree of Compaction (%)	**101.2**	**100.1**	**98.2**	**100.1**	**99.8**
Difference from Optimum Moisture (+/-%)	**1.2**	**-0.6**	**-2.7**	**-1.0**	**0.1**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4914B
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	6/16/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2255	**Moisture Standardization**	596	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	6/16/2011 - 5:30 P.M.	**Oven Stop Time (Date Time)**	6/17/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	R. Fisher	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers
Test No	818				
Retest of Test ID					
Material Source	Borrow Pit				
Feature	Levee Embankment				
Visual Description	G. BR. CL.				
Station	171+31				
Offset	P.S. -130				
Lift No	3				
Latitude (°N)	29.871591				
Longitude (°W)	90.120929				
Elevation (ft)	4.8				
Transmission Mode	DT 300				
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-04				
Wet Soil + Tare Mass (g)	395.60				
Dry Soil + Tare Mass (g)	358.36				
Tare Mass (g)	233.46				
Moisture Content (%)	**29.8**				
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	112.2				
Dry Unit Weight (lbs/ft³)	86.4				
Proctor No	3815				
Optimum Moisture (Proctor) (%)	29.6				
Max Dry Unit Weight (Proctor) (lbs/ft³)	88.9				
Degree of Compaction (%)	**97.2**				
Difference from Optimum Moisture (+/-%)	**0.2**				
Test Status					
Min Compaction (%)	90.0				
Max Above Optimum Moisture (%)	5.0				
Max Below Optimum Moisture (%)	3.0				
Test Result	**Pass**				
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4920
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	6/17/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2205	**Moisture Standardization**	595	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	6/17/2011 - 5:30 P.M.	**Oven Stop Time (Date Time)**	6/19/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	819	820	821	822	823
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.
Station	173+22	175+29	177+10	179+16	181+27
Offset	PS-129	PS-113	PS-111	PS-106	PS-120
Lift No	3	3	3	3	3
Latitude (°N)	29.871549	29.871460	29.871417	29.871277	29.871176
Longitude (°W)	90.120328	90.119680	90.119112	90.118425	90.117769
Elevation (ft)	4.6	5.3	5.4	5.7	4.8
Transmission Mode	DT150	DT 300	DT 300	DT 300	DT 300
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-41	DT-25	DT-04	DT-42	DT-21
Wet Soil + Tare Mass (g)	399.17	399.33	400.85	396.89	397.92
Dry Soil + Tare Mass (g)	345.90	357.18	362.69	348.40	356.52
Tare Mass (g)	178.00	205.67	233.42	178.17	211.59
Moisture Content (%)	**31.7**	**27.8**	**29.5**	**28.5**	**28.6**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	114.3	115.3	105.7	109.2	115.2
Dry Unit Weight (lbs/ft³)	86.8	90.2	81.6	85.0	89.6
Proctor No	3815	3815	3815	3815	3815
Optimum Moisture (Proctor) (%)	29.6	29.6	29.6	29.6	29.6
Max Dry Unit Weight (Proctor) (lbs/ft³)	88.9	88.9	88.9	88.9	88.9
Degree of Compaction (%)	**97.6**	**101.5**	**91.8**	**95.6**	**100.8**
Difference from Optimum Moisture (+/-%)	**2.1**	**-1.8**	**-0.1**	**-1.1**	**-1.0**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4956
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	6/22/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2213	**Moisture Standardization**	592	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	6/22/2011 - 3:30 P.M.	**Oven Stop Time (Date Time)**	6/23/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	Chang	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	824	825	826	827	828
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.
Station	55+97	61+57	123+92	129+55	123+59
Offset	PS-11	PS-15	C/L	C/L	P.S. -165
Lift No	8	8	9	9	4
Latitude (°N)	29.886631	29.886141	29.872289	29.872150	29.872739
Longitude (°W)	90.138542	90.136934	90.135864	90.134096	90.135926
Elevation (ft)	11.1	10.9	13.3	13.3	3.4
Transmission Mode	DT 300	DT 300	DT 150	DT 150	DT 150
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-01	DT-08	DT-14	DT-50	DT-24
Wet Soil + Tare Mass (g)	394.95	396.97	398.14	394.98	394.27
Dry Soil + Tare Mass (g)	353.14	351.86	364.87	347.29	354.98
Tare Mass (g)	171.78	187.39	245.09	180.72	206.47
Moisture Content (%)	**23.1**	**27.4**	**27.8**	**28.6**	**26.5**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	110.1	118.7	108.0	116.2	119.0
Dry Unit Weight (lbs/ft³)	89.4	93.2	84.5	90.4	94.1
Proctor No	3745	4502	4502	4502	4502
Optimum Moisture (Proctor) (%)	23.5	28.2	28.2	28.2	28.2
Max Dry Unit Weight (Proctor) (lbs/ft³)	95.8	91.6	91.6	91.6	91.6
Degree of Compaction (%)	**93.3**	**101.7**	**92.2**	**98.7**	**102.7**
Difference from Optimum Moisture (+/-%)	**-0.4**	**-0.8**	**-0.4**	**0.4**	**-1.7**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4980
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	6/27/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2202	**Moisture Standardization**	597	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	6/27/2011 - 5:30 P.M.	**Oven Stop Time (Date Time)**	6/28/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	R. Fisher	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers
Test No	829	830	831		
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit		
Feature	Levee Embankment	Levee Embankment	Levee Embankment		
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.		
Station	60+88	55+80	156+63		
Offset	CL	PS-6	PS-136		
Lift No	9	9	4		
Latitude (°N)	29.886258	29.886623	29.872561		
Longitude (°W)	90.137096	90.138579	90.134604		
Elevation (ft)	12.3	12.1	4.6		
Transmission Mode	DT-150	DT 300	DT 300		
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-47	DT-31	DT-21		
Wet Soil + Tare Mass (g)	392.24	398.22	397.27		
Dry Soil + Tare Mass (g)	347.74	358.28	357.84		
Tare Mass (g)	178.18	210.98	211.64		
Moisture Content (%)	**26.2**	**27.1**	**27.0**		
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	116.2	117.4	114.1		
Dry Unit Weight (lbs/ft³)	92.1	92.4	89.8		
Proctor No	4502	4502	4502		
Optimum Moisture (Proctor) (%)	24.1	24.1	24.1		
Max Dry Unit Weight (Proctor) (lbs/ft³)	94.8	94.8	94.8		
Degree of Compaction (%)	**97.2**	**97.5**	**94.7**		
Difference from Optimum Moisture (+/-%)	**2.1**	**3.0**	**2.9**		
Test Status					
Min Compaction (%)	90.0	90.0	90.0		
Max Above Optimum Moisture (%)	5.0	5.0	5.0		
Max Below Optimum Moisture (%)	3.0	3.0	3.0		
Test Result	**Pass**	**Pass**	**Pass**		
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4992A
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	6/28/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2232	**Moisture Standardization**	591	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	6/28/2011 - 5:30 P.M.	**Oven Stop Time (Date Time)**	6/29/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	R.FISHER	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	832	833	834	835	836
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.
Station	133+57	133+79	139+50	143+82	147+92
Offset	PS-147	CL	PS-134	PS-142	PS-131
Lift No	4	9	4	4	4
Latitude (°N)	29.872457	29.872049	29.872282	29.872207	29.872090
Longitude (°W)	90.132792	90.132761	90.130932	90.129576	90.128287
Elevation (ft)	4.0	13.5	4.4	4.1	4.4
Transmission Mode	DT-150	DT 150	DT 150	DT 150	DT 150
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-30	DT-46	DT-24	DT-50	DT-14
Wet Soil + Tare Mass (g)	395.20	395.06	398.30	397.44	398.04
Dry Soil + Tare Mass (g)	355.39	348.93	358.68	351.89	366.58
Tare Mass (g)	203.35	177.88	206.46	180.74	245.04
Moisture Content (%)	**26.2**	**27.0**	**26.0**	**26.6**	**25.9**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	117.0	109.9	111.6	116.2	110.6
Dry Unit Weight (lbs/ft³)	92.7	86.5	88.6	91.8	87.8
Proctor No	4502	4502	4502	4502	4502
Optimum Moisture (Proctor) (%)	28.2	28.2	28.2	28.2	28.2
Max Dry Unit Weight (Proctor) (lbs/ft³)	96.1	96.1	96.1	96.1	96.1
Degree of Compaction (%)	**96.5**	**90.0**	**92.2**	**95.5**	**91.4**
Difference from Optimum Moisture (+/-%)	**-2.0**	**-1.2**	**-2.2**	**-1.6**	**-2.3**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	4992B
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	6/28/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2232	**Moisture Standardization**	591	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	6/28/2011 - 5:30 P.M.	**Oven Stop Time (Date Time)**	6/29/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	R.FISHER	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers
Test No	837	838	839	840	841
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.
Station	138+59	144+25	149+80	154+30	157+47
Offset	CL	CL	CL	PS-138	PS-129
Lift No	9	9	9	4	4
Latitude (°N)	29.871930	29.871804	29.871690	29.871743	29.871883
Longitude (°W)	90.131254	90.129476	90.127729	90.126279	90.125285
Elevation (ft)	13.7	12.8	12.8	4.1	4.5
Transmission Mode	DT-150	DT 150	DT 150	DT 150	DT 150
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-21	DT-31	DT-47	DT-04	DT-25
Wet Soil + Tare Mass (g)	396.30	396.59	397.85	396.88	398.03
Dry Soil + Tare Mass (g)	352.35	354.29	345.77	356.31	351.27
Tare Mass (g)	211.60	210.97	178.17	233.43	205.67
Moisture Content (%)	**31.2**	**29.5**	**31.1**	**33.0**	**32.1**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	116.1	112.9	107.6	115.4	112.9
Dry Unit Weight (lbs/ft³)	88.5	87.2	82.1	86.8	85.5
Proctor No	4502	3815	3815	4502	4502
Optimum Moisture (Proctor) (%)	28.2	29.6	29.6	28.2	28.2
Max Dry Unit Weight (Proctor) (lbs/ft³)	91.6	88.9	88.9	91.6	91.6
Degree of Compaction (%)	**96.6**	**98.1**	**92.4**	**94.8**	**93.3**
Difference from Optimum Moisture (+/-%)	**3.0**	**-0.1**	**1.5**	**4.8**	**3.9**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5003
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	1
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	6/29/2011
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2244	**Moisture Standardization**	591	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	6/29/2011 - 5:30 PM	**Oven Stop Time (Date Time)**	6/30/2011 - 7:00 AM	**Submitted By**	B. Landers
Field Tested By	R. Fisher	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	842	843	844	845	
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	
Visual Description	G. BR. CL.	G. BR. CL	G. BR. CL	G.BR.CL	
Station	60+63	58+29	155+34	159+04	
Offset	CL	CL	CL	CL	
Lift No	10	10	9	9	
Latitude (°N)	29.886317	29.886484	29.871572	29.871494	
Longitude (°W)	90.137135	90.137828	90.125987	90.124822	
Elevation (ft)	13.3	13.2	12.8	12.9	
Transmission Mode	DT 300	DT 300	DT 150	DT 150	
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-25	DT-42	DT-41	DT-02	
Wet Soil + Tare Mass (g)	400.67	396.30	397.11	398.01	
Dry Soil + Tare Mass (g)	359.91	347.04	343.88	346.36	
Tare Mass (g)	203.36	178.17	178.02	178.88	
Moisture Content (%)	**26.0**	**29.2**	**32.1**	**30.8**	
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	117.9	114.4	112.8	114.5	
Dry Unit Weight (lbs/ft³)	93.6	88.5	85.4	87.5	
Proctor No	4502	4502	4502	4502	
Optimum Moisture (Proctor) (%)	28.2	28.2	28.2	28.2	
Max Dry Unit Weight (Proctor) (lbs/ft³)	91.6	91.6	91.6	91.6	
Degree of Compaction (%)	**102.2**	**96.6**	**93.2**	**95.5**	
Difference from Optimum Moisture (+/-%)	**-2.2**	**1.0**	**3.9**	**2.6**	
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5003
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	6/29/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2244	**Moisture Standardization**	591	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	6/29/2011 - 5:30 P.M.	**Oven Stop Time (Date Time)**	6/30/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	R.FISHER	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers
Test No	842	843	844	845	
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.	
Station	60+63	58+29	155+34	159+04	
Offset	CL	CL	CL	CL	
Lift No	10	10	9	9	
Latitude (°N)	29.886317	29.886484	29.871572	29.871494	
Longitude (°W)	90.137135	90.137828	90.125987	90.124822	
Elevation (ft)	13.3	13.2	12.8	12.9	
Transmission Mode	DT-300	DT 300	DT 150	DT 150	
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-30	DT-42	DT-41	DT-02	
Wet Soil + Tare Mass (g)	400.67	396.60	397.11	398.01	
Dry Soil + Tare Mass (g)	359.91	347.04	343.88	346.36	
Tare Mass (g)	203.36	178.17	178.02	178.88	
Moisture Content (%)	**26.0**	**29.3**	**32.1**	**30.8**	
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	117.9	114.4	112.8	114.5	
Dry Unit Weight (lbs/ft³)	93.6	88.5	85.4	87.5	
Proctor No	4502	4502	4502	4502	
Optimum Moisture (Proctor) (%)	28.2	28.2	28.2	28.2	
Max Dry Unit Weight (Proctor) (lbs/ft³)	91.6	91.6	91.6	91.6	
Degree of Compaction (%)	**102.2**	**96.6**	**93.2**	**95.5**	
Difference from Optimum Moisture (+/-%)	**-2.2**	**1.1**	**3.9**	**2.6**	
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5016A
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	1
Project	WBV-14c.2 Phase2, First Lift			**Sample Date**	6/30/2011
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2211	**Moisture Standardization**	533	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	6/30/2011 - 5:30 P.M.	**Oven Stop Time (Date Time)**	7/01/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	R. Fisher	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers
Test No	846	847	848	849	850
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G. BR. CL.	G. BR. CL	G. BR. CL	G. BR. CL	G. BR. CL
Station	163+74	169+16	165+89	169+40	61+27
Offset	CL	CL	PS-155	PS-162	CL
Lift No	9	9	4	4	11
Latitude (°N)	29.871399	29.871285	29.871775	29.871721	29.886176
Longitude (°W)	90.123342	90.121637	90.122630	90.121522	90.173010
Elevation (ft)	13.2	13.1	4.0	3.7	13.7
Transmission Mode	DT 150	DT 150	DT 150	DT 150	DT 150
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-24	DT-42	DT-08	DT-25	DT-04
Wet Soil + Tare Mass (g)	396.00	392.47	398.24	393.81	398.26
Dry Soil + Tare Mass (g)	355.42	346.73	348.36	353.80	363.26
Tare Mass (g)	206.46	178.20	187.48	205.67	233.46
Moisture Content (%)	**27.2**	**27.1**	**31.0**	**27.0**	**27.0**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	114.6	107.9	114.3	116.1	117.1
Dry Unit Weight (lbs/ft³)	90.1	84.9	87.3	91.4	92.2
Proctor No	3815	3815	4502	4502	4502
Optimum Moisture (Proctor) (%)	29.6	29.6	28.2	28.2	28.2
Max Dry Unit Weight (Proctor) (lbs/ft³)	88.9	88.9	91.6	91.6	91.6
Degree of Compaction (%)	**101.3**	**95.5**	**95.3**	**99.8**	**100.7**
Difference from Optimum Moisture (+/-%)	**-2.4**	**-2.5**	**2.8**	**-1.2**	**-1.2**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5016A
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	6/30/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2211	**Moisture Standardization**	533	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	6/30/2011 - 5:30 P.M.	**Oven Stop Time (Date Time)**	7/01/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	R.FISHER	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	846	847	848	849	850
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.
Station	163+74	169+16	165+89	169+40	61+27
Offset	CL	CL	PS-155	PS-162	CL
Lift No	9	9	4	4	11
Latitude (°N)	29.871399	29.871285	29.871775	29.871721	29.886176
Longitude (°W)	90.123342	90.121637	90.122630	90.121522	90.173010
Elevation (ft)	13.2	13.1	4.0	3.7	13.7
Transmission Mode	DT-150	DT 150	DT 150	DT 150	DT 150
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-24	DT-42	DT-08	DT-25	DT-04
Wet Soil + Tare Mass (g)	396.00	392.47	398.24	393.81	398.26
Dry Soil + Tare Mass (g)	355.42	346.73	348.36	353.80	363.26
Tare Mass (g)	206.46	178.20	187.48	205.67	233.46
Moisture Content (%)	**27.2**	**27.1**	**31.0**	**27.0**	**27.0**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	114.6	107.9	114.3	116.1	117.1
Dry Unit Weight (lbs/ft³)	90.1	84.9	87.3	91.4	92.2
Proctor No	3815	3815	4502	4502	4502
Optimum Moisture (Proctor) (%)	29.6	29.6	28.2	28.2	28.2
Max Dry Unit Weight (Proctor) (lbs/ft³)	88.9	88.9	91.6	91.6	91.6
Degree of Compaction (%)	**101.3**	**95.5**	**95.3**	**99.8**	**100.7**
Difference from Optimum Moisture (+/-%)	**-2.4**	**-2.5**	**2.8**	**-1.2**	**-1.2**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5016B
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	1
Project	WBV-14c.2 Phase2, First Lift			**Sample Date**	6/30/2011
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2211	**Moisture Standardization**	533	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	6/30/2011 - 5:30 P.M.	**Oven Stop Time (Date Time)**	7/01/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	R. Fisher	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	851	852	853	854	855
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G. BR. CL.	G. BR. CL	G. BR. CL	G. BR. CL	G. BR. CL
Station	55+71	174+30	178+50	178+64	174+44
Offset	PS-5	PS-144	PS-154	CL	CL
Lift No	11	4	4	9	9
Latitude (°N)	29.886630	29.871566	29.871451	29.871035	29.871173
Longitude (°W)	90.138624	90.119985	90.118590	90.118662	90.119976
Elevation (ft)	13.5	4.6	4.4	13.5	13.4
Transmission Mode	DT 150	DT 150	DT 150	DT 150	DT 150
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-47	DT-31	DT-21	DT-14	DT-50
Wet Soil + Tare Mass (g)	396.48	397.09	396.62	396.67	396.06
Dry Soil + Tare Mass (g)	350.05	351.03	357.12	361.21	348.52
Tare Mass (g)	178.15	210.99	211.63	245.06	180.76
Moisture Content (%)	**27.0**	**32.9**	**27.1**	**30.5**	**28.3**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	112.1	111.7	113.0	113.4	116.0
Dry Unit Weight (lbs/ft³)	88.3	84.0	88.9	86.9	90.4
Proctor No	3815	4502	4502	3804	4502
Optimum Moisture (Proctor) (%)	29.6	28.2	28.2	31.1	28.2
Max Dry Unit Weight (Proctor) (lbs/ft³)	88.9	91.6	91.6	85.5	91.6
Degree of Compaction (%)	**99.3**	**91.7**	**97.1**	**101.6**	**98.7**
Difference from Optimum Moisture (+/-%)	**-2.6**	**4.7**	**-1.1**	**-0.6**	**0.1**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5016B
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	6/30/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2211	**Moisture Standardization**	533	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	6/30/2011 - 5:30 P.M.	**Oven Stop Time (Date Time)**	7/01/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	R.FISHER	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	851	852	853	854	855
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.
Station	55+71	174+30	178+50	178+64	174+44
Offset	PS-5	PS-144	PS-154	CL	CL
Lift No	11	4	4	9	9
Latitude (°N)	29.886630	29.871566	29.871451	29.871035	29.871173
Longitude (°W)	90.138624	90.119985	90.118590	90.118662	90.119976
Elevation (ft)	13.5	4.6	4.4	13.5	13.4
Transmission Mode	DT-150	DT 150	DT 150	DT 150	DT 150
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-47	DT-31	DT-21	DT-14	DT-50
Wet Soil + Tare Mass (g)	396.48	397.09	396.62	396.67	396.06
Dry Soil + Tare Mass (g)	350.05	351.03	357.12	361.21	348.52
Tare Mass (g)	178.15	210.99	211.63	245.06	180.76
Moisture Content (%)	**27.0**	**32.9**	**27.1**	**30.5**	**28.3**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	112.1	111.7	113.0	113.4	116.0
Dry Unit Weight (lbs/ft³)	88.3	84.0	88.9	86.9	90.4
Proctor No	3815	4502	4502	3804	4502
Optimum Moisture (Proctor) (%)	29.6	28.2	28.2	31.1	28.2
Max Dry Unit Weight (Proctor) (lbs/ft³)	88.9	91.6	91.6	85.5	91.6
Degree of Compaction (%)	**99.3**	**91.7**	**97.1**	**101.6**	**98.7**
Difference from Optimum Moisture (+/-%)	**-2.6**	**4.7**	**-1.1**	**-0.6**	**0.1**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5053
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	1
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	7/6/2011
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2216	**Moisture Standardization**	595	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	7/6/2011 - 5:30 P.M.	**Oven Stop Time (Date Time)**	7/1/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	R. Fisher	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers
Test No	856	857			
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit			
Feature	Levee Embankment	Levee Embankment			
Visual Description	G. BR. CL	G. BR. CL			
Station	123+48	127+88			
Offset	FS-72	FS-87			
Lift No	4	4			
Latitude (°N)	29.872090	29.871946			
Longitude (°W)	90.136025	90.134643			
Elevation (ft)	5.5	5.2			
Transmission Mode	DT 150	DT 150			
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-14	DT-21			
Wet Soil + Tare Mass (g)	399.09	397.42			
Dry Soil + Tare Mass (g)	365.24	353.79			
Tare Mass (g)	245.10	211.64			
Moisture Content (%)	**28.2**	**30.7**			
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	106.7	109.4			
Dry Unit Weight (lbs/ft³)	83.2	83.7			
Proctor No	3804	3824			
Optimum Moisture (Proctor) (%)	31.1	33.7			
Max Dry Unit Weight (Proctor) (lbs/ft³)	85.5	82.9			
Degree of Compaction (%)	**97.3**	**101.0**			
Difference from Optimum Moisture (+/-%)	**-2.9**	**-3.0**			
Test Status					
Min Compaction (%)	90.0	90.0			
Max Above Optimum Moisture (%)	5.0	5.0			
Max Below Optimum Moisture (%)	3.0	3.0			
Test Result	**Pass**	**Pass**			
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5053
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	7/6/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2216	**Moisture Standardization**	595	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	7/06/2011 - 5:30 P.M.	**Oven Stop Time (Date Time)**	7/07/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	R.FISHER	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers
Test No	856	857			
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit			
Feature	Levee Embankment	Levee Embankment			
Visual Description	G. BR. CL.	G. BR. CL.			
Station	123+48	127+88			
Offset	FS-72	FS-87			
Lift No	4	4			
Latitude (°N)	29.872090	29.871946			
Longitude (°W)	90.136025	90.134643			
Elevation (ft)	5.5	5.2			
Transmission Mode	DT-150	DT 150			
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-14	DT-21			
Wet Soil + Tare Mass (g)	399.09	397.42			
Dry Soil + Tare Mass (g)	365.24	353.79			
Tare Mass (g)	245.10	211.64			
Moisture Content (%)	**28.2**	**30.7**			
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	106.7	109.4			
Dry Unit Weight (lbs/ft³)	83.2	83.7			
Proctor No	3804	3824			
Optimum Moisture (Proctor) (%)	31.1	33.7			
Max Dry Unit Weight (Proctor) (lbs/ft³)	85.5	82.9			
Degree of Compaction (%)	**97.3**	**101.0**			
Difference from Optimum Moisture (+/-%)	**-2.9**	**-3.0**			
Test Status					
Min Compaction (%)	90.0	90.0			
Max Above Optimum Moisture (%)	5.0	5.0			
Max Below Optimum Moisture (%)	3.0	3.0			
Test Result	**Pass**	**Pass**			
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5065A
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	1
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	7/7/2011
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2216	**Moisture Standardization**	589	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	7/7/2011 - 5:30 P.M.	**Oven Stop Time (Date Time)**	7/8/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	R. Fisher	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	858	859	860	861	862
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G. BR. CL.	G. BR. CL	G. BR. CL	G.BR.CL	G. BR. CL
Station	58+69	54+87	133+39	138+74	144+15
Offset	CL	CL	FS-79	FS-58	FS-93
Lift No	12	12	4	4	4
Latitude (°N)	29.886454	29.886630	29.871838	29.871772	29.871553
Longitude (°W)	90.137706	90.138883	90.132911	90.131224	90.129527
Elevation (ft)	14.6	14.6	5.0	5.8	4.7
Transmission Mode	DT 150	DT 150	DT 150	DT 150	DT 150
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-50	DT-31	DT-47	DT-04	DT-25
Wet Soil + Tare Mass (g)	395.23	395.09	399.10	398.23	395.50
Dry Soil + Tare Mass (g)	343.48	355.66	344.16	356.90	356.66
Tare Mass (g)	180.73	210.99	178.17	233.48	205.70
Moisture Content (%)	**31.8**	**27.3**	**33.1**	**33.5**	**25.7**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	112.5	113.8	111.1	102.8	109.8
Dry Unit Weight (lbs/ft³)	85.4	89.4	83.5	77.0	87.4
Proctor No	4502	4502	3815	3804	4502
Optimum Moisture (Proctor) (%)	28.2	28.2	29.6	31.1	28.2
Max Dry Unit Weight (Proctor) (lbs/ft³)	91.6	91.6	88.9	85.5	91.6
Degree of Compaction (%)	**93.2**	**97.6**	**93.9**	**90.1**	**95.4**
Difference from Optimum Moisture (+/-%)	**3.6**	**-0.9**	**3.5**	**2.4**	**-2.5**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5065A
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	7/7/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2216	**Moisture Standardization**	589	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	7/07/2011 - 5:30 P.M.	**Oven Stop Time (Date Time)**	7/08/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	R.FISHER	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	858	859	860	861	862
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.
Station	58+69	54+87	133+39	138+74	144+15
Offset	CL	CL	FS-79	FS-58	FS-93
Lift No	12	12	4	4	4
Latitude (°N)	29.886454	29.886630	29.871838	29.871772	29.871553
Longitude (°W)	90.137706	90.138883	90.132911	90.131224	90.129527
Elevation (ft)	14.6	14.6	5.0	5.8	4.7
Transmission Mode	DT-150	DT 150	DT 150	DT 150	DT 150
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-50	DT-31	DT-47	DT-04	DT-25
Wet Soil + Tare Mass (g)	395.23	395.09	399.10	398.23	395.50
Dry Soil + Tare Mass (g)	343.48	355.66	344.16	356.90	356.66
Tare Mass (g)	180.73	210.99	178.17	233.48	205.70
Moisture Content (%)	**31.8**	**27.3**	**33.1**	**33.5**	**25.7**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	112.5	113.8	111.1	102.8	109.8
Dry Unit Weight (lbs/ft³)	85.4	89.4	83.5	77.0	87.4
Proctor No	4502	4502	3815	3804	4502
Optimum Moisture (Proctor) (%)	28.2	28.2	29.6	31.1	28.2
Max Dry Unit Weight (Proctor) (lbs/ft³)	91.6	91.6	88.9	85.5	91.6
Degree of Compaction (%)	**93.2**	**97.6**	**93.9**	**90.1**	**95.4**
Difference from Optimum Moisture (+/-%)	**3.6**	**-0.9**	**3.5**	**2.4**	**-2.5**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5065B
USACE Contract No	W912P8-09-D-0046-0007	**Contractor**	Phylway, Inc.	**Revision**	1
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	7/7/2011
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2216	**Moisture Standardization**	589	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	7/7/2011 - 5:30 P.M.	**Oven Stop Time (Date Time)**	7/8/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	R. Fisher	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	863	864	865		
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit		
Feature	Levee Embankment	Levee Embankment	Levee Embankment		
Visual Description	G. BR. CL	G. BR. CL	G. BR. CL		
Station	148+77	153+36	158+77		
Offset	FS-76	FS-90	FS-60		
Lift No	4	4	4		
Latitude (°N)	29.871503	29.871365	29.871334		
Longitude (°W)	90.128072	90.126632	90.124920		
Elevation (ft)	5.2	5.1	5.8		
Transmission Mode	DT 150	DT 150	DT 150		
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-08	DT-42	DT-24		
Wet Soil + Tare Mass (g)	399.31	398.46	396.43		
Dry Soil + Tare Mass (g)	351.51	353.60	354.80		
Tare Mass (g)	178.46	178.19	206.50		
Moisture Content (%)	**27.6**	**25.6**	**28.1**		
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	113.8	115.8	115.5		
Dry Unit Weight (lbs/ft³)	89.2	92.2	90.2		
Proctor No	4502	4502	4502		
Optimum Moisture (Proctor) (%)	28.2	28.2	28.2		
Max Dry Unit Weight (Proctor) (lbs/ft³)	91.6	91.6	91.6		
Degree of Compaction (%)	**97.4**	**100.7**	**98.5**		
Difference from Optimum Moisture (+/-%)	**-0.6**	**-2.6**	**-0.1**		
Test Status					
Min Compaction (%)	90.0	90.0	90.0		
Max Above Optimum Moisture (%)	5.0	5.0	5.0		
Max Below Optimum Moisture (%)	3.0	3.0	3.0		
Test Result	**Pass**				
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5065B
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	7/7/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2216	**Moisture Standardization**	589	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	7/07/2011 - 5:30 P.M.	**Oven Stop Time (Date Time)**	7/08/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	R.FISHER	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers
Test No	863	864	865		
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit		
Feature	Levee Embankment	Levee Embankment	Levee Embankment		
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.		
Station	148+77	153+36	158+77		
Offset	FS-76	FS-90	FS-60		
Lift No	4	4	4		
Latitude (°N)	29.871503	29.871365	29.871334		
Longitude (°W)	90.128072	90.126632	90.124920		
Elevation (ft)	5.2	5.1	5.8		
Transmission Mode	DT-150	DT 150	DT 150		
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-08	DT-42	DT-24		
Wet Soil + Tare Mass (g)	399.31	398.46	396.43		
Dry Soil + Tare Mass (g)	351.51	353.60	354.80		
Tare Mass (g)	178.46	178.19	206.50		
Moisture Content (%)	**27.6**	**25.6**	**28.1**		
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	113.8	115.8	115.5		
Dry Unit Weight (lbs/ft³)	89.2	92.2	90.2		
Proctor No	4502	4502	4502		
Optimum Moisture (Proctor) (%)	28.2	28.2	28.2		
Max Dry Unit Weight (Proctor) (lbs/ft³)	91.6	91.6	91.6		
Degree of Compaction (%)	**97.4**	**100.7**	**98.5**		
Difference from Optimum Moisture (+/-%)	**-0.6**	**-2.6**	**-0.1**		
Test Status					
Min Compaction (%)	90.0	90.0	90.0		
Max Above Optimum Moisture (%)	5.0	5.0	5.0		
Max Below Optimum Moisture (%)	3.0	3.0	3.0		
Test Result	**Pass**	**Pass**	**Pass**		
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5077A
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	7/8/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2221	**Moisture Standardization**	536	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	7/08/2011 - 5:30 P.M.	**Oven Stop Time (Date Time)**	7/09/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	R.FISHER	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	866	867	868	869	870
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.
Station	60+52	110+66	164+10	168+33	173+43
Offset	CL	FS-6	FS-83	FS-92	FS-87
Lift No	12	1	4	4	4
Latitude (°N)	29.886344	29.874237	29.871157	29.871042	29.870950
Longitude (°W)	90.137149	90.138257	90.123249	90.121921	90.120317
Elevation (ft)	14.6	10.0	5.4	5.1	5.3
Transmission Mode	DT-150	DT 300	DT 150	DT 150	DT 150
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-24	DT-42	DT-45	DT-21	DT-14
Wet Soil + Tare Mass (g)	400.91	395.91	398.05	399.36	398.31
Dry Soil + Tare Mass (g)	360.85	350.60	340.16	360.86	363.00
Tare Mass (g)	206.52	178.22	177.25	211.62	245.09
Moisture Content (%)	**26.0**	**26.3**	**35.5**	**25.8**	**29.9**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	118.2	101.1	114.9	117.2	117.0
Dry Unit Weight (lbs/ft³)	93.8	80.0	84.8	93.2	90.1
Proctor No	4502	4502	3804	4502	3815
Optimum Moisture (Proctor) (%)	28.2	28.2	31.1	28.2	29.6
Max Dry Unit Weight (Proctor) (lbs/ft³)	91.6	91.6	85.5	91.6	88.9
Degree of Compaction (%)	**102.4**	**87.3**	**99.2**	**101.7**	**101.3**
Difference from Optimum Moisture (+/-%)	**-2.2**	**-1.9**	**4.4**	**-2.4**	**0.3**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Fail**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5077B
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	1
Project	WBV-14c.0 Phase 2, First Lift			**Sample Date**	7/8/2011
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2221	**Moisture Standardization**	536	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	7/8/2011 - 5:30 P.M.	**Oven Stop Time (Date Time)**	7/9/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	R.FISHER	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers
Test No	871				
Retest of Test ID					
Material Source	Borrow Pit				
Feature	Levee Embankment				
Visual Description	G. BR. CLAY				
Station	178+87				
Offset	FS-98				
Lift No	4				
Latitude (°N)	29.870749				
Longitude (°W)	90.118667				
Elevation (ft)	4.8				
Transmission Mode	DT 150				
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-01				
Wet Soil + Tare Mass (g)	394.90				
Dry Soil + Tare Mass (g)	340.48				
Tare Mass (g)	171.87				
Moisture Content (%)	**32.3**				
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	112.0				
Dry Unit Weight (lbs/ft³)	84.7				
Proctor No	3815				
Optimum Moisture (Proctor) (%)	29.6				
Max Dry Unit Weight (Proctor) (lbs/ft³)	88.9				
Degree of Compaction (%)	**95.3**				
Difference from Optimum Moisture (+/-%)	**2.7**				
Test Status					
Min Compaction (%)	90.0				
Max Above Optimum Moisture (%)	5.0				
Max Below Optimum Moisture (%)	3.0				
Test Result	**Pass**				
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5077B
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	7/8/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2221	**Moisture Standardization**	536	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	7/08/2011 - 5:30 P.M.	**Oven Stop Time (Date Time)**	7/09/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	R.FISHER	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers
Test No	871				
Retest of Test ID					
Material Source	Borrow Pit				
Feature	Levee Embankment				
Visual Description	G. BR. CL.				
Station	178+87				
Offset	FS-98				
Lift No	4				
Latitude (°N)	29.870749				
Longitude (°W)	90.118667				
Elevation (ft)	4.8				
Transmission Mode	DT-150				
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-01				
Wet Soil + Tare Mass (g)	394.90				
Dry Soil + Tare Mass (g)	340.48				
Tare Mass (g)	171.87				
Moisture Content (%)	**32.3**				
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	112.0				
Dry Unit Weight (lbs/ft³)	84.7				
Proctor No	3815				
Optimum Moisture (Proctor) (%)	29.6				
Max Dry Unit Weight (Proctor) (lbs/ft³)	88.9				
Degree of Compaction (%)	**95.3**				
Difference from Optimum Moisture (+/-%)	**2.7**				
Test Status					
Min Compaction (%)	90.0				
Max Above Optimum Moisture (%)	5.0				
Max Below Optimum Moisture (%)	3.0				
Test Result	**Pass**				
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5078A
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	1
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	7/9/2011
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2213	**Moisture Standardization**	538	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	7/9/2011 - 5:30 P.M.	**Oven Stop Time (Date Time)**	7/10/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	R. Fisher	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers
Test No	872	873	874	875	876
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G. BR. CL.	G. BR. CL	G. BR. CL	G.BR.CL	G. BR. CL
Station	121+84	124+11	128+09	133+12	137+83
Offset	CL	CL	CL	CL	CL
Lift No	10	10	10	10	10
Latitude (°N)	29.872326	29.872271	29.872182	29.872068	29.871958
Longitude (°W)	90.136519	90.135806	90.134554	90.132976	90.131493
Elevation (ft)	13.8	13.8	13.8	13.8	13.8
Transmission Mode	DT 150	DT 150	DT 150	DT 150	DT 150
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-46	DT-02	DT-01	DT-14	DT-21
Wet Soil + Tare Mass (g)	394.42	397.56	394.33	397.11	395.04
Dry Soil + Tare Mass (g)	340.41	345.43	345.66	366.40	357.34
Tare Mass (g)	177.89	178.91	171.87	245.09	211.64
Moisture Content (%)	**33.2**	**31.3**	**28.0**	**25.3**	**25.9**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	110.7	112.0	109.8	111.5	110.9
Dry Unit Weight (lbs/ft³)	83.1	85.3	85.8	89.0	88.1
Proctor No	4502	4502	4502	4502	4502
Optimum Moisture (Proctor) (%)	28.2	28.2	28.2	28.2	28.2
Max Dry Unit Weight (Proctor) (lbs/ft³)	91.6	91.6	91.6	91.6	91.6
Degree of Compaction (%)	**90.7**	**93.1**	**93.7**	**97.2**	**96.2**
Difference from Optimum Moisture (+/-%)	**5.0**	**3.1**	**-0.2**	**-2.9**	**-2.3**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5078A
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	7/9/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2213	**Moisture Standardization**	538	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	7/09/2011 - 5:30 P.M.	**Oven Stop Time (Date Time)**	7/10/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	R.FISHER	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers
Test No	872	873	874	875	876
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.
Station	121+84	124+11	128+09	133+12	137+83
Offset	CL	CL	CL	CL	CL
Lift No	10	10	10	10	10
Latitude (°N)	29.872326	29.872271	29.872182	29.872068	29.871958
Longitude (°W)	90.136519	90.135806	90.134554	90.132976	90.131493
Elevation (ft)	13.8	13.8	13.8	13.8	13.8
Transmission Mode	DT-150	DT 150	DT 150	DT 150	DT 150
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-46	DT-02	DT-01	DT-14	DT-21
Wet Soil + Tare Mass (g)	394.42	397.56	394.33	397.11	395.04
Dry Soil + Tare Mass (g)	340.41	345.43	345.66	366.40	357.34
Tare Mass (g)	177.89	178.91	171.87	245.09	211.64
Moisture Content (%)	**33.2**	**31.3**	**28.0**	**25.3**	**25.9**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	110.7	112.0	109.8	111.5	110.9
Dry Unit Weight (lbs/ft³)	83.1	85.3	85.8	89.0	88.1
Proctor No	4502	4502	4502	4502	4502
Optimum Moisture (Proctor) (%)	28.2	28.2	28.2	28.2	28.2
Max Dry Unit Weight (Proctor) (lbs/ft³)	91.6	91.6	91.6	91.6	91.6
Degree of Compaction (%)	**90.7**	**93.1**	**93.7**	**97.2**	**96.2**
Difference from Optimum Moisture (+/-%)	**5.0**	**3.1**	**-0.2**	**-2.9**	**-2.3**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5078B
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	1
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	7/9/2011
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2213	**Moisture Standardization**	538	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	7/9/2011 - 5:30 P.M.	**Oven Stop Time (Date Time)**	7/10/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	R. Fisher	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	877	878	879	880	
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	
Visual Description	G. BR. CL.	G. BR. CL	G. BR. CL	G.BR.CL	
Station	143+77	148+16	152+74	157+89	
Offset	CL	CL	CL	CL	
Lift No	10	10	10	10	
Latitude (°N)	29.871819	29.871720	29.871631	29.871517	
Longitude (°W)	90.129626	90.128246	90.126802	90.125185	
Elevation (ft)	13.2	13.2	13.2	13.2	
Transmission Mode	DT 150	DT 150	DT 150	DT 150	
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-45	DT-42	DT-24	DT-25	
Wet Soil + Tare Mass (g)	393.03	393.26	396.30	394.54	
Dry Soil + Tare Mass (g)	337.67	340.60	348.76	355.23	
Tare Mass (g)	177.23	178.20	206.47	205.68	
Moisture Content (%)	**34.5**	**32.4**	**33.4**	**26.3**	
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	111.8	111.6	112.4	108.3	
Dry Unit Weight (lbs/ft³)	83.1	84.3	84.3	85.7	
Proctor No	3815	3815	3815	4502	
Optimum Moisture (Proctor) (%)	29.6	29.6	29.6	28.2	
Max Dry Unit Weight (Proctor) (lbs/ft³)	88.9	88.9	88.9	91.6	
Degree of Compaction (%)	**93.5**	**94.8**	**94.8**	**93.6**	
Difference from Optimum Moisture (+/-%)	**4.9**	**2.8**	**3.8**	**-1.9**	
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5078B
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	7/9/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2213	**Moisture Standardization**	538	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	7/09/2011 - 5:30 P.M.	**Oven Stop Time (Date Time)**	7/10/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	R.FISHER	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers
Test No	877	878	879	880	
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.	
Station	143+77	148+16	152+74	157+89	
Offset	CL	CL	CL	CL	
Lift No	10	10	10	10	
Latitude (°N)	29.871819	29.871720	29.871631	29.871517	
Longitude (°W)	90.129626	90.128246	90.126802	90.125185	
Elevation (ft)	13.2	13.2	13.2	13.2	
Transmission Mode	DT-150	DT 150	DT 150	DT 150	
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-45	DT-42	DT-24	DT-25	
Wet Soil + Tare Mass (g)	393.03	393.26	396.30	394.54	
Dry Soil + Tare Mass (g)	337.67	340.60	348.76	355.23	
Tare Mass (g)	177.23	178.20	206.47	205.68	
Moisture Content (%)	**34.5**	**32.4**	**33.4**	**26.3**	
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	111.8	111.6	112.4	108.3	
Dry Unit Weight (lbs/ft³)	83.1	84.3	84.3	85.7	
Proctor No	3815	3815	3815	4502	
Optimum Moisture (Proctor) (%)	29.6	29.6	29.6	28.2	
Max Dry Unit Weight (Proctor) (lbs/ft³)	88.9	88.9	88.9	91.6	
Degree of Compaction (%)	**93.5**	**94.8**	**94.8**	**93.6**	
Difference from Optimum Moisture (+/-%)	**4.9**	**2.8**	**3.8**	**-1.9**	
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5112
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	1
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	7/12/2011
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2228	**Moisture Standardization**	539	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	7/12/2011 - 5:30 P.M.	**Oven Stop Time (Date Time)**	7/13/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	R. Fisher	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	881	882	883	884	885
Retest of Test ID	5077+867				
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G. BR. CL.	G. BR. CL	G. BR. CL	G.BR.CL	G. BR. CL
Station	110+66	122+33	127+74	132+76	125+29
Offset	PS-6	PS-121	PS-134	PS-150	PS-126
Lift No	1	5	5	5	6
Latitude (°N)	29.874237	29.872481	29.872558	29.872484	29.872592
Longitude (°W)	90.138257	90.136334	90.134630	90.133045	90.135402
Elevation (ft)	10.0	5.7	5.2	4.3	5.3
Transmission Mode	DT 300	DT 150	DT 150	DT 150	DT 150
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-04	DT-08	DT-47	DT-31	DT-50
Wet Soil + Tare Mass (g)	394.05	399.84	395.75	394.06	395.47
Dry Soil + Tare Mass (g)	361.02	356.30	351.91	357.55	351.80
Tare Mass (g)	233.46	187.47	178.17	210.98	180.74
Moisture Content (%)	**25.9**	**25.8**	**25.2**	**24.9**	**25.5**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	111.1	115.8	117.0	115.6	111.1
Dry Unit Weight (lbs/ft³)	88.2	92.1	93.5	92.6	88.5
Proctor No	4502	4502	3649	3649	4502
Optimum Moisture (Proctor) (%)	28.2	28.2	24.1	24.1	28.2
Max Dry Unit Weight (Proctor) (lbs/ft³)	91.6	91.6	94.8	94.8	91.6
Degree of Compaction (%)	**96.3**	**100.5**	**98.6**	**97.7**	**96.6**
Difference from Optimum Moisture (+/-%)	**-2.3**	**-2.4**	**1.1**	**0.8**	**-2.7**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5112
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	7/12/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2228	**Moisture Standardization**	539	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	7/12/2011 - 5:30 P.M.	**Oven Stop Time (Date Time)**	7/13/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	R.FISHER	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	881	882	883	884	885
Retest of Test ID	5077+867				
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.
Station	110+66	122+33	127+74	132+76	125+29
Offset	PS-6	PS-121	PS-134	PS-150	PS-126
Lift No	1	5	5	5	6
Latitude (°N)	29.874237	29.872481	29.872558	29.872484	29.872592
Longitude (°W)	90.138257	90.136334	90.134630	90.133045	90.135402
Elevation (ft)	10.0	5.7	5.2	4.3	5.3
Transmission Mode	DT-300	DT 150	DT 150	DT 150	DT 150
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-04	DT-08	DT-47	DT-31	DT-50
Wet Soil + Tare Mass (g)	394.05	399.84	395.75	394.06	395.47
Dry Soil + Tare Mass (g)	361.02	356.30	351.91	357.55	351.80
Tare Mass (g)	233.46	187.47	178.17	210.98	180.74
Moisture Content (%)	**25.9**	**25.8**	**25.2**	**24.9**	**25.5**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	111.1	115.8	117.0	115.6	111.1
Dry Unit Weight (lbs/ft³)	88.2	92.1	93.5	92.6	88.5
Proctor No	4502	4502	3649	3649	4502
Optimum Moisture (Proctor) (%)	28.2	28.2	24.1	24.1	28.2
Max Dry Unit Weight (Proctor) (lbs/ft³)	91.6	91.6	94.8	94.8	91.6
Degree of Compaction (%)	**96.3**	**100.5**	**98.6**	**97.7**	**96.6**
Difference from Optimum Moisture (+/-%)	**-2.3**	**-2.4**	**1.1**	**0.8**	**-2.7**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5126
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	1
Project	WBV-14c.2Phase 2, First Lift			**Sample Date**	7/13/2011
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2217	**Moisture Standardization**	595	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	7/13/2011 - 5:30 PM	**Oven Stop Time (Date Time)**	7/14/2011 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	R. Fisher	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers
Test No	886	887			
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit			
Feature	Levee Embankment	Levee Embankment			
Visual Description	G. BR. CL	G. BR. CL			
Station	112+24	112+24			
Offset	FS-26	FS-29			
Lift No	1	2			
Latitude (°N)	29.873829	29.873859			
Longitude (°W)	90.138443	90.138443			
Elevation (ft)	0.0	1.0			
Transmission Mode	DT 300	DT 300			
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-04	DT-08			
Wet Soil + Tare Mass (g)	395.18	396.00			
Dry Soil + Tare Mass (g)	358.00	345.14			
Tare Mass (g)	233.47	187.46			
Moisture Content (%)	**29.9**	**32.3**			
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	102.7	107.1			
Dry Unit Weight (lbs/ft³)	79.1	81.0			
Proctor No	3555	3555			
Optimum Moisture (Proctor) (%)	30.0	30.0			
Max Dry Unit Weight (Proctor) (lbs/ft³)	86.6	86.6			
Degree of Compaction (%)	**91.3**	**93.5**			
Difference from Optimum Moisture (+/-%)	**-0.1**	**2.3**			
Test Status					
Min Compaction (%)	90.0	90.0			
Max Above Optimum Moisture (%)	5.0	5.0			
Max Below Optimum Moisture (%)	3.0	3.0			
Test Result	**Pass**	**Pass**			
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5126
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	7/13/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2217	**Moisture Standardization**	595	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	7/13/2011 - 5:30 P.M.	**Oven Stop Time (Date Time)**	7/14/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	R.FISHER	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers
Test No	886	887			
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit			
Feature	Levee Embankment	Levee Embankment			
Visual Description	G. BR. CL.	G. BR. CL.			
Station	112+24	112+14			
Offset	FS-26	FS-29			
Lift No	1	2			
Latitude (°N)	29.873829	29.873859			
Longitude (°W)	90.138443	90.138443			
Elevation (ft)	0.0	1.0			
Transmission Mode	DT-300	DT 300			
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-04	DT-08			
Wet Soil + Tare Mass (g)	395.18	396.00			
Dry Soil + Tare Mass (g)	358.00	345.14			
Tare Mass (g)	233.47	187.46			
Moisture Content (%)	**29.9**	**32.3**			
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	102.7	107.1			
Dry Unit Weight (lbs/ft³)	79.1	81.0			
Proctor No	3555	3555			
Optimum Moisture (Proctor) (%)	30.0	30.0			
Max Dry Unit Weight (Proctor) (lbs/ft³)	86.6	86.6			
Degree of Compaction (%)	**91.3**	**93.5**			
Difference from Optimum Moisture (+/-%)	**-0.1**	**2.3**			
Test Status					
Min Compaction (%)	90.0	90.0			
Max Above Optimum Moisture (%)	5.0	5.0			
Max Below Optimum Moisture (%)	3.0	3.0			
Test Result	**Pass**	**Pass**			
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5138
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	1
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	7/14/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2235	**Moisture Standardization**	589	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	7/14/2011 - 5:30 P.M.	**Oven Stop Time (Date Time)**	7/15/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	R.FISHER	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers
Test No	888				
Retest of Test ID					
Material Source	Borrow Pit				
Feature	Levee Embankment				
Visual Description	G. BR. CL.				
Station	112+66				
Offset	FS-22				
Lift No	3				
Latitude (°N)	29.873714				
Longitude (°W)	90.138462				
Elevation (ft)	1.8				
Transmission Mode	DT-300				
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-25				
Wet Soil + Tare Mass (g)	396.47				
Dry Soil + Tare Mass (g)	351.94				
Tare Mass (g)	205.68				
Moisture Content (%)	**30.4**				
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	110.7				
Dry Unit Weight (lbs/ft³)	84.9				
Proctor No	3804				
Optimum Moisture (Proctor) (%)	31.1				
Max Dry Unit Weight (Proctor) (lbs/ft³)	85.5				
Degree of Compaction (%)	**99.3**				
Difference from Optimum Moisture (+/-%)	**-0.7**				
Test Status					
Min Compaction (%)	90.0				
Max Above Optimum Moisture (%)	5.0				
Max Below Optimum Moisture (%)	3.0				
Test Result	**Pass**				
Remarks	had wrong proctor number I put 3408 it should be 3804				
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5138
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	7/14/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2235	**Moisture Standardization**	589	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	7/14/2011 - 5:30 P.M.	**Oven Stop Time (Date Time)**	7/15/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	R.FISHER	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers
Test No	888				
Retest of Test ID					
Material Source	Borrow Pit				
Feature	Levee Embankment				
Visual Description	G. BR. CL.				
Station	112+66				
Offset	FS-22				
Lift No	3				
Latitude (°N)	29.873714				
Longitude (°W)	90.138462				
Elevation (ft)	1.8				
Transmission Mode	DT-300				
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-25				
Wet Soil + Tare Mass (g)	396.47				
Dry Soil + Tare Mass (g)	351.94				
Tare Mass (g)	205.68				
Moisture Content (%)	**30.4**				
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	110.7				
Dry Unit Weight (lbs/ft³)	84.9				
Proctor No	3408				
Optimum Moisture (Proctor) (%)	31.1				
Max Dry Unit Weight (Proctor) (lbs/ft³)	85.5				
Degree of Compaction (%)	**99.3**				
Difference from Optimum Moisture (+/-%)	**-0.7**				
Test Status					
Min Compaction (%)	90.0				
Max Above Optimum Moisture (%)	5.0				
Max Below Optimum Moisture (%)	3.0				
Test Result	**Pass**				
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5444
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	1
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	8/12/2011
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2200	**Moisture Standardization**	589	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	8/12/2011 - 5:30 P.M.	**Oven Stop Time (Date Time)**	8/13/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	R. Fisher	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	889	890	891	892	893
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G. BR. CL.	G. BR. CL	G. BR. CL	G.BR.CL	G. BR. CL.
Station	141+12	145+63	148+80	156+39	158+49
Offset	PS-147	PS-60	PS-152	PS-137	PS-130
Lift No	5	5	5	5	5
Latitude (°N)	29.872281	29.871944	29.872129	29.871926	29.871864
Longitude (°W)	90.130418	90.129024	90.128005	90.125623	90.124961
Elevation (ft)	4.3	6.9	4.0	4.7	5.1
Transmission Mode	DT 150	DT 150	DT 150	DT 150	DT 150
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-04	DT-31	DT-50	DT-47	DT-24
Wet Soil + Tare Mass (g)	399.40	395.06	396.66	400.88	393.89
Dry Soil + Tare Mass (g)	361.79	353.39	350.62	352.00	357.40
Tare Mass (g)	233.40	210.93	180.68	178.13	206.43
Moisture Content (%)	**29.3**	**29.3**	**27.1**	**28.1**	**24.2**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	112.8	111.0	115.5	108.7	108.7
Dry Unit Weight (lbs/ft³)	87.2	85.8	90.9	84.9	87.5
Proctor No	4502	4502	4502	4502	3649
Optimum Moisture (Proctor) (%)	28.2	28.2	28.2	28.2	24.1
Max Dry Unit Weight (Proctor) (lbs/ft³)	91.6	91.6	91.6	91.6	94.8
Degree of Compaction (%)	**95.2**	**93.7**	**99.2**	**92.7**	**92.3**
Difference from Optimum Moisture (+/-%)	**1.1**	**1.1**	**-1.1**	**-0.1**	**0.1**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5444
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	8/12/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2200	**Moisture Standardization**	589	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	8/12/2011 - 5:30 P.M.	**Oven Stop Time (Date Time)**	8/13/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	R.FISHER	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	889	890	891	892	893
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.
Station	141+12	145+63	148+80	156+39	158+49
Offset	PS-147	PS-60	PS-152	PS-137	PS-130
Lift No	5	5	5	5	5
Latitude (°N)	29.872281	29.871944	29.872129	29.871926	29.871864
Longitude (°W)	90.130418	90.129024	90.128005	90.125623	90.124961
Elevation (ft)	4.3	6.9	4.0	4.7	5.1
Transmission Mode	DT-150	DT 150	DT 150	DT 150	DT 150
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-04	DT-31	DT-50	DT-47	DT-24
Wet Soil + Tare Mass (g)	399.40	395.06	396.66	400.88	393.89
Dry Soil + Tare Mass (g)	361.79	353.39	350.62	352.00	357.40
Tare Mass (g)	233.40	210.93	180.68	178.13	206.43
Moisture Content (%)	**29.3**	**29.3**	**27.1**	**28.1**	**24.2**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	112.8	111.0	115.5	108.7	108.7
Dry Unit Weight (lbs/ft³)	87.2	85.8	90.9	84.9	87.5
Proctor No	4502	4502	4502	4502	3649
Optimum Moisture (Proctor) (%)	28.2	28.2	28.2	28.2	24.1
Max Dry Unit Weight (Proctor) (lbs/ft³)	91.6	91.6	91.6	91.6	94.8
Degree of Compaction (%)	**95.2**	**93.7**	**99.2**	**92.7**	**92.3**
Difference from Optimum Moisture (+/-%)	**1.1**	**1.1**	**-1.1**	**-0.1**	**0.1**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5502A
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	1
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	8/19/2011
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2213	**Moisture Standardization**	596	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	8/19/2011 - 6:00 P.M.	**Oven Stop Time (Date Time)**	8/20/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	R. Fisher	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers
Test No	899	900	901	902	903
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G. BR. CL.	G. BR. CL	G. BR. CL	G.BR.CL	G. BR. CL
Station	2+51	7+25	31+95	31+91	36+87
Offset	PS-154	PS-116	CL	CL	CL
Lift No	3	3	8	8	8
Latitude (°N)	29.889591	29.889227	29.887552	29.887554	29.887261
Longitude (°W)	90.154930	90.153489	90.145925	90.145939	90.144408
Elevation (ft)	0.8	1.9	11.4	11.4	11.7
Transmission Mode	DT 150	DT 300	DT 300	DT 300	DT 300
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-25	DT-24	DT-47	DT-21	DT-45
Wet Soil + Tare Mass (g)	397.27	397.37	396.96	397.70	398.60
Dry Soil + Tare Mass (g)	351.90	352.25	344.60	357.23	348.08
Tare Mass (g)	205.59	206.36	178.07	211.51	177.76
Moisture Content (%)	**31.0**	**30.9**	**31.4**	**27.8**	**29.7**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	118.1	114.6	103.4	107.3	113.5
Dry Unit Weight (lbs/ft³)	90.2	87.5	78.7	84.0	87.5
Proctor No	4502	4502	3555	2762	3550
Optimum Moisture (Proctor) (%)	28.2	28.2	30.0	26.6	26.0
Max Dry Unit Weight (Proctor) (lbs/ft³)	91.6	91.6	86.6	92.1	92.3
Degree of Compaction (%)	**98.5**	**95.5**	**90.9**	**91.2**	**94.8**
Difference from Optimum Moisture (+/-%)	**2.8**	**2.7**	**1.4**	**1.2**	**3.7**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5502A
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	8/19/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2213	**Moisture Standardization**	596	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	8/19/2011 - 6:00 P.M.	**Oven Stop Time (Date Time)**	8/20/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	T.DUVAIL	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	899	900	901	902	903
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.
Station	2+51	7+25	31+95	31+91	36+87
Offset	PS-154	PS-116	CL	CL	CL
Lift No	3	3	8	8	8
Latitude (°N)	29.889591	29.889227	29.887552	29.887554	29.887261
Longitude (°W)	90.154930	90.153489	90.145925	90.145939	90.144408
Elevation (ft)	0.8	1.9	11.4	11.4	11.7
Transmission Mode	DT 150	DT 300	DT 300	DT 300	DT 300
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-25	DT-24	DT-47	DT-21	DT-45
Wet Soil + Tare Mass (g)	397.27	397.37	396.96	397.70	398.60
Dry Soil + Tare Mass (g)	351.90	352.25	344.60	357.23	348.08
Tare Mass (g)	205.59	206.36	178.07	211.51	177.76
Moisture Content (%)	**31.0**	**30.9**	**31.4**	**27.8**	**29.7**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	118.1	114.6	103.4	107.3	113.5
Dry Unit Weight (lbs/ft³)	90.2	87.5	78.7	84.0	87.5
Proctor No	4502	4502	3555	2762	3550
Optimum Moisture (Proctor) (%)	28.2	28.2	30.0	26.6	26.0
Max Dry Unit Weight (Proctor) (lbs/ft³)	91.6	91.6	86.6	92.1	92.3
Degree of Compaction (%)	**98.5**	**95.5**	**90.9**	**91.2**	**94.8**
Difference from Optimum Moisture (+/-%)	**2.8**	**2.7**	**1.4**	**1.2**	**3.7**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5502B
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	1
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	8/19/2011
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2213	**Moisture Standardization**	596	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	8/19/2011 - 5:30 P.M.	**Oven Stop Time (Date Time)**	8/20/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	R. Fisher	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	904	905	906	907	908
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G. BR. CL.	G. BR. CL	G. BR. CL	G.BR.CL	G. BR. CL
Station	41+89	46+85	51+70	11+89	16+90
Offset	CL	CL	CL	CL	PS-11
Lift No	8	8	8	8	8
Latitude (°N)	29.886992	29.886715	29.886435	29.888663	29.888410
Longitude (°W)	90.142856	90.141321	90.139828	90.152127	90.150572
Elevation (ft)	11.5	11.6	11.6	11.4	11.4
Transmission Mode	DT 300	DT 300	DT 300	DT 300	DT 300
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-42	DT-14	DT-01	DT-02	DT-46
Wet Soil + Tare Mass (g)	397.35	400.45	394.21	396.42	396.99
Dry Soil + Tare Mass (g)	350.19	368.83	342.35	341.71	341.73
Tare Mass (g)	178.11	244.97	171.80	178.83	177.81
Moisture Content (%)	**27.4**	**25.5**	**30.4**	**33.6**	**33.7**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	108.8	106.4	109.5	105.3	108.9
Dry Unit Weight (lbs/ft³)	85.4	84.8	84.0	78.8	81.5
Proctor No	2762	2762	2762	3555	3555
Optimum Moisture (Proctor) (%)	26.6	26.6	26.6	30.0	30.0
Max Dry Unit Weight (Proctor) (lbs/ft³)	92.1	92.1	92.1	86.6	86.6
Degree of Compaction (%)	**92.7**	**92.1**	**91.2**	**91.0**	**94.1**
Difference from Optimum Moisture (+/-%)	**0.8**	**-1.1**	**3.8**	**3.6**	**3.7**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks	ID 727 12"WD 114.6				
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5502B
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	8/19/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2213	**Moisture Standardization**	596	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	8/19/2011 - 5:30 P.M.	**Oven Stop Time (Date Time)**	8/20/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	T.DUVAIL	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	904	905	906	907	908
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.
Station	41+89	46+85	51+70	11+89	16+90
Offset	CL	CL	CL	CL	PS-11
Lift No	8	8	8	8	8
Latitude (°N)	29.886992	29.886715	29.886435	29.888663	29.888410
Longitude (°W)	90.142856	90.141321	90.139828	90.152127	90.150572
Elevation (ft)	11.5	11.6	11.6	11.4	11.4
Transmission Mode	DT 300	DT 300	DT 300	DT 300	DT 300
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-42	DT-14	DT-01	DT-02	DT-46
Wet Soil + Tare Mass (g)	397.35	400.45	394.21	396.42	396.99
Dry Soil + Tare Mass (g)	350.19	368.83	342.35	341.71	341.73
Tare Mass (g)	178.11	244.97	171.80	178.83	177.81
Moisture Content (%)	**27.4**	**25.5**	**30.4**	**33.6**	**33.7**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	108.8	106.4	109.5	105.3	108.9
Dry Unit Weight (lbs/ft³)	85.4	84.8	84.0	78.8	81.5
Proctor No	2762	2762	2762	3555	3555
Optimum Moisture (Proctor) (%)	26.6	26.6	26.6	30.0	30.0
Max Dry Unit Weight (Proctor) (lbs/ft³)	92.1	92.1	92.1	86.6	86.6
Degree of Compaction (%)	**92.7**	**92.1**	**91.2**	**91.0**	**94.1**
Difference from Optimum Moisture (+/-%)	**0.8**	**-1.1**	**3.8**	**3.6**	**3.7**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks	ID 727 12" WD 114.6				
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5513A
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	1
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	8/22/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2201	**Moisture Standardization**	591	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	8/22/2011 - 6:00 P.M.	**Oven Stop Time (Date Time)**	8/23/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	T.DUVAIL	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	909	910	911	912	913
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.
Station	11+95	16+90	2+00	6+96	21+83
Offset	PS-11	PS-117	FS-9	PS-12	PS-116
Lift No	3	3	8	8	3
Latitude (°N)	29.888970	29.888694	29.889181	29.888963	29.888418
Longitude (°W)	90.152034	90.150505	90.155190	90.153644	90.148980
Elevation (ft)	2.1	2.6	11.2	11.3	2.8
Transmission Mode	DT 150	DT 300	DT 300	DT 300	DT 300
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-46	DT-02	DT-01	DT-14	DT-42
Wet Soil + Tare Mass (g)	398.99	396.18	395.02	396.84	398.99
Dry Soil + Tare Mass (g)	350.59	348.04	352.90	366.79	349.28
Tare Mass (g)	177.82	178.82	178.81	244.95	178.10
Moisture Content (%)	**28.0**	**28.4**	**24.2**	**24.7**	**29.0**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	114.7	114.4	104.3	105.0	114.0
Dry Unit Weight (lbs/ft³)	89.6	89.1	84.0	84.2	88.4
Proctor No	4502	4502	3550	3550	4502
Optimum Moisture (Proctor) (%)	28.2	28.2	26.0	26.0	28.2
Max Dry Unit Weight (Proctor) (lbs/ft³)	91.6	91.6	92.3	92.3	91.6
Degree of Compaction (%)	**97.8**	**97.3**	**91.0**	**91.2**	**96.5**
Difference from Optimum Moisture (+/-%)	**-0.2**	**0.2**	**-1.8**	**-1.3**	**0.8**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5513A
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	2
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	8/22/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2201	**Moisture Standardization**	591	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	8/22/2011 - 6:00 P.M.	**Oven Stop Time (Date Time)**	8/23/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	T.DUVAIL	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	909	910	911	912	913
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.
Station	11+95	16+90	2+00	6+96	21+83
Offset	PS-118	PS-117	FS-9	PS-12	PS-116
Lift No	3	3	8	8	3
Latitude (°N)	29.888970	29.888694	29.889181	29.888963	29.888418
Longitude (°W)	90.152034	90.150505	90.155190	90.153644	90.148980
Elevation (ft)	2.1	2.6	11.2	11.3	2.8
Transmission Mode	DT 150	DT 300	DT 300	DT 300	DT 300
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-46	DT-02	DT-01	DT-14	DT-42
Wet Soil + Tare Mass (g)	398.99	396.18	395.02	396.84	398.99
Dry Soil + Tare Mass (g)	350.59	348.04	352.90	366.79	349.28
Tare Mass (g)	177.82	178.82	178.81	244.95	178.10
Moisture Content (%)	**28.0**	**28.4**	**24.2**	**24.7**	**29.0**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	114.7	114.4	104.3	105.0	114.0
Dry Unit Weight (lbs/ft³)	89.6	89.1	84.0	84.2	88.4
Proctor No	4502	4502	3550	3550	4502
Optimum Moisture (Proctor) (%)	28.2	28.2	26.0	26.0	28.2
Max Dry Unit Weight (Proctor) (lbs/ft³)	91.6	91.6	92.3	92.3	91.6
Degree of Compaction (%)	**97.8**	**97.3**	**91.0**	**91.2**	**96.5**
Difference from Optimum Moisture (+/-%)	**-0.2**	**0.2**	**-1.8**	**-1.3**	**0.8**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5513A
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	3
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	8/22/2011
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2201	**Moisture Standardization**	591	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	8/22/2011 - 6:00 P.M.	**Oven Stop Time (Date Time)**	8/23/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	R. Fisher	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	909	910	911	912	913
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G. BR. CL.	G. BR. CL	G. BR. CL	G.BR.CL	G. BR. CL
Station	11+95	16+90	2+00	6+96	21+83
Offset	PS-118	PS-117	FS-9	PS-12	PS-116
Lift No	3	3	8	8	3
Latitude (°N)	29.888970	29.888694	29.889181	29.888963	29.888418
Longitude (°W)	90.152034	90.150505	90.155190	90.153644	90.148980
Elevation (ft)	2.1	2.6	11.2	11.3	2.8
Transmission Mode	DT 150	DT 300	DT 300	DT 300	DT 300
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-46	DT-02	DT-01	DT-14	DT-42
Wet Soil + Tare Mass (g)	398.99	396.18	395.02	396.84	398.99
Dry Soil + Tare Mass (g)	350.59	348.04	352.90	366.79	349.28
Tare Mass (g)	177.82	178.82	178.81	244.95	178.10
Moisture Content (%)	**28.0**	**28.4**	**24.2**	**24.7**	**29.0**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	114.7	114.4	104.3	105.0	114.0
Dry Unit Weight (lbs/ft³)	89.6	89.1	84.0	84.2	88.4
Proctor No	4502	4502	3550	3550	4502
Optimum Moisture (Proctor) (%)	28.2	28.2	26.0	26.0	28.2
Max Dry Unit Weight (Proctor) (lbs/ft³)	91.6	91.6	92.3	92.3	91.6
Degree of Compaction (%)	**97.8**	**97.3**	**91.0**	**91.2**	**96.5**
Difference from Optimum Moisture (+/-%)	**-0.2**	**0.2**	**-1.8**	**-1.3**	**0.8**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5513A
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	8/22/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2201	**Moisture Standardization**	591	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	8/22/2011 - 6:00 P.M.	**Oven Stop Time (Date Time)**	8/23/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	T.DUVAIL	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	909	910	911	912	913
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.
Station	11+95	16+90	2+00	6+96	21+83
Offset	PS-11	PS-117	FS-9	PS-12	PS-116
Lift No	3	3	8	8	3
Latitude (°N)	29.888970	29.888694	29.889181	29.888963	29.888418
Longitude (°W)	90.152034	90.150505	90.155190	90.153644	90.148980
Elevation (ft)	2.1	2.6	11.2	11.3	2.8
Transmission Mode	DT 150	DT 300	DT 300	DT 300	DT 300
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-46	DT-02	DT-01	DT-14	DT-42
Wet Soil + Tare Mass (g)	398.99	396.18	395.02	396.84	398.99
Dry Soil + Tare Mass (g)	350.59	348.04	352.90	366.79	349.28
Tare Mass (g)	177.82	178.82	178.81	244.95	178.10
Moisture Content (%)	**28.0**	**28.4**	**24.2**	**24.7**	**29.0**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	114.7	114.4	104.3	105.0	114.0
Dry Unit Weight (lbs/ft³)	89.6	89.1	84.0	84.2	88.4
Proctor No	3550	3550	3550	3550	3550
Optimum Moisture (Proctor) (%)	26.0	26.0	26.0	26.0	26.0
Max Dry Unit Weight (Proctor) (lbs/ft³)	92.3	92.3	92.3	92.3	92.3
Degree of Compaction (%)	**97.1**	**96.5**	**91.0**	**91.2**	**95.8**
Difference from Optimum Moisture (+/-%)	**2.0**	**2.4**	**-1.8**	**-1.3**	**3.0**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5513B
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	1
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	8/22/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2201	**Moisture Standardization**	591	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	8/22/2011 - 5:30 P.M.	**Oven Stop Time (Date Time)**	8/23/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	T.DUVAIL	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers
Test No	914				
Retest of Test ID					
Material Source	Borrow Pit				
Feature	Levee Embankment				
Visual Description	G. BR. CL.				
Station	26+81				
Offset	PS-134				
Lift No	3				
Latitude (°N)	29.888189				
Longitude (°W)	90.147430				
Elevation (ft)	2.4				
Transmission Mode	DT 300				
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-45				
Wet Soil + Tare Mass (g)	395.80				
Dry Soil + Tare Mass (g)	345.86				
Tare Mass (g)	177.16				
Moisture Content (%)	**29.6**				
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	114.4				
Dry Unit Weight (lbs/ft³)	88.3				
Proctor No	4502				
Optimum Moisture (Proctor) (%)	28.2				
Max Dry Unit Weight (Proctor) (lbs/ft³)	91.6				
Degree of Compaction (%)	**96.4**				
Difference from Optimum Moisture (+/-%)	**1.4**				
Test Status					
Min Compaction (%)	90.0				
Max Above Optimum Moisture (%)	5.0				
Max Below Optimum Moisture (%)	3.0				
Test Result	**Pass**				
Remarks	ID 727 12" WD 114.6				
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5513B
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	2
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	8/22/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2201	**Moisture Standardization**	591	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	8/22/2011 - 5:30 P.M.	**Oven Stop Time (Date Time)**	8/23/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	T.DUVAIL	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers
Test No	914				
Retest of Test ID					
Material Source	Borrow Pit				
Feature	Levee Embankment				
Visual Description	G. BR. CL.				
Station	26+81				
Offset	PS-134				
Lift No	3				
Latitude (°N)	29.888189				
Longitude (°W)	90.147430				
Elevation (ft)	2.4				
Transmission Mode	DT 300				
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-45				
Wet Soil + Tare Mass (g)	395.80				
Dry Soil + Tare Mass (g)	345.86				
Tare Mass (g)	177.16				
Moisture Content (%)	**29.6**				
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	114.4				
Dry Unit Weight (lbs/ft³)	88.3				
Proctor No	4502				
Optimum Moisture (Proctor) (%)	28.2				
Max Dry Unit Weight (Proctor) (lbs/ft³)	91.6				
Degree of Compaction (%)	**96.4**				
Difference from Optimum Moisture (+/-%)	**1.4**				
Test Status					
Min Compaction (%)	90.0				
Max Above Optimum Moisture (%)	5.0				
Max Below Optimum Moisture (%)	3.0				
Test Result	**Pass**				
Remarks	ID 727 12" WD 114.6				
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5513B
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	8/22/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2201	**Moisture Standardization**	591	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	8/22/2011 - 5:30 P.M.	**Oven Stop Time (Date Time)**	8/23/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	T.DUVAIL	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers
Test No	914				
Retest of Test ID					
Material Source	Borrow Pit				
Feature	Levee Embankment				
Visual Description	G. BR. CL.				
Station	26+81				
Offset	PS-134				
Lift No	3				
Latitude (°N)	29.888189				
Longitude (°W)	90.147430				
Elevation (ft)	2.4				
Transmission Mode	DT 300				
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-45				
Wet Soil + Tare Mass (g)	395.80				
Dry Soil + Tare Mass (g)	345.86				
Tare Mass (g)	177.16				
Moisture Content (%)	**29.6**				
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	114.4				
Dry Unit Weight (lbs/ft³)	88.3				
Proctor No	3550				
Optimum Moisture (Proctor) (%)	26.0				
Max Dry Unit Weight (Proctor) (lbs/ft³)	92.3				
Degree of Compaction (%)	**95.7**				
Difference from Optimum Moisture (+/-%)	**3.6**				
Test Status					
Min Compaction (%)	90.0				
Max Above Optimum Moisture (%)	5.0				
Max Below Optimum Moisture (%)	3.0				
Test Result	**Pass**				
Remarks	ID 727 12" WD 114.6				
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5526A
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	8/23/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2251	**Moisture Standardization**	597	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	8/23/2011 - 6:00 P.M.	**Oven Stop Time (Date Time)**	8/24/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	T.DUVAIL	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	915	916	917	918	919
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.
Station	163+51	168+42	31+82	37+00	173+35
Offset	PS-112	PS-127	PS-115	PS-137	PS-127
Lift No	5	5	3	3	5
Latitude (°N)	29.871708	29.871645	29.887858	29.887629	29.871541
Longitude (°W)	90.123387	90.121839	90.145894	90.144279	90.120287
Elevation (ft)	5.7	5.5	3.0	2.5	5.6
Transmission Mode	DT 150	DT 150	DT 300	DT 300	DT 150
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-45	DT-50	DT-21	DT-47	DT-24
Wet Soil + Tare Mass (g)	398.63	396.26	396.01	395.44	400.59
Dry Soil + Tare Mass (g)	361.45	360.79	356.13	347.84	366.17
Tare Mass (g)	177.18	180.68	211.55	178.11	206.00
Moisture Content (%)	**20.2**	**19.7**	**27.6**	**28.0**	**21.5**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	116.3	116.9	116.0	116.4	120.2
Dry Unit Weight (lbs/ft³)	96.8	97.7	90.9	90.9	98.9
Proctor No	3291-184	3291-184	4502	3815	3291-184
Optimum Moisture (Proctor) (%)	21.9	21.9	28.2	29.6	21.9
Max Dry Unit Weight (Proctor) (lbs/ft³)	99.5	99.5	91.6	88.9	99.5
Degree of Compaction (%)	**97.3**	**98.2**	**99.2**	**102.2**	**99.4**
Difference from Optimum Moisture (+/-%)	**-1.7**	**-2.2**	**-0.6**	**-1.6**	**-0.4**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5526B
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	8/23/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2251	**Moisture Standardization**	596	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	8/23/2011 - 5:30 P.M.	**Oven Stop Time (Date Time)**	8/24/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	T.DUVAIL	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers
Test No	920				
Retest of Test ID					
Material Source	Borrow Pit				
Feature	Levee Embankment				
Visual Description	G. BR. CL.				
Station	178+38				
Offset	PS-142				
Lift No	5				
Latitude (°N)	29.871427				
Longitude (°W)	90.118637				
Elevation (ft)	4.9				
Transmission Mode	DT 150				
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-25				
Wet Soil + Tare Mass (g)	399.94				
Dry Soil + Tare Mass (g)	357.27				
Tare Mass (g)	205.63				
Moisture Content (%)	**28.1**				
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	116.1				
Dry Unit Weight (lbs/ft³)	90.6				
Proctor No	3180-126				
Optimum Moisture (Proctor) (%)	29.0				
Max Dry Unit Weight (Proctor) (lbs/ft³)	95.8				
Degree of Compaction (%)	**94.6**				
Difference from Optimum Moisture (+/-%)	**-0.9**				
Test Status					
Min Compaction (%)	90.0				
Max Above Optimum Moisture (%)	5.0				
Max Below Optimum Moisture (%)	3.0				
Test Result	**Pass**				
Remarks	ID 727 12" WD 114.6				
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5526A
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	1
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	8/23/2011
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2251	**Moisture Standardization**	597	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	8/23/2011 - 6:00 P.M.	**Oven Stop Time (Date Time)**	8/24/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	R. Fisher	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	915	916	917	918	919
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G. BR. CL.	G. BR. CL	G. BR. CL	G.BR.CL	G. BR. CL
Station	163+51	166+42	31+82	37+00	173+35
Offset	PS-112	PS-127	PS-115	PS-137	PS-127
Lift No	5	5	3	3	5
Latitude (°N)	29.871708	29.871645	29.887858	29.887629	29.871541
Longitude (°W)	90.123387	90.121839	90.145894	90.144279	90.120287
Elevation (ft)	5.7	5.5	3.0	2.5	5.6
Transmission Mode	DT 150	DT 150	DT 300	DT 300	DT 150
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-45	DT-50	DT-21	DT-47	DT-24
Wet Soil + Tare Mass (g)	398.63	396.26	396.01	395.44	400.59
Dry Soil + Tare Mass (g)	361.45	360.79	356.13	347.84	366.17
Tare Mass (g)	177.18	180.68	211.55	178.11	206.00
Moisture Content (%)	**20.2**	**19.7**	**27.6**	**28.0**	**21.5**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	116.3	116.9	116.0	116.4	120.2
Dry Unit Weight (lbs/ft³)	96.8	97.7	90.9	90.9	98.9
Proctor No	3291-184	3291-184	4502	3815	3291-184
Optimum Moisture (Proctor) (%)	21.9	21.9	28.2	29.6	21.9
Max Dry Unit Weight (Proctor) (lbs/ft³)	99.5	99.5	91.6	88.9	99.5
Degree of Compaction (%)	**97.3**	**98.2**	**99.2**	**102.2**	**99.4**
Difference from Optimum Moisture (+/-%)	**-1.7**	**-2.2**	**-0.6**	**-1.6**	**-0.4**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5526B
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	1
Project	WBV-144c.2 Phase 2, First Lift			**Sample Date**	8/23/2011
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2251	**Moisture Standardization**	596	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	8/23/2011 - 5:30 P.M.	**Oven Stop Time (Date Time)**	8/24/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	R. Fisher	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers
Test No	920				
Retest of Test ID					
Material Source	Borrow Pit				
Feature	Levee Embankment				
Visual Description	G. BR. CLAY				
Station	178+38				
Offset	PS-142				
Lift No	5				
Latitude (°N)	29.871427				
Longitude (°W)	90.118637				
Elevation (ft)	4.9				
Transmission Mode	DT 150				
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-25				
Wet Soil + Tare Mass (g)	399.94				
Dry Soil + Tare Mass (g)	357.27				
Tare Mass (g)	205.63				
Moisture Content (%)	**28.1**				
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	116.1				
Dry Unit Weight (lbs/ft³)	90.6				
Proctor No	3180-126				
Optimum Moisture (Proctor) (%)	29.0				
Max Dry Unit Weight (Proctor) (lbs/ft³)	95.8				
Degree of Compaction (%)	**94.6**				
Difference from Optimum Moisture (+/-%)	**-0.9**				
Test Status					
Min Compaction (%)	90.0				
Max Above Optimum Moisture (%)	5.0				
Max Below Optimum Moisture (%)	3.0				
Test Result	**Pass**				
Remarks	ID 727 12" WD 114.6				
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5557A
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	8/26/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2212	**Moisture Standardization**	599	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	8/26/2011 - 5:30 P.M.	**Oven Stop Time (Date Time)**	8/27/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	T.DUVAIL	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	921	922	923	924	925
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.
Station	34+43	42+45	14+34	2+16	5+96
Offset	PS-155	PS-137	PS-137	FS-62	FS-53
Lift No	3	3	3	4	4
Latitude (°N)	29.887820	29.887327	29.888890	29.889026	29.888839
Longitude (°W)	90.145064	90.142597	90.151282	90.155174	90.153995
Elevation (ft)	2.0	2.1	7.0	5.2	5.7
Transmission Mode	DT-300	DT 300	DT 300	DT 300	DT 300
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-42	DT-24	DT-47	DT-21	DT-50
Wet Soil + Tare Mass (g)	395.40	389.37	396.38	397.91	397.12
Dry Soil + Tare Mass (g)	344.60	348.75	350.75	358.87	351.78
Tare Mass (g)	178.18	206.46	178.10	211.53	180.65
Moisture Content (%)	**30.5**	**28.5**	**26.4**	**26.5**	**26.5**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	116.4	114.9	117.9	116.2	117.0
Dry Unit Weight (lbs/ft³)	89.2	89.4	93.3	91.9	92.5
Proctor No	4502	4502	4502	4502	4502
Optimum Moisture (Proctor) (%)	28.2	28.2	28.2	28.2	28.2
Max Dry Unit Weight (Proctor) (lbs/ft³)	91.6	91.6	91.6	91.6	91.6
Degree of Compaction (%)	**97.4**	**97.6**	**101.9**	**100.3**	**101.0**
Difference from Optimum Moisture (+/-%)	**2.3**	**0.3**	**-1.8**	**-1.7**	**-1.7**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5557B
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	1
Project	WBV-14c.2Phase 2, First Lift			**Sample Date**	8/26/2011
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2212	**Moisture Standardization**	599	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	8/26/2011 - 5:30 P.M.	**Oven Stop Time (Date Time)**	8/27/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	R. Fisher	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers
Test No	926				
Retest of Test ID					
Material Source	Borrow Pit				
Feature	Levee Embankment				
Visual Description	G. BR. CLAY				
Station	45+80				
Offset	PS-115				
Lift No	3				
Latitude (°N)	29.887079				
Longitude (°W)	90.141576				
Elevation (ft)	2.8				
Transmission Mode	DT 300				
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-45				
Wet Soil + Tare Mass (g)	398.25				
Dry Soil + Tare Mass (g)	350.10				
Tare Mass (g)	177.20				
Moisture Content (%)	**27.8**				
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	119.8				
Dry Unit Weight (lbs/ft³)	93.7				
Proctor No	4502				
Optimum Moisture (Proctor) (%)	28.2				
Max Dry Unit Weight (Proctor) (lbs/ft³)	91.6				
Degree of Compaction (%)	**102.3**				
Difference from Optimum Moisture (+/-%)	**-0.4**				
Test Status					
Min Compaction (%)	90.0				
Max Above Optimum Moisture (%)	5.0				
Max Below Optimum Moisture (%)	3.0				
Test Result	**Pass**				
Remarks	ID 727 12"WD 114.6				
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5557B
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	8/26/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2212	**Moisture Standardization**	599	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	8/26/2011 - 5:30 P.M.	**Oven Stop Time (Date Time)**	8/27/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	T.DUVAIL	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers
Test No	926				
Retest of Test ID					
Material Source	Borrow Pit				
Feature	Levee Embankment				
Visual Description	G. BR. CL.				
Station	45+80				
Offset	PS-115				
Lift No	3				
Latitude (°N)	29.887079				
Longitude (°W)	90.141576				
Elevation (ft)	2.8				
Transmission Mode	DT 300				
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-45				
Wet Soil + Tare Mass (g)	398.25				
Dry Soil + Tare Mass (g)	350.10				
Tare Mass (g)	177.20				
Moisture Content (%)	**27.8**				
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	119.8				
Dry Unit Weight (lbs/ft³)	93.7				
Proctor No	4502				
Optimum Moisture (Proctor) (%)	28.2				
Max Dry Unit Weight (Proctor) (lbs/ft³)	91.6				
Degree of Compaction (%)	**102.3**				
Difference from Optimum Moisture (+/-%)	**-0.4**				
Test Status					
Min Compaction (%)	90.0				
Max Above Optimum Moisture (%)	5.0				
Max Below Optimum Moisture (%)	3.0				
Test Result	**Pass**				
Remarks	ID 727 12" WD 114.6				
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5566
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	8/29/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2263	**Moisture Standardization**	598	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	8/29/2011 - 5:30 P.M.	**Oven Stop Time (Date Time)**	8/30/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	R.FISHER	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers
Test No	927	928	929		
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit		
Feature	Levee Embankment	Levee Embankment	Levee Embankment		
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.		
Station	2+15	5+96	10+06		
Offset	PS-100	PS-101	PS-104		
Lift No	4	4	4		
Latitude (°N)	29.889465	29.889256	29.889038		
Longitude (°W)	90.155076	90.153896	90.152627		
Elevation (ft)	3.6	3.5	3.5		
Transmission Mode	DT-300	DT 300	DT 150		
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-45	DT-50	DT-21		
Wet Soil + Tare Mass (g)	396.66	399.81	395.16		
Dry Soil + Tare Mass (g)	350.18	358.80	354.40		
Tare Mass (g)	177.19	180.66	211.53		
Moisture Content (%)	**26.9**	**23.0**	**28.5**		
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	115.3	116.4	120.8		
Dry Unit Weight (lbs/ft³)	90.9	94.6	94.0		
Proctor No	3785-132	3034-92	3186-133		
Optimum Moisture (Proctor) (%)	28.5	24.8	26.5		
Max Dry Unit Weight (Proctor) (lbs/ft³)	90.0	94.8	91.6		
Degree of Compaction (%)	**101.0**	**99.8**	**102.6**		
Difference from Optimum Moisture (+/-%)	**-1.6**	**-1.8**	**2.0**		
Test Status					
Min Compaction (%)	90.0	90.0	90.0		
Max Above Optimum Moisture (%)	5.0	5.0	5.0		
Max Below Optimum Moisture (%)	3.0	3.0	3.0		
Test Result	**Pass**	**Pass**	**Pass**		
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5577
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	8/30/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2263	**Moisture Standardization**	598	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	8/30/2011 - 5:30 P.M.	**Oven Stop Time (Date Time)**	9/01/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	R.FISHER	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	930	931	932	933	934
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.
Station	14+07	143+07	147+97	152+91	157+90
Offset	PS-85	CL	CL	CL	CL
Lift No	4	11	11	11	11
Latitude (°N)	29.888766	29.871841	29.871724	29.871618	29.871509
Longitude (°W)	90.151399	90.129846	90.128305	90.126751	90.125180
Elevation (ft)	4.7	13.5	13.7	13.8	13.8
Transmission Mode	DT-300	DT 150	DT 150	DT 150	DT 150
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-31	DT-14	DT-01	DT-02	DT-46
Wet Soil + Tare Mass (g)	399.86	394.24	398.88	395.11	399.69
Dry Soil + Tare Mass (g)	360.54	362.50	351.45	347.96	355.75
Tare Mass (g)	210.88	244.96	171.79	178.82	177.85
Moisture Content (%)	**26.3**	**27.0**	**26.4**	**27.9**	**24.7**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	113.6	118.5	112.1	114.0	109.4
Dry Unit Weight (lbs/ft³)	89.9	93.3	88.7	89.1	87.7
Proctor No	3785-132	3785-132	3181-128	3178-125	3181-128
Optimum Moisture (Proctor) (%)	28.5	28.5	22.3	26.2	22.3
Max Dry Unit Weight (Proctor) (lbs/ft³)	90.0	90.0	92.9	91.7	92.9
Degree of Compaction (%)	**99.9**	**103.7**	**95.5**	**97.2**	**94.4**
Difference from Optimum Moisture (+/-%)	**-2.2**	**-1.5**	**4.1**	**1.7**	**2.4**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5588
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	8/31/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2224	**Moisture Standardization**	588	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	8/31/2011 - 5:30 P.M.	**Oven Stop Time (Date Time)**	9/01/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	R.FISHER	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers
Test No	935				
Retest of Test ID					
Material Source	Borrow Pit				
Feature	Levee Embankment				
Visual Description	G. BR. CL.				
Station	18+05				
Offset	PS-103				
Lift No	4				
Latitude (°N)	29.888592				
Longitude (°W)	90.150160				
Elevation (ft)	4.0				
Transmission Mode	DT 300				
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-02				
Wet Soil + Tare Mass (g)	397.89				
Dry Soil + Tare Mass (g)	346.59				
Tare Mass (g)	178.83				
Moisture Content (%)	**30.6**				
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	117.0				
Dry Unit Weight (lbs/ft³)	89.6				
Proctor No	3785-132				
Optimum Moisture (Proctor) (%)	28.5				
Max Dry Unit Weight (Proctor) (lbs/ft³)	90.0				
Degree of Compaction (%)	**99.6**				
Difference from Optimum Moisture (+/-%)	**2.1**				
Test Status					
Min Compaction (%)	90.0				
Max Above Optimum Moisture (%)	5.0				
Max Below Optimum Moisture (%)	3.0				
Test Result	**Pass**				
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5642
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	9/9/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2252	**Moisture Standardization**	600	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	9/9/2011 - 5:30 P.M.	**Oven Stop Time (Date Time)**	9/10/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	D.Wilhite	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers
Test No	936				
Retest of Test ID					
Material Source	Borrow Pit				
Feature	Levee Embankment				
Visual Description	G. BR. CL.				
Station	22+11				
Offset	PS-124				
Lift No	4				
Latitude (°N)	29.888423				
Longitude (°W)	90.148889				
Elevation (ft)	3.6				
Transmission Mode	DT 300				
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-02				
Wet Soil + Tare Mass (g)	396.39				
Dry Soil + Tare Mass (g)	336.85				
Tare Mass (g)	178.80				
Moisture Content (%)	**37.7**				
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	117.9				
Dry Unit Weight (lbs/ft³)	85.6				
Proctor No	3182-129				
Optimum Moisture (Proctor) (%)	29.4				
Max Dry Unit Weight (Proctor) (lbs/ft³)	88.2				
Degree of Compaction (%)	**97.1**				
Difference from Optimum Moisture (+/-%)	**8.3**				
Test Status					
Min Compaction (%)	90.0				
Max Above Optimum Moisture (%)	5.0				
Max Below Optimum Moisture (%)	3.0				
Test Result	**Fail**				
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5643A
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	9/12/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2248	**Moisture Standardization**	597	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	9/12/2011 - 5:30 P.M.	**Oven Stop Time (Date Time)**	9/13/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	D.Wilhite	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	940	941	942	943	944
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.
Station	146+57	151+14	156+02	34+45	37+83
Offset	CL	CL	CL	PS-99	PS-142
Lift No	12	12	12	4	4
Latitude (°N)	29.871763	29.871653	29.871566	29.887669	29.887596
Longitude (°W)	90.128743	90.127306	90.125771	90.145093	90.144020
Elevation (ft)	13.7	13.8	13.7	4.2	3.2
Transmission Mode	DT-150	DT 150	DT 150	DT 300	DT 300
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-21	DT-02	DT-04	DT-01	DT-17
Wet Soil + Tare Mass (g)	398.15	400.25	400.44	400.77	401.08
Dry Soil + Tare Mass (g)	355.86	350.00	362.69	351.22	364.85
Tare Mass (g)	211.57	178.87	233.35	171.85	244.98
Moisture Content (%)	**29.3**	**29.4**	**29.2**	**27.6**	**30.2**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	113.8	113.8	116.3	112.9	114.8
Dry Unit Weight (lbs/ft³)	88.0	87.9	90.0	88.5	88.2
Proctor No	3785-132	3785-132	3785-132	3785-132	3785-132
Optimum Moisture (Proctor) (%)	28.5	28.5	28.5	28.5	28.5
Max Dry Unit Weight (Proctor) (lbs/ft³)	90.0	90.0	90.0	90.0	90.0
Degree of Compaction (%)	**97.8**	**97.7**	**100.0**	**98.3**	**98.0**
Difference from Optimum Moisture (+/-%)	**0.8**	**0.9**	**0.7**	**-0.9**	**1.7**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5643B
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	9/12/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2248	**Moisture Standardization**	597	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	9/12/2011 - 5:30 P.M.	**Oven Stop Time (Date Time)**	9/13/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	D.Wilhite	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	945	946	947	948	
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.	
Station	41+63	160+93	163+68	165+32	
Offset	PS-108	CL	FS-45	CL	
Lift No	4	12	5	10	
Latitude (°N)	29.887291	29.555942	29.871273	29.871377	
Longitude (°W)	90.142869	90.124227	90.123373	90.122844	
Elevation (ft)	3.9	13.7	6.3	13.7	
Transmission Mode	DT 300	DT 150	DT 150	DT 150	
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-31	DT-50	DT-45	DT-25	
Wet Soil + Tare Mass (g)	396.63	396.57	398.14	398.38	
Dry Soil + Tare Mass (g)	358.01	346.15	351.31	351.10	
Tare Mass (g)	210.90	180.73	177.21	205.58	
Moisture Content (%)	**26.3**	**30.5**	**26.9**	**32.5**	
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	115.2	120.8	116.9	121.2	
Dry Unit Weight (lbs/ft³)	91.2	92.6	92.1	91.5	
Proctor No	3785-132	3785-132	3785-132	3785-132	
Optimum Moisture (Proctor) (%)	28.5	28.5	28.5	28.5	
Max Dry Unit Weight (Proctor) (lbs/ft³)	90.0	90.0	90.0	90.0	
Degree of Compaction (%)	**101.3**	**102.9**	**102.3**	**101.7**	
Difference from Optimum Moisture (+/-%)	**-2.2**	**2.0**	**-1.6**	**4.0**	
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5644
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	9/11/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2250	**Moisture Standardization**	596	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	9/11/2011 - 5:30 P.M.	**Oven Stop Time (Date Time)**	9/12/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	D.Wilhite	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers
Test No	937	938	939		
Retest of Test ID		5642+936			
Material Source	Borrow Pit	Borrow Pit	Borrow Pit		
Feature	Levee Embankment	Levee Embankment	Levee Embankment		
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.		
Station	30+10	22+11	26+07		
Offset	PS-133	PS-124	PS-111		
Lift No	4	4	4		
Latitude (°N)	29.887999	29.888423	29.888168		
Longitude (°W)	90.146402	90.148889	90.147673		
Elevation (ft)	3.3	3.6	3.8		
Transmission Mode	DT 300	DT 300	DT 150		
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-04	DT-02	DT-46		
Wet Soil + Tare Mass (g)	401.20	401.41	397.33		
Dry Soil + Tare Mass (g)	365.40	353.75	348.93		
Tare Mass (g)	233.31	178.84	177.85		
Moisture Content (%)	**27.1**	**27.2**	**28.3**		
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	113.7	119.4	120.8		
Dry Unit Weight (lbs/ft³)	89.5	93.9	94.2		
Proctor No	3178-125	3178-125	3178-125		
Optimum Moisture (Proctor) (%)	26.2	26.2	26.2		
Max Dry Unit Weight (Proctor) (lbs/ft³)	91.7	91.7	91.7		
Degree of Compaction (%)	**97.6**	**102.4**	**102.7**		
Difference from Optimum Moisture (+/-%)	**0.9**	**1.0**	**2.1**		
Test Status					
Min Compaction (%)	90.0	90.0	90.0		
Max Above Optimum Moisture (%)	5.0	5.0	5.0		
Max Below Optimum Moisture (%)	3.0	3.0	3.0		
Test Result	**Pass**	**Pass**	**Pass**		
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5657
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	9/14/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2230	**Moisture Standardization**	597	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	9/14/2011 - 5:30 P.M.	**Oven Stop Time (Date Time)**	9/15/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	D.Wilhite	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers
Test No	949	950			
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit			
Feature	Levee Embankment	Levee Embankment			
Visual Description	G. BR. CL.	G. BR. CL.			
Station	45+60	49+08			
Offset	PS-87	PS-105			
Lift No	4	4			
Latitude (°N)	29.887014	29.886868			
Longitude (°W)	90.141654	90.140567			
Elevation (ft)	4.6	4.2			
Transmission Mode	DT-150	DT 300			
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-25	DT-45			
Wet Soil + Tare Mass (g)	399.25	397.25			
Dry Soil + Tare Mass (g)	352.15	344.20			
Tare Mass (g)	205.68	177.25			
Moisture Content (%)	**32.2**	**31.8**			
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	118.4	121.5			
Dry Unit Weight (lbs/ft³)	89.6	92.2			
Proctor No	3785-132	3785-132			
Optimum Moisture (Proctor) (%)	28.5	28.5			
Max Dry Unit Weight (Proctor) (lbs/ft³)	90.0	90.0			
Degree of Compaction (%)	**99.6**	**102.4**			
Difference from Optimum Moisture (+/-%)	**3.7**	**3.3**			
Test Status					
Min Compaction (%)	90.0	90.0			
Max Above Optimum Moisture (%)	5.0	5.0			
Max Below Optimum Moisture (%)	3.0	3.0			
Test Result	**Pass**	**Pass**			
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5709
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	9/26/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2240	**Moisture Standardization**	597	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	9/26/2011 - 5:30 P.M.	**Oven Stop Time (Date Time)**	9/27/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	D. Wilhite	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers
Test No	951	952	953		
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit		
Feature	Levee Embankment	Levee Embankment	Levee Embankment		
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.		
Station	170+16	175+12	180+07		
Offset	CL	CL	CL		
Lift No	10	10	10		
Latitude (°N)	29.871250	29.871161	29.870949		
Longitude (°W)	90.121322	90.119763	90.118223		
Elevation (ft)	13.6	13.6	13.6		
Transmission Mode	DT 150	DT 150	DT 150		
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-45	DT-50	DT-31		
Wet Soil + Tare Mass (g)	399.44	397.70	398.30		
Dry Soil + Tare Mass (g)	353.07	350.43	358.49		
Tare Mass (g)	177.31	180.80	211.05		
Moisture Content (%)	**26.4**	**27.9**	**27.0**		
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	117.7	117.7	112.0		
Dry Unit Weight (lbs/ft³)	93.1	92.0	88.2		
Proctor No	3291-184	2854-40	2854-40		
Optimum Moisture (Proctor) (%)	21.9	23.9	23.9		
Max Dry Unit Weight (Proctor) (lbs/ft³)	91.6	95.9	95.9		
Degree of Compaction (%)	**101.6**	**95.9**	**92.0**		
Difference from Optimum Moisture (+/-%)	**4.5**	**4.0**	**3.1**		
Test Status					
Min Compaction (%)	90.0	90.0	90.0		
Max Above Optimum Moisture (%)	5.0	5.0	5.0		
Max Below Optimum Moisture (%)	3.0	3.0	3.0		
Test Result	**Pass**	**Pass**	**Pass**		
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5713A
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	9/27/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2217	**Moisture Standardization**	591	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	9/27/2011 - 5:30 P.M.	**Oven Stop Time (Date Time)**	9/28/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	D. Wilhite	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	954	955	956	957	958
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.
Station	124+40	122+23	2+91	6+51	10+24
Offset	PS-42	PS-69	PS-81	PS-67	PS-75
Lift No	1	1	5	5	5
Latitude (°N)	29.872383	29.872508	29.889372	29.889136	29.889950
Longitude (°W)	90.135704	90.136379	90.154853	90.153749	90.152590
Elevation (ft)	5.5	4.6	4.8	5.1	4.7
Transmission Mode	DT 300	DT 300	DT 150	DT 150	DT 150
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-31	DT-50	DT-45	DT-14	DT-01
Wet Soil + Tare Mass (g)	399.99	396.80	398.15	399.71	400.06
Dry Soil + Tare Mass (g)	366.61	349.03	353.78	369.38	349.51
Tare Mass (g)	211.03	180.79	177.33	245.10	171.91
Moisture Content (%)	**21.5**	**28.4**	**25.1**	**24.4**	**28.5**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	112.3	112.7	115.9	118.4	122.3
Dry Unit Weight (lbs/ft³)	92.4	87.8	92.6	95.2	95.2
Proctor No	3180-127	3183-130	3181-128	3178-125	3178-125
Optimum Moisture (Proctor) (%)	24.0	27.6	22.3	26.2	26.2
Max Dry Unit Weight (Proctor) (lbs/ft³)	95.8	87.5	92.9	91.7	91.7
Degree of Compaction (%)	**96.5**	**100.3**	**99.7**	**103.8**	**103.8**
Difference from Optimum Moisture (+/-%)	**-2.5**	**0.8**	**2.8**	**-1.8**	**2.3**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5713B
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	9/27/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2217	**Moisture Standardization**	591	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	9/27/2011 - 5:30 P.M.	**Oven Stop Time (Date Time)**	9/28/2011 - 7:00 A.M.	**Submitted By**	B. Landers
Field Tested By	D. Wilhite	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers
Test No	959				
Retest of Test ID					
Material Source	Borrow Pit				
Feature	Levee Embankment				
Visual Description	G. BR. CL.				
Station	13+20				
Offset	PS-62				
Lift No	5				
Latitude (°N)	29.888752				
Longitude (°W)	90.151685				
Elevation (ft)	5.0				
Transmission Mode	DT 150				
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-04				
Wet Soil + Tare Mass (g)	396.80				
Dry Soil + Tare Mass (g)	358.10				
Tare Mass (g)	233.47				
Moisture Content (%)	**31.1**				
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	124.1				
Dry Unit Weight (lbs/ft³)	94.7				
Proctor No	3178-125				
Optimum Moisture (Proctor) (%)	26.2				
Max Dry Unit Weight (Proctor) (lbs/ft³)	91.7				
Degree of Compaction (%)	**103.3**				
Difference from Optimum Moisture (+/-%)	**4.9**				
Test Status					
Min Compaction (%)	90.0				
Max Above Optimum Moisture (%)	5.0				
Max Below Optimum Moisture (%)	3.0				
Test Result	**Pass**				
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5719A
USACE Contract No	W912P8-09-D-0046-0007	**Contractor**	Phylway, Inc.	**Revision**	1
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	9/28/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2221	**Moisture Standardization**	595	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	9/28/2011-5:30 P.M.	**Oven Stop Time (Date Time)**	9/29/2011-7:00 A.M.	**Submitted By**	B.Landers
Field Tested By	D.Wilhite	**Lab Tested By**	R.Fisher	**Reviewed By**	B.Landers
Test No	960	961	962	963	964
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.
Station	112+23	112+34	112+03	169+97	170+01
Offset	FS-9.6	FS-7.3	FS-8.2	PS-137	PS-138
Lift No	1	2	3	12	2
Latitude (°N)	29.873820	29.873791	29.873873	29.871640	29.871640
Longitude (°W)	90.138390	90.138391	90.138371	90.121348	90.121335
Elevation (ft)	2.0	2.9	3.5	2.3	3.6
Transmission Mode	DT 150	DT 300	DT 150	DT 300	DT 300
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-25	DT-08	DT-04	DT-01	DT-14
Wet Soil + Tare Mass (g)	398.15	400.25	400.44	400.77	401.08
Dry Soil + Tare Mass (g)	356.88	356.10	368.69	352.20	370.05
Tare Mass (g)	205.68	187.47	233.44	171.89	245.11
Moisture Content (%)	**27.3**	**26.2**	**23.5**	**26.9**	**24.8**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	110.8	111.1	112.1	118.0	123.3
Dry Unit Weight (lbs/ft³)	87.0	88.0	90.8	93.0	98.8
Proctor No	3785-132	3785-132	3181-128	3785-132	3291-184
Optimum Moisture (Proctor) (%)	28.5	28.5	22.3	28.5	21.9
Max Dry Unit Weight (Proctor) (lbs/ft³)	90.0	90.0	92.9	90.0	99.5
Degree of Compaction (%)	**96.7**	**97.8**	**97.7**	**103.3**	**99.3**
Difference from Optimum Moisture (+/-%)	**-1.2**	**-2.3**	**1.2**	**-1.6**	**2.9**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5719A
USACE Contract No	W912P8-09-D-0046-0007	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	9/28/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2221	**Moisture Standardization**	595	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	9/28/2011-5:30 P.M.	**Oven Stop Time (Date Time)**	9/29/2011-7:00 A.M.	**Submitted By**	
Field Tested By	D.Wilhite	**Lab Tested By**	R.Fisher	**Reviewed By**	B.Landers

Test No	960	961	962	963	964
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.
Station	112+23	112+34	112+03	169+97	170+01
Offset	FS-9.6	FS-7.3	FS-8.2	PS-137	PS-138
Lift No	1	2	3	12	2
Latitude (°N)	29.873820	29.873791	29.873873	29.871640	29.871640
Longitude (°W)	90.138390	90.138391	90.138371	90.121348	90.121335
Elevation (ft)	2.0	2.9	3.5	2.3	3.6
Transmission Mode	DT 150	DT 300	DT 150	DT 300	DT 300
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-25	DT-08	DT-04	DT-01	DT-14
Wet Soil + Tare Mass (g)	398.15	400.25	400.44	400.77	401.08
Dry Soil + Tare Mass (g)	356.88	356.10	368.69	352.20	370.05
Tare Mass (g)	205.68	187.47	233.44	171.89	245.11
Moisture Content (%)	**27.3**	**26.2**	**23.5**	**26.9**	**24.8**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	110.8	111.1	112.1	118.0	123.3
Dry Unit Weight (lbs/ft³)	87.0	88.0	90.8	93.0	98.8
Proctor No	3785-132	3785-132	3181-128	3785-132	3291-184
Optimum Moisture (Proctor) (%)	28.5	28.5	22.3	28.5	21.9
Max Dry Unit Weight (Proctor) (lbs/ft³)	90.0	90.0	92.9	90.0	99.5
Degree of Compaction (%)	**96.7**	**97.8**	**97.7**	**103.3**	**99.3**
Difference from Optimum Moisture (+/-%)	**-1.2**	**-2.3**	**1.2**	**-1.6**	**2.9**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5719B
USACE Contract No	W912P8-09-D-0046-0007	**Contractor**	Phylway, Inc.	**Revision**	1
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	9/28/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2221	**Moisture Standardization**	595	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	9/28/2011-5:30 P.M.	**Oven Stop Time (Date Time)**	9/29/2011-7:00 A.M.	**Submitted By**	B.Landers
Field Tested By	D.Wilhite	**Lab Tested By**	R.Fisher	**Reviewed By**	B.Landers

Test No	965	966	967	968	969
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.
Station	169+97	170+03	170+05	170+01	149+99
Offset	PS-140	PS-136	CL	CL	CL
Lift No	3	4	1	2	1
Latitude (°N)	29.871648	29.871636	29.871254	29.871259	29.871678
Longitude (°W)	90.121349	90.121331	90.121359	90.121364	90.127669
Elevation (ft)	4.2	5.1	11.5	12.4	9.3
Transmission Mode	DT 300	DT 300	DT 300	DT 300	DT 150
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-45	DT-50	DT-31	DT-02	DT-21
Wet Soil + Tare Mass (g)	396.63	396.57	398.14	398.38	400.20
Dry Soil + Tare Mass (g)	358.01	356.15	359.31	350.10	357.69
Tare Mass (g)	177.25	180.77	211.03	178.89	211.63
Moisture Content (%)	**21.4**	**23.0**	**26.2**	**28.2**	**29.1**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	123.7	122.5	119.4	117.5	119.9
Dry Unit Weight (lbs/ft³)	101.9	99.6	94.6	91.7	92.9
Proctor No	3291-184	3291-184	3178-125	3785-132	3186-133
Optimum Moisture (Proctor) (%)	21.9	21.9	26.2	28.5	26.5
Max Dry Unit Weight (Proctor) (lbs/ft³)	99.5	99.5	91.7	90.0	91.6
Degree of Compaction (%)	**102.4**	**100.1**	**103.2**	**101.9**	**101.4**
Difference from Optimum Moisture (+/-%)	**-0.5**	**1.1**	**0.0**	**-0.3**	**2.6**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5719B
USACE Contract No	W912P8-09-D-0046-0007	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	9/28/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2221	**Moisture Standardization**	595	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	9/28/2011-5:30 P.M.	**Oven Stop Time (Date Time)**	9/29/2011-7:00 A.M.	**Submitted By**	
Field Tested By	D.Wilhite	**Lab Tested By**	R.Fisher	**Reviewed By**	B.Landers

Test No	965	966	967	968	969
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.
Station	169+97	170+03	170+05	170+01	149+99
Offset	PS-140	PS-136	CL	CL	CL
Lift No	3	4	1	2	1
Latitude (°N)	29.871648	29.871636	29.871254	29.871259	29.871678
Longitude (°W)	90.121349	90.121331	90.121359	90.121364	90.127669
Elevation (ft)	4.2	5.1	11.5	12.4	9.3
Transmission Mode	DT 300	DT 300	DT 300	DT 300	DT 150
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-45	DT-50	DT-31	DT-02	DT-21
Wet Soil + Tare Mass (g)	396.63	396.57	398.14	398.38	400.20
Dry Soil + Tare Mass (g)	358.01	356.15	359.31	350.10	357.69
Tare Mass (g)	177.25	180.77	211.03	178.89	211.63
Moisture Content (%)	**21.4**	**23.0**	**26.2**	**28.2**	**29.1**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	123.7	122.5	119.4	117.5	119.9
Dry Unit Weight (lbs/ft³)	101.9	99.6	94.6	91.7	92.9
Proctor No	3291-184	3291-184	3178-125	3785-132	3186-133
Optimum Moisture (Proctor) (%)	21.9	21.9	26.2	28.5	26.5
Max Dry Unit Weight (Proctor) (lbs/ft³)	99.5	99.5	91.7	90.0	91.6
Degree of Compaction (%)	**102.4**	**100.1**	**103.2**	**101.9**	**101.4**
Difference from Optimum Moisture (+/-%)	**-0.5**	**1.1**	**0.0**	**-0.3**	**2.6**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5739A
USACE Contract No	W912P8-09-D-0046-0007	**Contractor**	Phylway, Inc.	**Revision**	1
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	10/3/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	3319
Density Standardization	2234	**Moisture Standardization**	591	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	10/3/2011-5:30 P.M.	**Oven Stop Time (Date Time)**	10/4/2011 7:00 A.M.	**Submitted By**	B.Landers
Field Tested By	D.Wilhite	**Lab Tested By**	R.Fisher	**Reviewed By**	B.Landers

Test No	970	971	972	973	974
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.
Station	3+56	8+53	13+56	13+51	8+48
Offset	CL	CL	CL	FS-61	FS-50
Lift No	9	9	9	4	4
Latitude (°N)	29.889116	29.888843	29.888575	29.888400	29.888709
Longitude (°W)	90.154705	90.153166	90.151608	90.151665	90.153215
Elevation (ft)	12.1	12.4	12.5	5.4	6.2
Transmission Mode	DT 300	DT 300	DT 300	DT 150	DT 150
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-24	DT-42	DT-30	DT-46	DT-47
Wet Soil + Tare Mass (g)	396.58	399.07	397.76	397.70	394.21
Dry Soil + Tare Mass (g)	360.28	357.99	358.27	347.79	350.53
Tare Mass (g)	206.52	178.22	203.38	177.93	178.19
Moisture Content (%)	**23.6**	**22.9**	**25.5**	**29.4**	**25.3**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	115.1	111.0	111.6	117.2	115.8
Dry Unit Weight (lbs/ft³)	93.1	90.3	88.9	90.6	92.4
Proctor No	2854-40	3034-92	3186-133	3186-133	3186-133
Optimum Moisture (Proctor) (%)	23.9	24.8	26.5	26.5	26.5
Max Dry Unit Weight (Proctor) (lbs/ft³)	95.9	94.8	91.6	91.6	91.6
Degree of Compaction (%)	**97.1**	**95.3**	**97.1**	**98.9**	**100.9**
Difference from Optimum Moisture (+/-%)	**-0.3**	**-1.9**	**-1.0**	**2.9**	**-1.2**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5739A
USACE Contract No	W912P8-09-D-0046-0007	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	10/3/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	3319
Density Standardization	2234	**Moisture Standardization**	591	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	10/3/2011-5:30 P.M.	**Oven Stop Time (Date Time)**	10/4/2011 7:00 A.M.	**Submitted By**	
Field Tested By	D.Wilhite	**Lab Tested By**	R.Fisher	**Reviewed By**	B.Landers

Test No	970	971	972	973	974
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.
Station	3+56	8+53	13+56	13+51	8+48
Offset	CL	CL	CL	FS-61	FS-50
Lift No	9	9	9	4	4
Latitude (°N)	29.889116	29.888843	29.888575	29.888400	29.888709
Longitude (°W)	90.154705	90.153166	90.151608	90.151665	90.153215
Elevation (ft)	12.1	12.4	12.5	5.4	6.2
Transmission Mode	DT 300	DT 300	DT 300	DT 150	DT 150
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-24	DT-42	DT-30	DT-46	DT-47
Wet Soil + Tare Mass (g)	396.58	399.07	397.76	397.70	394.21
Dry Soil + Tare Mass (g)	360.28	357.99	358.27	347.79	350.53
Tare Mass (g)	206.52	178.22	203.38	177.93	178.19
Moisture Content (%)	**23.6**	**22.9**	**25.5**	**29.4**	**25.3**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	115.1	111.0	111.6	117.2	115.8
Dry Unit Weight (lbs/ft³)	93.1	90.3	88.9	90.6	92.4
Proctor No	2854-40	3034-92	3186-133	3186-133	3186-133
Optimum Moisture (Proctor) (%)	23.9	24.8	26.5	26.5	26.5
Max Dry Unit Weight (Proctor) (lbs/ft³)	95.9	94.8	91.6	91.6	91.6
Degree of Compaction (%)	**97.1**	**95.3**	**97.1**	**98.9**	**100.9**
Difference from Optimum Moisture (+/-%)	**-0.3**	**-1.9**	**-1.0**	**2.9**	**-1.2**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5739B
USACE Contract No	W912P8-09-D-0046-0007	**Contractor**	Phylway, Inc.	**Revision**	1
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	10/3/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	3319
Density Standardization	2234	**Moisture Standardization**	591	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	10/3/2011 5:30 P.M.	**Oven Stop Time (Date Time)**	10/4/2011 7:00 A.M.	**Submitted By**	B.Landers
Field Tested By	D.Wilhite	**Lab Tested By**	R.Fisher	**Reviewed By**	B.Landers

Test No	975	976	977	978	979
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.
Station	3+56	170+07	170+07	160+00	160+00
Offset	FS-39	CL	CL	FS-53	FS-49
Lift No	4	3	4	1	2
Latitude (°N)	29.889010	29.888705	29.871268	29.871352	29.871340
Longitude (°W)	90.154727	90.121139	90.121349	90.124533	90.124532
Elevation (ft)	6.4	13.0	13.6	4.6	5.5
Transmission Mode	DT 150	DT 150	DT 150	DT 300	DT 150
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-27	DT-44	DT-43	DT-41	DT-48
Wet Soil + Tare Mass (g)	396.05	395.31	398.78	399.60	399.23
Dry Soil + Tare Mass (g)	355.31	343.95	353.69	355.27	352.74
Tare Mass (g)	209.66	176.07	179.99	178.03	183.53
Moisture Content (%)	**28.0**	**30.6**	**26.0**	**25.0**	**27.5**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	108.9	124.2	115.9	114.3	117.5
Dry Unit Weight (lbs/ft³)	85.1	95.1	92.0	91.4	92.2
Proctor No	3186-133	3186-133	3186-133	3186-133	3186-133
Optimum Moisture (Proctor) (%)	26.5	26.5	26.5	26.5	26.5
Max Dry Unit Weight (Proctor) (lbs/ft³)	91.6	91.6	91.6	91.6	91.6
Degree of Compaction (%)	**92.9**	**103.8**	**100.4**	**99.8**	**100.7**
Difference from Optimum Moisture (+/-%)	**1.5**	**4.1**	**-0.5**	**-1.5**	**1.0**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5739B
USACE Contract No	W912P8-09-D-0046-0007	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	10/3/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	3319
Density Standardization	2234	**Moisture Standardization**	591	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	10/3/2011 5:30 P.M.	**Oven Stop Time (Date Time)**	10/4/2011 7:00 A.M.	**Submitted By**	
Field Tested By	D.Wilhite	**Lab Tested By**	R.Fisher	**Reviewed By**	B.Landers

Test No	975	976	977	978	979
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.
Station	3+56	170+07	170+07	160+00	160+00
Offset	FS-39	CL	CL	FS-53	FS-49
Lift No	4	3	4	1	2
Latitude (°N)	29.889010	29.888705	29.871268	29.871352	29.871340
Longitude (°W)	90.154727	90.121139	90.121349	90.124533	90.124532
Elevation (ft)	6.4	13.0	13.6	4.6	5.5
Transmission Mode	DT 150	DT 150	DT 150	DT 300	DT 150
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-27	DT-44	DT-43	DT-41	DT-48
Wet Soil + Tare Mass (g)	396.05	395.31	398.78	399.60	399.23
Dry Soil + Tare Mass (g)	355.31	343.95	353.69	355.27	352.74
Tare Mass (g)	209.66	176.07	179.99	178.03	183.53
Moisture Content (%)	**28.0**	**30.6**	**26.0**	**25.0**	**27.5**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	108.9	124.2	115.9	114.3	117.5
Dry Unit Weight (lbs/ft³)	85.1	95.1	92.0	91.4	92.2
Proctor No	3186-133	3186-133	3186-133	3186-133	3186-133
Optimum Moisture (Proctor) (%)	26.5	26.5	26.5	26.5	26.5
Max Dry Unit Weight (Proctor) (lbs/ft³)	91.6	91.6	91.6	91.6	91.6
Degree of Compaction (%)	**92.9**	**103.8**	**100.4**	**99.8**	**100.7**
Difference from Optimum Moisture (+/-%)	**1.5**	**4.1**	**-0.5**	**-1.5**	**1.0**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5739C
USACE Contract No	W912P8-09-D-0046-0007	**Contractor**	Phylway, Inc.	**Revision**	1
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	10/3/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	3319
Density Standardization	2234	**Moisture Standardization**	591	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	10/3/2011-5:30 P.M.	**Oven Stop Time (Date Time)**	10/4/2011-7:00 A.M.	**Submitted By**	B.Landers
Field Tested By	D.Wilhite	**Lab Tested By**	R.Fisher	**Reviewed By**	B.Landers

Test No	980	981	982	983	984
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.
Station	160+02	18+56	18+52	150+00	150+00
Offset	FS-49	CL	FS-57	CL	CL
Lift No	3	9	5	1	2
Latitude (°N)	29.871336	29.888276	29.888133	29.871694	29.871682
Longitude (°W)	90.124526	90.150070	90.150116	90.127665	90.127666
Elevation (ft)	6.4	12.5	6.0	8.4	9.5
Transmission Mode	DT 300	DT 300	DT 150	DT 300	DT 300
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-49	DT-40	DT-20	DT-11	DT-25
Wet Soil + Tare Mass (g)	396.43	395.57	396.87	396.65	399.55
Dry Soil + Tare Mass (g)	350.20	355.55	351.83	360.30	362.35
Tare Mass (g)	176.46	176.31	212.71	181.02	205.71
Moisture Content (%)	**26.6**	**22.3**	**32.4**	**20.3**	**23.7**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	114.9	111.4	111.4	107.9	113.5
Dry Unit Weight (lbs/ft³)	90.8	91.1	84.1	89.7	91.8
Proctor No	3178-125	3291-184	2653-8	2653-8	2653-8
Optimum Moisture (Proctor) (%)	26.2	21.9	23.1	23.1	23.1
Max Dry Unit Weight (Proctor) (lbs/ft³)	91.7	99.5	99.7	99.7	99.7
Degree of Compaction (%)	**99.0**	**91.6**	**84.4**	**90.0**	**92.1**
Difference from Optimum Moisture (+/-%)	**0.4**	**0.4**	**9.3**	**-2.8**	**0.6**
Test Status					
Min Compaction (%)	9.0	9.0	9.0	9.0	9.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Fail**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5739C
USACE Contract No	W912P8-09-D-0046-0007	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	10/3/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	3319
Density Standardization	2234	**Moisture Standardization**	591	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	10/3/2011-5:30 P.M.	**Oven Stop Time (Date Time)**	10/4/2011-7:00 A.M.	**Submitted By**	
Field Tested By	D.Wilhite	**Lab Tested By**	R.Fisher	**Reviewed By**	B.Landers
Test No	980	981	982	983	984
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.
Station	160+02	18+56	18+52	150+00	150+00
Offset	FS-49	CL	FS-57	CL	CL
Lift No	3	9	5	1	2
Latitude (°N)	29.871336	29.888276	29.888133	29.871694	29.871682
Longitude (°W)	90.124526	90.150070	90.150116	90.127665	90.127666
Elevation (ft)	6.4	12.5	6.0	8.4	9.5
Transmission Mode	DT 300	DT 300	DT 150	DT 300	DT 300
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-49	DT-40	DT-20	DT-11	DT-25
Wet Soil + Tare Mass (g)	396.43	395.57	396.87	396.65	399.55
Dry Soil + Tare Mass (g)	350.20	355.55	351.83	360.30	362.35
Tare Mass (g)	176.46	176.31	212.71	181.02	205.71
Moisture Content (%)	**26.6**	**22.3**	**32.4**	**20.3**	**23.7**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	114.9	111.4	111.4	107.9	113.5
Dry Unit Weight (lbs/ft³)	90.8	91.1	84.1	89.7	91.8
Proctor No	3178-125	3291-184	2653-8	2653-8	2653-8
Optimum Moisture (Proctor) (%)	26.2	21.9	23.1	23.1	23.1
Max Dry Unit Weight (Proctor) (lbs/ft³)	91.7	99.5	99.7	99.7	99.7
Degree of Compaction (%)	**99.0**	**91.6**	**84.4**	**90.0**	**92.1**
Difference from Optimum Moisture (+/-%)	**0.4**	**0.4**	**9.3**	**-2.8**	**0.6**
Test Status					
Min Compaction (%)	9.0	9.0	9.0	9.0	9.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Fail**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5739D
USACE Contract No	W912P8-09-D-0046-0007	**Contractor**	Phylway, Inc.	**Revision**	1
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	10/3/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	3319
Density Standardization	2234	**Moisture Standardization**	591	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	10/3/2011-5:30 P.M.	**Oven Stop Time (Date Time)**	10/4/2011-7:00 A.M.	**Submitted By**	B.Landers
Field Tested By	D.Wilhite	**Lab Tested By**	R.Fisher	**Reviewed By**	B.Landers

Test No	985	986	987	988	989
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.
Station	149+98	150+04	150+03	149+99	150+04
Offset	CL	CL	CL	CL	CL
Lift No	3	4	5	6	7
Latitude (°N)	29.871686	29.871690	29.871685	29.871687	29.871686
Longitude (°W)	90.127671	90.127654	90.127653	90.127670	90.127652
Elevation (ft)	10.5	11.5	12.4	13.1	13.6
Transmission Mode	DT 300	DT 300	DT 150	DT 150	DT 150
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-08	DT-04	DT-01	DT-14	DT-45
Wet Soil + Tare Mass (g)	398.17	394.85	394.24	395.16	392.73
Dry Soil + Tare Mass (g)	360.10	366.25	356.77	366.38	356.22
Tare Mass (g)	187.50	233.50	177.91	245.15	177.31
Moisture Content (%)	**22.1**	**21.5**	**20.9**	**23.7**	**20.4**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	111.1	111.7	108.4	122.1	122.2
Dry Unit Weight (lbs/ft³)	91.0	91.9	89.7	98.7	101.5
Proctor No	2653-8	2653-8	2653-8	2653-8	2653-8
Optimum Moisture (Proctor) (%)	23.1	23.1	23.1	23.1	23.1
Max Dry Unit Weight (Proctor) (lbs/ft³)	99.7	99.7	99.7	99.7	99.7
Degree of Compaction (%)	**91.3**	**92.2**	**90.0**	**99.0**	**101.8**
Difference from Optimum Moisture (+/-%)	**-1.0**	**-1.6**	**-2.2**	**0.6**	**-2.7**
Test Status					
Min Compaction (%)	9.0	9.0	9.0	9.0	9.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5739D
USACE Contract No	W912P8-09-D-0046-0007	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	10/3/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	3319
Density Standardization	2234	**Moisture Standardization**	591	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	10/3/2011-5:30 P.M.	**Oven Stop Time (Date Time)**	10/4/2011-7:00 A.M.	**Submitted By**	
Field Tested By	D.Wilhite	**Lab Tested By**	R.Fisher	**Reviewed By**	B.Landers

Test No	985	986	987	988	989
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.
Station	149+98	150+04	150+03	149+99	150+04
Offset	CL	CL	CL	CL	CL
Lift No	3	4	5	6	7
Latitude (°N)	29.871686	29.871690	29.871685	29.871687	29.871686
Longitude (°W)	90.127671	90.127654	90.127653	90.127670	90.127652
Elevation (ft)	10.5	11.5	12.4	13.1	13.6
Transmission Mode	DT 300	DT 300	DT 150	DT 150	DT 150
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-08	DT-04	DT-01	DT-14	DT-45
Wet Soil + Tare Mass (g)	398.17	394.85	394.24	395.16	392.73
Dry Soil + Tare Mass (g)	360.10	366.25	356.77	366.38	356.22
Tare Mass (g)	187.50	233.50	177.91	245.15	177.31
Moisture Content (%)	**22.1**	**21.5**	**20.9**	**23.7**	**20.4**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	111.1	111.7	108.4	122.1	122.2
Dry Unit Weight (lbs/ft³)	91.0	91.9	89.7	98.7	101.5
Proctor No	2653-8	2653-8	2653-8	2653-8	2653-8
Optimum Moisture (Proctor) (%)	23.1	23.1	23.1	23.1	23.1
Max Dry Unit Weight (Proctor) (lbs/ft³)	99.7	99.7	99.7	99.7	99.7
Degree of Compaction (%)	**91.3**	**92.2**	**90.0**	**99.0**	**101.8**
Difference from Optimum Moisture (+/-%)	**-1.0**	**-1.6**	**-2.2**	**0.6**	**-2.7**
Test Status					
Min Compaction (%)	9.0	9.0	9.0	9.0	9.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5748A
USACE Contract No	W912P8-09-D-0046-0007	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	10/4/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	31657
Density Standardization	2425	**Moisture Standardization**	667	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	10/4/2011-5:30 P.M.	**Oven Stop Time (Date Time)**	10/5/2011-7:00 A.M.	**Submitted By**	B.Landers
Field Tested By	D.Wilhite	**Lab Tested By**	R.Fisher	**Reviewed By**	B.Landers

Test No	990	991	992	993	994
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.
Station	145+01	144+90	144+97	139+96	140+01
Offset	PS-126	PS-131	PS-129	FS-52	FS-53
Lift No	1	2	3	1	2
Latitude (°N)	29.872139	29.872152	29.872148	29.871760	29.871756
Longitude (°W)	90.129204	90.129215	90.129214	90.130837	90.130822
Elevation (ft)	3.3	4.3	5.5	4.5	5.4
Transmission Mode	DT 300	DT 300	DT 300	DT 300	DT 300
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-50	DT-45	DT-14	DT-01	DT-04
Wet Soil + Tare Mass (g)	395.91	396.48	399.62	397.82	400.22
Dry Soil + Tare Mass (g)	352.84	355.19	370.31	345.80	365.31
Tare Mass (g)	180.77	177.38	245.16	171.99	233.46
Moisture Content (%)	**25.0**	**23.2**	**23.4**	**29.9**	**26.5**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	114.4	116.4	118.8	112.8	117.3
Dry Unit Weight (lbs/ft³)	91.5	94.5	96.3	86.8	92.7
Proctor No	3180-127	2653-8	2653-8	3178-125	3178-125
Optimum Moisture (Proctor) (%)	24.0	23.1	23.1	26.2	26.2
Max Dry Unit Weight (Proctor) (lbs/ft³)	95.8	99.7	99.7	91.7	91.7
Degree of Compaction (%)	**95.5**	**94.8**	**96.6**	**94.7**	**101.1**
Difference from Optimum Moisture (+/-%)	**1.0**	**0.1**	**0.3**	**3.7**	**0.3**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5748B
USACE Contract No	W912P8-09-D-0046-0007	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	10/4/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	31657
Density Standardization	2425	**Moisture Standardization**	667	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	10/4/2011-5:30 P.M.	**Oven Stop Time (Date Time)**	10/5/2011-7:00 A.M.	**Submitted By**	B.Landers
Field Tested By	D.Wilhite	**Lab Tested By**	R.Fisher	**Reviewed By**	B.Landers
Test No	995	996	997	998	999
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.
Station	140+00	123+54	123+54	123+53	23+44
Offset	FS-50	FS-65	FS-70	FS-68	CL
Lift No	3	1	2	3	9
Latitude (°N)	29.871764	29.872107	29.872096	29.872101	29.888036
Longitude (°W)	90.130824	90.136004	90.136004	90.136007	90.148552
Elevation (ft)	6.3	3.9	4.8	5.5	12.5
Transmission Mode	DT 300	DT 300	DT 300	DT 300	DT 150
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-08	DT-25	DT-11	DT-20	DT-40
Wet Soil + Tare Mass (g)	396.88	396.48	395.49	395.02	395.50
Dry Soil + Tare Mass (g)	354.36	358.25	355.92	358.36	355.52
Tare Mass (g)	187.56	205.75	181.02	212.71	176.31
Moisture Content (%)	**25.5**	**25.1**	**22.6**	**25.2**	**22.3**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	110.2	108.0	115.6	110.4	111.9
Dry Unit Weight (lbs/ft³)	87.8	86.3	94.3	88.2	91.5
Proctor No	3186-133	3186-133	2854-40	3034-92	3291-184
Optimum Moisture (Proctor) (%)	26.5	26.5	23.9	24.8	21.9
Max Dry Unit Weight (Proctor) (lbs/ft³)	91.6	91.6	95.9	94.8	99.5
Degree of Compaction (%)	**95.9**	**94.2**	**98.3**	**93.0**	**92.0**
Difference from Optimum Moisture (+/-%)	**-1.0**	**-1.4**	**-1.3**	**0.4**	**0.4**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5748C
USACE Contract No	W912P8-09-D-0046-0007	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	10/4/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	31657
Density Standardization	2425	**Moisture Standardization**	667	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	10/4/2011 5:30 P.M.	**Oven Stop Time (Date Time)**	10/5/2011 7:00 A.M.	**Submitted By**	B.Landers
Field Tested By	D.Wilhite	**Lab Tested By**	R.Fisher	**Reviewed By**	B.Landers

Test No	1000	1001	1002	1003	1004
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.
Station	23+41	27+66	27+76	124+41	124+41
Offset	FS-46	CL	FS-52	PS-38	PS-42
Lift No	4	9	4	1	2
Latitude (°N)	29.887891	29.887782	29.887633	29.872373	29.872383
Longitude (°W)	90.148597	90.147257	90.147256	90.135702	90.135702
Elevation (ft)	6.4	12.5	6.4	5.0	5.5
Transmission Mode	DT 150	DT 300	DT 150	DT 300	DT 300
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-49	DT-48	DT-41	DT-43	DT-44
Wet Soil + Tare Mass (g)	396.17	395.47	395.36	396.19	396.59
Dry Soil + Tare Mass (g)	350.23	347.38	351.20	360.25	355.35
Tare Mass (g)	176.43	183.56	178.07	179.97	176.10
Moisture Content (%)	**26.4**	**29.4**	**25.5**	**19.9**	**23.0**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	107.7	109.6	112.5	108.6	117.5
Dry Unit Weight (lbs/ft³)	85.2	84.7	89.6	90.6	95.5
Proctor No	3183-130	2611-3	3180-127	3291-184	3291-184
Optimum Moisture (Proctor) (%)	27.6	30.6	24.0	21.9	21.9
Max Dry Unit Weight (Proctor) (lbs/ft³)	87.5	87.9	95.8	99.5	99.5
Degree of Compaction (%)	**97.4**	**96.4**	**93.5**	**91.1**	**96.0**
Difference from Optimum Moisture (+/-%)	**-1.2**	**-1.2**	**1.5**	**-2.0**	**1.1**
Test Status					
Min Compaction (%)	9.0	9.0	9.0	9.0	9.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5748D
USACE Contract No	W912P8-09-D-0046-0007	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	10/4/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	31657
Density Standardization	2425	**Moisture Standardization**	667	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	10/4/2011-5:30 P.M.	**Oven Stop Time (Date Time)**	10/5/2011 7:00 A.M.	**Submitted By**	B.Landers
Field Tested By	D.Wilhite	**Lab Tested By**	R.Fisher	**Reviewed By**	B.Landers

Test No	1005	1006	1007	1008	
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.	
Station	124+10	122+24	122+22	122+22	
Offset	PS-38	PS-67	PS-64	PS-68	
Lift No	3	1	2	3	
Latitude (°N)	29.872373	29.872503	29.872495	29.872506	
Longitude (°W)	90.135706	90.136378	90.136382	90.136381	
Elevation (ft)	7.2	4.9	6.0	6.6	
Transmission Mode	DT 300	DT 300	DT 300	DT 300	
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-27	DT-47	DT-46	DT-30	
Wet Soil + Tare Mass (g)	396.68	395.73	395.88	395.63	
Dry Soil + Tare Mass (g)	362.14	353.21	351.92	358.18	
Tare Mass (g)	209.65	178.20	177.89	203.40	
Moisture Content (%)	**22.7**	**24.3**	**25.3**	**24.2**	
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	121.5	116.5	117.6	114.7	
Dry Unit Weight (lbs/ft³)	99.0	93.7	93.9	92.4	
Proctor No	3291-184	3291-184	3291-184	3291-184	
Optimum Moisture (Proctor) (%)	21.9	21.9	21.9	21.9	
Max Dry Unit Weight (Proctor) (lbs/ft³)	99.5	99.5	99.5	99.5	
Degree of Compaction (%)	**99.5**	**94.2**	**94.4**	**92.9**	
Difference from Optimum Moisture (+/-%)	**0.8**	**2.4**	**3.4**	**2.3**	
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5754A
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	10/5/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2225	**Moisture Standardization**	595	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	10/5/2011-5:30 P.M.	**Oven Stop Time (Date Time)**	10/6/2011-7:00 A.M.	**Submitted By**	B.Landers
Field Tested By	D.Wilhite	**Lab Tested By**	R.Fisher	**Reviewed By**	B.Landers
Test No	1009	1010	1011	1012	1013
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.
Station	111+79	55+99	59+31	90+00	88+99
Offset	FS-74	PS-92	PS-88	CL	CL
Lift No	4	1	1	1	1
Latitude (°N)	29.873938	29.886848	29.886477	29.879713	29.879714
Longitude (°W)	90.138348	90.138484	90.117927	90.136523	90.136518
Elevation (ft)	6.6	3.3	3.5	10.5	10.5
Transmission Mode	DT 150	DT 150	DT 150	DT 300	DT 300
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-31	DT-25	DT-14	DT-48	DT-43
Wet Soil + Tare Mass (g)	399.99	398.15	399.71	395.67	395.47
Dry Soil + Tare Mass (g)	366.61	353.21	369.38	355.42	352.25
Tare Mass (g)	211.03	177.33	245.10	183.54	179.97
Moisture Content (%)	**21.5**	**25.6**	**24.4**	**23.4**	**25.1**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	115.6	118.9	117.9	116.0	120.8
Dry Unit Weight (lbs/ft³)	95.1	94.7	94.8	94.0	96.6
Proctor No	3291-184	3291-184	3291-184	3291-184	3178-125
Optimum Moisture (Proctor) (%)	21.9	21.9	21.9	21.9	21.9
Max Dry Unit Weight (Proctor) (lbs/ft³)	99.5	99.5	99.5	99.5	99.5
Degree of Compaction (%)	**95.6**	**95.2**	**95.3**	**94.5**	**97.1**
Difference from Optimum Moisture (+/-%)	**-0.4**	**3.7**	**2.5**	**1.5**	**3.2**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5754B
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	10/5/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2225	**Moisture Standardization**	595	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	10/5/2011-5:30 P.M.	**Oven Stop Time (Date Time)**	10/6/2011-7:00 A.M.	**Submitted By**	B.Landers
Field Tested By	D.Wilhite	**Lab Tested By**	R.Fisher	**Reviewed By**	B.Landers
Test No	1014	1015	1016	1017	1018
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.
Station	89+99	89+98	89+97	32+61	32+60
Offset	CL	CL	CL	CL	FS-73
Lift No	3	4	5	9	3
Latitude (°N)	29.879713	29.879716	29.879721	29.887526	29.887307
Longitude (°W)	90.136515	90.136509	90.136518	90.145719	90.145773
Elevation (ft)	12.5	13.0	13.5	12.5	5.7
Transmission Mode	DT 300	DT 150	DT 150	DT 300	DT 300
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-41	DT-44	DT-47	DT-27	DT-46
Wet Soil + Tare Mass (g)	395.36	395.94	395.05	395.07	395.63
Dry Soil + Tare Mass (g)	354.63	356.18	358.54	351.08	345.85
Tare Mass (g)	178.06	176.06	178.19	209.63	177.92
Moisture Content (%)	**23.1**	**22.1**	**20.2**	**31.1**	**29.6**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	112.7	116.5	109.8	105.8	106.5
Dry Unit Weight (lbs/ft³)	91.6	95.4	91.3	80.7	82.2
Proctor No	3291-184	3291-184	3291-184	3182-129	3182-129
Optimum Moisture (Proctor) (%)	21.9	21.9	21.9	29.4	29.4
Max Dry Unit Weight (Proctor) (lbs/ft³)	99.5	99.5	99.5	88.2	88.2
Degree of Compaction (%)	**92.1**	**95.9**	**91.8**	**91.5**	**93.2**
Difference from Optimum Moisture (+/-%)	**1.2**	**0.2**	**-1.7**	**1.7**	**0.2**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5754C
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	10/5/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2225	**Moisture Standardization**	595	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	10/5/2011 5:30 P.M.	**Oven Stop Time (Date Time)**	10/6/2011 7:00 A.M.	**Submitted By**	B.Landers
Field Tested By	D.Wilhite	**Lab Tested By**	R.Fisher	**Reviewed By**	B.Landers

Test No	1019	1020	1021	1022	1023
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.
Station	82+82	82+06	82+81	83+06	82+83
Offset	PS-79	PS-60	PS-75	PS-62	PS-78
Lift No	1	1	2	2	3
Latitude (°N)	29.881543	29.881757	29.881548	29.881758	29.881540
Longitude (°W)	90.135638	90.135627	90.135647	90.135620	90.135641
Elevation (ft)	2.5	3.0	3.6	4.0	4.5
Transmission Mode	DT 150	DT 300	DT 300	DT 300	DT 300
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-30	DT-02	DT-21	DT-49	DT-40
Wet Soil + Tare Mass (g)	395.16	395.80	395.25	395.25	395.32
Dry Soil + Tare Mass (g)	353.69	345.96	361.36	361.36	353.63
Tare Mass (g)	203.37	178.91	211.65	211.65	176.33
Moisture Content (%)	**27.6**	**29.8**	**22.6**	**22.6**	**23.5**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	110.5	107.1	112.4	112.7	112.2
Dry Unit Weight (lbs/ft³)	86.6	82.5	91.7	91.9	90.9
Proctor No	3182-129	3182-129	3291-184	3291-184	3291-184
Optimum Moisture (Proctor) (%)	29.4	29.4	21.9	21.9	21.9
Max Dry Unit Weight (Proctor) (lbs/ft³)	88.2	88.2	99.5	99.5	99.5
Degree of Compaction (%)	**98.2**	**93.5**	**92.2**	**92.4**	**91.4**
Difference from Optimum Moisture (+/-%)	**-1.8**	**0.4**	**0.7**	**0.7**	**1.6**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5754D
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	10/5/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2225	**Moisture Standardization**	595	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	10/5/2011-5:30 P.M.	**Oven Stop Time (Date Time)**	10/6/2011 7:00 A.M.	**Submitted By**	B.Landers
Field Tested By	D.Wilhite	**Lab Tested By**	R.Fisher	**Reviewed By**	B.Landers
Test No	1024	1025	1026	1027	1028
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.
Station	82+04	79+05	79+05	79+08	80+01
Offset	PS-62	PS-44	PS-48	PS-49	FS-54
Lift No	3	1	9	3	1
Latitude (°N)	29.881762	29.882563	29.882561	29.882552	29.882389
Longitude (°W)	90.135619	90.135403	90.135393	90.135390	90.135791
Elevation (ft)	5.0	3.5	4.5	5.5	4.0
Transmission Mode	DT 300	DT 300	DT 300	DT 300	DT 300
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-31	DT-42	DT-24	DT-20	DT-11
Wet Soil + Tare Mass (g)	395.34	395.33	395.72	395.19	395.67
Dry Soil + Tare Mass (g)	364.80	352.15	362.25	363.07	355.32
Tare Mass (g)	211.02	178.24	206.53	212.74	181.06
Moisture Content (%)	**19.9**	**24.8**	**21.5**	**21.4**	**23.2**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	107.9	109.2	110.5	114.4	116.5
Dry Unit Weight (lbs/ft³)	90.0	87.5	90.9	94.2	94.6
Proctor No	3186-184	2854-40	3291-184	3291-184	3291-184
Optimum Moisture (Proctor) (%)	21.9	23.9	21.9	21.9	21.9
Max Dry Unit Weight (Proctor) (lbs/ft³)	99.5	95.9	99.5	99.5	99.5
Degree of Compaction (%)	**90.5**	**91.2**	**91.4**	**94.7**	**95.1**
Difference from Optimum Moisture (+/-%)	**-2.0**	**0.9**	**-0.4**	**-0.5**	**1.3**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5754E
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	10/5/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2225	**Moisture Standardization**	595	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	10/5/2011-5:30 P.M.	**Oven Stop Time (Date Time)**	10/6/2011-7:00 A.M.	**Submitted By**	B.Landers
Field Tested By	D.Wilhite	**Lab Tested By**	R.Fisher	**Reviewed By**	B.Landers
Test No	1029	1030	1031	1032	1033
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.
Station	79+99	83+54	2+85	7+82	12+76
Offset	FS-51	FS-66	CL	CL	CL
Lift No	1	2	10	10	10
Latitude (°N)	29.882391	29.881469	29.889166	29.888874	29.888599
Longitude (°W)	90.135779	90.136144	90.154921	90.153387	90.151860
Elevation (ft)	4.0	3.5	13.1	13.0	13.1
Transmission Mode	DT 150	DT 300	DT 150	DT 150	DT 150
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-25	DT-08	DT-04	DT-01	DT-14
Wet Soil + Tare Mass (g)	395.04	395.16	395.94	395.66	395.05
Dry Soil + Tare Mass (g)	360.28	355.98	359.09	353.54	360.10
Tare Mass (g)	205.73	187.50	233.50	171.94	245.13
Moisture Content (%)	**22.5**	**23.3**	**29.3**	**23.2**	**30.4**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	113.7	108.3	112.7	109.8	111.3
Dry Unit Weight (lbs/ft³)	92.8	87.8	87.2	89.1	85.4
Proctor No	2854-40	2854-40	3178-125	3180-127	3785-132
Optimum Moisture (Proctor) (%)	23.9	23.9	26.2	24.0	28.5
Max Dry Unit Weight (Proctor) (lbs/ft³)	95.9	95.9	90.1	95.8	90.0
Degree of Compaction (%)	**96.8**	**91.6**	**96.8**	**93.0**	**94.9**
Difference from Optimum Moisture (+/-%)	**-1.4**	**-0.6**	**3.1**	**-0.8**	**1.9**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5754F
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	10/5/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2225	**Moisture Standardization**	595	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	10/5/2011-5:30 P.M.	**Oven Stop Time (Date Time)**	10/6/2011-7:00 A.M.	**Submitted By**	B.Landers
Field Tested By	D.Wilhite	**Lab Tested By**	R.Fisher	**Reviewed By**	B.Landers
Test No	1034	1035	1036	1037	1038
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.
Station	17+68	22+74	27+55	111+79	118+94
Offset	CL	CL	CL	FS-98	FS-10
Lift No	10	10	10	5	1
Latitude (°N)	29.888332	29.888061	29.887779	29.873940	29.872366
Longitude (°W)	90.150339	90.148772	90.147290	90.138359	90.137434
Elevation (ft)	13.1	13.0	13.0	5.3	4.2
Transmission Mode	DT 150	DT 150	DT 150	DT 300	DT 300
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-45	DT-50	DT-21	DT-02	DT-30
Wet Soil + Tare Mass (g)	395.29	395.03	395.47	395.53	395.80
Dry Soil + Tare Mass (g)	349.29	346.09	354.62	342.70	353.25
Tare Mass (g)	177.30	180.78	211.65	178.92	203.39
Moisture Content (%)	**26.7**	**29.6**	**28.6**	**32.3**	**28.4**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	118.2	107.5	116.4	115.7	111.8
Dry Unit Weight (lbs/ft³)	93.3	82.9	90.5	87.5	87.1
Proctor No	3178-125	3785-132	3785-132	3182-129	3182-129
Optimum Moisture (Proctor) (%)	26.2	28.5	28.5	29.4	29.4
Max Dry Unit Weight (Proctor) (lbs/ft³)	91.7	90.0	90.0	88.2	88.2
Degree of Compaction (%)	**101.7**	**92.1**	**100.6**	**99.2**	**98.8**
Difference from Optimum Moisture (+/-%)	**0.5**	**1.1**	**0.1**	**2.9**	**-1.0**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5754G
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	10/5/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2225	**Moisture Standardization**	595	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	10/5/2011-5:30 P.M.	**Oven Stop Time (Date Time)**	10/6/2011-7:00 A.M.	**Submitted By**	B.Landers
Field Tested By	D.Wilhite	**Lab Tested By**	R.Fisher	**Reviewed By**	B.Landers
Test No	1039	1040	1041	1042	
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.	
Station	118+81	83+51	79+99	83+53	
Offset	CL	FS-66	FS-52	FS-66	
Lift No	1	2	3	3	
Latitude (°N)	29.872420	29.881475	29.882393	29.881470	
Longitude (°W)	90.137470	90.136140	90.135780	90.136142	
Elevation (ft)	3.4	4.5	6.0	5.5	
Transmission Mode	DT 150	DT 300	DT 300	DT 300	
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-46	DT-27	DT-47	DT-44	
Wet Soil + Tare Mass (g)	395.52	395.13	395.83	395.70	
Dry Soil + Tare Mass (g)	341.86	360.58	359.47	356.69	
Tare Mass (g)	177.93	209.64	178.20	176.04	
Moisture Content (%)	**32.7**	**22.9**	**20.1**	**21.6**	
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	107.2	107.3	111.5	110.2	
Dry Unit Weight (lbs/ft³)	80.8	87.3	92.8	90.6	
Proctor No	3182-129	2854-40	3186-184	3291-184	
Optimum Moisture (Proctor) (%)	29.4	23.9	21.9	21.9	
Max Dry Unit Weight (Proctor) (lbs/ft³)	88.2	95.9	99.5	99.5	
Degree of Compaction (%)	**91.6**	**91.0**	**93.3**	**91.1**	
Difference from Optimum Moisture (+/-%)	**3.3**	**-1.0**	**-1.8**	**-0.3**	
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5774A
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	10/6/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2215	**Moisture Standardization**	595	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	10/6/2011-5:30 P.M.	**Oven Stop Time (Date Time)**	10/7/2011-7:00 A.M.	**Submitted By**	B.Landers
Field Tested By	D.Wilhite	**Lab Tested By**	R.Fisher	**Reviewed By**	B.Landers

Test No	1043	1044	1045	1046	1047
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.
Station	74+14	74+16	74+16	74+17	77+82
Offset	PS-17	PS-14	PS-13	PS-12	PS-21
Lift No	1	2	3	4	1
Latitude (°N)	29.883878	29.883877	29.883777	29.883875	29.882906
Longitude (°W)	90.135042	90.135053	90.135056	90.135060	90.135364
Elevation (ft)	8.8	9.5	10.3	11.5	7.4
Transmission Mode	DT 300	DT 300	DT 300	DT 300	DT 300
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-44	DT-47	DT-27	DT-30	DT-46
Wet Soil + Tare Mass (g)	395.47	384.97	399.47	396.32	395.58
Dry Soil + Tare Mass (g)	354.89	350.18	352.72	362.37	343.03
Tare Mass (g)	176.03	178.17	209.63	203.30	178.02
Moisture Content (%)	**22.7**	**20.2**	**32.7**	**21.3**	**31.8**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	115.3	110.3	114.0	113.0	113.7
Dry Unit Weight (lbs/ft³)	94.0	91.8	85.9	93.2	86.3
Proctor No	3291-184	3291-184	3182-129	2854-40	3182-129
Optimum Moisture (Proctor) (%)	21.9	21.9	29.4	23.9	29.4
Max Dry Unit Weight (Proctor) (lbs/ft³)	99.5	99.5	88.2	95.9	88.2
Degree of Compaction (%)	**94.5**	**92.3**	**97.4**	**97.2**	**97.8**
Difference from Optimum Moisture (+/-%)	**0.8**	**-1.7**	**3.3**	**-2.6**	**2.4**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5774B
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	10/6/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2215	**Moisture Standardization**	595	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	10/6/2011-5:30 P.M.	**Oven Stop Time (Date Time)**	10/7/2011-7:00 A.M.	**Submitted By**	B.Landers
Field Tested By	D.Wilhite	**Lab Tested By**	R.Fisher	**Reviewed By**	B.Landers
Test No	1048	1049	1050	1051	1052
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.
Station	77+82	77+90	77+82	118+89	118+45
Offset	PS-19	PS-69	PS-18	FS-8	PS-10
Lift No	2	1	3	2	2
Latitude (°N)	29.882907	29.882848	29.882909	29.872373	29.872437
Longitude (°W)	90.135367	90.135224	90.135373	90.137449	90.137581
Elevation (ft)	8.3	3.0	9.1	5.0	2.5
Transmission Mode	DT 300	DT 150	DT 300	DT 300	DT 150
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-41	DT-02	DT-21	DT-50	DT-45
Wet Soil + Tare Mass (g)	378.30	395.07	395.41	395.58	395.21
Dry Soil + Tare Mass (g)	343.29	342.53	352.99	344.82	342.30
Tare Mass (g)	178.02	178.87	211.60	180.71	177.21
Moisture Content (%)	**21.2**	**32.1**	**30.0**	**30.9**	**32.0**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	110.3	113.2	116.6	114.3	115.1
Dry Unit Weight (lbs/ft³)	91.0	85.7	89.7	87.3	87.2
Proctor No	3291-184	3182-129	3182-129	3182-129	3182-129
Optimum Moisture (Proctor) (%)	21.9	29.4	29.4	29.4	29.4
Max Dry Unit Weight (Proctor) (lbs/ft³)	99.5	88.2	88.2	88.2	88.2
Degree of Compaction (%)	**91.5**	**97.2**	**101.7**	**99.0**	**98.9**
Difference from Optimum Moisture (+/-%)	**-0.7**	**2.7**	**0.6**	**1.5**	**2.6**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5774C
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	10/6/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2215	**Moisture Standardization**	595	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	10/6/2011 5:30 P.M.	**Oven Stop Time (Date Time)**	10/7/2011 7:00 A.M.	**Submitted By**	B.Landers
Field Tested By	D.Wilhite	**Lab Tested By**	R.Fisher	**Reviewed By**	B.Landers
Test No	1053	1054	1055	1056	1057
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.
Station	32+46	77+80	77+88	118+48	119+12
Offset	CL	PS-18	PS-68	PS-2	PS-6
Lift No	10	4	2	3	3
Latitude (°N)	29.887499	29.882914	29.882854	29.872400	29.872410
Longitude (°W)	90.145772	90.135371	90.135226	90.137576	90.137372
Elevation (ft)	13.1	9.9	3.9	3.5	7.9
Transmission Mode	DT 150	DT 300	DT 300	DT 300	DT 300
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-14	DT-01	DT-04	DT-08	DT-25
Wet Soil + Tare Mass (g)	395.57	395.81	395.45	395.38	395.55
Dry Soil + Tare Mass (g)	361.32	342.23	357.12	348.46	351.78
Tare Mass (g)	245.09	171.80	233.44	187.47	205.69
Moisture Content (%)	**29.5**	**31.4**	**31.0**	**29.1**	**30.0**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	115.7	116.8	115.9	112.8	115.8
Dry Unit Weight (lbs/ft³)	89.3	88.9	88.5	87.4	89.1
Proctor No	3182-129	3182-129	3182-129	3182-129	3182-129
Optimum Moisture (Proctor) (%)	29.4	29.4	29.4	29.4	29.4
Max Dry Unit Weight (Proctor) (lbs/ft³)	88.2	88.2	88.2	88.2	88.4
Degree of Compaction (%)	**101.2**	**100.8**	**100.3**	**99.1**	**100.8**
Difference from Optimum Moisture (+/-%)	**0.1**	**2.0**	**1.6**	**-0.3**	**0.6**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5774D
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	10/6/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2215	**Moisture Standardization**	595	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	10/6/2011-5:30 P.M.	**Oven Stop Time (Date Time)**	10/7/2011 7:00 A.M.	**Submitted By**	B.Landers
Field Tested By	D.Wilhite	**Lab Tested By**	R.Fisher	**Reviewed By**	B.Landers

Test No	1058	1059	1060	1061	1062
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.
Station	77+99	47+98	77+81	47+98	48+00
Offset	PS-68	PS-94	PS-20	CL	PS-90
Lift No	5	1	5	1	2
Latitude (°N)	29.882827	29.886901	29.882909	29.886651	29.886889
Longitude (°W)	90.135235	90.140916	90.135365	90.140975	90.140911
Elevation (ft)	5.0	2.1	9.8	8.1	3.1
Transmission Mode	DT 300	DT 150	DT 300	DT 300	DT 300
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-43	DT-48	DT-49	DT-40	DT-11
Wet Soil + Tare Mass (g)	395.56	395.33	395.12	395.75	395.41
Dry Soil + Tare Mass (g)	350.48	345.55	347.19	357.63	350.88
Tare Mass (g)	179.92	183.55	176.42	176.27	181.00
Moisture Content (%)	**26.4**	**30.7**	**28.1**	**21.0**	**26.2**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	115.4	120.0	114.5	109.5	116.0
Dry Unit Weight (lbs/ft³)	91.3	91.8	89.4	90.5	91.9
Proctor No	3785-132	3785-132	3785-132	3291-184	3785-184
Optimum Moisture (Proctor) (%)	28.5	28.5	28.5	21.9	21.9
Max Dry Unit Weight (Proctor) (lbs/ft³)	90.0	90.0	90.0	99.5	90.0
Degree of Compaction (%)	**101.4**	**102.0**	**99.3**	**91.0**	**102.1**
Difference from Optimum Moisture (+/-%)	**-2.1**	**2.2**	**-0.4**	**-0.9**	**4.3**
Test Status					
Min Compaction (%)	9.0	9.0	9.0	9.0	9.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5774E
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	10/6/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2215	**Moisture Standardization**	595	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	10/6/2011-5:30 P.M.	**Oven Stop Time (Date Time)**	10/7/2011-7:00 A.M.	**Submitted By**	B.Landers
Field Tested By	D.Wilhite	**Lab Tested By**	R.Fisher	**Reviewed By**	B.Landers

Test No	1063	1064	1065	1066	1067
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.
Station	111+95	118+91	118+92	48+00	48+00
Offset	FS-12	PS-8	PS-6	CL	CL
Lift No	6	4	4	2	3
Latitude (°N)	29.873899	29.872421	29.872379	29.886645	29.886636
Longitude (°W)	90.138378	90.137440	90.137440	90.140968	90.140972
Elevation (ft)	5.0	6.7	7.0	9.1	10.3
Transmission Mode	DT 300	DT 300	DT 300	DT 300	DT 300
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-44	DT-47	DT-27	DT-30	DT-46
Wet Soil + Tare Mass (g)	395.34	395.56	395.69	395.08	395.94
Dry Soil + Tare Mass (g)	354.63	343.77	354.26	360.99	355.47
Tare Mass (g)	176.07	178.21	209.68	203.40	177.94
Moisture Content (%)	**22.8**	**31.3**	**28.7**	**21.6**	**22.8**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	111.9	116.2	112.5	111.9	113.0
Dry Unit Weight (lbs/ft³)	91.1	88.5	87.4	92.0	92.0
Proctor No	3291-184	3785-132	3785-132	3291-184	3291-184
Optimum Moisture (Proctor) (%)	21.9	28.5	28.5	21.9	21.9
Max Dry Unit Weight (Proctor) (lbs/ft³)	99.5	90.0	90.0	99.5	99.5
Degree of Compaction (%)	**91.6**	**98.3**	**97.1**	**92.5**	**92.5**
Difference from Optimum Moisture (+/-%)	**0.9**	**2.8**	**0.2**	**-0.3**	**0.9**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5774F
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	10/6/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2215	**Moisture Standardization**	595	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	10/6/2011-5:30 P.M.	**Oven Stop Time (Date Time)**	10/7/2011-7:00 A.M.	**Submitted By**	B.Landers
Field Tested By	D.Wilhite	**Lab Tested By**	R.Fisher	**Reviewed By**	B.Landers
Test No	1068	1069			
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit			
Feature	Levee Embankment	Levee Embankment			
Visual Description	G. BR. CL.	G. BR. CL.			
Station	48+03	48+01			
Offset	CL	PS-96			
Lift No	4	3			
Latitude (°N)	29.886645	29.886904			
Longitude (°W)	90.140959	90.140904			
Elevation (ft)	11.5	4.2			
Transmission Mode	DT 300	DT 150			
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-41	DT-02			
Wet Soil + Tare Mass (g)	395.25	395.23			
Dry Soil + Tare Mass (g)	348.70	346.88			
Tare Mass (g)	178.11	178.93			
Moisture Content (%)	**27.3**	**28.8**			
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	117.3	119.8			
Dry Unit Weight (lbs/ft³)	92.1	93.0			
Proctor No	3186-133	3186-133			
Optimum Moisture (Proctor) (%)	26.5	26.5			
Max Dry Unit Weight (Proctor) (lbs/ft³)	91.6	91.6			
Degree of Compaction (%)	**100.5**	**101.5**			
Difference from Optimum Moisture (+/-%)	**0.8**	**2.3**			
Test Status					
Min Compaction (%)	90.0	90.0			
Max Above Optimum Moisture (%)	5.0	5.0			
Max Below Optimum Moisture (%)	3.0	3.0			
Test Result	**Pass**	**Pass**			
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5780A
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	10/7/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2240	**Moisture Standardization**	595	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	10/7/2011-5:30 P.M.	**Oven Stop Time (Date Time)**	10/8/2011-7:00 A.M.	**Submitted By**	B.Landers
Field Tested By	D.Wilhite	**Lab Tested By**	R.Fisher	**Reviewed By**	B.Landers

Test No	1070	1071	1072	1073	1074
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.
Station	111+10	111+35	111+26	118+98	118+89
Offset	FS-74	FS-2	FS-25	PS-5	FS-7
Lift No	5	7	6	5	5
Latitude (°N)	29.874167	29.874052	29.874089	29.872409	29.872376
Longitude (°W)	90.138501	90.138299	90.138362	90.137417	90.137450
Elevation (ft)	5.0	10.6	7.5	9.8	8.3
Transmission Mode	DT 150	DT 300	DT 300	DT 300	DT 300
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-40	DT-49	DT-43	DT-48	DT-25
Wet Soil + Tare Mass (g)	395.28	395.46	395.12	395.44	395.75
Dry Soil + Tare Mass (g)	346.19	351.79	350.89	351.00	352.95
Tare Mass (g)	176.27	176.42	179.93	183.54	205.70
Moisture Content (%)	**28.9**	**24.9**	**25.9**	**26.5**	**29.1**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	110.6	114.5	114.6	116.8	113.2
Dry Unit Weight (lbs/ft³)	85.8	91.7	91.0	92.3	87.7
Proctor No	3182-129	3291-184	3186-133	3186-133	3182-129
Optimum Moisture (Proctor) (%)	29.4	21.9	26.5	26.5	29.4
Max Dry Unit Weight (Proctor) (lbs/ft³)	88.2	99.5	91.6	91.6	88.2
Degree of Compaction (%)	**97.3**	**92.2**	**99.3**	**100.8**	**99.4**
Difference from Optimum Moisture (+/-%)	**-0.5**	**3.0**	**-0.6**	**0.0**	**-0.3**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5780B
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	10/7/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2240	**Moisture Standardization**	595	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	10/7/2011-5:30 P.M.	**Oven Stop Time (Date Time)**	10/8/2011-7:00 A.M.	**Submitted By**	B.Landers
Field Tested By	D.Wilhite	**Lab Tested By**	R.Fisher	**Reviewed By**	B.Landers
Test No	1075	1076	1077		
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit		
Feature	Levee Embankment	Levee Embankment	Levee Embankment		
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.		
Station	119+08	119+28	119+32		
Offset	FS-60	PS-2	FS-4		
Lift No	5	6	6		
Latitude (°N)	29.872226	29.872396	29.872374		
Longitude (°W)	90.137403	90.137323	90.137316		
Elevation (ft)	5.4	11.7	11.7		
Transmission Mode	DT 300	DT 300	DT 300		
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-08	DT-04	DT-01		
Wet Soil + Tare Mass (g)	395.70	395.33	395.67		
Dry Soil + Tare Mass (g)	352.49	361.42	347.06		
Tare Mass (g)	187.49	233.46	171.90		
Moisture Content (%)	**26.2**	**26.5**	**27.8**		
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	112.9	110.4	114.8		
Dry Unit Weight (lbs/ft³)	89.5	87.3	89.8		
Proctor No	3186-133	3186-133	3186-133		
Optimum Moisture (Proctor) (%)	26.5	26.5	26.5		
Max Dry Unit Weight (Proctor) (lbs/ft³)	91.6	91.6	91.6		
Degree of Compaction (%)	**97.7**	**95.3**	**98.0**		
Difference from Optimum Moisture (+/-%)	**-0.3**	**0.0**	**1.3**		
Test Status					
Min Compaction (%)	90.0	90.0	90.0		
Max Above Optimum Moisture (%)	5.0	5.0	5.0		
Max Below Optimum Moisture (%)	3.0	3.0	3.0		
Test Result	**Pass**	**Pass**	**Pass**		
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5790A
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	10/10/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2201	**Moisture Standardization**	592	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	10/10/2011-5:30 P.M.	**Oven Stop Time (Date Time)**	10/11/2011-7:00 A.M.	**Submitted By**	B.Landers
Field Tested By	D.Wilhite	**Lab Tested By**	R.Fisher	**Reviewed By**	B.Landers

Test No	1078	1079	1080	1081	1082
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.
Station	51+27	37+59	37+79	42+53	42+50
Offset	PS-24	CL	FS-72	CL	FS-74
Lift No	3	9	4	9	4
Latitude (°N)	29.886800	29.887218	29.887021	29.886932	29.886751
Longitude (°W)	90.139877	90.144189	90.144171	90.142664	90.142715
Elevation (ft)	2.6	12.5	5.8	12.6	5.6
Transmission Mode	DT 300	DT 300	DT 300	DT 300	DT 300
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-14	DT-45	DT-50	DT-21	DT-02
Wet Soil + Tare Mass (g)	395.51	395.36	395.48	395.40	395.20
Dry Soil + Tare Mass (g)	358.20	343.30	350.42	359.25	353.69
Tare Mass (g)	245.12	177.28	180.76	211.65	178.93
Moisture Content (%)	**33.0**	**31.4**	**26.6**	**24.5**	**23.8**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	118.9	115.4	109.2	117.2	110.4
Dry Unit Weight (lbs/ft³)	89.4	87.8	86.3	94.1	89.2
Proctor No	3183-130	3183-130	3183-130	3181-128	3181-128
Optimum Moisture (Proctor) (%)	29.4	29.4	27.6	22.3	22.3
Max Dry Unit Weight (Proctor) (lbs/ft³)	88.2	88.2	87.5	92.9	92.9
Degree of Compaction (%)	**101.4**	**99.5**	**98.6**	**101.3**	**96.0**
Difference from Optimum Moisture (+/-%)	**3.6**	**2.0**	**-1.0**	**2.2**	**1.5**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5790B
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	10/10/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2201	**Moisture Standardization**	592	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	10/10/2011-5:30 P.M.	**Oven Stop Time (Date Time)**	10/11/2011-7:00 A.M.	**Submitted By**	B.Landers
Field Tested By	D.Wilhite	**Lab Tested By**	R.Fisher	**Reviewed By**	B.Landers
Test No	1083	1084			
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit			
Feature	Levee Embankment	Levee Embankment			
Visual Description	G. BR. CL.	G. BR. CL.			
Station	118+92	118+93			
Offset	PS-4	FS-8			
Lift No	7	7			
Latitude (°N)	29.872409	29.872374			
Longitude (°W)	90.137435	90.137436			
Elevation (ft)	11.5	10.1			
Transmission Mode	DT 300	DT 300			
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-41	DT-46			
Wet Soil + Tare Mass (g)	395.09	395.41			
Dry Soil + Tare Mass (g)	353.32	352.30			
Tare Mass (g)	178.13	177.94			
Moisture Content (%)	**23.8**	**24.7**			
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	118.1	117.2			
Dry Unit Weight (lbs/ft³)	95.4	94.0			
Proctor No	3291-184	2854-40			
Optimum Moisture (Proctor) (%)	21.9	23.9			
Max Dry Unit Weight (Proctor) (lbs/ft³)	99.5	95.9			
Degree of Compaction (%)	**95.9**	**98.0**			
Difference from Optimum Moisture (+/-%)	**1.9**	**0.8**			
Test Status					
Min Compaction (%)	90.0	90.0			
Max Above Optimum Moisture (%)	5.0	5.0			
Max Below Optimum Moisture (%)	3.0	3.0			
Test Result	**Pass**	**Pass**			
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5795
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	10/11/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2238	**Moisture Standardization**	589	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	10/11/2011-5:30 P.M.	**Oven Stop Time (Date Time)**	10/12/2011-7:00 A.M.	**Submitted By**	B.Landers
Field Tested By	D.Wilhite	**Lab Tested By**	R.Fisher	**Reviewed By**	B.Landers

Test No	1086	1087	1088	1089	1090
Retest of Test ID	5739C+982				
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.
Station	18+52	47+61	47+58	52+56	52+56
Offset	FS-57	CL	FS-71	CL	FS-76
Lift No	3	9	5	9	4
Latitude (°N)	29.888133	29.886687	29.886478	29.886429	29.886220
Longitude (°W)	90.150116	90.141085	90.141150	90.139559	90.139517
Elevation (ft)	6.0	12.5	5.8	12.6	5.6
Transmission Mode	DT 150	DT 300	DT 300	DT 150	DT 300
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-30	DT-27	DT-47	DT-44	DT-11
Wet Soil + Tare Mass (g)	395.54	395.11	395.24	395.43	395.87
Dry Soil + Tare Mass (g)	359.58	356.20	347.56	346.50	353.14
Tare Mass (g)	203.38	209.67	178.22	176.07	181.00
Moisture Content (%)	**23.0**	**26.6**	**28.2**	**28.7**	**24.8**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	111.9	108.3	113.3	111.5	114.1
Dry Unit Weight (lbs/ft³)	91.0	85.5	88.4	86.6	91.4
Proctor No	2653-8	3183-130	3182-129	3182-129	3186-184
Optimum Moisture (Proctor) (%)	23.1	27.6	29.4	29.4	26.5
Max Dry Unit Weight (Proctor) (lbs/ft³)	99.7	87.5	88.2	88.2	90.0
Degree of Compaction (%)	**91.3**	**97.7**	**100.2**	**98.2**	**101.6**
Difference from Optimum Moisture (+/-%)	**-0.1**	**-1.0**	**-1.2**	**-0.7**	**-1.7**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5803
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	10/12/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2211	**Moisture Standardization**	589	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	10/12/2011-5:30 P.M.	**Oven Stop Time (Date Time)**	10/13/2011-7:00 A.M.	**Submitted By**	B.Landers
Field Tested By	D.Wilhite	**Lab Tested By**	R.Fisher	**Reviewed By**	B.Landers
Test No	1091	1092			
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit			
Feature	Levee Embankment	Levee Embankment			
Visual Description	G. BR. CL.	G. BR. CL.			
Station	48+51	52+49			
Offset	PS-127	PS-118			
Lift No	5	4			
Latitude (°N)	29.886961	29.886743			
Longitude (°W)	90.140727	90.139653			
Elevation (ft)	3.5	3.5			
Transmission Mode	DT 300	DT 300			
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-20	DT-24			
Wet Soil + Tare Mass (g)	395.65	395.87			
Dry Soil + Tare Mass (g)	352.30	360.06			
Tare Mass (g)	212.67	206.53			
Moisture Content (%)	**31.0**	**23.3**			
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	118.5	114.7			
Dry Unit Weight (lbs/ft³)	90.5	93.0			
Proctor No	3178-125	3178-125			
Optimum Moisture (Proctor) (%)	26.2	26.2			
Max Dry Unit Weight (Proctor) (lbs/ft³)	91.7	91.7			
Degree of Compaction (%)	**98.7**	**101.4**			
Difference from Optimum Moisture (+/-%)	**4.8**	**-2.9**			
Test Status					
Min Compaction (%)	90.0	90.0			
Max Above Optimum Moisture (%)	5.0	5.0			
Max Below Optimum Moisture (%)	3.0	3.0			
Test Result	**Pass**	**Pass**			
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5815
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	10/13/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2240	**Moisture Standardization**	592	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	10/13/2011-5:30 P.M.	**Oven Stop Time (Date Time)**	10/14/2011-7:00 A.M.	**Submitted By**	B.Landers
Field Tested By	D.Wilhite	**Lab Tested By**	R.Fisher	**Reviewed By**	B.Landers

Test No	1093	1094	1095	1096	
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.	
Station	2+06	7+00	12+00	17+00	
Offset	CL	CL	CL	CL	
Lift No	11	11	11	11	
Latitude (°N)	29.889190	29.888932	29.888639	29.888373	
Longitude (°W)	90.155168	90.153642	90.152068	90.150559	
Elevation (ft)	13.6	13.6	13.6	13.6	
Transmission Mode	DT 150	DT 150	DT 150	DT 150	
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-24	DT-20	DT-02	DT-41	
Wet Soil + Tare Mass (g)	395.09	395.47	395.70	395.25	
Dry Soil + Tare Mass (g)	350.65	364.04	353.48	347.23	
Tare Mass (g)	206.50	212.68	178.90	178.06	
Moisture Content (%)	**30.8**	**20.8**	**24.2**	**28.4**	
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	116.2	122.0	121.6	118.2	
Dry Unit Weight (lbs/ft³)	88.8	101.0	97.9	92.1	
Proctor No	3182-129	3291-184	3291-184	3186-133	
Optimum Moisture (Proctor) (%)	29.4	21.9	21.9	26.5	
Max Dry Unit Weight (Proctor) (lbs/ft³)	88.2	99.5	99.5	91.6	
Degree of Compaction (%)	**100.7**	**101.5**	**98.4**	**100.5**	
Difference from Optimum Moisture (+/-%)	**1.4**	**-1.1**	**2.3**	**1.9**	
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5823A
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	10/18/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2230	**Moisture Standardization**	591	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	10/18/2011-5:30 P.M.	**Oven Stop Time (Date Time)**	10/19/2011-7:00 A.M.	**Submitted By**	B.Landers
Field Tested By	D.Wilhite	**Lab Tested By**	R.Fisher	**Reviewed By**	B.Landers

Test No	1098	1099	1100	1101	1102
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.
Station	22+20	32+17	37+26	41+54	27+20
Offset	CL	CL	CL	CL	CL
Lift No	11	11	10	10	10
Latitude (°N)	29.888083	29.887525	29.887242	29.887009	29.887795
Longitude (°W)	90.148939	90.145862	90.144286	90.142966	90.147379
Elevation (ft)	13.5	13.6	13.6	13.1	13.6
Transmission Mode	DT 150	DT 150	DT 150	DT 150	DT 150
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-25	DT-48	DT-08	DT-04	DT-01
Wet Soil + Tare Mass (g)	395.93	395.22	395.29	395.94	395.24
Dry Soil + Tare Mass (g)	361.23	348.32	352.23	361.96	351.21
Tare Mass (g)	205.70	183.48	187.42	233.43	171.83
Moisture Content (%)	**22.3**	**28.5**	**26.1**	**26.4**	**24.5**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	115.0	120.7	114.1	110.7	114.3
Dry Unit Weight (lbs/ft³)	94.0	93.9	90.5	87.6	91.8
Proctor No	3181-128	3178-125	3785-132	3785-132	3181-128
Optimum Moisture (Proctor) (%)	22.3	26.2	28.5	28.5	22.3
Max Dry Unit Weight (Proctor) (lbs/ft³)	92.9	91.7	90.0	90.0	92.9
Degree of Compaction (%)	**101.2**	**102.4**	**100.6**	**97.3**	**98.8**
Difference from Optimum Moisture (+/-%)	**0.0**	**2.3**	**-2.4**	**-2.1**	**2.2**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5823B
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	10/18/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2230	**Moisture Standardization**	591	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	10/18/2011-5:30 P.M.	**Oven Stop Time (Date Time)**	10/19/2011-7:00 A.M.	**Submitted By**	B.Landers
Field Tested By	D.Wilhite	**Lab Tested By**	R.Fisher	**Reviewed By**	B.Landers
Test No	1103	1104			
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit			
Feature	Levee Embankment	Levee Embankment			
Visual Description	G. BR. CL.	G. BR. CL.			
Station	45+90	50+90			
Offset	CL	CL			
Lift No	10	10			
Latitude (°N)	29.886770	29.886485			
Longitude (°W)	90.141617	90.140074			
Elevation (ft)	13.1	13.1			
Transmission Mode	DT 150	DT 150			
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-43	DT-31			
Wet Soil + Tare Mass (g)	395.56	395.74			
Dry Soil + Tare Mass (g)	355.81	360.57			
Tare Mass (g)	179.89	210.93			
Moisture Content (%)	**22.6**	**23.5**			
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	118.9	114.0			
Dry Unit Weight (lbs/ft³)	97.0	92.3			
Proctor No	3291-184	3178-125			
Optimum Moisture (Proctor) (%)	21.9	26.2			
Max Dry Unit Weight (Proctor) (lbs/ft³)	99.5	91.7			
Degree of Compaction (%)	**97.5**	**100.7**			
Difference from Optimum Moisture (+/-%)	**0.7**	**-2.7**			
Test Status					
Min Compaction (%)	90.0	90.0			
Max Above Optimum Moisture (%)	5.0	5.0			
Max Below Optimum Moisture (%)	3.0	3.0			
Test Result	**Pass**	**Pass**			
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5842
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	10/20/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2204	**Moisture Standardization**	590	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	10/20/2011-5:30 P.M.	**Oven Stop Time (Date Time)**	10/21/2011-7:00 A.M.	**Submitted By**	B.Landers
Field Tested By	D.Wilhite	**Lab Tested By**	R.Fisher	**Reviewed By**	B.Landers
Test No	1105	1106	1107		
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit		
Feature	Levee Embankment	Levee Embankment	Levee Embankment		
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.		
Station	37+14	56+88	56+80		
Offset	CL	CL	CL		
Lift No	11	10	11		
Latitude (°N)	29.887256	29.886568	29.886581		
Longitude (°W)	90.144325	90.138263	90.138285		
Elevation (ft)	13.4	13.6	14.1		
Transmission Mode	DT 150	DT 150	DT 150		
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-14	DT-50	DT-45		
Wet Soil + Tare Mass (g)	395.51	397.77	399.54		
Dry Soil + Tare Mass (g)	363.50	360.88	360.84		
Tare Mass (g)	245.10	180.75	177.26		
Moisture Content (%)	**27.0**	**20.5**	**21.1**		
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	116.8	122.1	115.0		
Dry Unit Weight (lbs/ft³)	92.0	101.3	95.0		
Proctor No	3178-125	3291-184	3291-184		
Optimum Moisture (Proctor) (%)	26.2	21.9	21.9		
Max Dry Unit Weight (Proctor) (lbs/ft³)	91.7	99.5	99.5		
Degree of Compaction (%)	**100.3**	**101.8**	**95.5**		
Difference from Optimum Moisture (+/-%)	**0.8**	**-1.4**	**-0.8**		
Test Status					
Min Compaction (%)	90.0	90.0	90.0		
Max Above Optimum Moisture (%)	5.0	5.0	5.0		
Max Below Optimum Moisture (%)	3.0	3.0	3.0		
Test Result	**Pass**	**Pass**	**Pass**		
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5855
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	10/24/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2216	**Moisture Standardization**	594	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	10/24/2011-5:30 P.M.	**Oven Stop Time (Date Time)**	10/25/2011-7:00 A.M.	**Submitted By**	B.Landers
Field Tested By	D.Wilhite	**Lab Tested By**	R.Fisher	**Reviewed By**	B.Landers
Test No	1108	1109	1110		
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit		
Feature	Levee Embankment	Levee Embankment	Levee Embankment		
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.		
Station	42+17	47+15	52+00		
Offset	CL	CL	CL		
Lift No	11	11	11		
Latitude (°N)	29.886960	29.886692	29.886427		
Longitude (°W)	90.142771	90.141252	90.139751		
Elevation (ft)	13.6	13.6	13.6		
Transmission Mode	DT 150	DT 150	DT 150		
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-49	DT-21	DT-45		
Wet Soil + Tare Mass (g)	396.64	396.10	393.72		
Dry Soil + Tare Mass (g)	351.45	358.45	350.36		
Tare Mass (g)	176.57	211.71	177.26		
Moisture Content (%)	**25.8**	**25.7**	**25.0**		
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	115.4	115.3	109.9		
Dry Unit Weight (lbs/ft³)	91.7	91.7	87.9		
Proctor No	3094-108	3094-108	3181-128		
Optimum Moisture (Proctor) (%)	24.0	24.0	22.3		
Max Dry Unit Weight (Proctor) (lbs/ft³)	90.1	90.1	92.9		
Degree of Compaction (%)	**101.8**	**101.8**	**94.6**		
Difference from Optimum Moisture (+/-%)	**1.8**	**1.7**	**2.7**		
Test Status					
Min Compaction (%)	90.0	90.0	90.0		
Max Above Optimum Moisture (%)	5.0	5.0	5.0		
Max Below Optimum Moisture (%)	3.0	3.0	3.0		
Test Result	**Pass**	**Pass**	**Pass**		
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5870
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	10/25/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2202	**Moisture Standardization**	598	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	10/25/2011-5:30 P.M.	**Oven Stop Time (Date Time)**	10/26/2011-7:00 A.M.	**Submitted By**	B.Landers
Field Tested By	D.Wilhite	**Lab Tested By**	R.Fisher	**Reviewed By**	B.Landers
Test No	1111				
Retest of Test ID					
Material Source	Borrow Pit				
Feature	Levee Embankment				
Visual Description	G. BR. CL.				
Station	57+44				
Offset	FS-100				
Lift No	3				
Latitude (°N)	29.886249				
Longitude (°W)	90.138157				
Elevation (ft)	4.6				
Transmission Mode	DT 300				
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-45				
Wet Soil + Tare Mass (g)	396.29				
Dry Soil + Tare Mass (g)	343.48				
Tare Mass (g)	177.26				
Moisture Content (%)	**31.8**				
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	113.4				
Dry Unit Weight (lbs/ft³)	86.0				
Proctor No	3182-129				
Optimum Moisture (Proctor) (%)	29.4				
Max Dry Unit Weight (Proctor) (lbs/ft³)	88.2				
Degree of Compaction (%)	**97.5**				
Difference from Optimum Moisture (+/-%)	**2.4**				
Test Status					
Min Compaction (%)	90.0				
Max Above Optimum Moisture (%)	5.0				
Max Below Optimum Moisture (%)	3.0				
Test Result	**Pass**				
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5874
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	10/26/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2205	**Moisture Standardization**	594	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	10/26/2011-5:30 P.M.	**Oven Stop Time (Date Time)**	10/27/2011-7:00 A.M.	**Submitted By**	B.Landers
Field Tested By	D.Wilhite	**Lab Tested By**	R.Fisher	**Reviewed By**	B.Landers
Test No	1112	1113			
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit			
Feature	Levee Embankment	Levee Embankment			
Visual Description	G. BR. CL.	G. BR. CL.			
Station	64+48	58+88			
Offset	PS-92	PS-72			
Lift No	3	3			
Latitude (°N)	29.885887	29.886637			
Longitude (°W)	90.136109	90.137601			
Elevation (ft)	4.5	4.9			
Transmission Mode	DT 150	DT 150			
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-25	DT-41			
Wet Soil + Tare Mass (g)	397.60	394.60			
Dry Soil + Tare Mass (g)	362.56	350.21			
Tare Mass (g)	205.67	178.01			
Moisture Content (%)	**22.3**	**25.8**			
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	120.9	109.9			
Dry Unit Weight (lbs/ft³)	98.9	87.4			
Proctor No	3291-184	3785-132			
Optimum Moisture (Proctor) (%)	21.9	28.5			
Max Dry Unit Weight (Proctor) (lbs/ft³)	99.5	90.0			
Degree of Compaction (%)	**99.4**	**97.1**			
Difference from Optimum Moisture (+/-%)	**0.4**	**-2.7**			
Test Status					
Min Compaction (%)	90.0	90.0			
Max Above Optimum Moisture (%)	5.0	5.0			
Max Below Optimum Moisture (%)	3.0	3.0			
Test Result	**Pass**	**Pass**			
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5896 A
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	10/31/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2209	**Moisture Standardization**	595	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	10/31/2011-5:30 P.M.	**Oven Stop Time (Date Time)**	11/1/2011-7:00 A.M.	**Submitted By**	B.Landers
Field Tested By	D.Wilhite	**Lab Tested By**	R.Fisher	**Reviewed By**	B.Landers
Test No	1114	1115	1116	1117	1118
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.
Station	172+06	172+07	172+07	173+92	174+02
Offset	PS-55	PS-57	PS-52	CL	CL
Lift No	1	2	3	1	2
Latitude (°N)	29.871370	29.871374	29.871361	29.871180	29.871179
Longitude (°W)	90.120713	90.120708	90.120708	90.120121	90.120107
Elevation (ft)	4.9	6.0	7.1	10.5	11.5
Transmission Mode	DT 300	DT 300	DT 300	DT 300	DT 300
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-11	DT-46	DT-30	DT-27	DT-47
Wet Soil + Tare Mass (g)	400.25	408.29	414.09	415.39	408.86
Dry Soil + Tare Mass (g)	356.42	363.64	363.74	368.92	358.89
Tare Mass (g)	180.87	177.84	203.28	209.52	178.14
Moisture Content (%)	**25.0**	**24.0**	**31.4**	**29.2**	**27.6**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	114.4	113.1	114.4	113.4	114.5
Dry Unit Weight (lbs/ft³)	91.5	91.2	87.1	87.8	89.7
Proctor No	3181-128	3178-125	3182-129	3183-130	3178-125
Optimum Moisture (Proctor) (%)	22.3	26.2	29.4	27.6	26.2
Max Dry Unit Weight (Proctor) (lbs/ft³)	92.9	91.7	88.2	87.5	91.7
Degree of Compaction (%)	**98.5**	**99.5**	**98.8**	**100.3**	**97.8**
Difference from Optimum Moisture (+/-%)	**2.7**	**-2.2**	**2.0**	**1.6**	**1.4**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5896 B
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	10/31/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2209	**Moisture Standardization**	595	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	10/31/2011-5:30 P.M.	**Oven Stop Time (Date Time)**	11/1/2011-7:00 A.M.	**Submitted By**	B.Landers
Field Tested By	D.Wilhite	**Lab Tested By**	R.Fisher	**Reviewed By**	B.Landers

Test No	1119	1120	1121	1122	1123
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.
Station	173+98	173+92	173+96	174+83	179+81
Offset	CL	CL	CL	CL	CL
Lift No	3	4	5	1	2
Latitude (°N)	29.871178	29.871188	29.871186	29.870964	29.870963
Longitude (°W)	90.120120	90.120138	90.120126	90.118296	90.118303
Elevation (ft)	12.5	13.1	13.6	10.5	11.5
Transmission Mode	DT 150	DT 150	DT 150	DT 300	DT 300
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-44	DT-40	DT-31	DT-43	DT-01
Wet Soil + Tare Mass (g)	412.39	409.88	414.64	417.50	400.73
Dry Soil + Tare Mass (g)	357.66	363.34	366.66	364.23	346.96
Tare Mass (g)	175.98	176.19	210.84	179.82	171.76
Moisture Content (%)	**30.1**	**24.9**	**30.8**	**28.9**	**30.7**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	113.5	116.4	112.8	114.9	114.9
Dry Unit Weight (lbs/ft³)	87.2	93.2	86.2	89.1	87.9
Proctor No	3183-130	3186-133	3183-130	31.82-129	3186-133
Optimum Moisture (Proctor) (%)	27.6	26.5	27.6	29.4	26.5
Max Dry Unit Weight (Proctor) (lbs/ft³)	87.5	91.6	87.5	88.2	91.6
Degree of Compaction (%)	**99.7**	**101.7**	**98.5**	**101.0**	**96.0**
Difference from Optimum Moisture (+/-%)	**2.5**	**-1.6**	**3.2**	**-0.5**	**4.2**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5896 C
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	10/31/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2209	**Moisture Standardization**	595	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	10/31/2011 5:30 P.M.	**Oven Stop Time (Date Time)**	11/1/2011 7:00 A.M.	**Submitted By**	B.Landers
Field Tested By	D.Wilhite	**Lab Tested By**	R.Fisher	**Reviewed By**	B.Landers

Test No	1124	1125	1126	1127	1128
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.
Station	179+82	179+80	180+01	179+72	180+02
Offset	CL	CL	PS-186	CL	PS-181
Lift No	3	4	1	5	2
Latitude (°N)	29.870955	29.870963	29.871436	29.870963	29.871443
Longitude (°W)	90.118303	90.118307	90.118104	90.118333	90.118099
Elevation (ft)	12.5	13.1	0.6	13.6	11.6
Transmission Mode	DT 300	DT 150	DT 300	DT 150	DT 300
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-45	DT-14	DT-42	DT-41	DT-02
Wet Soil + Tare Mass (g)	407.69	421.96	399.45	401.90	400.72
Dry Soil + Tare Mass (g)	363.43	383.04	355.65	348.23	347.71
Tare Mass (g)	177.19	245.02	178.12	178.02	178.86
Moisture Content (%)	**23.8**	**28.2**	**24.7**	**31.5**	**31.4**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	111.3	116.1	113.1	113.9	111.7
Dry Unit Weight (lbs/ft³)	89.9	90.6	90.7	86.6	85.0
Proctor No	3186-133	3178-125	3186-133	3183-130	3183-130
Optimum Moisture (Proctor) (%)	26.5	26.2	26.5	27.6	27.6
Max Dry Unit Weight (Proctor) (lbs/ft³)	91.6	91.7	91.6	87.5	87.5
Degree of Compaction (%)	**98.1**	**98.8**	**99.0**	**99.0**	**97.1**
Difference from Optimum Moisture (+/-%)	**-2.7**	**2.0**	**-1.8**	**3.9**	**3.8**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5896 D
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	10/31/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2209	**Moisture Standardization**	595	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	10/31/2011-5:30 P.M.	**Oven Stop Time (Date Time)**	11/1/2011 7:00 A.M.	**Submitted By**	B.Landers
Field Tested By	D.Wilhite	**Lab Tested By**	R.Fisher	**Reviewed By**	B.Landers

Test No	1129	1130	1131	1132	1133
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.
Station	180+01	180+05	166+88	165+07	166+89
Offset	PS-188	PS-181	CL	PS-31	CL
Lift No	3	4	1	1	2
Latitude (°N)	29.871442	29.871429	29.871327	29.871454	29.871339
Longitude (°W)	90.118102	90.118092	90.122355	90.122917	90.122351
Elevation (ft)	2.6	3.1	10.5	7.0	11.5
Transmission Mode	DT 150	DT 150	DT 300	DT 300	DT 300
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-20	DT-24	DT-50	DT-21	DT-49
Wet Soil + Tare Mass (g)	435.65	412.26	406.00	424.05	398.14
Dry Soil + Tare Mass (g)	388.62	361.89	357.28	374.49	346.97
Tare Mass (g)	212.61	206.47	180.68	211.56	176.38
Moisture Content (%)	**26.7**	**32.4**	**27.6**	**30.4**	**30.0**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	116.0	118.3	110.3	113.1	115.5
Dry Unit Weight (lbs/ft³)	91.6	89.4	86.4	86.7	88.8
Proctor No	3185-132	3183-130	3094-108	3785-133	3183-130
Optimum Moisture (Proctor) (%)	28.5	27.6	24.0	26.5	27.6
Max Dry Unit Weight (Proctor) (lbs/ft³)	90.0	87.5	90.1	91.6	87.5
Degree of Compaction (%)	**101.8**	**102.2**	**95.9**	**94.7**	**101.5**
Difference from Optimum Moisture (+/-%)	**-1.8**	**4.8**	**3.6**	**3.9**	**2.4**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5896 E
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	10/31/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2209	**Moisture Standardization**	595	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	10/31/2011-5:30 P.M.	**Oven Stop Time (Date Time)**	11/1/2011-7:00 A.M.	**Submitted By**	B.Landers
Field Tested By	D.Wilhite	**Lab Tested By**	R.Fisher	**Reviewed By**	B.Landers

Test No	1134	1135	1136	1137	1138
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.
Station	165+02	165+07	166+89	166+91	166+88
Offset	PS-27	PS-27	CL	CL	CL
Lift No	2	3	3	4	5
Latitude (°N)	29.871442	29.871443	29.871215	29.871322	29.871336
Longitude (°W)	90.122933	90.122919	90.122350	90.122346	90.122355
Elevation (ft)	8.1	8.9	12.5	13.1	13.6
Transmission Mode	DT 300	DT 150	DT 300	DT 150	DT 150
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-04	DT-08	DT-48	DT-15	DT-25
Wet Soil + Tare Mass (g)	408.06	400.89	404.90	440.00	419.16
Dry Soil + Tare Mass (g)	365.42	348.62	360.94	397.32	374.27
Tare Mass (g)	233.34	187.36	183.41	242.22	205.60
Moisture Content (%)	**32.3**	**32.4**	**24.8**	**27.5**	**26.6**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	116.8	111.6	110.7	116.5	115.5
Dry Unit Weight (lbs/ft³)	88.3	84.3	88.7	91.4	91.2
Proctor No	3183-130	3183-130	3183-130	3785-132	3186-133
Optimum Moisture (Proctor) (%)	27.6	27.6	27.6	28.5	26.5
Max Dry Unit Weight (Proctor) (lbs/ft³)	87.5	87.5	87.5	90.0	91.6
Degree of Compaction (%)	**100.9**	**96.3**	**101.4**	**101.6**	**99.6**
Difference from Optimum Moisture (+/-%)	**4.7**	**4.8**	**-2.8**	**-1.0**	**0.1**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5910 A
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	11/1/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2211	**Moisture Standardization**	598	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	11/1/2011-5:30 P.M.	**Oven Stop Time (Date Time)**	11/2/2011-7:00 A.M.	**Submitted By**	B.Landers
Field Tested By	D.Wilhite	**Lab Tested By**	R.Fisher	**Reviewed By**	B.Landers
Test No	1139	1140	1141	1142	1143
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.
Station	136+08	136+09	136+06	136+06	136+08
Offset	CL	CL	CL	CL	CL
Lift No	1	2	3	4	5
Latitude (°N)	29.871992	29.871993	29.871991	29.872004	29.871989
Longitude (°W)	90.132042	90.132040	90.132049	90.132049	90.132043
Elevation (ft)	10.0	11.0	12.0	12.6	13.1
Transmission Mode	DT 150	DT 300	DT 300	DT 150	DT 150
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-55	ST-03	ST-02	ST-04	ST-01
Wet Soil + Tare Mass (g)	480.41	428.59	446.57	411.07	382.70
Dry Soil + Tare Mass (g)	420.66	372.84	389.23	353.22	326.26
Tare Mass (g)	141.57	116.32	119.73	119.85	119.83
Moisture Content (%)	**21.4**	**21.7**	**21.3**	**24.8**	**27.3**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	111.4	110.4	111.1	115.4	114.8
Dry Unit Weight (lbs/ft³)	91.8	90.7	91.6	92.5	90.2
Proctor No	3291-184	3291-184	3291-184	3291-184	3785-132
Optimum Moisture (Proctor) (%)	21.9	21.9	21.9	21.9	28.5
Max Dry Unit Weight (Proctor) (lbs/ft³)	99.5	99.5	99.5	99.5	90.0
Degree of Compaction (%)	**92.3**	**91.2**	**92.1**	**93.0**	**100.2**
Difference from Optimum Moisture (+/-%)	**-0.5**	**-0.2**	**-0.6**	**2.9**	**-1.2**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5910 B
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	11/1/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2211	**Moisture Standardization**	598	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	11/1/2011-5:30 P.M.	**Oven Stop Time (Date Time)**	11/2/2011-7:00 A.M.	**Submitted By**	B.Landers
Field Tested By	D.Wilhite	**Lab Tested By**	R.Fisher	**Reviewed By**	B.Landers
Test No	1144	1145	1146	1147	1148
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.
Station	136+02	141+46	141+49	141+50	120+36
Offset	CL	PS-115	PS-114	PS-117	PS-62
Lift No	6	1	2	3	1
Latitude (°N)	29.871721	29.872185	29.872181	29.872191	29.872535
Longitude (°W)	90.132065	90.130320	90.130311	90.130308	90.136967
Elevation (ft)	13.6	3.1	4.1	5.1	3.6
Transmission Mode	DT 150	DT 300	DT 300	DT 300	DT 300
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-52	DT-53	DT-54	DT-51	DT-25
Wet Soil + Tare Mass (g)	400.92	379.80	439.50	476.81	442.39
Dry Soil + Tare Mass (g)	345.24	322.05	377.74	408.74	392.96
Tare Mass (g)	138.82	141.01	139.89	140.08	205.58
Moisture Content (%)	**27.0**	**31.9**	**26.0**	**25.3**	**26.4**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	115.9	117.6	114.9	113.5	115.3
Dry Unit Weight (lbs/ft³)	91.3	89.2	91.2	90.6	91.2
Proctor No	3785-132	3183-130	3181-128	3186-133	3178-125
Optimum Moisture (Proctor) (%)	28.5	27.6	22.3	26.5	26.2
Max Dry Unit Weight (Proctor) (lbs/ft³)	90.0	87.5	92.9	91.6	91.7
Degree of Compaction (%)	**101.4**	**101.9**	**98.2**	**98.9**	**99.5**
Difference from Optimum Moisture (+/-%)	**-1.5**	**4.3**	**3.7**	**-1.2**	**0.2**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5910 C
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	11/1/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2211	**Moisture Standardization**	598	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	11/1/2011 5:30 P.M.	**Oven Stop Time (Date Time)**	11/2/2011 7:00 A.M.	**Submitted By**	B.Landers
Field Tested By	D.Wilhite	**Lab Tested By**	R.Fisher	**Reviewed By**	B.Landers
Test No	1149	1150	1151	1152	1153
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.
Station	120+41	120+39	120+43	120+37	121+47
Offset	PS-64	PS-68	PS-62	PS-91	PS-18
Lift No	2	3	4	1	1
Latitude (°N)	29.872538	29.872549	29.872531	29.872612	29.872387
Longitude (°W)	90.136952	90.136957	90.136946	90.136959	90.136631
Elevation (ft)	4.6	5.6	6.6	5.8	7.5
Transmission Mode	DT 150	DT 300	DT 300	DT 300	DT 300
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-26	DT-47	DT-46	DT-11	DT-40
Wet Soil + Tare Mass (g)	435.53	443.61	442.86	423.87	396.38
Dry Soil + Tare Mass (g)	380.66	391.35	376.92	377.11	347.49
Tare Mass (g)	201.88	178.12	177.86	180.90	178.14
Moisture Content (%)	**30.7**	**24.5**	**33.1**	**23.8**	**28.9**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	115.3	111.6	110.9	115.1	109.4
Dry Unit Weight (lbs/ft³)	88.2	89.6	83.3	93.0	84.9
Proctor No	3183-130	3291-184	2611-00	3291-184	3785-132
Optimum Moisture (Proctor) (%)	27.6	21.9	30.6	21.9	28.5
Max Dry Unit Weight (Proctor) (lbs/ft³)	87.5	99.5	87.9	99.5	90.0
Degree of Compaction (%)	**100.8**	**90.1**	**94.8**	**93.5**	**94.3**
Difference from Optimum Moisture (+/-%)	**3.1**	**2.6**	**2.5**	**1.9**	**0.4**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5910 D
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	11/1/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2211	**Moisture Standardization**	598	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	11/1/2011-5:30 P.M.	**Oven Stop Time (Date Time)**	11/2/2011 7:00 A.M.	**Submitted By**	B.Landers
Field Tested By	D.Wilhite	**Lab Tested By**	R.Fisher	**Reviewed By**	B.Landers
Test No	1154	1155	1156	1157	1158
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.
Station	121+46	121+84	121+44	66+89	66+88
Offset	PS-15	PS-15	PS-12	CL	CL
Lift No	2	3	4	1	2
Latitude (°N)	29.872379	29.872379	29.872373	29.885417	29.885419
Longitude (°W)	90.136634	90.136628	90.136641	90.135498	90.135503
Elevation (ft)	8.8	9.8	11.3	11.6	12.6
Transmission Mode	DT 300	DT 300	DT 300	DT 300	DT 300
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-24	DT-19	DT-44	DT08	DT-48
Wet Soil + Tare Mass (g)	410.06	408.07	396.53	423.89	395.99
Dry Soil + Tare Mass (g)	367.71	362.13	353.24	374.52	346.38
Tare Mass (g)	206.37	206.86	175.98	187.32	183.39
Moisture Content (%)	**26.2**	**29.6**	**24.4**	**26.4**	**30.4**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	110.7	114.0	113.9	114.0	116.5
Dry Unit Weight (lbs/ft³)	87.7	88.0	91.6	90.2	89.3
Proctor No	3178-125	3178-125	3291-184	3178-125	3785-132
Optimum Moisture (Proctor) (%)	26.2	26.2	21.9	26.2	28.5
Max Dry Unit Weight (Proctor) (lbs/ft³)	91.7	91.7	99.5	91.7	90.0
Degree of Compaction (%)	**95.6**	**96.0**	**92.1**	**98.4**	**99.2**
Difference from Optimum Moisture (+/-%)	**0.0**	**3.4**	**2.5**	**0.2**	**1.9**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5910 E
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	11/1/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2211	**Moisture Standardization**	598	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	11/1/2011-5:30 P.M.	**Oven Stop Time (Date Time)**	11/2/2011-7:00 A.M.	**Submitted By**	B.Landers
Field Tested By	D.Wilhite	**Lab Tested By**	R.Fisher	**Reviewed By**	B.Landers
Test No	1159	1160	1161	1162	1163
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.
Station	66+87	66+93	70+02	69+99	70+02
Offset	CL	CL	CL	CL	CL
Lift No	3	4	1	2	3
Latitude (°N)	29.885421	29.885418	29.884980	29.884989	29.884978
Longitude (°W)	90.135504	90.135485	90.134727	90.134733	90.134732
Elevation (ft)	13.1	13.6	11.5	12.5	13.1
Transmission Mode	DT 150	DT 150	DT 300	DT 300	DT 150
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-02	DT-16	DT-04	DT-01	DT-10
Wet Soil + Tare Mass (g)	408.57	419.41	435.13	411.90	413.18
Dry Soil + Tare Mass (g)	358.51	382.65	396.10	369.38	364.88
Tare Mass (g)	178.80	242.07	233.30	171.75	175.14
Moisture Content (%)	**27.9**	**26.1**	**24.0**	**21.5**	**25.5**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	114.5	115.4	110.4	110.3	115.7
Dry Unit Weight (lbs/ft³)	89.5	91.5	89.0	90.8	92.2
Proctor No	3785-132	3094-108	3094-108	3291-184	3291-184
Optimum Moisture (Proctor) (%)	28.5	24.0	24.0	21.9	21.9
Max Dry Unit Weight (Proctor) (lbs/ft³)	90.0	90.1	90.1	99.5	99.5
Degree of Compaction (%)	**99.4**	**101.6**	**98.8**	**91.3**	**92.7**
Difference from Optimum Moisture (+/-%)	**-0.6**	**2.1**	**0.0**	**-0.4**	**3.6**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5910 F
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	11/1/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2211	**Moisture Standardization**	598	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	11/1/2011-5:30 P.M.	**Oven Stop Time (Date Time)**	11/2/2011-7:00 A.M.	**Submitted By**	B.Landers
Field Tested By	D.Wilhite	**Lab Tested By**	R.Fisher	**Reviewed By**	B.Landers
Test No	1164	1165	1166	1167	1168
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.	G. BR. CL.
Station	69+97	108+17	104+50	97+00	108+13
Offset	CL	PS-63	PS-151	CL	PS-62
Lift No	4	1	1	1	2
Latitude (°N)	29.884995	29.874853	29.875772	29.877866	29.877868
Longitude (°W)	90.134739	90.137852	90.137296	90.137144	90.137151
Elevation (ft)	13.6	3.0	0.5	10.5	4.0
Transmission Mode	DT 150	DT 300	DT 300	DT 300	DT 150
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-25	DT-26	DT-47	DT-46	DT-11
Wet Soil + Tare Mass (g)	395.99	416.95	409.38	413.19	416.13
Dry Soil + Tare Mass (g)	350.99	368.34	361.71	363.67	364.52
Tare Mass (g)	205.58	201.87	178.13	177.83	180.90
Moisture Content (%)	**30.9**	**29.2**	**26.0**	**26.6**	**28.1**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	111.0	118.9	114.6	117.0	116.7
Dry Unit Weight (lbs/ft³)	84.8	92.0	91.0	92.4	91.1
Proctor No	3785-132	3785-132	3186-133	3178-125	3180-127
Optimum Moisture (Proctor) (%)	28.5	28.5	26.5	26.2	24.0
Max Dry Unit Weight (Proctor) (lbs/ft³)	90.0	90.0	91.6	91.7	95.8
Degree of Compaction (%)	**94.2**	**102.2**	**99.3**	**100.8**	**95.1**
Difference from Optimum Moisture (+/-%)	**2.4**	**0.7**	**-0.5**	**0.4**	**4.1**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5931A
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	11/2/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2218	**Moisture Standardization**	596	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	11/2/2011-5:30 P.M.	**Oven Stop Time (Date Time)**	11/3/2011-7:00 A.M.	**Submitted By**	B.Landers
Field Tested By	D.Wilhite	**Lab Tested By**	R.Fisher	**Reviewed By**	B.Landers

Test No	1169	1170	1171	1172	1173
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G.BR.CL.	G.BR.CL.	G.BR.CL.	G.BR.CL.	G.BR.CL.
Station	108+13	108+16	104+48	104+47	104+47
Offset	PS-62	PS-59	PS-148	PS-150	PS-152
Lift No	2	3	2	3	4
Latitude (°N)	29.874864	29.874794	29.875779	29.875780	29.875779
Longitude (°W)	90.137850	90.137864	90.137303	90.137295	90.137292
Elevation (ft)	4.0	5.1	0.7	1.6	2.6
Transmission Mode	DT 150	DT 300	DT 300	DT 300	DT 300
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-18	DT-20	DT-15	DT-31	DT-41
Wet Soil + Tare Mass (g)	421.96	447.91	435.74	434.20	428.32
Dry Soil + Tare Mass (g)	381.92	399.62	390.64	386.06	368.97
Tare Mass (g)	240.19	212.57	242.22	210.93	178.00
Moisture Content (%)	**28.3**	**25.8**	**30.4**	**27.5**	**31.1**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	116.7	109.8	115.6	110.2	116.5
Dry Unit Weight (lbs/ft³)	91.0	87.3	88.7	86.4	88.9
Proctor No	3094-108	3185-132	3185-132	3185-132	3183-130
Optimum Moisture (Proctor) (%)	24.0	28.5	28.5	28.5	27.6
Max Dry Unit Weight (Proctor) (lbs/ft³)	90.1	90.0	90.0	90.0	87.5
Degree of Compaction (%)	**101.0**	**97.0**	**98.6**	**96.0**	**101.6**
Difference from Optimum Moisture (+/-%)	**4.3**	**-2.7**	**1.9**	**-1.0**	**3.5**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5931B
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	11/2/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2218	**Moisture Standardization**	596	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	11/2/2011-5:30 P.M.	**Oven Stop Time (Date Time)**	11/3/2011-7:00 A.M.	**Submitted By**	B.Landers
Field Tested By	D.Wilhite	**Lab Tested By**	R.Fisher	**Reviewed By**	B.Landers
Test No	1174	1175	1176	1177	1178
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G.BR.CL.	G.BR.CL	G.BR.CL	G.BR.CL	G.BR.CL
Station	97+00	96+97	97+00	40+34	40-+50
Offset	CL	CL	CL	PS-39	PS-41
Lift No	3	4	5	1	1
Latitude (°N)	29.877866	29.877876	29.877868	29.886967	29.886952
Longitude (°W)	90.137147	90.137153	90.137150	90.143362	90.143312
Elevation (ft)	12.4	12.9	13.5	6.4	2.9
Transmission Mode	DT 300	DT 150	DT 150	DT 300	DT 300
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-45	DT-06	DT-43	DT-14	DT-42
Wet Soil + Tare Mass (g)	416.37	448.01	430.33	434.21	413.37
Dry Soil + Tare Mass (g)	373.33	387.09	381.01	391.96	356.35
Tare Mass (g)	177.13	182.89	179.89	244.99	178.16
Moisture Content (%)	**21.9**	**29.8**	**24.5**	**28.7**	**32.0**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	113.0	108.7	115.8	113.1	114.9
Dry Unit Weight (lbs/ft³)	92.7	83.7	93.0	87.9	87.0
Proctor No	3181-128	3183-130	3178-125	3185-132	3183-130
Optimum Moisture (Proctor) (%)	22.3	27.6	26.2	28.5	27.6
Max Dry Unit Weight (Proctor) (lbs/ft³)	92.9	87.5	91.7	90.0	87.5
Degree of Compaction (%)	**99.8**	**95.7**	**101.4**	**97.7**	**99.4**
Difference from Optimum Moisture (+/-%)	**-0.4**	**2.2**	**-1.7**	**0.2**	**4.4**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5931C
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	11/2/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2218	**Moisture Standardization**	596	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	11/2/2011 5:30 P.M.	**Oven Stop Time (Date Time)**	11/3/2011 7:00 A.M.	**Submitted By**	B.Landers
Field Tested By	D.Wilhite	**Lab Tested By**	R.Fisher	**Reviewed By**	B.Landers
Test No	1179	1180	1181		
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit		
Feature	Levee Embankment	Levee Embankment	Levee Embankment		
Visual Description	G.BR.CL	G.BR.CL.	G.BR.CL		
Station	40+50	40+49	40+58		
Offset	PS-42	PS-39	FS-40		
Lift No	2	3	4		
Latitude (°N)	29.886950	29.886958	29.886949		
Longitude (°W)	90.143314	90.143315	90.143288		
Elevation (ft)	3.9	5.0	6.3		
Transmission Mode	DT 150	DT 300	DT 300		
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-13	DT-03	DT-28		
Wet Soil + Tare Mass (g)	416.38	441.58	455.02		
Dry Soil + Tare Mass (g)	377.80	380.49	398.18		
Tare Mass (g)	244.42	178.90	201.47		
Moisture Content (%)	**28.9**	**30.3**	**28.9**		
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	119.1	120.5	112.7		
Dry Unit Weight (lbs/ft³)	92.4	92.5	87.4		
Proctor No	3185-132	3178-125	3185-132		
Optimum Moisture (Proctor) (%)	28.5	26.2	28.5		
Max Dry Unit Weight (Proctor) (lbs/ft³)	90.0	91.7	90.0		
Degree of Compaction (%)	**102.7**	**100.9**	**97.1**		
Difference from Optimum Moisture (+/-%)	**0.4**	**4.1**	**0.4**		
Test Status					
Min Compaction (%)	90.0	90.0	90.0		
Max Above Optimum Moisture (%)	5.0	5.0	5.0		
Max Below Optimum Moisture (%)	3.0	3.0	3.0		
Test Result	**Pass**	**Pass**	**Pass**		
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5932A
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	11/3/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2220	**Moisture Standardization**	595	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	11/3/2011-5:30 P.M.	**Oven Stop Time (Date Time)**	11/4/2011-7:00 A.M.	**Submitted By**	B.Landers
Field Tested By	D.Wilhite	**Lab Tested By**	R.Fisher	**Reviewed By**	B.Landers

Test No	1182	1183	1184	1185	1186
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G.BR.CL.	G.BR.CL.	G.BR.CL.	G.BR.CL.	G.BR.CL.
Station	37+24	27+32	37+24	37+20	39+90
Offset	PS-141	PS-142	PS-138	PS-141	FS-121
Lift No	1	2	3	4	1
Latitude (°N)	29.887624	29.887630	29.887617	29.887630	29.886771
Longitude (°W)	90.144204	90.144208	90.144206	90.144215	90.143549
Elevation (ft)	0.3	1.3	2.3	3.1	1.5
Transmission Mode	DT 300	DT 300	DT 300	DT 300	DT 300
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-21	DT-27	DT-17	DT-49	DT-05
Wet Soil + Tare Mass (g)	425.90	429.61	440.42	434.98	409.92
Dry Soil + Tare Mass (g)	380.52	384.62	393.75	382.29	356.17
Tare Mass (g)	211.54	209.53	246.34	176.33	180.37
Moisture Content (%)	**26.9**	**25.7**	**31.7**	**25.6**	**30.6**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	113.3	114.8	116.1	114.3	110.9
Dry Unit Weight (lbs/ft³)	89.3	91.3	88.2	91.0	84.9
Proctor No	3186-133	3185-132	3182-129	3186-133	3182-129
Optimum Moisture (Proctor) (%)	26.5	28.5	29.4	26.5	29.4
Max Dry Unit Weight (Proctor) (lbs/ft³)	91.6	90.0	88.2	91.6	88.2
Degree of Compaction (%)	**97.5**	**101.4**	**100.0**	**99.3**	**96.3**
Difference from Optimum Moisture (+/-%)	**0.4**	**-2.8**	**2.3**	**-0.9**	**1.2**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5932B
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	11/3/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2220	**Moisture Standardization**	595	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	11/3/2011-5:30 P.M.	**Oven Stop Time (Date Time)**	11/4/2011-7:00 A.M.	**Submitted By**	B.Landers
Field Tested By	D.Wilhite	**Lab Tested By**	R.Fisher	**Reviewed By**	B.Landers
Test No	1187	1188	1189	1190	1191
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G.BR.CL.	G.BR.CL.	G.BR.CL.	G.BR.CL.	G.BR.CL.
Station	39+88	39+86	32+24	32+27	32+24
Offset	FS-119	FS-116	FS-111	FS-108	FS-112
Lift No	2	3	1	2	3
Latitude (°N)	29.886776	29.886786	29.887224	29.887231	29.887221
Longitude (°W)	90.143554	90.143560	90.145910	90.145900	90.145909
Elevation (ft)	2.5	13.8	1.4	2.5	3.5
Transmission Mode	DT 300	DT 300	DT 150	DT 300	DT 300
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-29	DT-30	DT-10	DT-01	DT-04
Wet Soil + Tare Mass (g)	445.11	436.74	424.17	432.24	455.80
Dry Soil + Tare Mass (g)	387.16	385.35	370.17	373.55	404.26
Tare Mass (g)	210.46	203.26	175.15	171.00	233.32
Moisture Content (%)	**32.8**	**28.2**	**27.7**	**29.0**	**30.2**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	114.0	114.7	113.2	113.2	113.3
Dry Unit Weight (lbs/ft³)	85.8	89.5	88.6	87.8	87.0
Proctor No	3185-132	3185-132	2854-40	3185-132	3185-132
Optimum Moisture (Proctor) (%)	28.5	28.5	23.9	28.5	28.5
Max Dry Unit Weight (Proctor) (lbs/ft³)	90.0	90.0	95.9	90.0	90.0
Degree of Compaction (%)	**95.3**	**99.4**	**92.4**	**97.6**	**96.7**
Difference from Optimum Moisture (+/-%)	**4.3**	**-0.3**	**3.8**	**0.5**	**1.7**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5932C
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	11/3/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2220	**Moisture Standardization**	595	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	11/3/2011-5:30 P.M.	**Oven Stop Time (Date Time)**	11/4/2011-7:00 A.M.	**Submitted By**	B.Landers
Field Tested By	D.Wilhite	**Lab Tested By**	R.Fisher	**Reviewed By**	B.Landers
Test No	1192	1193	1194		
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit		
Feature	Levee Embankment	Levee Embankment	Levee Embankment		
Visual Description	G.BR.CL.	G.BR.CL.	G.BR.CL.		
Station	32+26	29+53	29+49		
Offset	FS-116	FS-17	FS-17		
Lift No	4	1	2		
Latitude (°N)	29.887220	29.887628	29.887631		
Longitude (°W)	90.145909	90.146688	90.146699		
Elevation (ft)	4.3	6.8	7.7		
Transmission Mode	DT 300	DT 300	DT 150		
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-16	DT-02	DT-48		
Wet Soil + Tare Mass (g)	426.04	408.01	423.03		
Dry Soil + Tare Mass (g)	385.85	355.19	367.68		
Tare Mass (g)	242.07	178.79	183.38		
Moisture Content (%)	**28.0**	**29.9**	**30.0**		
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	112.5	114.2	112.8		
Dry Unit Weight (lbs/ft³)	87.9	87.9	86.8		
Proctor No	3178-125	3185-132	3185-132		
Optimum Moisture (Proctor) (%)	26.2	28.5	28.5		
Max Dry Unit Weight (Proctor) (lbs/ft³)	91.7	90.0	90.0		
Degree of Compaction (%)	**95.9**	**97.7**	**96.4**		
Difference from Optimum Moisture (+/-%)	**1.8**	**1.4**	**1.5**		
Test Status					
Min Compaction (%)	90.0	90.0	90.0		
Max Above Optimum Moisture (%)	5.0	5.0	5.0		
Max Below Optimum Moisture (%)	3.0	3.0	3.0		
Test Result	**Pass**	**Pass**	**Pass**		
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	5954A
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	11/7/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2219	**Moisture Standardization**	588	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	11/7/2011-5:30 P.M.	**Oven Stop Time (Date Time)**	11/8/2011-7:00 A.M.	**Submitted By**	B.Landers
Field Tested By	D.Wilhite	**Lab Tested By**	R.Fisher	**Reviewed By**	B.Landers

Test No	1195	1196	1197	1198	1199
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G.BR.CL	G. BR. CL.	G. BR. CL.	G.BR.CL.	G. BR. CL.
Station	162+69	162+49	154+50	162+71	162+46
Offset	CL	CL	FS-15	CL	CL
Lift No	1	1	1	2	2
Latitude (°N)	29.871419	29.871422	29.871549	29.871417	29.871406
Longitude (°W)	90.123673	90.123736	90.126254	90.123668	90.123748
Elevation (ft)	10.1	9.7	7.6	11.6	10.6
Transmission Mode	DT 300	DT 300	DT 300	DT 300	DT 150
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-48	DT-02	DT-16	DT-04	DT-01
Wet Soil + Tare Mass (g)	416.30	421.29	459.20	511.49	431.59
Dry Soil + Tare Mass (g)	367.22	365.68	409.58	447.11	380.10
Tare Mass (g)	183.42	178.79	242.21	233.32	171.77
Moisture Content (%)	**26.7**	**29.8**	**29.6**	**30.1**	**24.7**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	112.8	118.3	118.3	116.0	110.5
Dry Unit Weight (lbs/ft³)	89.0	91.1	91.3	89.2	88.6
Proctor No	3185-132	3185-132	3178-125	3178-125	3181-128
Optimum Moisture (Proctor) (%)	28.5	28.5	26.2	26.2	22.3
Max Dry Unit Weight (Proctor) (lbs/ft³)	90.0	90.0	91.7	91.7	92.9
Degree of Compaction (%)	**98.9**	**101.2**	**99.6**	**97.3**	**95.4**
Difference from Optimum Moisture (+/-%)	**-1.8**	**1.3**	**3.4**	**3.9**	**2.4**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc	**Lab Type**	QC	**Report No**	5954 B
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	11/7/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2219	**Moisture Standardization**	588	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	11/7/2011-5:30 PM	**Oven Stop Time (Date Time)**	11/8/2011-7:00 AM	**Submitted By**	B. Landers
Field Tested By	D. Wilhite	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers
Test No	1200	1201	1202	1203	1204
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G.BR.CL	G.BR.CL.	G.BR.CL.	G.BR.CL.	G.BR.CL.
Station	154+54	162+71	162+51	154+51	162+52
Offset	FS-14	CL	CL	FS-17	CL
Lift No	2	3	3	3	4
Latitude (°N)	29.871550	29.871530	29.871421	29.871543	29.871427
Longitude (°W)	90.126242	90.123665	90.123729	90.126249	90.123727
Elevation (ft)	8.5	12.6	11.6	9.3	12.6
Transmission Mode	DT 300	DT 300	DT 300	DT 300	DT 150
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-10	DT-30	DT-29	DT-05	DT-49
Wet Soil + Tare Mass (g)	435.25	450.01	479.75	494.54	448.39
Dry Soil + Tare Mass (g)	389.70	399.23	423.30	432.09	391.83
Tare Mass (g)	175.21	203.28	210.53	180.43	176.34
Moisture Content (%)	**21.2**	**25.9**	**26.5**	**24.8**	**26.2**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	119.8	115.6	117.9	120.8	116.5
Dry Unit Weight (lbs/ft³)	98.8	91.8	93.2	96.8	92.3
Proctor No	3291-184	3186-133	3178-125	3180-127	3180-127
Optimum Moisture (Proctor) (%)	21.9	26.5	26.2	24.0	24.0
Max Dry Unit Weight (Proctor) (lbs/ft³)	99.5	91.6	91.7	95.8	95.8
Degree of Compaction (%)	**99.3**	**100.2**	**101.6**	**101.0**	**96.3**
Difference from Optimum Moisture (+/-%)	**-0.7**	**-0.6**	**0.3**	**0.8**	**2.2**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc	**Lab Type**	QC	**Report No**	5954 C
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	11/7/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2219	**Moisture Standardization**	588	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	11/7/2011-5:30 PM	**Oven Stop Time (Date Time)**	11/8/2011-7:00 AM	**Submitted By**	B. Landers
Field Tested By	D. Wilhite	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	1205	1206	1207	1208	1209
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G.BR.CL.	G.BR.CL.	G.BR.CL.	G.BR.CL.	G.BR.CL.
Station	162+75	154+47	162+71	162+42	154+50
Offset	CL	FS-14	CL	CL	FS-11
Lift No	4	4	5	5	5
Latitude (°N)	29.871419	29.871552	29.871425	29.871433	29.871547
Longitude (°W)	90.123654	90.126263	90.123665	90.123756	90.126251
Elevation (ft)	13.0	9.9	13.6	13.0	10.8
Transmission Mode	DT 150	DT 300	DT 150	DT 150	DT 300
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-17	DT-25	DT-24	DT-47	DT-40
Wet Soil + Tare Mass (g)	490.41	533.29	413.90	515.94	493.05
Dry Soil + Tare Mass (g)	439.40	467.30	373.06	436.63	418.23
Tare Mass (g)	246.39	205.60	206.40	178.18	176.27
Moisture Content (%)	**26.4**	**25.2**	**24.5**	**30.7**	**30.9**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	118.2	120.8	116.7	119.2	119.7
Dry Unit Weight (lbs/ft³)	93.5	96.5	93.7	91.2	91.4
Proctor No	3291-184	3180-127	3291-184	3178-125	3178-125
Optimum Moisture (Proctor) (%)	26.5	24.0	21.9	26.2	26.2
Max Dry Unit Weight (Proctor) (lbs/ft³)	91.6	95.8	99.5	90.1	90.1
Degree of Compaction (%)	**102.1**	**100.7**	**94.2**	**101.2**	**101.4**
Difference from Optimum Moisture (+/-%)	**-0.1**	**1.2**	**2.6**	**4.5**	**4.7**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc	**Lab Type**	QC	**Report No**	5954 D
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	11/7/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2219	**Moisture Standardization**	588	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	11/7/2011-5:30 PM	**Oven Stop Time (Date Time)**	11/8/2011-7:00 AM	**Submitted By**	B. Landers
Field Tested By	D. Wilhite	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	1210	1211	1212	1213	1214
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G.BR.CL	G.BR.CL.	G.BR.CL.	G.BR.CL.	G.BR.CL.
Station	162+44	154+51	29+49	27+25	27+46
Offset	CL	FS-14	FS-17	FS-80	FS-79
Lift No	6	6	1	1	1
Latitude (°N)	29.871413	29.871552	29.887628	29.887587	29.887577
Longitude (°W)	90.123751	90.126251	90.146698	90.147431	90.147370
Elevation (ft)	13.6	11.0	8.2	2.5	3.5
Transmission Mode	DT 150	DT 150	DT 300	DT 300	DT 150
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-08	DT-42	DT-14	DT-43	DT-06
Wet Soil + Tare Mass (g)	476.40	460.71	508.84	504.64	480.71
Dry Soil + Tare Mass (g)	417.85	404.45	453.86	428.01	410.58
Tare Mass (g)	187.39	178.28	245.03	179.88	182.95
Moisture Content (%)	**25.4**	**24.9**	**26.3**	**30.9**	**30.8**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	116.0	115.9	110.3	110.2	116.1
Dry Unit Weight (lbs/ft³)	92.5	92.8	87.3	84.2	88.8
Proctor No	3178-125	3186-133	3178-125	3183-130	3183-130
Optimum Moisture (Proctor) (%)	26.2	26.5	26.2	27.6	27.6
Max Dry Unit Weight (Proctor) (lbs/ft³)	91.7	91.6	91.7	87.5	87.5
Degree of Compaction (%)	**100.9**	**101.3**	**95.2**	**96.2**	**101.5**
Difference from Optimum Moisture (+/-%)	**-0.8**	**-1.6**	**0.1**	**3.3**	**3.2**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc	**Lab Type**	QC	**Report No**	5954E
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	11/7/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2219	**Moisture Standardization**	588	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	11/7/2011-5:30 PM	**Oven Stop Time (Date Time)**	11/8/2011-7:00 AM	**Submitted By**	B. Landers
Field Tested By	D. Wilhite	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	1215	1216	1217	1218	1219
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G.BR.CL	G.BR.CL.	G.BR.CL.	G.BR.CL.	G.BR.CL.
Station	21+92	9+79	4+41	1+43	29+54
Offset	CL	FS-48	PS-27	FS-27	FS-15
Lift No	1	1	1	1	2
Latitude (°N)	29.888095	29.888640	29.889161	29.889159	29.887633
Longitude (°W)	90.149029	90.152807	90.154419	90.155380	90.146684
Elevation (ft)	9.0	3.7	4.6	5.8	9.2
Transmission Mode	DT 300	DT 300	DT 300	DT 300	DT 150
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-19	DT-44	DT-45	DT-15	DT-03
Wet Soil + Tare Mass (g)	585.99	477.48	486.88	542.00	430.50
Dry Soil + Tare Mass (g)	508.70	413.08	412.63	483.60	373.40
Tare Mass (g)	206.88	175.97	177.22	242.23	178.87
Moisture Content (%)	**25.6**	**27.2**	**31.5**	**24.2**	**29.4**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	118.5	118.2	113.8	115.9	113.4
Dry Unit Weight (lbs/ft³)	94.3	92.9	86.5	93.3	87.6
Proctor No	3181-128	3178-125	3183-130	3178-125	3182-129
Optimum Moisture (Proctor) (%)	22.3	26.2	27.6	26.2	29.4
Max Dry Unit Weight (Proctor) (lbs/ft³)	92.9	91.7	87.5	91.7	88.2
Degree of Compaction (%)	**101.5**	**101.3**	**98.9**	**101.7**	**99.3**
Difference from Optimum Moisture (+/-%)	**3.3**	**1.0**	**3.9**	**-2.0**	**0.0**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc	**Lab Type**	QC	**Report No**	5954 F
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	11/7/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2219	**Moisture Standardization**	588	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	11/7/2011-5:30 PM	**Oven Stop Time (Date Time)**	11/8/2011-7:00 AM	**Submitted By**	B. Landers
Field Tested By	D. Wilhite	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers
Test No	1220	1221	1222	1223	1224
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G.BR.CL	G.BR.CL.	G.BR.CL.	G.BR.CL.	G.BR.CL.
Station	29+05	27+47	27+24	21+94	9+79
Offset	FS17	FS-81	FS-79	CL	FS-50
Lift No	1	2	2	2	2
Latitude (°N)	29.887654	29.887570	29.887588	29.888099	29.888636
Longitude (°W)	90.146837	90.147364	90.147434	90.149022	90.152810
Elevation (ft)	10.5	4.3	3.5	10.6	3.6
Transmission Mode	DT 300	DT 300	DT 300	DT 300	DT 300
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-13	DT-20	DT-41	DT-18	DT-12
Wet Soil + Tare Mass (g)	562.02	466.49	417.33	525.65	459.11
Dry Soil + Tare Mass (g)	485.63	408.51	368.65	465.01	396.23
Tare Mass (g)	244.46	212.63	178.03	240.23	177.79
Moisture Content (%)	**31.7**	**29.6**	**25.5**	**27.0**	**28.8**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	110.4	113.8	110.8	113.4	118.0
Dry Unit Weight (lbs/ft³)	83.8	87.8	88.3	89.3	91.6
Proctor No	3183-130	3182-129	3181-128	3185-132	3185-132
Optimum Moisture (Proctor) (%)	27.6	29.4	22.3	28.5	28.5
Max Dry Unit Weight (Proctor) (lbs/ft³)	87.5	88.2	92.9	90.0	90.0
Degree of Compaction (%)	**95.8**	**99.5**	**95.0**	**99.2**	**101.8**
Difference from Optimum Moisture (+/-%)	**4.1**	**0.2**	**3.2**	**-1.5**	**0.3**
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	3.0
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc	**Lab Type**	QC	**Report No**	5954 G
USACE Contract No	W912P8-09-D-0046-0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	11/7/2011
Gauge Make	TROXLER	**Gauge Model**	3430	**Gauge Serial No**	33119
Density Standardization	2219	**Moisture Standardization**	588	**Oven Used**	21-350-ER
Oven Start Time (Date Time)	11/7/2011-5:30 PM	**Oven Stop Time (Date Time)**	11/8/2011-7:00 AM	**Submitted By**	B. Landers
Field Tested By	D. Wilhite	**Lab Tested By**	R. Fisher	**Reviewed By**	B. Landers

Test No	1225	1226	1227	1228	
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	
Visual Description	G.BR.CL	G.BR.CL.	G.BR.CL.	G.BR.CL.	
Station	4+42	1+43	29+53	29+05	
Offset	PS-35	FS-26	FS-14	FS-11	
Lift No	2	2	3	3	
Latitude (°N)	29.889163	29.889164	29.887635	29.887671	
Longitude (°W)	90.154414	90.155379	90.146686	90.146832	
Elevation (ft)	5.4	7.5	10.5	12.0	
Transmission Mode	DT 300	DT 300	DT 300	DT 300	
Moisture Test (Oven) ASTM D 2216					
Tare No	DT-31	DT-28	DT-50	DT-23	
Wet Soil + Tare Mass (g)	540.25	498.16	434.81	490.94	
Dry Soil + Tare Mass (g)	469.16	437.06	375.25	430.39	
Tare Mass (g)	210.91	201.50	180.70	205.06	
Moisture Content (%)	**27.5**	**25.9**	**30.6**	**26.9**	
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	113.8	109.8	112.3	112.7	
Dry Unit Weight (lbs/ft³)	89.3	87.2	86.0	88.8	
Proctor No	3185-132	3181-128	3185-132	3185-132	
Optimum Moisture (Proctor) (%)	28.5	22.3	28.5	28.5	
Max Dry Unit Weight (Proctor) (lbs/ft³)	90.0	92.9	90.0	90.0	
Degree of Compaction (%)	**99.2**	**93.9**	**95.6**	**98.7**	
Difference from Optimum Moisture (+/-%)	**-1.0**	**3.6**	**2.1**	**-1.6**	
Test Status					
Min Compaction (%)	90.0	90.0	90.0	90.0	
Max Above Optimum Moisture (%)	5.0	5.0	5.0	5.0	
Max Below Optimum Moisture (%)	3.0	3.0	3.0	3.0	
Test Result	**Pass**	**Pass**	**Pass**	**Pass**	
Remarks					
Version	**MVNQS10-110104**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	2970
USACE Contract No	W912P8-09-D-0046 0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	9/20/2010
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	26414
Transmission Mode	DT 150	**Density Standardization**	1888	**Moisture Standardization**	711
Oven Start Time (Date Time)	9/20/2010 - 7:00 P.M.	**Oven Stop Time (Date Time)**	9/21/2010 - 7:00 A.M.	**Oven Used**	21-350-ER
Field Tested By	Bryan Landers	**Lab Tested By**	Bryan Landers	**Reviewed By**	G. Lecoq
Submitted By	G. Lecoq				

Test No	66	67	68	69	70
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Feature	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment	Levee Embankment
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY	G-BR CLAY
Station	119+47	119+42	120+97	128+75	110+84
Offset	C/L +3.7	P.S. -104	F.S. +20.5'	UNCOMPACTED FILL	P.S. -6'
Lift No	9	2	2		7
Latitude (°N)	29.940320	29.940615	29.940224		29.942158
Longitude (°W)	86.090660	86.090634	86.090195		86.091555
Elevation (ft)	13.5	3.7	5.6		9.8
Moisture Test (Oven) ASTM D 2216					
Tare No	DT47	DT43	DT45	DT49	DT44
Wet Soil + Tare Mass (g)	394.16	392.55	394.94	393.41	391.22
Dry Soil + Tare Mass (g)	356.64	351.04	350.60	345.75	348.56
Tare Mass (g)	178.18	179.93	177.37	176.41	176.01
Moisture Content (%)	**21.0**	**24.3**	**25.6**	**28.1**	**24.7**
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	109.9	108.9	122.9		112.7
Dry Unit Weight (lbs/ft³)	90.8	87.6	97.9	0.0	90.4
Proctor No	2854-040	2854-040	2854-040		2854-040
Optimum Moisture (Proctor) (%)	23.9	23.9	23.9		23.9
Max Dry Unit Weight (Proctor) (lbs/ft³)	95.9	95.9	95.9		95.9
Degree of Compaction (%)	**94.7**	**91.3**	**102.1**		**94.3**
Difference from Optimum Moisture (+/-%)	**-2.9**	**0.4**	**1.7**		**0.8**
Test Status					
Min Compaction (%)	90.0	90.0	90.0		90.0
Max Above Optimum Moisture (%)	5.0	5.0	5.0		5.0
Max Below Optimum Moisture (%)	3.0	3.0	3.0		3.0
Test Result	**Pass**	**Pass**	**Pass**		**Pass**
Remarks					
Version	**MVNQS10-100625**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	2987
USACE Contract No	W912P8-09-D-0046 0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	9/22/2010
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	33119
Transmission Mode	DT 150	**Density Standardization**	2303	**Moisture Standardization**	587
Oven Start Time (Date Time)	9/22/2010 - 7:00 P.M.	**Oven Stop Time (Date Time)**	9/22/2010 - 7:00 A.M.	**Oven Used**	21-350-ER
Field Tested By	RODNEY FISHER	**Lab Tested By**	RODNEY FISHER	**Reviewed By**	B. LANDERS
Submitted By	B. LANDERS				
Test No	76	77	78		
Retest of Test ID					
Material Source	Borrow Pit	Borrow Pit	Borrow Pit		
Feature	Levee Embankment	Levee Embankment	Levee Embankment		
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY		
Station	125+02	129+99	110+95		
Offset	F.S. +43.0	F.S. +28'	C/L +4.5		
Lift No	2	2	10		
Latitude (°N)	26.940029	29.939903	29.942135		
Longitude (°W)	86.088935	86.087373	86.091598		
Elevation (ft)	4.6	5.2	13.0		
Moisture Test (Oven) ASTM D 2216					
Tare No	DT48	DT30	DT51		
Wet Soil + Tare Mass (g)	395.93	398.53	395.55		
Dry Soil + Tare Mass (g)	352.15	356.06	351.23		
Tare Mass (g)	183.50	203.36	140.14		
Moisture Content (%)	**26.0**	**27.8**	**21.0**		
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	117.5	121.7	116.1		
Dry Unit Weight (lbs/ft³)	93.3	95.2	96.0		
Proctor No	2854-040	2854-040	2854-040		
Optimum Moisture (Proctor) (%)	23.9	23.9	23.9		
Max Dry Unit Weight (Proctor) (lbs/ft³)	95.9	95.9	95.9		
Degree of Compaction (%)	**97.3**	**99.3**	**100.1**		
Difference from Optimum Moisture (+/-%)	**2.1**	**3.9**	**-2.9**		
Test Status					
Min Compaction (%)	90.0	90.0	90.0		
Max Above Optimum Moisture (%)	5.0	5.0	5.0		
Max Below Optimum Moisture (%)	3.0	3.0	3.0		
Test Result	**Pass**	**Pass**	**Pass**		
Remarks					
Version	**MVNQS10-100625**				

US Army Corps of Engineers

Field Density - Nuclear Method - ASTM D 6938
Moisture Content - Oven - ASTM D 2216 (Method B)

Laboratory	Tolunay-Wong Engineers, Inc.	**Lab Type**	QC	**Report No**	3002
USACE Contract No	W912P8-09-D-0046 0008	**Contractor**	Phylway, Inc.	**Revision**	
Project	WBV-14c.2 Phase 2, First Lift			**Sample Date**	9/23/2010
Gauge Make	Troxler	**Gauge Model**	3430	**Gauge Serial No**	26414
Transmission Mode	DT 150	**Density Standardization**	1886	**Moisture Standardization**	708
Oven Start Time (Date Time)	9/23/2010 - 8:00 P.M.	**Oven Stop Time (Date Time)**	9/24/2010 - 8:00 A.M.	**Oven Used**	21-350-ER
Field Tested By	TREVOR MCCLAIN	**Lab Tested By**	RODNEY FISHER	**Reviewed By**	B. LANDERS
Submitted By	B. LANDERS				

Test No	84	85	86		
Retest of Test ID			80		
Material Source	Borrow Pit	Borrow Pit	Borrow Pit		
Feature	Levee Embankment	Levee Embankment	Levee Embankment		
Visual Description	G-BR CLAY	G-BR CLAY	G-BR CLAY		
Station	110+94	110+93	107+05		
Offset	F.S. +89'	F.S +4.6	F.S. +8.8		
Lift No	3	12	1		
Latitude (°N)	29.942206	29.942142	29.943171		
Longitude (°W)	86.091851	86.091595	86.091263		
Elevation (ft)	4.9	14.0	5.0		
Moisture Test (Oven) ASTM D 2216					
Tare No	DT27	DT50	DT21		
Wet Soil + Tare Mass (g)	396.12	391.41	394.04		
Dry Soil + Tare Mass (g)	361.33	352.72	352.59		
Tare Mass (g)	209.55	180.72	211.62		
Moisture Content (%)	**22.9**	**22.5**	**29.4**		
Field Density (Nuclear Method) ASTM D 6938					
Wet Unit Weight (lbs/ft³)	107.5	117.9	112.6		
Dry Unit Weight (lbs/ft³)	87.5	96.2	87.0		
Proctor No	2854-040	2854-040	2854-040		
Optimum Moisture (Proctor) (%)	23.9	23.9	23.9		
Max Dry Unit Weight (Proctor) (lbs/ft³)	95.9	95.9	95.9		
Degree of Compaction (%)	**91.2**	**100.3**	**90.7**		
Difference from Optimum Moisture (+/-%)	**-1.0**	**-1.4**	**5.5**		
Test Status					
Min Compaction (%)	90.0	90.0	90.0		
Max Above Optimum Moisture (%)	5.0	5.0	5.0		
Max Below Optimum Moisture (%)	3.0	3.0	3.0		
Test Result	**Pass**	**Pass**	**Fail**		
Remarks					
Version	**MVNQS10-100625**				