MIDWEST TESTING LABORATORY

1805 Hancock Dr. / P.O. Box 2084 / Bismarck, North Dakota 58502
Phone (701) 258-2833 / Fax (701) 258-2857

REPORT OF: DENSITY TESTS OF COMPACTED FILL

PROJECT: Basment Backfill Projects
Mandan, North Dakota

DATE: June 5, 2007

REPORTED TO: Titus Excavating
Attn: Dave Titus
3614 Saratoga Ave
Bismarck, ND 58503-0781

COPIES: Mandan City Engineer's Office

PROJECT NO: B8474

TEST NUMBER:	4	5	6	7
DATE TAKEN:	6-4-07	6-4-07	6-4-07	6-4-07
LOCATION:	20' S & 35' E of NW corner of excavation	10' N & 21' E of SW corner of excavation	15' N & 10' W of SE corner of excavation	25' S & 15' W of NE corner of excavation
DEPTH BELOW FINAL ELEVATION:	2'	3'	5'	5'
SOIL CLASSIFICATION:	CLAYEY SAND-brown (SC)			
FIELD DENSITY DETERMINATION:	Nuclear Density Method, ASTM:D2922-04			
DRY DENSITY (PCF):	110.5	107.5	108	109
MOISTURE CONTENT (%):	13.9	16.4	16.1	15.4
LABORATORY MOISTURE – DENSITY RELATION:	Standard Proctor, ASTM:D698-00a, Method "A"			
MAXIMUM DRY DENSITY (PCF):	113.4	113.4	113.4	113.4
OPTIMUM MOISTURE (%):	14.7	14.7	14.7	14.7
TEST RESULTS:				
RELATIVE DENSITY (%):	97.5	95	95.5	96
SPECIFIED DENSITY (%):	95	95	95	95

REMARKS: The above test locations were selected by Midwest Testing Laboratory, Inc. Compaction meets the above specified density requirements in the above test areas.

SIGNED

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REPORT OF: DENSITY TESTS OF COMPACTED FILL

PROJECT: Basment Backfill Projects
Mandan, North Dakota

DATE: June 1, 2007
*June 5, 2007

REPORTED TO: Titus Excavating
Attn: Dave Titus
3614 Saratoga Ave
Bismarck, ND 58503-0781

COPIES: Mandan City Engineer's Office

*REVISED COPY

PROJECT NO: B8474

TEST NUMBER:	1	2	3
DATE TAKEN:	5-24-07	5-24-07	5-24-07
LOCATION:	20' N & 50' E of SW corner of basement	20' N & 30' E of SW corner of basement	20' N & 10' E of SW corner of basement
DEPTH BELOW FINAL ELEVATION:	7'	6'	5'
SOIL CLASSIFICATION:	*CLAYEY SAND-brown (SC)		
FIELD DENSITY DETERMINATION:	Nuclear Density Method, ASTM:D2922-04		
DRY DENSITY (PCF):	120	112	112.5
MOISTURE CONTENT (%):	13.1	12.9	13.5
LABORATORY MOISTURE – DENSITY RELATION:	Standard Proctor, ASTM:D698-00a, Method "A"		
MAXIMUM DRY DENSITY (PCF):	113.4	113.4	113.4
OPTIMUM MOISTURE (%):	14.7	14.7	14.7
TEST RESULTS:			
RELATIVE DENSITY (%):	97	99	99
SPECIFIED DENSITY (%):	95	95	95
SPECIFIED MOISTURE (%):			

REMARKS: The above test locations were selected by Midwest Testing Laboratory, Inc. Compaction meets the above specified density requirements in the above test areas.

SIGNED