

REPORT OF IN-PLACE DENSITY

PAGE 1 OF 2

CLIENT: REDFORD CONSTRUCTION, INC.
ATTN: THOMAS HUDGENS
P. O. BOX 1065
RAYMORE MO 64083

PROJECT NO.: R20-17-165
REPORT NO.: K19130
DATE OF SERVICE: 08/11/2017
AUTHORIZATION: THOMAS HUDGENS
REPORT DATE: 08/17/2017

PROJECT: MANOR @ STONY CREEK
2ND PLAT
LEE'S SUMMIT MO

SPALDING

SERVICES: Perform in-place density and moisture content tests to determine the degree of field compaction.

PROJECT DATA

CONTRACTOR: REDFORD CONSTRUCTION, INC.

GAUGE: Troxler 3440

GAUGE SERIAL NO.: 17571

	DENSITY	MOISTURE
METHOD OF TEST:	ASTM D6938	ASTM D3017
SPECIFICATION:	95% Min	Not provided

STANDARD COUNTS		PREVIOUS:
MOISTURE - CURRENT:	603	602
DENSITY - CURRENT:	1665	1670
TEST MODE: Direct Transmission		
PROBE DEPTH: 8		

M/D #	TEST OF	MATERIALS	MOISTURE/DENSITY RELATIONS		REFERENCE REPORT
			OPTIMUM MOISTURE %	MAXIMUM DENSITY pcf	
1.	STANDARD PROCTOR	GRAY-BROWN SILTY CLAY	22.4	97.4	K18707
2.	STANDARD PROCTOR	GRAY-BROWN SILTY CLAY	19.5	99.2	K18706
3.	STANDARD PROCTOR	BROWN SILTY CLAY	19.9	103.7	K18944

REPORT OF TESTS

TEST NO	LOCATION	PROBE DEPTH	LIFT/ELEV	M/D NO	FIELD MOISTURE (%)	OPTIMUM MOISTURE (%)	FIELD DENSITY (pcf)		MAXIMUM DENSITY (pcf)	DENSITY (% max)
							WET	DRY		
1.	SW MERRYMAN DRIVE ALONG LOT #: 49	8	-5'	1	26.0	22.4	119.8	95.1	97.4	98
2.	50	8	-5'7"	1	26.5	22.4	117.0	92.5	97.4	95
3.	51	8	-6'1"	1	24.7	22.4	117.6	94.3	97.4	97
4.	52	8	-5'1"	1	24.1	22.4	119.9	96.6	97.4	99
5.	53	8	-5'2"	1	25.1	22.4	118.7	94.9	97.4	97
6.	54	8	-4'1"	1	24.6	22.4	120.6	96.8	97.4	99
7.	55	8	-3'5"	1	27.4	22.4	118.4	92.9	97.4	95

Report of Tests continued on page 2

SPALDING
REPORT OF TESTS

(continued)

REPORT NO.: K19130

PAGE 2 OF 2

PROJECT NO.: R20-17-165 REDFORD CONSTRUCTION, INC.

DATE OF SERVICE: 08/11/2017

TEST NO	LOCATION	PROBE DEPTH	LIFT/ ELEV	M/D NO	FIELD MOISTURE	OPTIMUM MOISTURE	FIELD DENSITY		MAXIMUM DENSITY	DENSITY
					(%)	(%)	(pcf)	WET	DRY	(pcf)
										(% max)

Test results on this report meet project specifications as noted on page 1.

ADDITIONAL COMMENTS:

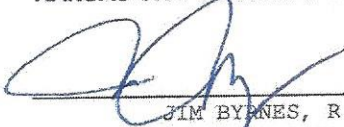
Observed proofroll of existing grade on SW Merryman Drive from Sta. 6+00 to 12+00; no significant rutting or pumping observed.

Technician: ERIC HOWARD, CME TECHNICIAN III

Report Distribution:

(1) THOMAS@REDFORDCONSTRUCTION.COM

KANSAS CITY TESTING & ENGINEERING,


JIM BYRNES, R.G.
PROJECT MANAGER

1007MAR

Our letters and reports are for the exclusive use of the client to whom they are addressed and shall not be reproduced except in full without the approval of the testing laboratory. The use of our name must receive our written approval. Our letters and reports apply only to the sample tested and/or inspected, and are not indicative of the quantities of apparently identical or similar products.

REPORT OF IN-PLACE DENSITY

CLIENT: REDFORD CONSTRUCTION, INC.
ATTN: THOMAS HUDGENS
P. O. BOX 1065
RAYMORE MO 64083

PAGE 1 OF 2

PROJECT: MANOR @ STONY CREEK
2ND PLAT
LEE'S SUMMIT MO

PROJECT NO.: R20-17-165
REPORT NO.: K19176
DATE OF SERVICE: 08/14/2017
AUTHORIZATION: THOMAS HUDGENS
REPORT DATE: 08/16/2017

SERVICES: Perform in-place density and moisture content tests to determine the degree of field compaction.

PROJECT DATA

CONTRACTOR: REDFORD CONSTRUCTION, INC.

GAUGE: Troxler 3440

GAUGE SERIAL NO.: 22322

METHOD OF TEST: DENSITY ASTM D6938
SPECIFICATION: 95% Min

MOISTURE ASTM D3017
-2 to +3% of Opt

STANDARD COUNTS

MOISTURE - CURRENT: 686 PREVIOUS: 696

DENSITY - CURRENT: 222 PREVIOUS: 225

TEST MODE: Direct Transmission

PROBE DEPTH: 8

MOISTURE/DENSITY RELATIONS

OPTIMUM
MOISTURE %

MAXIMUM
DENSITY pcf

REFERENCE
REPORT

WD #	TEST OF	MATERIALS	OPTIMUM MOISTURE %	MAXIMUM DENSITY pcf	REFERENCE REPORT
1.	STANDARD PROCTOR	GRAY-BROWN SILTY CLAY	22.4	97.4	K18707
2.	STANDARD PROCTOR	GRAY-BROWN SILTY CLAY	19.5	99.2	K18706

REPORT OF TESTS

TEST NO	LOCATION	PROBE DEPTH	LIFT/ ELEV	M/D NO	FIELD MOISTURE (%)	OPTIMUM MOISTURE (%)	FIELD DENSITY (pcf)		MAXIMUM DENSITY (pcf)	DENSITY (% max)
							WET	DRY		
1.	MERRYMAN DRIVE 47, Sta. 5+00, RT K19160 #1	8	-3.2'	1	27.1 *	22.4	113.6	89.4	97.4	92 *
2.	48, Sta. 5+50, RT K19160 #2	8	-3.3'	2	26.4 *	19.5	120.6	95.4	99.2	96
3.	49, Sta. 6+15, RT K19160 #3	8	-3.7'	2	24.1 *	19.5	123.1	99.2	99.2	100
4.	Sta 4+00	8	-3'	1	23.8	22.4	117.0	94.5	97.4	97
5.	Sta. 5+00 RETEST	8	-3.1'	1	21.8	22.4	117.5	96.5	97.4	99

Report of Tests continued on page 2

SPALDING

REPORT OF TESTS (continued)

REPORT NO.: K19176

PAGE 2 OF 2

PROJECT NO.: R20-17-165 REDFORD CONSTRUCTION, INC.

DATE OF SERVICE: 08/14/2017

TEST NO	LOCATION	PROBE DEPTH	LIFT/ELEV	M/D NO	FIELD MOISTURE (%)	OPTIMUM MOISTURE (%)	FIELD DENSITY (pcf)		MAXIMUM DENSITY (pcf)	DENSITY (% max)
							WET	DRY		
6.	Sta. 6+00, RETEST 2 & 3	8	-3.1'	2	22.5	19.5	120.2	98.1	99.2	99
7.	Sta. 7+00, RT K19160 #4	8	-4.2'	1	24.9	22.4	119.4	95.6	97.4	98
8.	Sta. 8+00	8	-4.5'	1	22.5	22.4	116.6	95.2	97.4	98
9.	Sta. 9+00	8	-3.4'	2	22.4	19.5	120.6	98.5	99.2	99
10.	Sta. 10+00	8	-2.7'	2	22.3	19.5	118.4	96.8	99.2	98
11.	Sta. 11+00	8	-3.2'	1	26.8 *	22.4	117.9	93.0	97.4	95
12.	Sta. 12+00	8	-3.0	1	28.5 *	22.4	116.5	90.7	97.4	93 *

An asterisk (*) appears next to test results which do NOT meet the project specifications as noted above.

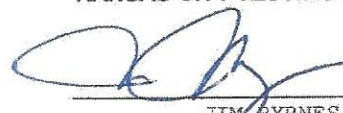
ADDITIONAL COMMENTS:

Technician: YVONNE BEATY, ENGINEERING TECHNICIAN

Report Distribution:

(1) THOMAS@REDFORDCONSTRUCTION.COM

KANSAS CITY TESTING & ENGINEERING,



JIM BYRNES, R.G.
PROJECT MANAGER

1007MAR

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REPORT OF IN-PLACE DENSITY

PAGE 1 OF 2

CLIENT: REDFORD CONSTRUCTION, INC.
ATTN: THOMAS HUDGENS
P. O. BOX 1065
RAYMORE MO 64083

PROJECT NO.: R20-17-165
REPORT NO.: K19202
DATE OF SERVICE: 08/15/2017
AUTHORIZATION: THOMAS HUDGENS
REPORT DATE: 08/16/2017

PROJECT: MANOR @ STONY CREEK
2ND PLAT
LEE'S SUMMIT MO

SERVICES: Perform in-place density and moisture content tests to determine the degree of field compaction.

SPREADING

PROJECT DATA

CONTRACTOR: REDFORD CONSTRUCTION, INC.

GAUGE: Troxler 3430

GAUGE SERIAL NO.: 19985

METHOD OF TEST: ASTM D6938
SPECIFICATION: 95% Min

MOISTURE
ASTM D3017
-2 to +3% of Opt

STANDARD COUNTS
MOISTURE - CURRENT: 602 PREVIOUS: 6052
DENSITY - CURRENT: 1744 PREVIOUS: 1746
TEST MODE: Direct Transmission
PROBE DEPTH: 6

M/D #	TEST OF	MATERIALS	MOISTURE/DENSITY RELATIONS		REFERENCE REPORT
			OPTIMUM MOISTURE %	MAXIMUM DENSITY pcf	
1.	STANDARD PROCTOR	GRAY-BROWN SILTY CLAY	19.5	99.2	K18706

REPORT OF TESTS

TEST NO	LOCATION	PROBE DEPTH	LIFT/ ELEV	M/D NO	FIELD MOISTURE (%)	OPTIMUM MOISTURE (%)	FIELD DENSITY (pcf)		MAXIMUM DENSITY (pcf)	DENSITY (% max)
							WET	DRY		
1.	MERRYMAN: 7+00	6	2.6' bfg	1	20.0	19.5	118.1	98.4	99.2	99
2.	6+00	6	1.9' bfg	1	19.8	19.5	118.8	99.2	99.2	100
3.	5+00	6	1.6 bfg	1	18.9	19.5	117.7	99.0	99.2	100
4.	11+00	6	2.2' bfg	1	20.5	19.5	118.0	97.9	99.2	99
5.	12+00	6	2.4' bfg	1	19.9	19.5	112.7	94.0	99.2	95
6.	9+00	6	1.7' bfg	1	19.6	19.5	118.0	98.7	99.2	99
7.	8+00	6	2.8' bfg	1	19.4	19.5	117.5	98.4	99.2	99
8.	SW Grindstone	6	1.5' bfg	1	19.2	19.5	116.9	98.1	99.2	99

Report of Tests continued on page 2

SPACBANK

REPORT OF TESTS (continued)

REPORT NO.: K19202

PAGE 2 OF 2

PROJECT NO.: R20-17-165 REDFORD CONSTRUCTION, INC.

DATE OF SERVICE: 08/15/2017

TEST NO	LOCATION	PROBE DEPTH	LIFT/ ELEV	M/D NO	FIELD MOISTURE (%)	OPTIMUM MOISTURE (%)	FIELD DENSITY (pcf)		MAXIMUM DENSITY (pcf)	DENSITY (% max)
							WET	DRY		
9.	SW Grindstone	6	fg	1	18.7	19.5	115.1	97.0	99.2	98

Test results on this report meet project specifications as noted on page 1.

ADDITIONAL COMMENTS:

Technician: MIKE SCHOTT, ENGINEERING TECHNICIAN

Report Distribution:

(1) THOMAS@REDFORDCONSTRUCTION.COM

KANSAS CITY TESTING & ENGINEERING,


JIM BYRNES, R.G.
PROJECT MANAGER

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IN-PLACE DENSITY TESTING SERVICE ORDER

Pg. 1

Client: REDFORD CONSTRUCTION, INC.

Client No.: 19399

Project: MANOR @ STONY CREEK
2ND PLAT

Project No.: R20-17-165

LEE'S SUMMIT MO

Report No.: K19462

Auth: THOMAS HUDGENS

Date/Time Requested: Thu 08/24/17 02:40

Date/Time of Service: Fri 08/25/17 8:00

Services: Perform in-place density and moisture content tests to determine the degree of field compaction.

SPALDING

JOB SITE: _____

GAUGE 19985

S/N 3430

KEYMAP: _____

CONTRACTOR: REDFORD CONSTRUCTION, INC.

STD COUNT CURRENT PREVIOUS TEST MODE
MOISTURE 600 606 DT BS
DENSITY 1740 1746 PROBE DEPTH 6"

METHOD REQUIREMENTS

MOISTURE _____
DENSITY _____

M/D NO.	MATERIAL DESCRIPTION	OPTIMUM MOISTURE	MAXIMUM DENSITY	Project Requirements	
				Moisture	Density
1. K18706	GRAY-BROWN SILTY CLAY	19.5	99.2	+/- 2.0% pt.	≥ 95% MDD
2. K18944	BROWN SILTY CLAY	19.9	103.7	"	"
3.					
4.					
5.	BELOW:				
6.	ELEVATIONS EXPRESSED	IN TERMS OF FEET AND TENTHS BELOW			
7.	FINISH GRADE,				
8.					

TEST NO.	TEST LOCATION	PROBE DEPTH	ELEV	M/D NO.	MOISTURE CONTENT	DENSITY pcf	% compaction
1. S.W.	MERLYMAN DR. STA 6+00	6"	8.6 BFG	2.	21.0 %	103.9 wet	100.2
2. "	" 7+00 "	"	1.3 BFG	"	20.7 %	104.0 wet	100.3
3.	" 8+00 "	"	1.6 BFG	"	19.8 %	101.0 wet	97.4
4.	" 9+00 "	"	2.6 BFG	"	21.1 %	103.3 wet	99.6
5.	" 10+00 "	"	0.6 BFG	"	19.8 %	102.0 wet	98.4
6. "	" 11+00 "	"	1.6 BFG	"	19.6 %	100.7 wet	97.1
7.	" 12+00 "	"	1.9 BFG	"	19.2 %	103.7 wet	100.0
8.	" 3+00 "	"	@ F.G.	"	20.4 %	104.4 wet	100.7
9.	" 4+00 "	"	@ F.G.	"	20.8 %	101.5 wet	97.9
10. "	" 5+00 "	"	@ F.G.	"	19.9 %	100.8 wet	97.2

NSD

DEPT ECODE SUBLAB UNITS RATE

TECH: MIKE SCHOTT

START: 9:00 STOP: 6:00 P MILEAGE: 17.19

DATE TEST PERFORMED 08-25-17

CLIENT REP:

THOMAS H.

FIELD RESULTS

REVIEWED BY:

REPORTED TO: JOE (SPALDING)

IN-PLACE DENSITY TESTING SERVICE ORDER

Client: REDFORD CONSTRUCTION, INC.
Project: MANOR @ STONY CREEK
 2ND PLAT
 LEE'S SUMMIT MO
Auth: THOMAS HUDGENS
Services: Perform in-place density and moisture content tests to determine the degree of field compaction.

Client No.: 19399
Project No.: R20-17-165
Report No.: K19462

Date/Time Requested: Thu 08/24/17 02:40
Date/Time of Service: Fri 08/25/17 8:00

SPREADING

Pg 2

JOBSITE: _____
KEYMAP: _____
CONTRACTOR: REDFORD CONSTRUCTION, INC.

GAUGE _____ **S/N** _____
STD COUNT CURRENT PREVIOUS TEST MODE
MOISTURE _____ **DT** _____ **BS** _____
DENSITY _____ **PROBE DEPTH** _____

M/D NO.	METHOD	REQUIREMENTS	MOISTURE DENSITY	OPTIMUM MOISTURE	MAXIMUM DENSITY	Project Requirements	
						Moisture	Density
1.							
2.							
3.							
4.							
5.							
6.							
7.							
8.							

PLEASE

TEST NO.	TEST LOCATION	PROBE DEPTH	LIFT/ELEV	M/D NO.	MOISTURE CONTENT	DENSITY pcf	% compaction
1. S.W. MERRYMAN DR. STA 6400		6"	0.7' F.G.	2.	19.6 %	101.3 wet	98.2
2. "	117400"	"	0.7' B.F.G.	"	19.8 %	104.1 wet	100.4
3.	8400	"	0.8' B.F.G.	"	20.1 %	102.7 wet	99.0
4.	9400	"	0.8' F.G.	"	19.9 %	102.4 wet	98.7
5. "	10400	"	0.8' F.G.	"	18.2 %	99.8 wet	96.2
6. "	11400	"	0.6' B.F.G.	"	19.7 %	104.0 wet	100.3
7. "	12400	"	0.8' B.F.G.	"	17.9 %	103.3 wet	99.6
8. S.W. GRINDSTONE, STA 0430		"	0.8' F.G.	"	18.4 %	103.7 wet	100.0
9. S.W. ALABASTER STA 0425		"	0.8' F.G.	"	19.1 %	101.5 wet	97.9
10.							

NSD

DEPT _____ **ECODE** _____ **SUBLAB** _____ **UNITS** _____ **RATE** _____

TECH: MIKE SCHOTT

START: _____ **STOP:** _____ **MILEAGE:** _____

DATE TEST PERFORMED: _____

FIELD RESULTS

REPORTED TO: _____

CLIENT REP: _____

REVIEWED BY: _____

ONE