

2000-3 Arapaho Road
QA tests - 1999



TERRA-MAR, INC.

GEOTECHNICAL ENVIRONMENTAL AND MATERIALS ENGINEERS

DALLAS FORT WORTH HOUSTON LONGVIEW LUBBOCK AUSTIN
 11050 Ables Lane, Dallas, Texas 75229 Phone:972-488-8800 Fax: 972-488-8080

id

CONCRETE INSPECTION AND COMPRESSION TEST REPORT

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 9/14/99
TMI REPORT #: DC98-050-138

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huilt-Zollars, Inc. Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): na
 Slump (in.): na
 Air Content (%): 4 -6
 Concrete Temp (°F): 95

PROJECT DATA

Placement Date: 6/28/99
 Sampled By: Contractor
 Weather: Sunny
 Supplier/Mix: na

FIELD DATA SET #1

Ticket #: _____ Time Batched: _____ Time Sampled: _____
 Slump (in.): _____ Air Content: _____ Unit Weight (pcf): _____
 Conc. Temp. (°F): _____ Ambient Temp. (°F): _____ Yardage (c.y.): _____
 Placement Location: Cylinders made by contractor, no other information given
 Remarks: _____

FIELD DATA SET #2

Ticket #: _____ Time Batched: _____ Time Sampled: _____
 Slump (in.): _____ Air Content: _____ Unit Weight (pcf): _____
 Conc. Temp. (°F): _____ Ambient Temp. (°F): _____ Yardage (c.y.): _____
 Placement Location: _____
 Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

CYLINDERS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C39, CAPPED PER ASTM C617

Set #	Cylinder #	Test Date	Age (Days)	Max. Load (lbs)	Area (sq. in.)	Strength (psi)	FC	Notes
1	AR062801	8/19/99	52	145660	28.27	5150	U	
	AR062802	8/19/99	52	138340	28.27	4890	U	
	AR062803	8/19/99	52	133930	28.27	4740	U	

- (1) NORMAL CYLINDER SIZE 6" X 12", AREA 28.27 sq. in., UNLESS NOTED ABOVE.
- (2) TYPE "A" CONE FRACTURE UNLESS INDICATED OTHERWISE IN NOTES.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

Note: This report is for the exclusive use of the Client addressed.
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CONCRETE INSPECTION AND COMPRESSION TEST REPORT

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 08/25/99
TMI REPORT #: DC98-050-137

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 3000
 Slump (in.): 5
 Air Content (%): _____
 Concrete Temp (°F) _____

PROJECT DATA

Placement Date: 07/27/99
 Sampled By: Pete W.
 Weather: Clear
 Supplier/Mix: Lattimore

FIELD DATA SET #1

Ticket #: 3088739 Time Batched: 1:53 Time Sampled: 3:15
 Slump (in.): 4 1/4 Air Content: 3.4 Unit Weight (pcf): na
 Conc. Temp. (°F): 97 Ambient Temp. (°F): 95 Yardage (c.y.): 10 of 10 c.y.
 Placement Location: Sidewalk-S. bound on Spectrum, in front of building
 Remarks: _____

FIELD DATA SET #2

Ticket #: _____ Time Batched: _____ Time Sampled: _____
 Slump (in.): _____ Air Content: _____ Unit Weight (pcf): _____
 Conc. Temp. (°F): _____ Ambient Temp. (°F): _____ Yardage (c.y.): _____
 Placement Location: _____
 Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

CYLINDERS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C39, CAPPED PER ASTM C617

Set #	Cylinder #	Test Date	Age (Days)	Max. Load (lbs)	Area (sq. in.)	Strength (psi)	FC	Notes
1	AR072701	08/03/99	7	91340	28.27	3230	U	
	AR072702	08/24/99	28	115870	28.27	4100	U	
	AR072703	08/24/99	28	107500	28.27	3800	U	
	AR072704	08/24/99	discard					

- (1) NORMAL CYLINDER SIZE 6" X 12", AREA 28.27 sq. in., UNLESS NOTED ABOVE.
- (2) TYPE "A" CONE FRACTURE UNLESS INDICATED OTHERWISE IN NOTES.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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Berry L. Fox PE
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CONCRETE INSPECTION AND COMPRESSION TEST REPORT

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 8/20/99
TMI REPORT #: DC98-050-136

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 3000
 Slump (in.): 5
 Air Content (%): 3-6
 Concrete Temp (°F): 100

PROJECT DATA

Placement Date: 7/21/99
 Sampled By: T Risen
 Weather: Clear
 Supplier/Mix: TXI

FIELD DATA SET #1

Ticket #: 1367789 Time Batched: 12:15 Time Sampled: 1:10
 Slump (in.): 5 Air Content: 4.7 Unit Weight (pcf): na
 Conc. Temp. (°F): 93 Ambient Temp. (°F): 95 Yardage (c.y.): Jan-00
 Placement Location: Sidewalks on corner of Arapaho Rd & Arapaho & Spectrum
 Remarks: _____

FIELD DATA SET #2

Ticket #: _____ Time Batched: _____ Time Sampled: _____
 Slump (in.): _____ Air Content: _____ Unit Weight (pcf): _____
 Conc. Temp. (°F): _____ Ambient Temp. (°F): _____ Yardage (c.y.): _____
 Placement Location: _____
 Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

CYLINDERS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C39, CAPPED PER ASTM C617

Set #	Cylinder #	Test Date	Age (Days)	Max. Load (lbs)	Area (sq. in.)	Strength (psi)	FC	Notes
1	AR072101	7/28/99	7	93600	28.27	3310	U	
	AR072102	8/18/99	28	131775	28.27	4660	U	
	AR072103	8/18/99	28	128471	28.27	4540	U	
	AR072104	Discard						

- (1) NORMAL CYLINDER SIZE 6" X 12", AREA 28.27 sq. in., UNLESS NOTED ABOVE.
- (2) TYPE "A" CONE FRACTURE UNLESS INDICATED OTHERWISE IN NOTES.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
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CONCRETE INSPECTION AND COMPRESSION TEST REPORT

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 8/6/99
TMI REPORT #: DC98-050-137

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 3000
 Slump (in.): 5
 Air Content (%): _____
 Concrete Temp (°F): _____

PROJECT DATA

Placement Date: 7/27/99
 Sampled By: Pete W.
 Weather: Clear
 Supplier/Mix: Lattimore

FIELD DATA SET #1

Ticket #: 3088739 Time Batched: 1:53 Time Sampled: 3:15
 Slump (in.): 4 1/4 Air Content: 3.4 Unit Weight (pcf): na
 Conc. Temp. (°F): 97 Ambient Temp. (°F): 95 Yardage (c.y.): 10 of 10 c.y.
 Placement Location: Sidewalk-S. bound on Spectrum, in front of building

Remarks: _____

FIELD DATA SET #2

Ticket #: _____ Time Batched: _____ Time Sampled: _____
 Slump (in.): _____ Air Content: _____ Unit Weight (pcf): _____
 Conc. Temp. (°F): _____ Ambient Temp. (°F): _____ Yardage (c.y.): _____
 Placement Location: _____

Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

CYLINDERS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C39, CAPPED PER ASTM C617

Set #	Cylinder #	Test Date	Age (Days)	Max. Load (lbs)	Area (sq. in.)	Strength (psi)	FC	Notes
1	AR072701	8/3/99	7	91340	28.27	3230	U	
	AR072702	8/24/99	28					
	AR072703	8/24/99	28					
	AR072704	8/24/99	hold					

- (1) NORMAL CYLINDER SIZE 6" X 12", AREA 28.27 sq. in., UNLESS NOTED ABOVE.
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- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
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Serry L. Foy

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11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800

cb

CONCRETE INSPECTION AND FLEXURAL STRENGTH TEST REPORT
(THIRD POINT LOADING)

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 7/30/99
TMI REPORT #: DC98-050-133

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 650/28
 Slump (in.): 5
 Air Content (%): _____
 Concrete Temp (°F) 90

PROJECT DATA

Placement Date: 6/24/99
 Sampled By: Moe II
 Weather: CW
 Supplier/Mix: Lattimore/42

FIELD DATA SET #1

Ticket #: 6100633 Time Batched: 11:50 Time Sampled: 12:05
 Slump (in.): 5 Air Content: _____ Unit Weight (pcf): _____
 Conc. Temp. (°F): 90 Ambient Temp. (°F): 95 Yardage (c.y.): 60/100
 Sample Location: (Arapaho Road) Right side 16+98 concrete pavement
 Remarks: _____

FIELD DATA SET #2

Ticket #: _____ Time Batched: _____ Time Sampled: _____
 Slump (in.): _____ Air Content: _____ Unit Weight (pcf): _____
 Conc. Temp. (°F): _____ Ambient Temp. (°F): _____ Yardage (c.y.): _____
 Placement Location: _____
 Sample Location: _____

CONCRETE COMPRESSION TEST RESULTS

BEAMS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C78

Set #	Beam #	Test Date	Age (Days)	Max. Load (lbs)	Average Depth, D	Average Width, B	Modulus of Rupture (psi)	Notes
1	AR062401	7/1/99	7	7680	6.00	6.30	640	
	AR062402	7/22/99	28	8280	6.00	6.10	690	

- (1) SPAN LENGTH OF 18 INCHES, UNLESS NOTED ABOVE.
- (2) SPECIMENS GROUND PRIOR TO TESTING, LEATHER SHIMS USED DURING TESTING.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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George L. Ford, P.E.
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cb

CONCRETE INSPECTION AND COMPRESSION TEST REPORT

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 7/26/99
TMI REPORT #: DC98-050-132

REPORT DISTRIBUTION:
Ed Bell Construction - Doug Teter
Huilt-Zollars, Inc. Kenneth Roberts, P.E.
Town of Addison - James Pierce, P.E.
Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 3000
Slump (in.): 4
Air Content (%): _____
Concrete Temp (°F) 90

PROJECT DATA

Placement Date: 6/24/99
Sampled By: Moe II
Weather: Sunny/Warm
Supplier/Mix: TXI/9601

FIELD DATA SET #1

Ticket #: 1346688 Time Batched: 12:40 Time Sampled: 12:50
Slump (in.): 4 Air Content: _____ Unit Weight (pcf): _____
Conc. Temp. (°F): 90 Ambient Temp. (°F): 95 Yardage (c.y.): 10 yds
Placement Location: (Arapaho Road) left sidewalk station 63+50
Remarks: _____

FIELD DATA SET #2

Ticket #: _____ Time Batched: _____ Time Sampled: _____
Slump (in.): _____ Air Content: _____ Unit Weight (pcf): _____
Conc. Temp. (°F): _____ Ambient Temp. (°F): _____ Yardage (c.y.): _____
Placement Location: _____
Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

CYLINDERS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C39, CAPPED PER ASTM C617

Set #	Cylinder #	Test Date	Age (Days)	Max. Load (lbs)	Area (sq. in.)	Strength (psi)	FC	Notes
1	AR062401	7/1/99	7	121410	28.27	4290	U	
	AR062402	7/22/99	28	152120	28.27	5380	U	
	AR062403	7/22/99	28	151330	28.27	5350	U	
	AR062404	Discard						

- (1) NORMAL CYLINDER SIZE 6" X 12", AREA 28.27 sq. in., UNLESS NOTED ABOVE.
- (2) TYPE "A" CONE FRACTURE UNLESS INDICATED OTHERWISE IN NOTES.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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Serry L. Fox, P.E.
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id

CONCRETE INSPECTION AND COMPRESSION TEST REPORT

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 07/29/99
TMI REPORT #: DC98-050-136

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 3000
 Slump (in.): 5
 Air Content (%): 3-6
 Concrete Temp (°F): 100

PROJECT DATA

Placement Date: 07/21/99
 Sampled By: T Risen
 Weather: Clear
 Supplier/Mix: TXI

FIELD DATA SET #1

Ticket #: 1367789 Time Batched: 12:15 Time Sampled: 1:10
 Slump (in.): 5 Air Content: 4.7 Unit Weight (pcf): na
 Conc. Temp. (°F): 93 Ambient Temp. (°F): 95 Yardage (c.y.): Jan-00
 Placement Location: Sidewalks on corner of Arapaho Rd & Arapaho & Spectrum

Remarks: _____

FIELD DATA SET #2

Ticket #: _____ Time Batched: _____ Time Sampled: _____
 Slump (in.): _____ Air Content: _____ Unit Weight (pcf): _____
 Conc. Temp. (°F): _____ Ambient Temp. (°F): _____ Yardage (c.y.): _____
 Placement Location: _____

Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

CYLINDERS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C39, CAPPED PER ASTM C617

Set #	Cylinder #	Test Date	Age (Days)	Max. Load (lbs)	Area (sq. in.)	Strength (psi)	FC	Notes
1	AR072101	07/28/99	7	93600	28.27	3310	U	
	AR072102	08/18/99	28					
	AR072103		28					
	AR072104		hold					

- (1) NORMAL CYLINDER SIZE 6" X 12", AREA 28.27 sq. in., UNLESS NOTED ABOVE.
- (2) TYPE "A" CONE FRACTURE UNLESS INDICATED OTHERWISE IN NOTES.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
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Sergio L. Fox

 TERRA-MAR, Inc.

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cb

CONCRETE INSPECTION AND COMPRESSION TEST REPORT

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 7/21/99
TMI REPORT #: DC98-050-130

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 3600
 Slump (in.): 4
 Air Content (%): _____
 Concrete Temp (°F): _____

PROJECT DATA

Placement Date: 6/23/99
 Sampled By: R. Shaheed
 Weather: Partly Cloudy
 Supplier/Mix: TXI/9601

FIELD DATA SET #1

Ticket #: 1183575 Time Batched: 2:32 Time Sampled: 4:05
 Slump (in.): 5.25 Air Content: 4.3 Unit Weight (pcf): _____
 Conc. Temp. (°F): 95 Ambient Temp. (°F): 95 Yardage (c.y.): 10 yds
 Placement Location: Sidewalk 1/2 W. on Arapaho 50ft from fire department hydrant E. block

FIELD DATA SET #2

Ticket #: _____ Time Batched: _____ Time Sampled: _____
 Slump (in.): _____ Air Content: _____ Unit Weight (pcf): _____
 Conc. Temp. (°F): _____ Ambient Temp. (°F): _____ Yardage (c.y.): _____
 Placement Location: _____
 Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

CYLINDERS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C39, CAPPED PER ASTM C617

Set #	Cylinder #	Test Date	Age (Days)	Max. Load (lbs)	Area (sq. in.)	Strength (psi)	FC	Notes
1	AR062301	6/30/99	7	108050	28.27	3820	U	
	AR062302	6/30/99	7	113060	28.27	4000	U	
	AR062303	7/21/99	28	131660	28.27	4660	U	
	AR062304	7/21/99	28	132480	28.27	4690	U	
	AR062305	Discard						

- (1) NORMAL CYLINDER SIZE 6" X 12", AREA 28.27 sq. in., UNLESS NOTED ABOVE.
- (2) TYPE "A" CONE FRACTURE UNLESS INDICATED OTHERWISE IN NOTES.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
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Rory L. Fox, P.E.

 TERRA-MAR, Inc.

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 DALLAS FORT WORTH HOUSTON LONGVIEW LUBBOCK AUSTIN

11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800

cb

CONCRETE INSPECTION AND FLEXURAL STRENGTH TEST REPORT
(THIRD POINT LOADING)

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 07/02/99
TMI REPORT #: DC98-050-133

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS	PROJECT DATA
Strength (psi): <u>650</u>	Placement Date: <u>06/24/99</u>
Slump (in.): <u>5</u>	Sampled By: <u>Moe II</u>
Air Content (%): _____	Weather: <u>CW</u>
Concrete Temp (°F) <u>90</u>	Supplier/Mix: <u>Lattimore/42</u>

FIELD DATA SET #1

Ticket #: <u>6100633</u>	Time Batched: <u>11:50</u>	Time Sampled: <u>12:05</u>
Slump (in.): <u>5</u>	Air Content: _____	Unit Weight (pcf): _____
Conc. Temp. (°F): <u>90</u>	Ambient Temp. (°F): <u>95</u>	Yardage (c.y.): <u>60/100</u>
Sample Location: <u>(Arapaho Road) Right side 16+98 concrete pavement</u>		
Remarks: _____		

FIELD DATA SET #2

Ticket #: _____	Time Batched: _____	Time Sampled: _____
Slump (in.): _____	Air Content: _____	Unit Weight (pcf): _____
Conc. Temp. (°F): _____	Ambient Temp. (°F): _____	Yardage (c.y.): _____
Placement Location: _____		
Sample Location: _____		

CONCRETE COMPRESSION TEST RESULTS								
BEAMS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C78								
Set #	Beam #	Test Date	Age (Days)	Max. Load (lbs)	Average Depth, D	Average Width, B	Modulus of Rupture (psi)	Notes
1	AR062401	07/01/99	7	7680	6.00	6.30	640	
	AR062402	07/22/99	28					

- (1) SPAN LENGTH OF 18 INCHES, UNLESS NOTED ABOVE.
- (2) SPECIMENS GROUND PRIOR TO TESTING, LEATHER SHIMS USED DURING TESTING.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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Serry L. Furr, P.E.
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cb

CONCRETE INSPECTION AND COMPRESSION TEST REPORT

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 07/02/99
TMI REPORT #: DC98-050-132

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

PROJECT DATA

Strength (psi): 3000
 Slump (in.): 4
 Air Content (%): _____
 Concrete Temp (°F) 90

Placement Date: 06/24/99
 Sampled By: Moe II
 Weather: Sunny/Warm
 Supplier/Mix: TXI/9601

FIELD DATA SET #1

Ticket #: 1346688 Time Batched: 12:40 Time Sampled: 12:50
 Slump (in.): 4 Air Content: _____ Unit Weight (pcf): _____
 Conc. Temp. (°F): 90 Ambient Temp. (°F): 95 Yardage (c.y.): 10 yds
 Placement Location: (Arapaho Road) left sidewalk station 63+50
 Remarks: _____

FIELD DATA SET #2

Ticket #: _____ Time Batched: _____ Time Sampled: _____
 Slump (in.): _____ Air Content: _____ Unit Weight (pcf): _____
 Conc. Temp. (°F): _____ Ambient Temp. (°F): _____ Yardage (c.y.): _____
 Placement Location: _____
 Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

CYLINDERS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C39, CAPPED PER ASTM C617

Set #	Cylinder #	Test Date	Age (Days)	Max. Load (lbs)	Area (sq. in.)	Strength (psi)	FC	Notes
1	AR062401	07/01/99	7	121410	28.27	4290	U	
	AR062402	07/22/99	28					
	AR062403	07/22/99	28					
	AR062404		Hold					

- (1) NORMAL CYLINDER SIZE 6" X 12", AREA 28.27 sq. in., UNLESS NOTED ABOVE.
- (2) TYPE "A" CONE FRACTURE UNLESS INDICATED OTHERWISE IN NOTES.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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Serry L. Franco
 TERRA-MAR, Inc.

TERRA-MAR, INC.
GEOTECHNICAL ENVIRONMENTAL AND MATERIALS ENGINEERS
 DALLAS FORT WORTH HOUSTON LONGVIEW LUBBOCK AUSTIN
 11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800 Fax: 972-488-8080

CONCRETE INSPECTION AND COMPRESSION TEST REPORT

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 7/16/99
TMI REPORT #: DC98-050-128

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 3500
 Slump (in.): 4
 Air Content (%): 4 to 6
 Concrete Temp (°F): 95

PROJECT DATA

Placement Date: 6/18/99
 Sampled By: J. Tipton
 Weather: Partly Cloudy
 Supplier/Mix: _____

FIELD DATA SET #1

Ticket #: 1342402 Time Batched: 11:38 Time Sampled: 12:25
 Slump (in.): 3 3/4 Air Content: _____ Unit Weight (pcf): _____
 Conc. Temp. (°F): 85 Ambient Temp. (°F): 81 Yardage (c.y.): 10 yds
 Placement Location: NW corner of intersection of Arapaho & Tollway, sampled at 5' N. of Arapaho north curb and 200' W. of Dallas Parkway

FIELD DATA SET #2

Ticket #: _____ Time Batched: _____ Time Sampled: _____
 Slump (in.): _____ Air Content: _____ Unit Weight (pcf): _____
 Conc. Temp. (°F): _____ Ambient Temp. (°F): _____ Yardage (c.y.): _____
 Placement Location: _____
 Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

CYLINDERS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C39, CAPPED PER ASTM C617

Set #	Cylinder #	Test Date	Age (Days)	Max. Load (lbs)	Area (sq. in.)	Strength (psi)	FC	Notes
1	AR061801	6/25/99	7	104350	28.27	3690	U	
	AR061802	6/25/99	7	90360	28.27	3200	U	
	AR061803	7/16/99	28	138020	28.27	4880	U	
	AR061804	7/16/99	28	134770	28.27	4770	U	

- (1) NORMAL CYLINDER SIZE 6" X 12", AREA 28.27 sq. in., UNLESS NOTED ABOVE.
- (2) TYPE "A" CONE FRACTURE UNLESS INDICATED OTHERWISE IN NOTES.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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[Signature]

 TERRA-MAR, Inc.

TERRA-MAR, INC.
GEOTECHNICAL, ENVIRONMENTAL, AND CONSTRUCTION MATERIALS TESTING
Dallas Fort Worth Houston Lubbock Longview Austin
11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800 Fax: 972-488-8080

DAILY ACTIVITY OBSERVATION REPORT

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
PROJECT NO.: DC98-050-135
REPORT DATE: 6/29/99

DISTRIBUTION:
Ed Bell Construction – Doug Teter
Huitt Zollars, Inc. – Kenneth Roberts, P.E.
Town of Addison – James Pierce, P.E.
Town of Addison – Dave Wilde

On June 28, 1999, Terra-Mar, Inc. representative, Billy Robinson, was at the above referenced project to perform concrete inspection and testing on one set of cylinders. TMI representative arrived at project site at 11:35. The truck was already empty and the technician waited for another truck for a sample. Left the site at 12:46 and returned to the office.


Terra-Mar, Inc.

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cb

CONCRETE INSPECTION AND COMPRESSION TEST REPORT

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 07/01/99
TMI REPORT #: DC98-050-130

REPORT DISTRIBUTION:
Ed Bell Construction - Doug Teter
Huitt-Zollars, Inc. Kenneth Roberts, P.E.
Town of Addison - James Pierce, P.E.
Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 3600
Slump (in.): 4
Air Content (%): _____
Concrete Temp (°F): _____

PROJECT DATA

Placement Date: 06/23/99
Sampled By: R. Shaheed
Weather: Partly Cloudy
Supplier/Mix: TXI/9601

FIELD DATA SET #1

Ticket #: 1183575 Time Batched: 2:32 Time Sampled: 4:05
Slump (in.): 5.25 Air Content: 4.3 Unit Weight (pcf): _____
Conc. Temp. (°F): 95 Ambient Temp. (°F): 95 Yardage (c.y.): 10 yds
Placement Location: Sidewalk 1/2 W. on Arapaho 50ft from fire department hydrant E. block

FIELD DATA SET #2

Ticket #: _____ Time Batched: _____ Time Sampled: _____
Slump (in.): _____ Air Content: _____ Unit Weight (pcf): _____
Conc. Temp. (°F): _____ Ambient Temp. (°F): _____ Yardage (c.y.): _____
Placement Location: _____
Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

CYLINDERS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C39, CAPPED PER ASTM C617

Set #	Cylinder #	Test Date	Age (Days)	Max. Load (lbs)	Area (sq. in.)	Strength (psi)	FC	Notes
1	AR062301	06/30/99	7	108050	28.27	3820	U	
	AR062302	06/30/99	7	113060	28.27	4000	U	
	AR062303	07/21/99	28					
	AR062304	07/21/99	28					
	AR062305		Hold					

- (1) NORMAL CYLINDER SIZE 6" X 12", AREA 28.27 sq. in., UNLESS NOTED ABOVE.
- (2) TYPE "A" CONE FRACTURE UNLESS INDICATED OTHERWISE IN NOTES.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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Ernie L. Fox, P.E.
TERRA-MAR, Inc.

TERRA-MAR, INC.
GEOTECHNICAL ENVIRONMENTAL AND MATERIALS ENGINEERS
 DALLAS FORT WORTH HOUSTON LONGVIEW LUBBOCK AUSTIN
 11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800 Fax: 972-488-8080

PH

CONCRETE INSPECTION AND COMPRESSION TEST REPORT

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 06/16/99
TMI REPORT #: DC98-050-126

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 4000
 Slump (in.): 4
 Air Content (%): na
 Concrete Temp (°F): 95

PROJECT DATA

Placement Date: 05/19/99
 Sampled By: Moe II
 Weather: Windy/ Sunny
 Supplier/Mix: Lattimore/42

FIELD DATA SET #1

Ticket #: 6098024 Time Batched: 11:40 Time Sampled: 11:50
 Slump (in.): 2 Air Content: na Unit Weight (pcf): na
 Conc. Temp. (°F): 75 Ambient Temp. (°F): 85 Yardage (c.y.): 10 70
 Placement Location: Driveway left 60+32.18
 Remarks: _____

FIELD DATA SET #2

Ticket #: _____ Time Batched: _____ Time Sampled: _____
 Slump (in.): _____ Air Content: _____ Unit Weight (pcf): _____
 Conc. Temp. (°F): _____ Ambient Temp. (°F): _____ Yardage (c.y.): _____
 Placement Location: _____
 Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

CYLINDERS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C39, CAPPED PER ASTM C617

Set #	Cylinder #	Test Date	Age (Days)	Max. Load (lbs)	Area (sq. in.)	Strength (psi)	FC	Notes
1	AR051901	05/26/99	7	110820	28.27	3920	U	
	AR051902	06/16/99	28	125940	28.27	4450	U	
	AR051903	06/16/99	28	131170	28.27	4640	U	
	AR051904	Discard						

- (1) NORMAL CYLINDER SIZE 6" X 12", AREA 28.27 sq. in., UNLESS NOTED ABOVE.
- (2) TYPE "A" CONE FRACTURE UNLESS INDICATED OTHERWISE IN NOTES.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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Kerry L. Fox
 TERRA-MAR, Inc.

TERRA-MAR, INC.
GEOTECHNICAL ENVIRONMENTAL AND MATERIALS ENGINEERS
 DALLAS FORT WORTH HOUSTON LONGVIEW LUBBOCK AUSTIN

11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800

cb

CONCRETE INSPECTION AND FLEXURAL STRENGTH TEST REPORT
(THIRD POINT LOADING)

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 06/17/99
TMI REPORT #: DC98-050-127

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 650
 Slump (in.): 2
 Air Content (%): na
 Concrete Temp (°F): 80

PROJECT DATA

Placement Date: 05/19/99
 Sampled By: Moe II
 Weather: Sunny
 Supplier/Mix: Lattimore/42

FIELD DATA SET #1

Ticket #: 6098045 Time Batched: 2:00 Time Sampled: 2:15
 Slump (in.): 2 Air Content: na Unit Weight (pcf): na
 Conc. Temp. (°F): _____ Ambient Temp. (°F): 90 Yardage (c.y.): 30/30
 Placement Location: Midway lot 70-6 and 60+00.6
 Sample Location: _____

FIELD DATA SET #2

Ticket #: _____ Time Batched: _____ Time Sampled: _____
 Slump (in.): _____ Air Content: _____ Unit Weight (pcf): _____
 Conc. Temp. (°F): _____ Ambient Temp. (°F): _____ Yardage (c.y.): _____
 Placement Location: _____
 Sample Location: _____

CONCRETE COMPRESSION TEST RESULTS

BEAMS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C78

Set #	Beam #	Test Date	Age (Days)	Max. Load (lbs)	Average Depth, D	Average Width, B	Modulus of Rupture (psi)	Notes
1	AR051901	05/26/99	7	7500	6.00	6.25	625	
	AR051902	06/16/99	28	7800	6.00	6.25	650	
2								

- (1) SPAN LENGTH OF 18 INCHES, UNLESS NOTED ABOVE.
- (2) SPECIMENS GROUND PRIOR TO TESTING, LEATHER SHIMS USED DURING TESTING.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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Sunny L. Fox
 TERRA-MAR, INC.

TERRA-MAR, INC.
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 11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800 Fax: 972-488-8080

CONCRETE INSPECTION AND COMPRESSION TEST REPORT

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 06/28/99
TMI REPORT #: DC98-050-128

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 3500
 Slump (in.): 4
 Air Content (%): 4 to 6
 Concrete Temp (°F): 95

PROJECT DATA

Placement Date: 06/18/99
 Sampled By: J. Tipton
 Weather: Partly Cloudy
 Supplier/Mix: _____

FIELD DATA SET #1

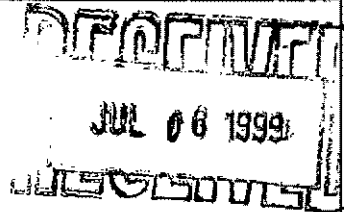
Ticket #: 1342402 Time Batched: 11:38 Time Sampled: 12:25
 Slump (in.): 3 3/4 Air Content: _____ Unit Weight (pcf): _____
 Conc. Temp. (°F): 85 Ambient Temp. (°F): 81 Yardage (c.y.): 10 yds
 Placement Location: NW corner of intersection of Arapaho & Tollway, sampled at 5' N. of Arapaho north curb and 200' W. of Dallas Parkway

FIELD DATA SET #2

Ticket #: _____ Time Batched: _____ Time Sampled: _____
 Slump (in.): _____ Air Content: _____ Unit Weight (pcf): _____
 Conc. Temp. (°F): _____ Ambient Temp. (°F): _____ Yardage (c.y.): _____
 Placement Location: _____
 Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

CYLINDERS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C39, CAPPED PER ASTM C617

Set #	Cylinder #	Test Date	Age (Days)	Max. Load (lbs)	Area (sq. in.)	Strength (psi)	FC	Notes
1	AR061801	06/25/99	7	104350	28.27	3690	U	
	AR061802	06/25/99	7	90360	28.27	3200	U	
	AR061803	07/16/99	28					
	AR061804	07/16/99	28					
								

- (1) NORMAL CYLINDER SIZE 6" X 12", AREA 28.27 sq. in., UNLESS NOTED ABOVE.
- (2) TYPE "A" CONE FRACTURE UNLESS INDICATED OTHERWISE IN NOTES.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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Serry L. Fox, Inc.

 TERRA-MAR, Inc.

TERRA-MAR, INC.
GEOTECHNICAL ENVIRONMENTAL AND MATERIALS ENGINEERS
 DALLAS FORT WORTH HOUSTON LONGVIEW LUBBOCK AUSTIN

11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800

cb

CONCRETE INSPECTION AND FLEXURAL STRENGTH TEST REPORT
(THIRD POINT LOADING)

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 06/10/99
TMI REPORT #: DC98-050-125

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 650
 Slump (in.): 4
 Air Content (%): na
 Concrete Temp (°F): na

PROJECT DATA

Placement Date: 05/12/99
 Sampled By: J. Tipton
 Weather: Partly Cloudy
 Supplier/Mix: Lattimore

FIELD DATA SET #1

Ticket #: 7070645 Time Batched: 10:47 Time Sampled: 12:15
 Slump (in.): 3 1/2 Air Content: 4.3 Unit Weight (pcf): na
 Conc. Temp. (°F): 86 Ambient Temp. (°F): 82 Yardage (c.y.): 150 yds
 Placement Location: South bound lane @ Spectrum St.
 Sample Location: 200 S of Arapaho Rd on Spectrum St.

FIELD DATA SET #2

Ticket #: 7070657 Time Batched: 12:03 Time Sampled: 1:20
 Slump (in.): 3 3/4 Air Content: 4.7 Unit Weight (pcf): Na
 Conc. Temp. (°F): 88 Ambient Temp. (°F): 86 Yardage (c.y.): 296 yds
 Placement Location: 10'x10' leave out and radius E. of Addison Rd. on Arapaho Rd.
 Sample Location: at 10'x10' leave out and radius on E. bound lane on Arapaho Rd.

CONCRETE COMPRESSION TEST RESULTS

BEAMS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C78

Set #	Beam #	Test Date	Age (Days)	Max. Load (lbs)	Average Depth, D	Average Width, B	Modulus of Rupture (psi)	Notes
1	AR051201	05/19/99	7	7260	6.05	6.15	605	
	AR051202	06/09/99	28	8220	6.00	6.10	685	
2	AR051203	05/19/99	7	7380	6.05	6.20	615	
	AR051204	06/09/99	28	8700	5.80	6.10	725	

- (1) SPAN LENGTH OF 18 INCHES, UNLESS NOTED ABOVE.
- (2) SPECIMENS GROUND PRIOR TO TESTING, LEATHER SHIMS USED DURING TESTING.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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Berry L. Fox, P.E.
 TERRA-MAR, INC.

TERRA-MAR, INC.
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 11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800 Fax: 972-488-8080

CONCRETE INSPECTION AND COMPRESSION TEST REPORT

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 06/07/99
TMI REPORT #: DC98-050-123

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 3000
 Slump (in.): 5"
 Air Content (%): _____
 Concrete Temp (°F): _____

PROJECT DATA

Placement Date: 05/03/99
 Sampled By: JS
 Weather: Clear/Warm
 Supplier/Mix: TXI

FIELD DATA SET #1

Ticket #: 1304293 Time Batched: 11:24 Time Sampled: 12:45
 Slump (in.): 5" Air Content: na Unit Weight (pcf): na
 Conc. Temp. (°F): _____ Ambient Temp. (°F): 75 Yardage (c.y.): na
 Placement Location: Sidewalk on Arapaho & Quorum
 Sample Location: _____

FIELD DATA SET #2

Ticket #: _____ Time Batched: _____ Time Sampled: _____
 Slump (in.): _____ Air Content: _____ Unit Weight (pcf): _____
 Conc. Temp. (°F): _____ Ambient Temp. (°F): _____ Yardage (c.y.): _____
 Placement Location: _____
 Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

CYLINDERS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C39, CAPPED PER ASTM C617

Set #	Cylinder #	Test Date	Age (Days)	Max. Load (lbs)	Area (sq. in.)	Strength (psi)	FC	Notes
1	AR050301	05/10/99	7	86110	28.27	3050	U	
	AR050302	05/31/99	28	121560	28.27	4300	U	
	AR050303	05/31/99	28	120220	28.27	4250	U	
	AR050304	Discard						

- (1) NORMAL CYLINDER SIZE 6" X 12", AREA 28.27 sq. in., UNLESS NOTED ABOVE.
- (2) TYPE "A" CONE FRACTURE UNLESS INDICATED OTHERWISE IN NOTES.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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Surry L. Fox, P.E.

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11050 Ables Lane, Dallas, Texas 75229 Phone:972-488-8800 Fax: 972-488-8080

CONCRETE INSPECTION AND COMPRESSION TEST REPORT

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 05/27/99
TMI REPORT #: DC98-050-124

REPORT DISTRIBUTION:
Ed Bell Construction - Doug Teter
Huitt-Zollars, Inc. Kenneth Roberts, P.E.
Town of Addison - James Pierce, P.E.
Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 3000
Slump (in.): _____
Air Content (%): _____
Concrete Temp (°F): _____

PROJECT DATA

Placement Date: 04/28/99
Sampled By: Contractor
Weather: Clear/Warm
Supplier/Mix: TXI

FIELD DATA SET #1

Ticket #: _____ Time Batched: _____ Time Sampled: _____
Slump (in.): _____ Air Content: _____ Unit Weight (pcf): _____
Conc. Temp. (°F): _____ Ambient Temp. (°F): _____ Yardage (c.y.): _____
Placement Location: Light poles
Remarks: Cylinders made by contractor no other information given

FIELD DATA SET #2

Ticket #: _____ Time Batched: _____ Time Sampled: _____
Slump (in.): _____ Air Content: _____ Unit Weight (pcf): _____
Conc. Temp. (°F): _____ Ambient Temp. (°F): _____ Yardage (c.y.): _____
Placement Location: _____
Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

CYLINDERS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C39, CAPPED PER ASTM C617

Set #	Cylinder #	Test Date	Age (Days)	Max. Load (lbs)	Area (sq. in.)	Strength (psi)	FC	Notes
1	AR042801	05/05/99	7	87270	28.27	3090	U	
	AR042802	05/26/99	28	117220	28.27	4150	U	
	AR042803	05/26/99	28	116480	28.27	4120	U	
	AR042804	discard						

- (1) NORMAL CYLINDER SIZE 6" X 12", AREA 28.27 sq. in., UNLESS NOTED ABOVE.
- (2) TYPE "A" CONE FRACTURE UNLESS INDICATED OTHERWISE IN NOTES.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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Serry L Fox, PE
TERRA-MAR, Inc.

TERRA-MAR, INC.
GEOTECHNICAL ENVIRONMENTAL AND MATERIALS ENGINEERS
 DALLAS FORT WORTH HOUSTON LONGVIEW LUBBOCK AUSTIN

11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800

CONCRETE INSPECTION AND FLEXURAL STRENGTH TEST REPORT
(THIRD POINT LOADING)

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 05/28/99
TMI REPORT #: DC98-050-127

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Hujtt-Zollars, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 650
 Slump (in.): 2
 Air Content (%): na
 Concrete Temp (°F): 80

PROJECT DATA

Placement Date: 05/19/99
 Sampled By: Moe II
 Weather: Sunny
 Supplier/Mix: Lattimore/42

FIELD DATA SET #1

Ticket #: 6098045 Time Batched: 2:00 Time Sampled: 2:15
 Slump (in.): 2 Air Content: na Unit Weight (pcf): na
 Conc. Temp. (°F): _____ Ambient Temp. (°F): 90 Yardage (c.y.): 30/30
 Placement Location: Midway lot 70-6 and 60+00.6
 Sample Location: _____

FIELD DATA SET #2

Ticket #: _____ Time Batched: _____ Time Sampled: _____
 Slump (in.): _____ Air Content: _____ Unit Weight (pcf): _____
 Conc. Temp. (°F): _____ Ambient Temp. (°F): _____ Yardage (c.y.): _____
 Placement Location: _____
 Sample Location: _____

CONCRETE COMPRESSION TEST RESULTS

BEAMS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C78

Set #	Beam #	Test Date	Age (Days)	Max. Load (lbs)	Average Depth, D	Average Width, B	Modulus of Rupture (psi)	Notes
1	AR051901	05/26/99	7	7500	6.00	6.25	625	
	AR051902	06/16/99	28					
2								

- (1) SPAN LENGTH OF 18 INCHES, UNLESS NOTED ABOVE.
- (2) SPECIMENS GROUND PRIOR TO TESTING, LEATHER SHIMS USED DURING TESTING.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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GEOTECHNICAL ENVIRONMENTAL AND MATERIALS ENGINEERS
DALLAS FORT WORTH HOUSTON LONGVIEW LUBBOCK AUSTIN
11050 Ables Lane, Dallas, Texas 75229 Phone:972-488-8800 Fax: 972-488-8080

CONCRETE INSPECTION AND COMPRESSION TEST REPORT

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 05/28/99
TMI REPORT #: DC98-050-126

REPORT DISTRIBUTION:
Ed Bell Construction - Doug Teter
Huitt-Zollars, Inc. Kenneth Roberts, P.E.
Town of Addison - James Pierce, P.E.
Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 3000 psi
Slump (in.): 2
Air Content (%): na
Concrete Temp (°F): 75

PROJECT DATA

Placement Date: 05/19/99
Sampled By: Moe II
Weather: Windy/ Sunny
Supplier/Mix: Lattimore/42

FIELD DATA SET #1

Ticket #: 6098024 Time Batched: 11:40 Time Sampled: 11:50
Slump (in.): 2 Air Content: na Unit Weight (pcf): na
Conc. Temp. (°F): 75 Ambient Temp. (°F): 85 Yardage (c.y.): 10 70
Placement Location: Driveway left 60+32.18
Remarks: _____

FIELD DATA SET #2

Ticket #: _____ Time Batched: _____ Time Sampled: _____
Slump (in.): _____ Air Content: _____ Unit Weight (pcf): _____
Conc. Temp. (°F): _____ Ambient Temp. (°F): _____ Yardage (c.y.): _____
Placement Location: _____
Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

CYLINDERS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C39, CAPPED PER ASTM C617

Set #	Cylinder #	Test Date	Age (Days)	Max. Load (lbs)	Area (sq. in.)	Strength (psi)	FC	Notes
1	AR051901	05/26/99	7	110820	28.27	3920	U	
	AR051902	06/16/99	28					
	AR051903	06/16/99	28					
	AR051904		Hold					

- (1) NORMAL CYLINDER SIZE 6" X 12", AREA 28.27 sq. in., UNLESS NOTED ABOVE.
- (2) TYPE "A" CONE FRACTURE UNLESS INDICATED OTHERWISE IN NOTES.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800

CONCRETE INSPECTION AND FLEXURAL STRENGTH TEST REPORT
(THIRD POINT LOADING)

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 05/20/99
TMI REPORT #: DC98-050-121

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 650
 Slump (in.): na
 Air Content (%): 3-5
 Concrete Temp (°F): na

PROJECT DATA

Placement Date: 04/21/99
 Sampled By: EE
 Weather: Partly Cloudy/Windy
 Supplier/Mix: Ed Bell

FIELD DATA SET #1

Ticket #: 25982 Time Batched: 7:45 Time Sampled: 8:33
 Slump (in.): 3 1/2 Air Content: 4.0 Unit Weight (pcf): na
 Conc. Temp. (°F): 82 Ambient Temp. (°F): 71 Yardage (c.y.): 30/18
 Placement Location: Paving-Arapaho Road Station 58+50 (?)

FIELD DATA SET #2

Ticket #: _____ Time Batched: _____ Time Sampled: _____
 Slump (in.): _____ Air Content: _____ Unit Weight (pcf): _____
 Conc. Temp. (°F): _____ Ambient Temp. (°F): _____ Yardage (c.y.): _____
 Placement Location: _____
 Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

BEAMS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C78

Set #	Beam #	Test Date	Age (Days)	Max. Load (lbs)	Average Depth, D	Average Width, B	Modulus of Rupture (psi)	Notes
1	EBC042101	04/28/99	7	7800	6.05	6.30	650	
	EBC042102	05/19/99	28	8760	5.95	6.10	730	

- (1) SPAN LENGTH OF 18 INCHES, UNLESS NOTED ABOVE.
- (2) SPECIMENS GROUND PRIOR TO TESTING, LEATHER SHIMS USED DURING TESTING.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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CONCRETE INSPECTION AND FLEXURAL STRENGTH TEST REPORT
(THIRD POINT LOADING)

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 05/25/99
TMI REPORT #: DC98-050-125

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 650
 Slump (in.): 4
 Air Content (%): na
 Concrete Temp (°F): na

PROJECT DATA

Placement Date: 05/12/99
 Sampled By: J. Tipton
 Weather: Partly Cloudy
 Supplier/Mix: Lattimore

FIELD DATA SET #1

Ticket #: 7070645 Time Batched: 10:47 Time Sampled: 12:15
 Slump (in.): 3 1/2 Air Content: 4.3 Unit Weight (pcf): na
 Conc. Temp. (°F): 86 Ambient Temp. (°F): 82 Yardage (c.y.): 150 yds
 Placement Location: South bound lane @ Spectrum St.
 Sample Location: 200 S of Arapaho Rd on Spectrum St.

FIELD DATA SET #2

Ticket #: 7070657 Time Batched: 12:03 Time Sampled: 1:20
 Slump (in.): 3 3/4 Air Content: 4.7 Unit Weight (pcf): Na
 Conc. Temp. (°F): 88 Ambient Temp. (°F): 86 Yardage (c.y.): 296 yds
 Placement Location: 10'x10' leave out and radius E. of Addison Rd. on Arapaho Rd.
 Sample Location: at 10'x10' leave out and radius on E. bound lane on Arapaho Rd.

CONCRETE COMPRESSION TEST RESULTS

BEAMS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C78

Set #	Beam #	Test Date	Age (Days)	Max. Load (lbs)	Average Depth, D	Average Width, B	Modulus of Rupture (psi)	Notes
1	AR051201	05/19/99	7	7260	6.05	6.15	605	
	AR051202	06/09/99	28					
2	AR051203	05/19/99	7	7380	6.05	6.20	615	
	AR051204	06/09/99	28					

- (1) SPAN LENGTH OF 18 INCHES, UNLESS NOTED ABOVE.
 (2) SPECIMENS GROUND PRIOR TO TESTING, LEATHER SHIMS USED DURING TESTING.
 (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
 (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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CONCRETE INSPECTION AND FLEXURAL STRENGTH TEST REPORT
(THIRD POINT LOADING)

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 05/25/99
TMI REPORT #: DC98-050-122

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 650
 Slump (in.): 4
 Air Content (%): _____
 Concrete Temp (°F) 80

PROJECT DATA

Placement Date: 04/22/99
 Sampled By: Moe II
 Weather: Cloudy/Windy
 Supplier/Mix: Ed Bell

FIELD DATA SET #1

Ticket #: 26011 Time Batched: 9:10 Time Sampled: 9:30
 Slump (in.): 4 Air Content: 5.0 Unit Weight (pcf): na
 Conc. Temp. (°F): 80 Ambient Temp. (°F): 80 Yardage (c.y.): 30/18
 Placement Location: L.8 Edwin Lewis St. before stop sign

FIELD DATA SET #2

Ticket #: 169750 Time Batched: 11:50 Time Sampled: 12:10
 Slump (in.): 2 Air Content: 5.0 Unit Weight (pcf): _____
 Conc. Temp. (°F): 80 Ambient Temp. (°F): 85 Yardage (c.y.): 32/8
 Placement Location: Exit to Spectrum and Edwin Lewis
 Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

BEAMS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C78

Set #	Beam #	Test Date	Age (Days)	Max. Load (lbs)	Average Depth, D	Average Width, B	Modulus of Rupture (psi)	Notes
1	AR042201	04/29/99	7	7500	5.95	6.15	625	
	AR042202	04/29/99	7	6960	6.05	6.30	580	
	AR042203	05/20/99	28	9120	6.05	6.35	760	
	AR042204	05/20/99	28	8880	5.95	6.35	740	
	AR042205	04/23/99	1	7320	6.00	6.30	610	
2	AR042206	04/29/99	7	11220	5.95	6.25	935	
	AR042207	05/20/99	28	11760	6.00	6.10	980	
	AR042208	05/20/99	28	11520	6.00	6.00	960	
	AR042209	04/22/99	2 hrs	1200	6.00	6.10	100	
	AR042210	04/22/99	4 hrs	2760	6.00	6.20	230	

- (1) SPAN LENGTH OF 18 INCHES, UNLESS NOTED ABOVE.
- (2) SPECIMENS GROUND PRIOR TO TESTING, LEATHER SHIMS USED DURING TESTING.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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CONCRETE INSPECTION AND COMPRESSION TEST REPORT

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 05/12/99
TMI REPORT #: DC98-050-123

REPORT DISTRIBUTION:
Ed Bell Construction - Doug Teter
Huitt-Zollars, Inc. Kenneth Roberts, P.E.
Town of Addison - James Pierce, P.E.
Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 3000
Slump (in.): 5"
Air Content (%): _____
Concrete Temp (°F): _____

PROJECT DATA

Placement Date: 05/03/99
Sampled By: JS
Weather: Clear/Warm
Supplier/Mix: TXI

FIELD DATA SET #1

Ticket #: 1304293 Time Batched: 11:24 Time Sampled: 12:45
Slump (in.): 5" Air Content: na Unit Weight (pcf): na
Conc. Temp. (°F): _____ Ambient Temp. (°F): 75 Yardage (c.y.): na
Placement Location: Sidewalk on Arapaho & Quorum
Sample Location: Sidewalk Arapaho

FIELD DATA SET #2

Ticket #: _____ Time Batched: _____ Time Sampled: _____
Slump (in.): _____ Air Content: _____ Unit Weight (pcf): _____
Conc. Temp. (°F): _____ Ambient Temp. (°F): _____ Yardage (c.y.): _____
Placement Location: _____
Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

CYLINDERS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C39, CAPPED PER ASTM C617

Set #	Cylinder #	Test Date	Age (Days)	Max. Load (lbs)	Area (sq. in.)	Strength (psi)	FC	Notes
1	AR050301	05/10/99	7	86110	28.27	3050	U	
	AR050302	05/31/99	28					
	AR050303	05/31/99	28					
	AR050304		Hold					

- (1) NORMAL CYLINDER SIZE 6" X 12", AREA 28.27 sq. in., UNLESS NOTED ABOVE.
- (2) TYPE "A" CONE FRACTURE UNLESS INDICATED OTHERWISE IN NOTES.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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 11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800 Fax: 972-488-8080

CONCRETE INSPECTION AND COMPRESSION TEST REPORT

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 05/10/99
TMI REPORT #: DC98-050-124

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 3000
 Slump (in.): _____
 Air Content (%): _____
 Concrete Temp (°F): _____

PROJECT DATA

Placement Date: 04/28/99
 Sampled By: Contractor
 Weather: Clear/Warm
 Supplier/Mix: TXI

FIELD DATA SET #1

Ticket #: _____ Time Batched: _____ Time Sampled: _____
 Slump (in.): _____ Air Content: _____ Unit Weight (pcf): _____
 Conc. Temp. (°F): _____ Ambient Temp. (°F): _____ Yardage (c.y.): _____
 Placement Location: Light poles
 Remarks: Cylinders made by contractor no other information given

FIELD DATA SET #2

Ticket #: _____ Time Batched: _____ Time Sampled: _____
 Slump (in.): _____ Air Content: _____ Unit Weight (pcf): _____
 Conc. Temp. (°F): _____ Ambient Temp. (°F): _____ Yardage (c.y.): _____
 Placement Location: _____
 Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

CYLINDERS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C39, CAPPED PER ASTM C617

Set #	Cylinder #	Test Date	Age (Days)	Max. Load (lbs)	Area (sq. in.)	Strength (psi)	FC	Notes
1	AR042801	05/05/99	7	87270	28.27	3090	U	
	AR042802	05/05/99	7					
	AR042803	05/26/99	28					
	AR042804		Hold					

- (1) NORMAL CYLINDER SIZE 6" X 12", AREA 28.27 sq. in., UNLESS NOTED ABOVE.
- (2) TYPE "A" CONE FRACTURE UNLESS INDICATED OTHERWISE IN NOTES.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800

CONCRETE INSPECTION AND FLEXURAL STRENGTH TEST REPORT
(THIRD POINT LOADING)

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 04/20/99
TMI REPORT #: DC98-050-106

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 650
 Slump (in.): 4-6
 Air Content (%): 4.5
 Concrete Temp (°F): _____

PROJECT DATA

Placement Date: 03/17/99
 Sampled By: J. Perez
 Weather: Cloudy/Warm
 Supplier/Mix: Lattimore

FIELD DATA SET #1

Ticket #: 7067464 Time Batched: na Time Sampled: 9:30
 Slump (in.): 6 1/2 Air Content: 4.0 Unit Weight (pcf): na
 Conc. Temp. (°F): 68 Ambient Temp. (°F): 70 Yardage (c.y.): _____
 Placement Location: Intersection Addison & Arapho, right lane
 Remarks: _____

FIELD DATA SET #2

Ticket #: _____ Time Batched: _____ Time Sampled: _____
 Slump (in.): _____ Air Content: _____ Unit Weight (pcf): _____
 Conc. Temp. (°F): _____ Ambient Temp. (°F): _____ Yardage (c.y.): _____
 Placement Location: _____
 Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

BEAMS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C78

Set #	Beam #	Test Date	Age (Days)	Max. Load (lbs)	Average Depth, D	Average Width, B	Modulus of Rupture (psi)	Notes
1	AR031701	03/24/99	7	8580	5.90	6.05	715	*Damaged in field
	AR031702	04/14/99	28					

- (1) SPAN LENGTH OF 18 INCHES, UNLESS NOTED ABOVE.
- (2) SPECIMENS GROUND PRIOR TO TESTING, LEATHER SHIMS USED DURING TESTING.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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CONCRETE INSPECTION AND FLEXURAL STRENGTH TEST REPORT
(THIRD POINT LOADING)

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 05/03/99
TMI REPORT #: DC98-050-122

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 4000 psi *650 flex Class K concrete*
 Slump (in.): 4
 Air Content (%): _____
 Concrete Temp (°F): 80

PROJECT DATA

Placement Date: 04/22/99
 Sampled By: Moe II
 Weather: Cloudy/Windy
 Supplier/Mix: Ed Bell

FIELD DATA SET #1

Ticket #: 26011 Time Batched: 9:10 Time Sampled: 9:30
 Slump (in.): 4 Air Content: 5.0 Unit Weight (pcf): na
 Conc. Temp. (°F): 80 Ambient Temp. (°F): 80 Yardage (c.y.): 30/18
 Placement Location: L.8 Edwin Lewis St. before stop sign

FIELD DATA SET #2

Ticket #: 169750 Time Batched: 11:50 Time Sampled: 12:10
 Slump (in.): 2 Air Content: 5.0 Unit Weight (pcf): _____
 Conc. Temp. (°F): 80 Ambient Temp. (°F): 85 Yardage (c.y.): 32/8
 Placement Location: Exit to Spectrum and Edwin Lewis
 Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

BEAMS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C78

Set #	Beam #	Test Date	Age (Days)	Max. Load (lbs)	Average Depth, D	Average Width, B	Modulus of Rupture (psi)	Notes
1	AR042201	04/29/99	7	7500	5.95	6.15	625	
	AR042202	04/29/99	7	6960	6.05	6.30	580	
	AR042203	05/20/99	28					
	AR042204	05/20/99	28					
	AR042205	04/23/99	1	7320	6.00	6.30	610	
2	AR042206	04/29/99	7	11220	5.95	6.25	935	
	AR042207	05/20/99	28					
	AR042208	05/20/99	28					
	AR042209	04/22/99	2 hrs	1200	6.00	6.10	100	
	AR042210	04/22/99	4 hrs	2760	6.00	6.20	230	

- (1) SPAN LENGTH OF 18 INCHES, UNLESS NOTED ABOVE.
- (2) SPECIMENS GROUND PRIOR TO TESTING, LEATHER SHIMS USED DURING TESTING.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C136, C143, C172, C231

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CONCRETE INSPECTION AND FLEXURAL STRENGTH TEST REPORT
(THIRD POINT LOADING)

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 04/26/99
TMI REPORT #: DC98-050-115

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 650
 Slump (in.): 3-5
 Air Content (%): 5-7
 Concrete Temp (°F): 95

PROJECT DATA

Placement Date: 03/26/99
 Sampled By: B. Jones
 Weather: Sunny
 Supplier/Mix: Lattimore

FIELD DATA SET #1

Ticket #: 068268 Time Batched: 9:13 Time Sampled: 9:56
 Slump (in.): 4 1/2 Air Content: 5.19 Unit Weight (pcf): na
 Conc. Temp. (°F): 64 Ambient Temp. (°F): 55 Yardage (c.y.): 90/306
 Placement Location: 330 ft from intersection Arapaho Rd @ Tollway station 63 + 00

FIELD DATA SET #2

Ticket #: 068285 Time Batched: 11:15 Time Sampled: 12:00
 Slump (in.): 4 Air Content: 6.3 Unit Weight (pcf): na
 Conc. Temp. (°F): 66 Ambient Temp. (°F): 70 Yardage (c.y.): 144
 Placement Location: Arapaho Road at station 62 + 00

Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

BEAMS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C78

Set #	Beam #	Test Date	Age (Days)	Max. Load (lbs)	Average Depth, D	Average Width, B	Modulus of Rupture (psi)	Notes
1	AR032601	04/02/99	7	7680	5.90	6.35	640	
	AR032602	04/23/99	28	8820	5.95	6.30	735	
2	AR032603	04/02/99	7	7620	5.80	6.15	635	
	AR033004	04/23/99	28	9780	6.05	6.10	815	

- (1) SPAN LENGTH OF 18 INCHES, UNLESS NOTED ABOVE.
- (2) SPECIMENS GROUND PRIOR TO TESTING, LEATHER SHIMS USED DURING TESTING.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

Note: This report is for the exclusive use of the Client addressed. This report may not be reproduced except in its entirety, without the written consent of TMI. Results apply only to above tests.

Sunny L. Jones
 TERRA-MAR, INC.

TERRA-MAR, INC.
GEOTECHNICAL ENVIRONMENTAL AND MATERIALS ENGINEERS
 DALLAS FORT WORTH HOUSTON LONGVIEW LUBBOCK AUSTIN

11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800

CONCRETE INSPECTION AND FLEXURAL STRENGTH TEST REPORT
(THIRD POINT LOADING)

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 04/28/99
TMI REPORT #: DC98-050-121

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 650 Flex
 Slump (in.): _____
 Air Content (%): 3-5
 Concrete Temp (°F): _____

PROJECT DATA

Placement Date: 04/21/99
 Sampled By: EE
 Weather: P. Cloudy/Windy
 Supplier/Mix: Ed Bell

FIELD DATA SET #1

Ticket #: 25982 Time Batched: 7:45 Time Sampled: 8:33
 Slump (in.): 3 1/2 Air Content: 4.0 Unit Weight (pcf): na
 Conc. Temp. (°F): 82 Ambient Temp. (°F): 71 Yardage (c.y.): 9
 Placement Location: Paving - Arapaho Road Sta 58+50

FIELD DATA SET #2

Ticket #: _____ Time Batched: _____ Time Sampled: _____
 Slump (in.): _____ Air Content: _____ Unit Weight (pcf): _____
 Conc. Temp. (°F): _____ Ambient Temp. (°F): _____ Yardage (c.y.): _____
 Placement Location: _____
 Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

BEAMS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C78

Set #	Beam #	Test Date	Age (Days)	Max. Load (lbs)	Average Depth, D	Average Width, B	Modulus of Rupture (psi)	Notes
1	AR042101	04/28/99	7	7800	6.05	6.30	650	
	AR042102	05/19/99	28					

- (1) SPAN LENGTH OF 18 INCHES, UNLESS NOTED ABOVE.
- (2) SPECIMENS GROUND PRIOR TO TESTING, LEATHER SHIMS USED DURING TESTING.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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Sergio L. Flores, P.E.
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11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800

CONCRETE INSPECTION AND FLEXURAL STRENGTH TEST REPORT
(THIRD POINT LOADING)

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 04/28/99
TMI REPORT #: DC98-050-121

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 650
 Slump (in.): _____
 Air Content (%): 3-5
 Concrete Temp (°F): _____

PROJECT DATA

Placement Date: 04/21/99
 Sampled By: EE
 Weather: P. Cloudy/Windy
 Supplier/Mix: Ed Bell

FIELD DATA SET #1

Ticket #: 7068521 Time Batched: 7:45 Time Sampled: 8:33
 Slump (in.): 2 Air Content: 4.0 Unit Weight (pcf): na
 Conc. Temp. (°F): 78 Ambient Temp. (°F): 71 Yardage (c.y.): 9
 Placement Location: Median of Arapaho Road

FIELD DATA SET #2

Ticket #: 6094472 Time Batched: 12:51 Time Sampled: 2:00
 Slump (in.): 1 1/2 Air Content: 4.0 Unit Weight (pcf): _____
 Conc. Temp. (°F): 76 Ambient Temp. (°F): 88 Yardage (c.y.): 100-200
 Placement Location: Median of Arapaho Road
 Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

BEAMS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C78

Set #	Beam #	Test Date	Age (Days)	Max. Load (lbs)	Average Depth, D	Average Width, B	Modulus of Rupture (psi)	Notes
1	AR040501	04/28/99	7	7260	6.05	6.20	605	* Does not meet specification
	AR040502	05/19/99	28	7740	5.95	6.05	645	
2	AR040503	04/28/99	7	7200	5.95	6.30	600	
	AR040504	05/19/99	28	8640	6.00	6.35	720	

- (1) SPAN LENGTH OF 18 INCHES, UNLESS NOTED ABOVE.
- (2) SPECIMENS GROUND PRIOR TO TESTING, LEATHER SHIMS USED DURING TESTING.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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Serry L. Fox
 TERRA-MAR, INC.

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 DALLAS FORT WORTH HOUSTON LONGVIEW LUBBOCK AUSTIN

11050 Ables Lane, Dallas, Texas 75229 Phone:972-488-8800

CONCRETE INSPECTION AND FLEXURAL STRENGTH TEST REPORT
(THIRD POINT LOADING)

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 04/28/99
TMI REPORT #: DC98-050-116

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 650
 Slump (in.): _____
 Air Content (%): _____
 Concrete Temp (°F) 95

PROJECT DATA

Placement Date: 03/30/99
 Sampled By: John Sullivan
 Weather: Cloudy
 Supplier/Mix: Ed Bell

FIELD DATA SET #1

Ticket #: 25656 Time Batched: na Time Sampled: 11:30
 Slump (in.): 2 Air Content: 3.5 Unit Weight (pcf): na
 Conc. Temp. (°F): 65 Ambient Temp. (°F): _____ Yardage (c.y.): _____
 Placement Location: East side of Arapaho Road, station 59+00
 Remarks: _____

FIELD DATA SET #2

Ticket #: _____ Time Batched: _____ Time Sampled: _____
 Slump (in.): _____ Air Content: _____ Unit Weight (pcf): _____
 Conc. Temp. (°F): _____ Ambient Temp. (°F): _____ Yardage (c.y.): _____
 Placement Location: _____
 Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

BEAMS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C78

Set #	Beam #	Test Date	Age (Days)	Max. Load (lbs)	Average Depth, D	Average Width, B	Modulus of Rupture (psi)	Notes
1	AR033001	04/06/99	7	7680	6.00	6.00	640	
	AR033002	04/06/99	7	7980	6.05	6.05	665	
	AR033003	04/27/99	28	8400	6.05	6.20	700	
	AR033004	04/27/99	28	8760	6.05	6.25	730	

- (1) SPAN LENGTH OF 18 INCHES, UNLESS NOTED ABOVE.
- (2) SPECIMENS GROUND PRIOR TO TESTING, LEATHER SHIMS USED DURING TESTING.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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Darryl L. Jones
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11050 Ables Lane, Dallas, Texas 75229 Phone:972-488-8800

CONCRETE INSPECTION AND FLEXURAL STRENGTH TEST REPORT
(THIRD POINT LOADING)

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 04/26/99
TMI REPORT #: DC98-050-114

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 650
 Slump (in.): 3-5
 Air Content (%): 5-7
 Concrete Temp (°F): 95

PROJECT DATA

Placement Date: 03/25/99
 Sampled By: B. Jones
 Weather: Sunny
 Supplier/Mix: Lattimore

FIELD DATA SET #1

Ticket #: 068166 Time Batched: 8:40 Time Sampled: 9:17
 Slump (in.): 4 1/2 Air Content: 3.0 Unit Weight (pcf): na
 Conc. Temp. (°F): 65 Ambient Temp. (°F): 91 Yardage (c.y.): 63/300
 Placement Location: 100 ft from intersection Tollway & Arapaho Rd
Second air test @ 99 yards was 5.1%

FIELD DATA SET #2

Ticket #: 068230 Time Batched: 2:31 Time Sampled: 3:00
 Slump (in.): 5.00 Air Content: 4.1 Unit Weight (pcf): na
 Conc. Temp. (°F): 67 Ambient Temp. (°F): 90 Yardage (c.y.): na
 Placement Location: 225 feet from intersection of Tollway and Arapaho Rd.
 Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

BEAMS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C78

Set #	Beam #	Test Date	Age (Days)	Max. Load (lbs)	Average Depth, D	Average Width, B	Modulus of Rupture (psi)	Notes
1	AR032501	04/01/99	7	8280	6.00	6.20	690	
	AR032502	04/22/99	28	8220	6.05	6.00	685	
2	AR032503	04/01/99	7	8760	6.10	6.00	730	
	AR032504	04/22/99	28	9480	5.95	6.15	790	

- (1) SPAN LENGTH OF 18 INCHES, UNLESS NOTED ABOVE.
- (2) SPECIMENS GROUND PRIOR TO TESTING, LEATHER SHIMS USED DURING TESTING.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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George L. Jones, Inc.
 TERRA-MAR, INC.

TERRA-MAR, INC.

GEOTECHNICAL ENVIRONMENTAL AND MATERIALS ENGINEERS

DALLAS FORT WORTH HOUSTON AUSTIN LONGVIEW LUBBOCK

11050 Ables Lane, Dallas, Texas 75229 Phone:972-488-8800 Fax: (972)488-8080

STABILIZED SOIL GRADATION REPORT

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 04/21/99
TMI REPORT #: DC98-050-118

DISTRIBUTION: Ed Bell Construction - Doug Teter
Huitt-Zollars, Inc. - Kenneth Roberts, P.E.
Town of Addison - James Pierce, P.E.
Town of Addison - Dave Wilde

Test Method: Technician: M. Kashem
Minimum % Passing 1 3/4" Sieve: 100 Date Tested: 04/19/99
Minimum % Passing No. 4 Sieve: 60 Stabilizing Agent: Lime

Table with 4 columns: TEST NUMBER, LOCATION, PERCENT PASSING 1 3/4" SIEVE, PERCENT PASSING #4 SIEVE. Contains 3 rows of test data.

Remarks:

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 DALLAS FORT WORTH HOUSTON LONGVIEW LUBBOCK AUSTIN

11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800

SOIL MOISTURE -DENSITY TEST REPORT
IN-PLACE TESTS BY NUCLEAR METHODS

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 04/21/99
TMI REPORT NO.: DC98-050-119

DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt Zollar, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde, P.E.

SPECIFICATIONS

Percent Compaction: 95+
 Moisture Content (%): Opt. +

TEST DATA

Date Tested: 04/20/99
 Technician: M. Kashem

MATERIAL REFERENCE CURVE DATA

CURVE NO.	TEST METHOD	MATERIAL DESCRIPTION	OPTIMUM MOISTURE (%)	MAX. DRY DENSITY (pcf)
5	ASTM D698	Lime Treated Brown Clay w/Gravel	25.7	93.6
7	ASTM D699	Lime Treated Brown Clay	36.6	80.6

IN-PLACE TEST RESULTS

DENSITY AND MOISTURE TESTS ARE PER ASTM D2922, D3017, RESPECTIVELY

TEST NO.	ELEVATION OR LIFT	LOCATION	REF. CURVE	% MOISTURE	DRY DENSITY	% DENSITY
1	Grade	S. Bound Spectrum Rd @ 18 + 00	5	26.0	90.8	97.0
2	Grade	S. Bound Spectrum Rd @ 17 + 00	5	26.6	89.9	96.0
3	Grade	E. Bound Arapaho Rd @ 159 + 00	7	35.8	79.1	98.1

GAUGE I.D.: 10746 STD. DENSITY COUNT: 2537 STD. MOISTURE COUNT: 509

"R" AFTER TEST NUMBER INDICATES RETEST.
 * INDICATES FAILURE TO COMPLY WITH PROJECT SPECIFICATIONS
 REMARKS: _____

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Berry L. Ford, P.E.
 TERRA-MAR, INC.

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11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800

CONCRETE INSPECTION AND FLEXURAL STRENGTH TEST REPORT
(THIRD POINT LOADING)

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 04/14/99
TMI REPORT #: DC98-050-117

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 650
 Slump (in.): 2
 Air Content (%): 4-6
 Concrete Temp (°F): 55

PROJECT DATA

Placement Date: 04/05/99
 Sampled By: BR
 Weather: Sunny/Cloudy
 Supplier/Mix: Lattimore

FIELD DATA SET #1

Ticket #: 7068521 Time Batched: 12:08 Time Sampled: 1:15
 Slump (in.): 2 Air Content: 4.0 Unit Weight (pcf): na
 Conc. Temp. (°F): 78 Ambient Temp. (°F): 88 Yardage (c.y.): 0-100
 Placement Location: Median of Arapaho Road

FIELD DATA SET #2

Ticket #: 6094472 Time Batched: 12:51 Time Sampled: 2:00
 Slump (in.): 1 1/2 Air Content: 4.0 Unit Weight (pcf): na
 Conc. Temp. (°F): 76 Ambient Temp. (°F): 88 Yardage (c.y.): 100-200
 Placement Location: Median of Arapaho Road
 Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

BEAMS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C78

Set #	Beam #	Test Date	Age (Days)	Max. Load (lbs)	Average Depth, D	Average Width, B	Modulus of Rupture (psi)	Notes
1	AR040501	04/12/99	7	7260	6.05	6.20	605	
	AR040502	05/03/99	28					
2	AR040503	04/12/99	7	7200	5.95	6.30	600	
	AR040504	05/03/99	28					

- (1) SPAN LENGTH OF 18 INCHES, UNLESS NOTED ABOVE.
- (2) SPECIMENS GROUND PRIOR TO TESTING, LEATHER SHIMS USED DURING TESTING.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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Henry L. Jones, P.E.
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 11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800 Fax: 972-488-8080

CONCRETE INSPECTION AND COMPRESSION TEST REPORT

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 04/13/99
TMI REPORT #: DC98-050-105

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 4000
 Slump (in.): 3-5
 Air Content (%): 4-6
 Concrete Temp (°F): 95

PROJECT DATA

Placement Date: 03/15/99
 Sampled By: B. Jones
 Weather: Sunny
 Supplier/Mix: Lattimore

FIELD DATA SET #1

Ticket #: 67572 Time Batched: 2:59 Time Sampled: 3:40
 Slump (in.): 3 Air Content: 4.5 Unit Weight (pcf): _____
 Conc. Temp. (°F): 65 Ambient Temp. (°F): 69 Yardage (c.y.): 8/8
 Placement Location: Piers for traffic lights, NW & SW corner of Arapaho @ Addison + 1 pier approx. 150 yds from intersection
 Remarks: Concrete was 1.5 hours late

FIELD DATA SET #

Ticket #: _____ Time Batched: _____ Time Sampled: _____
 Slump (in.): _____ Air Content: _____ Unit Weight (pcf): _____
 Conc. Temp. (°F): _____ Ambient Temp. (°F): _____ Yardage (c.y.): _____
 Placement Location: _____
 Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

CYLINDERS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C39, CAPPED PER ASTM C617

Set #	Cylinder #	Test Date	Age (Days)	Max. Load (lbs)	Area (sq. in.)	Strength (psi)	FC	Notes
1	AR031501	03/22/99	7	148320	28.27	5250	U	
	AR031502	04/12/99	28	155560	28.27	5500	U	
	AR031503	Discard						

- (1) NORMAL CYLINDER SIZE 6" X 12", AREA 28.27 sq. in., UNLESS NOTED ABOVE.
- (2) TYPE "A" CONE FRACTURE UNLESS INDICATED OTHERWISE IN NOTES.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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CONCRETE INSPECTION AND COMPRESSION TEST REPORT

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 04/19/99
TMI REPORT #: DC98-050-107

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 3000
 Slump (in.): 3-4
 Air Content (%): _____
 Concrete Temp (°F): 95

PROJECT DATA

Placement Date: 03/19/99
 Sampled By: B. Pink
 Weather: Overcast
 Supplier/Mix: TXI

FIELD DATA SET #1

Ticket #: 1265633 Time Batched: 8:20 Time Sampled: 10:30
 Slump (in.): 3 Air Content: _____ Unit Weight (pcf): _____
 Conc. Temp. (°F): 70 Ambient Temp. (°F): 56 Yardage (c.y.): 20@30
 Placement Location: 1000 ft. E. of Addison Rd. on Arapaho W.B. sidewalk in front of Dart
 Remarks: 1800 ft. E. of Addison Rd. on Arapaho W.B. sidewalk in front on Dart

FIELD DATA SET #

Ticket #: _____ Time Batched: _____ Time Sampled: _____
 Slump (in.): _____ Air Content: _____ Unit Weight (pcf): _____
 Conc. Temp. (°F): _____ Ambient Temp. (°F): _____ Yardage (c.y.): _____
 Placement Location: _____
 Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

CYLINDERS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C39, CAPPED PER ASTM C617

Set #	Cylinder #	Test Date	Age (Days)	Max. Load (lbs)	Area (sq. in.)	Strength (psi)	FC	Notes
1	AR031901	03/26/99	7	93400	28.27	3300	U	
	AR031902	03/26/99	7	90240	28.27	3190	U	
	AR031903	04/16/99	28	122820	28.27	4340	U	
	AR031904	04/16/99	28	120540	28.27	4260	U	

- (1) NORMAL CYLINDER SIZE 6" X 12", AREA 28.27 sq. in., UNLESS NOTED ABOVE.
- (2) TYPE "A" CONE FRACTURE UNLESS INDICATED OTHERWISE IN NOTES.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C139, C143, C172, C231

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Serry L. Fox
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 11050 Ables Lane, Dallas, Texas 75229 Phone:972-488-8800 Fax: 972-488-8080

CONCRETE INSPECTION AND COMPRESSION TEST REPORT

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 04/20/99
TMI REPORT #: DC98-050-108

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 3000
 Slump (in.): 3-5
 Air Content (%): 4-6
 Concrete Temp (°F): 98

PROJECT DATA

Placement Date: 03/22/99
 Sampled By: D. Bell
 Weather: Sunny/82
 Supplier/Mix: TXI

FIELD DATA SET #1

Ticket #: 1267092 Time Batched: 1:10 Time Sampled: 1:30
 Slump (in.): 2 1/2 Air Content: 5.5 Unit Weight (pcf): na
 Conc. Temp. (°F): 76 Ambient Temp. (°F): 80 Yardage (c.y.): 10
 Placement Location: Station 49 + 90 Eastbound Arapaho Rd. sidewalk
 Remarks: _____

FIELD DATA SET #

Ticket #: _____ Time Batched: _____ Time Sampled: _____
 Slump (in.): _____ Air Content: _____ Unit Weight (pcf): _____
 Conc. Temp. (°F): _____ Ambient Temp. (°F): _____ Yardage (c.y.): _____
 Placement Location: _____
 Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

CYLINDERS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C39, CAPPED PER ASTM C617

Set #	Cylinder #	Test Date	Age (Days)	Max. Load (lbs)	Area (sq. in.)	Strength (psi)	FC	Notes
1	AR032201	03/29/99	7	103170	28.27	3650	U	
	AR032202	04/19/99	28	129000	28.27	4560	U	
	AR032203	04/19/99	28	122930	28.27	4350	U	
	AR032204	discard						

- (1) NORMAL CYLINDER SIZE 6" X 12", AREA 28.27 sq. in., UNLESS NOTED ABOVE.
- (2) TYPE "A" CONE FRACTURE UNLESS INDICATED OTHERWISE IN NOTES.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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Darryl L. Fox, P.E.
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GEOTECHNICAL ENVIRONMENTAL AND MATERIALS ENGINEERS
 DALLAS FORT WORTH HOUSTON LONGVIEW LUBBOCK AUSTIN

11050 Ables Lane, Dallas, Texas 75229 Phone:972-488-8800

CONCRETE INSPECTION AND FLEXURAL STRENGTH TEST REPORT
(THIRD POINT LOADING)

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 04/01/99
TMI REPORT #: DC98-050-114

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 650
 Slump (in.): 3-5
 Air Content (%): 5-7
 Concrete Temp (°F): 95

PROJECT DATA

Placement Date: 03/25/99
 Sampled By: B. Jones
 Weather: Sunny
 Supplier/Mix: Lattimore

FIELD DATA SET #1

Ticket #: 068166 Time Batched: 8:40 Time Sampled: 9:17
 Slump (in.): 4 1/2 Air Content: 3.0 Unit Weight (pcf): na
 Conc. Temp. (°F): 65 Ambient Temp. (°F): 91 Yardage (c.y.): 63/300
 Placement Location: 100 ft from intersection Tollway & Arapaho Rd
Second air test @ 99 yards was 5.1%

FIELD DATA SET #2

Ticket #: 068230 Time Batched: 2:31 Time Sampled: 3:00
 Slump (in.): 5.00 Air Content: 4.1 Unit Weight (pcf): na
 Conc. Temp. (°F): 67 Ambient Temp. (°F): 90 Yardage (c.y.): na
 Placement Location: 225 feet from intersection of Tollway and Arapaho Rd.
 Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

BEAMS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C78

Set #	Beam #	Test Date	Age (Days)	Max. Load (lbs)	Average Depth, D	Average Width, B	Modulus of Rupture (psi)	Notes
1	AR032501	04/01/99	7	8280	6.00	6.20	690	
	AR032502	04/22/99	28					
2	AR032503	04/01/99	7	8760	6.10	6.00	730	
	AR032504	04/22/99	28					

- (1) SPAN LENGTH OF 18 INCHES, UNLESS NOTED ABOVE.
- (2) SPECIMENS GROUND PRIOR TO TESTING, LEATHER SHIMS USED DURING TESTING.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

Note: This report is for the exclusive use of the Client addressed. This report may not be reproduced except in its entirety, without the written consent of TMI. Results apply only to above tests.

Sunny L. Fox, PE
 TERRA-MAR, INC.

TERRA-MAR, INC.
GEOTECHNICAL ENVIRONMENTAL AND MATERIALS ENGINEERS
 DALLAS FORT WORTH HOUSTON LONGVIEW LUBBOCK AUSTIN

11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800

CONCRETE INSPECTION AND FLEXURAL STRENGTH TEST REPORT
(THIRD POINT LOADING)

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 04/07/99
TMI REPORT #: DC98-050-116

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 650
 Slump (in.): _____
 Air Content (%): _____
 Concrete Temp (°F) 95

PROJECT DATA

Placement Date: 03/30/99
 Sampled By: John Sullivan
 Weather: Cloudy
 Supplier/Mix: Ed Bell

FIELD DATA SET #1

Ticket #: 25656 Time Batched: na Time Sampled: 11:30
 Slump (in.): 2 Air Content: 3.5 Unit Weight (pcf): na
 Conc. Temp. (°F): 65 Ambient Temp. (°F): _____ Yardage (c.y.): _____
 Placement Location: East side of Arapaho Road, station 59+00

FIELD DATA SET #2

Ticket #: _____ Time Batched: _____ Time Sampled: _____
 Slump (in.): _____ Air Content: _____ Unit Weight (pcf): _____
 Conc. Temp. (°F): _____ Ambient Temp. (°F): _____ Yardage (c.y.): _____
 Placement Location: _____
 Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

BEAMS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C78

Set #	Beam #	Test Date	Age (Days)	Max. Load (lbs)	Average Depth, D	Average Width, B	Modulus of Rupture (psi)	Notes
1	AR033001	04/06/99	7	7680	6.00	6.00	640	
	AR033002	04/06/99	7	7980	6.05	6.05	665	
	AR033003	04/27/99	28					
	AR033004	04/27/99	28					

- (1) SPAN LENGTH OF 18 INCHES, UNLESS NOTED ABOVE.
- (2) SPECIMENS GROUND PRIOR TO TESTING, LEATHER SHIMS USED DURING TESTING.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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Henry L. Furr, P.E.
 TERRA-MAR, INC.

TERRA-MAR, INC.
GEOTECHNICAL ENVIRONMENTAL AND MATERIALS ENGINEERS
 DALLAS FORT WORTH HOUSTON LONGVIEW LUBBOCK AUSTIN

11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800

CONCRETE INSPECTION AND FLEXURAL STRENGTH TEST REPORT
(THIRD POINT LOADING)

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 04/07/99
TMI REPORT #: DC98-050-115

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 650
 Slump (in.): 3-5
 Air Content (%): 5-7
 Concrete Temp (°F): 95

PROJECT DATA

Placement Date: 03/26/99
 Sampled By: B. Jones
 Weather: Sunny
 Supplier/Mix: Lattimore

FIELD DATA SET #1

Ticket #: 068268 Time Batched: 9:13 Time Sampled: 9:56
 Slump (in.): 4 1/2 Air Content: 5.19 Unit Weight (pcf): na
 Conc. Temp. (°F): 64 Ambient Temp. (°F): 55 Yardage (c.y.): 90/306
 Placement Location: 330 ft from intersection Arapaho Rd @ Tollway station 63 + 00

FIELD DATA SET #2

Ticket #: 068285 Time Batched: 11:15 Time Sampled: 12:00
 Slump (in.): 4 Air Content: 6.3 Unit Weight (pcf):
 Conc. Temp. (°F): 66 Ambient Temp. (°F): 70 Yardage (c.y.): 144
 Placement Location: Arapaho Road at station 62 + 00
 Remarks:

CONCRETE COMPRESSION TEST RESULTS

BEAMS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C78

Set #	Beam #	Test Date	Age (Days)	Max. Load (lbs)	Average Depth, D	Average Width, B	Modulus of Rupture (psi)	Notes
1	AR032601	04/02/99	7	7680	5.90	6.35	640	
	AR032602	04/23/99	28					
2	AR032603	04/02/99	7	7620	5.80	6.15	635	
	AR033004	04/23/99	28					

- (1) SPAN LENGTH OF 18 INCHES, UNLESS NOTED ABOVE.
- (2) SPECIMENS GROUND PRIOR TO TESTING, LEATHER SHIMS USED DURING TESTING.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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Henry L. Furr, P.E.
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GEOTECHNICAL ENVIRONMENTAL AND MATERIALS ENGINEERS
 DALLAS FORT WORTH HOUSTON LONGVIEW LUBBOCK AUSTIN
 11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800 Fax: 972-488-8080

CONCRETE INSPECTION AND COMPRESSION TEST REPORT

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 04/08/99
TMI REPORT #: DC98-050-104

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 3000
 Slump (in.): 3-5
 Air Content (%): 4-6
 Concrete Temp (°F): 95

PROJECT DATA

Placement Date: 03/10/99
 Sampled By: Contractor
 Weather: Partly Sunny
 Supplier/Mix: TXI

FIELD DATA SET #1

Ticket #: _____ Time Batched: 12:00 Time Sampled: 12:32
 Slump (in.): 3 Air Content: 4.5 Unit Weight (pcf): _____
 Conc. Temp. (°F): 65 Ambient Temp. (°F): 73 Yardage (c.y.): 10/20
 Placement Location: Station 65 + 00, right 25
 Remarks: _____

FIELD DATA SET #2

Ticket #: _____ Time Batched: _____ Time Sampled: _____
 Slump (in.): _____ Air Content: _____ Unit Weight (pcf): _____
 Conc. Temp. (°F): _____ Ambient Temp. (°F): _____ Yardage (c.y.): _____
 Placement Location: _____
 Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

CYLINDERS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C39, CAPPED PER ASTM C617

Set #	Cylinder #	Test Date	Age (Days)	Max. Load (lbs)	Area (sq. in.)	Strength (psi)	FC	Notes
1	AR031002	03/17/99	7	101930	28.27	3610	U	
	AR031003	04/07/99	28	135010	28.27	4780	U	

- (1) NORMAL CYLINDER SIZE 6" X 12", AREA 28.27 sq. in., UNLESS NOTED ABOVE.
- (2) TYPE "A" CONE FRACTURE UNLESS INDICATED OTHERWISE IN NOTES.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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Serry L. Fox

 TERRA-MAR, Inc.

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 11050 Ables Lane, Dallas, Texas 75229 Phone:972-488-8800 Fax: 972-488-8080

CONCRETE INSPECTION AND COMPRESSION TEST REPORT

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 03/29/99
TMI REPORT #: DC98-050-107

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 3000
 Slump (in.): 3-4
 Air Content (%): _____
 Concrete Temp (°F) 95

PROJECT DATA

Placement Date: 03/19/99
 Sampled By: B. Pink
 Weather: Overcast
 Supplier/Mix: TXI

FIELD DATA SET #1

Ticket #: 1265633 Time Batched: 8:20 Time Sampled: 10:30
 Slump (in.): 3 Air Content: _____ Unit Weight (pcf): _____
 Conc. Temp. (°F): 70 Ambient Temp. (°F): 56 Yardage (c.y.): 20@30
 Placement Location: 1000 ft. E. of Addison Rd. on Arapaho W.B. sidewalk in front of Dart
 Remarks: 1800 ft. E. of Addison Rd. on Arapaho W.B. sidewalk in front on Dart

FIELD DATA SET #

Ticket #: _____ Time Batched: _____ Time Sampled: _____
 Slump (in.): _____ Air Content: _____ Unit Weight (pcf): _____
 Conc. Temp. (°F): _____ Ambient Temp. (°F): _____ Yardage (c.y.): _____
 Placement Location: _____
 Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

CYLINDERS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C39, CAPPED PER ASTM C617

Set #	Cylinder #	Test Date	Age (Days)	Max. Load (lbs)	Area (sq. in.)	Strength (psi)	FC	Notes
1	AR031901	03/26/99	7	93400	28.27	3300	U	
	AR031902	03/26/99	7	90240	28.27	3190	U	
	AR031903	04/16/99	28					
	AR031904	04/16/99	28					

- (1) NORMAL CYLINDER SIZE 6" X 12", AREA 28.27 sq. in., UNLESS NOTED ABOVE.
- (2) TYPE "A" CONE FRACTURE UNLESS INDICATED OTHERWISE IN NOTES.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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Sury L. F...

 TERRA-MAR, Inc.

TERRA-MAR, INC.
GEOTECHNICAL ENVIRONMENTAL AND MATERIALS ENGINEERS
 DALLAS FORT WORTH HOUSTON LONGVIEW LUBBOCK AUSTIN

11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800

CONCRETE INSPECTION AND FLEXURAL STRENGTH TEST REPORT
(THIRD POINT LOADING)

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 03/25/99
TMI REPORT #: DC98-050-106

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 650
 Slump (in.): 4-6
 Air Content (%): 4.5
 Concrete Temp (°F): _____

PROJECT DATA

Placement Date: 03/17/99
 Sampled By: J. Perez
 Weather: Cloudy/Warm
 Supplier/Mix: Lattimore

FIELD DATA SET #1

Ticket #: 7067464 Time Batched: na Time Sampled: 9:30
 Slump (in.): 6 1/2 Air Content: 4.0 Unit Weight (pcf): na
 Conc. Temp. (°F): 68 Ambient Temp. (°F): 70 Yardage (c.y.): _____
 Placement Location: Intersection Addison & Arapho, right lane

FIELD DATA SET #2

Ticket #: _____ Time Batched: _____ Time Sampled: _____
 Slump (in.): _____ Air Content: _____ Unit Weight (pcf): _____
 Conc. Temp. (°F): _____ Ambient Temp. (°F): _____ Yardage (c.y.): _____
 Placement Location: _____
 Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

BEAMS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C78

Set #	Beam #	Test Date	Age (Days)	Max. Load (lbs)	Average Depth, D	Average Width, B	Modulus of Rupture (psi)	Notes
1	AR031701	03/24/99	7	8580	5.90	6.05	715	
	AR031702	04/14/99	28					

- (1) SPAN LENGTH OF 18 INCHES, UNLESS NOTED ABOVE.
- (2) SPECIMENS GROUND PRIOR TO TESTING, LEATHER SHIMS USED DURING TESTING.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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Serry L. Fox, P.E.
 TERRA-MAR, INC.

TERRA-MAR, INC.

GEOTECHNICAL ENVIRONMENTAL AND MATERIALS ENGINEERS

DALLAS FORT WORTH HOUSTON AUSTIN LONGVIEW LUBBOCK

11050 Ables Lane, Dallas, Texas 75229 Phone:972-488-8800 Fax: (972)488-8080

STABILIZED SOIL GRADATION REPORT

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 03/30/99
TMI REPORT #: DC98-050-111

DISTRIBUTION:
Ed Bell Construction - Doug Teter
Huitt-Zollars, Inc. - Kenneth Roberts, P.E.
Town of Addison - James Pierce, P.E.
Town of Addison - Dave Wilde

Test Method: Technician: Bob Pink
Minimum % Passing 1 3/4" Sieve: 100 Date Tested: 03/22/99
Minimum % Passing No. 4 Sieve: 60 Stabilizing Agent Lime

Table with 4 columns: TEST NUMBER, LOCATION, PERCENT PASSING 1 3/4" SIEVE, PERCENT PASSING #4 SIEVE. Contains 3 rows of test data.

Remarks:

Note: This report is for the exclusive use of the Client addressed. This report may not be reproduced except in its entirety, without the written consent of TMI. Results apply only to above tests.

Signature of Terry L. Frazier, TERRA-MAR, INC.

TERRA-MAR, INC.
GEOTECHNICAL ENVIRONMENTAL AND MATERIALS ENGINEERS
DALLAS FORT WORTH HOUSTON LONGVIEW LUBBOCK AUSTIN
11050 Ables Lane, Dallas, Texas 75229 Phone:972-488-8800 Fax: 972-488-8080

CONCRETE INSPECTION AND COMPRESSION TEST REPORT

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 04/01/99
TMI REPORT #: DC98-050-102

REPORT DISTRIBUTION:
Ed Bell Construction - Doug Teter
Huitt-Zollars, Inc. Kenneth Roberts, P.E.
Town of Addison - James Pierce, P.E.
Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 3000
Slump (in.): 4
Air Content (%): _____
Concrete Temp (°F): _____

PROJECT DATA

Placement Date: 03/03/99
Sampled By: _____
Weather: Sunny/Clear
Supplier/Mix: Lattimore

FIELD DATA SET #1

Ticket #: _____ Time Batched: _____ Time Sampled: 4:05
Slump (in.): 4 1/2 Air Content: _____ Unit Weight (pcf): _____
Conc. Temp. (°F): 68 Ambient Temp. (°F): 74 Yardage (c.y.): 5
Placement Location: From Arapaho to Quorum light
Remarks: _____

FIELD DATA SET #2

Ticket #: _____ Time Batched: _____ Time Sampled: _____
Slump (in.): _____ Air Content: _____ Unit Weight (pcf): _____
Conc. Temp. (°F): _____ Ambient Temp. (°F): _____ Yardage (c.y.): _____
Placement Location: _____
Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

CYLINDERS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C39, CAPPED PER ASTM C617

Set #	Cylinder #	Test Date	Age (Days)	Max. Load (lbs)	Area (sq. in.)	Strength (psi)	FC	Notes
1	AR030301	03/10/99	7	118610	28.27	4200	U	
	AR300302	03/10/99	7	113410	28.27	4010	U	
	AR030303	03/31/99	28	138070	28.27	4880	U	
	AR300304	03/31/99	28	137330	28.27	4860	U	

- (1) NORMAL CYLINDER SIZE 6" X 12", AREA 28.27 sq. in., UNLESS NOTED ABOVE.
- (2) TYPE "A" CONE FRACTURE UNLESS INDICATED OTHERWISE IN NOTES.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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Surry L. Fen
TERRA-MAR, Inc.

TERRA-MAR, INC.
GEOTECHNICAL ENVIRONMENTAL AND MATERIALS ENGINEERS
 DALLAS FORT WORTH HOUSTON LONGVIEW LUBBOCK AUSTIN
 11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800 Fax: 972-488-8080

CONCRETE INSPECTION AND COMPRESSION TEST REPORT

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 04/07/99
TMI REPORT #: DC98-050-103

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 3000
 Slump (in.): 3-5
 Air Content (%): 4-6
 Concrete Temp (°F): 95

PROJECT DATA

Placement Date: 03/09/99
 Sampled By: Contractor
 Weather: Partly Sunny
 Supplier/Mix: TXI

FIELD DATA SET #1

Ticket #: _____ Time Batched: 10:00 Time Sampled: 10:45
 Slump (in.): 3 Air Content: 5.0 Unit Weight (pcf): _____
 Conc. Temp. (°F): 65 Ambient Temp. (°F): 70 Yardage (c.y.): 8/8
 Placement Location: Station 4600 - left sidewalk 10'
 Remarks: _____

FIELD DATA SET #2

Ticket #: _____ Time Batched: _____ Time Sampled: _____
 Slump (in.): _____ Air Content: _____ Unit Weight (pcf): _____
 Conc. Temp. (°F): _____ Ambient Temp. (°F): _____ Yardage (c.y.): _____
 Placement Location: _____
 Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

CYLINDERS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C39, CAPPED PER ASTM C617

Set #	Cylinder #	Test Date	Age (Days)	Max. Load (lbs)	Area (sq. in.)	Strength (psi)	FC	Notes
1	AR030901	03/16/99	7	89010	28.27	3150	U	
	AR030902	04/06/99	28	124500	28.27	4400	U	

- (1) NORMAL CYLINDER SIZE 6" X 12", AREA 28.27 sq. in., UNLESS NOTED ABOVE.
- (2) TYPE "A" CONE FRACTURE UNLESS INDICATED OTHERWISE IN NOTES.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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Sunny L. Foss, P.E.
 TERRA-MAR, Inc.

TERRA-MAR, INC.
GEOTECHNICAL, ENVIRONMENTAL, AND CONSTRUCTION MATERIALS TESTING
Dallas Fort Worth Houston Lubbock Longview Austin
11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800 Fax: 972-488-8080

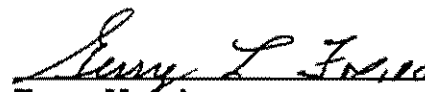
DAILY ACTIVITY OBSERVATION REPORT

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
PROJECT NO.: DC98-050-109
REPORT DATE: 3/25/99

DISTRIBUTION:
Ed Bell Construction – Doug Teter
Huitt Zollars, Inc. – Kenneth Roberts, P.E.
Town of Addison – James Pierce, P.E.
Town of Addison – Dave Wilde

On 3/22/99, Terra-Mar, Inc. representative Donald Bell was present at the above referenced project to perform lime depth testing. The following results are as noted.

Station 59+75	Lime at 6" depth - Approved
Station 64+00	Lime at 6" depth - Approved
Station 58+10	Lime at 6" depth - Approved


Terra-Mar, Inc.

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TERRA-MAR, INC.
GEOTECHNICAL ENVIRONMENTAL AND MATERIALS ENGINEERS

DALLAS FORT WORTH HOUSTON LONGVIEW LUBBOCK AUSTIN

11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800

SOIL MOISTURE -DENSITY TEST REPORT
IN-PLACE TESTS BY NUCLEAR METHODS

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 3/24/99
TMI REPORT NO.: DC98-050-110

DISTRIBUTION:
Ed Bell Construction - Doug Teter
Huitt Zollar, Inc. - Kenneth Roberts, P.E.
Town of Addison - James Pierce, P.E.
Town of Addison - Dave Wilde, P.E.

SPECIFICATIONS

Percent Compaction: 95+
Moisture Content (%): opt -1 to +4

TEST DATA

Date Tested: 3/22/99
Technician: Donald E. Bell

MATERIAL REFERENCE CURVE DATA

CURVE NO.	TEST METHOD	MATERIAL DESCRIPTION	OPTIMUM MOISTURE (%)	MAX. DRY DENSITY (pcf)
1	ASTM D698	Dark Gray and Gray Clay with Gravel	16.3	106.2
7	ASTM D699	Lime Treated Brown Clay	36.6	80.6

IN-PLACE TEST RESULTS

DENSITY AND MOISTURE TESTS ARE PER ASTM D2922, D3017, RESPECTIVELY

TEST NO.	ELEVATION OR LIFT	LOCATION	REF. CURVE	% MOISTURE	DRY DENSITY	% DENSITY
1	Grade	Sta. 64 + 00 East Bound Arapaho Rd.	7	37.7	80.7	100.1
2	Grade	Sta. 59+75 East Bound Arapaho Rd.	7	36.4	80.0	99.3
3	Grade	Sta. 58+1000 East Bound Arapaho Rd.	7	39.5	80.3	99.6

GAUGE I.D.: 5429 STD. DENSITY COUNT: 2617 STD. MOISTURE COUNT: 648

"R" AFTER TEST NUMBER INDICATES RETEST.

* INDICATES FAILURE TO COMPLY WITH PROJECT SPECIFICATIONS

REMARKS:

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TERRA-MAR, INC.

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 11050 Ables Lane, Dallas, Texas 75229 Phone:972-488-8800 Fax: 972-488-8080

CONCRETE INSPECTION AND COMPRESSION TEST REPORT

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 03/30/99
TMI REPORT #: DC98-050-108

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 3000
 Slump (in.): 3-5
 Air Content (%): 4-6
 Concrete Temp (°F): 98

PROJECT DATA

Placement Date: 03/22/99
 Sampled By: D. Bell
 Weather: Sunny/82
 Supplier/Mix: TXI

FIELD DATA SET #1

Ticket #: 1267092 Time Batched: 1:10 Time Sampled: 1:30
 Slump (in.): 2 1/2 Air Content: 5.5 Unit Weight (pcf): na
 Conc. Temp. (°F): 76 Ambient Temp. (°F): 80 Yardage (c.y.): 10
 Placement Location: Station 49 + 90 Eastbound Arapaho Rd. sidewalk
 Remarks: _____

FIELD DATA SET #

Ticket #: _____ Time Batched: _____ Time Sampled: _____
 Slump (in.): _____ Air Content: _____ Unit Weight (pcf): _____
 Conc. Temp. (°F): _____ Ambient Temp. (°F): _____ Yardage (c.y.): _____
 Placement Location: _____
 Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

CYLINDERS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C39, CAPPED PER ASTM C617

Set #	Cylinder #	Test Date	Age (Days)	Max. Load (lbs)	Area (sq. in.)	Strength (psi)	FC	Notes
1	AR032201	03/29/99	7	103170	28.27	3650	U	
	AR032202	04/19/99	28					
	AR032203	04/19/99	28					
	AR032204		hold					

- (1) NORMAL CYLINDER SIZE 6" X 12", AREA 28.27 sq. in., UNLESS NOTED ABOVE.
- (2) TYPE "A" CONE FRACTURE UNLESS INDICATED OTHERWISE IN NOTES.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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James L. Ford, P.E.
 TERRA-MAR, Inc.

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GEOTECHNICAL ENVIRONMENTAL AND MATERIALS ENGINEERS
 DALLAS FORT WORTH HOUSTON LONGVIEW LUBBOCK AUSTIN
 11050 Ables Lane, Dallas, Texas 75229 Phone:972-488-8800 Fax: 972-488-8080

CONCRETE INSPECTION AND COMPRESSION TEST REPORT

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 03/23/99
TMI REPORT #: DC98-050-105

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 4000
 Slump (in.): 3-5
 Air Content (%): 4-6
 Concrete Temp (°F): 95

PROJECT DATA

Placement Date: 03/15/99
 Sampled By: B. Jones
 Weather: Sunny
 Supplier/Mix: Lattimore

FIELD DATA SET #1

Ticket #: 67572 Time Batched: 2:59 Time Sampled: 3:40
 Slump (in.): 3 Air Content: 4.5 Unit Weight (pcf): _____
 Conc. Temp. (°F): 65 Ambient Temp. (°F): 69 Yardage (c.y.): 8/8
 Placement Location: Piers for traffic lights, NW & SW corner of Arapaho @ Addison + 1 pier approx. 150 yds from intersection
 Remarks: Concrete was 1.5 hours late

FIELD DATA SET #

Ticket #: _____ Time Batched: _____ Time Sampled: _____
 Slump (in.): _____ Air Content: _____ Unit Weight (pcf): _____
 Conc. Temp. (°F): _____ Ambient Temp. (°F): _____ Yardage (c.y.): _____
 Placement Location: _____
 Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

CYLINDERS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C39, CAPPED PER ASTM C617

Set #	Cylinder #	Test Date	Age (Days)	Max. Load (lbs)	Area (sq. in.)	Strength (psi)	FC	Notes
1	AR031501	03/22/99	7	148320	28.27	5250	U	
	AR031502	04/12/99	28					
	AR031503		hold					

- (1) NORMAL CYLINDER SIZE 6" X 12", AREA 28.27 sq. in., UNLESS NOTED ABOVE.
 (2) TYPE "A" CONE FRACTURE UNLESS INDICATED OTHERWISE IN NOTES.
 (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
 (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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Sunny L. Fu...

 TERRA-MAR, Inc.

TOWN OF
ADDISON

Faxed

PUBLIC WORKS

To: 
TERRA MAR, INC.

From: James C. Pierce, Jr., P.E., DEE
Assistant City Engineer
Phone: 972/450-2879
FAX: 972/450-2834

FAX #: 972-488-8080

Date: 3-23-99

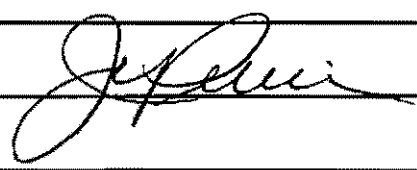
16801 Westgrove
P.O. Box 9010
Addison, TX 75001-9010

of pages (including cover): 3

Re: Arapaho Rd Project

- Original in mail Per your request FYI Call me

Comments: Please note corrections in mix
specifications for Lattimore supplied
concrete. Please change your
records accordingly.



cc Pat Rivera
Dave Wildt

TERRA-MAR, INC.
GEOTECHNICAL ENVIRONMENTAL AND MATERIALS ENGINEERS
 DALLAS FORT WORTH HOUSTON LONGVIEW LUBBOCK AUSTIN

11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800

CONCRETE INSPECTION AND FLEXURAL STRENGTH TEST REPORT
(THIRD POINT LOADING)

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 03/10/99
TMI REPORT #: DC98-050-98

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 650 Flex
 Slump (in.): 3-5
 Air Content (%): 5-8
 Concrete Temp (°F): _____

PROJECT DATA

Placement Date: 02/05/99
 Sampled By: J. Perez
 Weather: Cloudy
 Supplier/Mix: Lattimore

FIELD DATA SET #1

Ticket #: 65479 Time Batched: 11:20 Time Sampled: 11:45
 Slump (in.): 5.00 Air Content: 4.5 Unit Weight (pcf): na
 Conc. Temp. (°F): 70 Ambient Temp. (°F): 64 Yardage (c.y.): na
 Placement Location: Median at Quorum Road

FIELD DATA SET #2

Ticket #: _____ Time Batched: _____ Time Sampled: _____
 Slump (in.): _____ Air Content: _____ Unit Weight (pcf): _____
 Conc. Temp. (°F): _____ Ambient Temp. (°F): _____ Yardage (c.y.): _____
 Placement Location: _____
 Remarks: _____

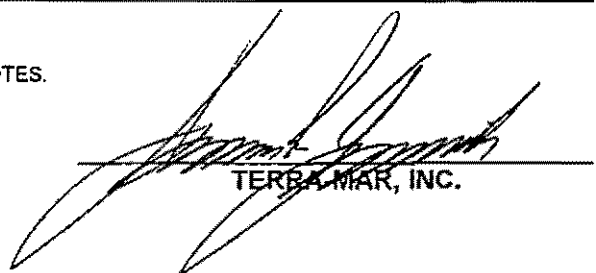
CONCRETE COMPRESSION TEST RESULTS

BEAMS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C78

Set #	Beam #	Test Date	Age (Days)	Max. Load (lbs)	Average Depth, D	Average Width, B	Modulus of Rupture (psi)	Notes
1	AR020501	02/12/99	7	8940	6.00	6.20	745	
	AR020502	02/12/99	7	9060	6.10	6.00	755	
	AR020503	03/05/99	28	9840	5.90	6.10	820	
	AR020504	03/05/99	28	9360	6.05	6.20	780	

- (1) SPAN LENGTH OF 18 INCHES, UNLESS NOTED ABOVE.
- (2) SPECIMENS GROUND PRIOR TO TESTING, LEATHER SHIMS USED DURING TESTING.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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 11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800 Fax: 972-488-8080

CONCRETE INSPECTION AND COMPRESSION TEST REPORT

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 03/11/99
TMI REPORT #: DC98-050-102

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS	PROJECT DATA
Strength (psi): 3000	Placement Date: 03/03/99
Slump (in.): <u>4 3-5</u>	Sampled By: _____
Air Content (%): <u>5-8</u>	Weather: Sunny/Clear
Concrete Temp (°F): _____	Supplier/Mix: Lattimore

FIELD DATA SET #1

Ticket #: _____	Time Batched: _____	Time Sampled: 4:05
Slump (in.): 4 1/2	Air Content: _____	Unit Weight (pcf): _____
Conc. Temp. (°F): 68	Ambient Temp. (°F): 74	Yardage (c.y.): 5
Placement Location: From Arapaho to Quorum light		
Remarks: _____		

FIELD DATA SET #2

Ticket #: _____	Time Batched: _____	Time Sampled: _____
Slump (in.): _____	Air Content: _____	Unit Weight (pcf): _____
Conc. Temp. (°F): _____	Ambient Temp. (°F): _____	Yardage (c.y.): _____
Placement Location: _____		
Remarks: _____		

CONCRETE COMPRESSION TEST RESULTS								
CYLINDERS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C39, CAPPED PER ASTM C617								
Set #	Cylinder #	Test Date	Age (Days)	Max. Load (lbs)	Area (sq. in.)	Strength (psi)	FC	Notes
1	AR030301	03/10/99	7	118610	28.27	4200	U	
	AR300302	03/10/99	7	113410	28.27	4010	U	
	AR030303	03/31/99	28					
	AR300304	03/31/99	28					

- (1) NORMAL CYLINDER SIZE 6" X 12", AREA 28.27 sq. in., UNLESS NOTED ABOVE.
- (2) TYPE "A" CONE FRACTURE UNLESS INDICATED OTHERWISE IN NOTES.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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[Signature]
 TERRA-MAR, Inc.

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 DALLAS FORT WORTH HOUSTON LONGVIEW LUBBOCK AUSTIN
 11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800 Fax: 972-488-8080

CONCRETE INSPECTION AND COMPRESSION TEST REPORT

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 03/18/99
TMI REPORT #: DC98-050-103

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 3000
 Slump (in.): 3-5
 Air Content (%): 4-6
 Concrete Temp (°F): 95

PROJECT DATA

Placement Date: 03/09/99
 Sampled By: Contractor
 Weather: Partly Sunny
 Supplier/Mix: TXI

FIELD DATA SET #1

Ticket #: _____ Time Batched: 10:00 Time Sampled: 10:45
 Slump (in.): 3 Air Content: 5.0 Unit Weight (pcf): _____
 Conc. Temp. (°F): 65 Ambient Temp. (°F): 70 Yardage (c.y.): 8/8
 Placement Location: Station 4600 - left sidewalk 10'
 Remarks: _____

FIELD DATA SET #2

Ticket #: _____ Time Batched: _____ Time Sampled: _____
 Slump (in.): _____ Air Content: _____ Unit Weight (pcf): _____
 Conc. Temp. (°F): _____ Ambient Temp. (°F): _____ Yardage (c.y.): _____
 Placement Location: _____
 Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

CYLINDERS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C39, CAPPED PER ASTM C617

Set #	Cylinder #	Test Date	Age (Days)	Max. Load (lbs)	Area (sq. in.)	Strength (psi)	FC	Notes
1	AR030901	03/16/99	7	89010	28.27	3150	U	
	AR030902	04/06/99	28					

- (1) NORMAL CYLINDER SIZE 6" X 12", AREA 28.27 sq. in., UNLESS NOTED ABOVE.
- (2) TYPE "A" CONE FRACTURE UNLESS INDICATED OTHERWISE IN NOTES.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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Sury L. J...

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 DALLAS FORT WORTH HOUSTON LONGVIEW LUBBOCK AUSTIN
 11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800 Fax: 972-488-8080

CONCRETE INSPECTION AND COMPRESSION TEST REPORT

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 03/18/99
TMI REPORT #: DC98-050-104

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 3000
 Slump (in.): 3-5
 Air Content (%): 4-6
 Concrete Temp (°F): 95

PROJECT DATA

Placement Date: 03/10/99
 Sampled By: Contractor
 Weather: Partly Sunny
 Supplier/Mix: TXI

FIELD DATA SET #1

Ticket #: _____ Time Batched: 12:00 Time Sampled: 12:32
 Slump (in.): 3 Air Content: 4.5 Unit Weight (pcf): _____
 Conc. Temp. (°F): 65 Ambient Temp. (°F): 73 Yardage (c.y.): 10/20
 Placement Location: Station 65 + 00, right 25

Remarks: _____

FIELD DATA SET #2

Ticket #: _____ Time Batched: _____ Time Sampled: _____
 Slump (in.): _____ Air Content: _____ Unit Weight (pcf): _____
 Conc. Temp. (°F): _____ Ambient Temp. (°F): _____ Yardage (c.y.): _____
 Placement Location: _____

Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

CYLINDERS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C39, CAPPED PER ASTM C617

Set #	Cylinder #	Test Date	Age (Days)	Max. Load (lbs)	Area (sq. in.)	Strength (psi)	FC	Notes
1	AR031002	03/17/99	7	101930	28.27	3610	U	
	AR031003	04/07/99	28					

- (1) NORMAL CYLINDER SIZE 6" X 12", AREA 28.27 sq. in., UNLESS NOTED ABOVE.
- (2) TYPE "A" CONE FRACTURE UNLESS INDICATED OTHERWISE IN NOTES.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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Surry L. Ford, PE
 TERRA-MAR, Inc.

TERRA-MAR, INC.
GEOTECHNICAL ENVIRONMENTAL AND MATERIALS ENGINEERS
 DALLAS FORT WORTH HOUSTON LONGVIEW LUBBOCK AUSTIN

11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800

CONCRETE INSPECTION AND FLEXURAL STRENGTH TEST REPORT
(THIRD POINT LOADING)

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 03/10/99
TMI REPORT #: DC98-050-98

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 650 Flex
 Slump (in.): 3-5
 Air Content (%): 5-8
 Concrete Temp (°F): _____

PROJECT DATA

Placement Date: 02/05/99
 Sampled By: J. Perez
 Weather: Cloudy
 Supplier/Mix: Lattimore

FIELD DATA SET #1

Ticket #: 65479 Time Batched: 11:20 Time Sampled: 11:45
 Slump (in.): 5.00 Air Content: 4.5 Unit Weight (pcf): na
 Conc. Temp. (°F): 70 Ambient Temp. (°F): 64 Yardage (c.y.): na
 Placement Location: Median at Quorum Road

FIELD DATA SET #2

Ticket #: _____ Time Batched: _____ Time Sampled: _____
 Slump (in.): _____ Air Content: _____ Unit Weight (pcf): _____
 Conc. Temp. (°F): _____ Ambient Temp. (°F): _____ Yardage (c.y.): _____
 Placement Location: _____
 Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

BEAMS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C78

Set #	Beam #	Test Date	Age (Days)	Max. Load (lbs)	Average Depth, D	Average Width, B	Modulus of Rupture (psi)	Notes
1	AR020501	02/12/99	7	8940	6.00	6.20	745	
	AR020502	02/12/99	7	9060	6.10	6.00	755	
	AR020503	03/05/99	28	9840	5.90	6.10	820	
	AR020504	03/05/99	28	9360	6.05	6.20	780	

- (1) SPAN LENGTH OF 18 INCHES, UNLESS NOTED ABOVE.
- (2) SPECIMENS GROUND PRIOR TO TESTING, LEATHER SHIMS USED DURING TESTING.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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 DALLAS FORT WORTH HOUSTON LONGVIEW LUBBOCK AUSTIN
 11050 Ables Lane, Dallas, Texas 75229 Phone:972-488-8800 Fax: 972-488-8080

CONCRETE INSPECTION AND COMPRESSION TEST REPORT

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 03/11/99
TMI REPORT #: DC98-050-102

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 3000
 Slump (in.): 4 3-5
 Air Content (%): 5-8
 Concrete Temp (°F): _____

PROJECT DATA

Placement Date: 03/03/99
 Sampled By: _____
 Weather: Sunny/Clear
 Supplier/Mix: Lattimore

FIELD DATA SET #1

Ticket #: _____ Time Batched: _____ Time Sampled: 4:05
 Slump (in.): 4 1/2 Air Content: _____ Unit Weight (pcf): _____
 Conc. Temp. (°F): 68 Ambient Temp. (°F): 74 Yardage (c.y.): 5
 Placement Location: From Arapho to Quorum light
 Remarks: _____

FIELD DATA SET #2

Ticket #: _____ Time Batched: _____ Time Sampled: _____
 Slump (in.): _____ Air Content: _____ Unit Weight (pcf): _____
 Conc. Temp. (°F): _____ Ambient Temp. (°F): _____ Yardage (c.y.): _____
 Placement Location: _____
 Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

CYLINDERS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C39, CAPPED PER ASTM C617

Set #	Cylinder #	Test Date	Age (Days)	Max. Load (lbs)	Area (sq. in.)	Strength (psi)	FC	Notes
1	AR030301	03/10/99	7	118610	28.27	4200	U	
	AR300302	03/10/99	7	113410	28.27	4010	U	
	AR030303	03/31/99	28					
	AR300304	03/31/99	28					

- (1) NORMAL CYLINDER SIZE 6" X 12", AREA 28.27 sq. in., UNLESS NOTED ABOVE.
- (2) TYPE "A" CONE FRACTURE UNLESS INDICATED OTHERWISE IN NOTES.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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GEOTECHNICAL ENVIRONMENTAL AND MATERIALS ENGINEERS

DALLAS FORT WORTH HOUSTON AUSTIN LONGVIEW LUBBOCK

11050 Ables Lane, Dallas, Texas 75229 Phone:972-488-8800 Fax: (972)488-8080

STABILIZED SOIL GRADATION REPORT

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 03/10/99
TMI REPORT #: DC98-050-99

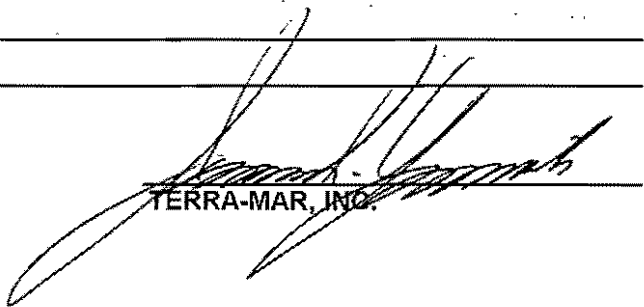
DISTRIBUTION:
Ed Bell Construction - Doug Teter
Huitt-Zollars, Inc. - Kenneth Roberts, P.E.
Town of Addison - James Pierce, P.E.
Town of Addison - Dave Wilde

Test Method: _____ **Technician:** M. Kashem
Minimum % Passing 1 3/4" Sieve: 100 **Date Tested:** 02/26/99
Minimum % Passing No. 4 Sieve: 60 **Stabilizing Agent:** Lime

TEST NUMBER	LOCATION	PERCENT PASSING 1 3/4" SIEVE	PERCENT PASSING #4 SIEVE
1	Arapaho Road, east bound @ 41 + 50	100	67.9
2	Arapaho Road, east bound @ 42 + 50	100	66.5
3	Section of new pavement @ old Arapaho @ east bound	100	68.5

Remarks: _____

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TERRA-MAR, INC.

GEOTECHNICAL ENVIRONMENTAL AND MATERIALS ENGINEERS

Dallas Fort Worth Houston Austin Longview Lubbock

11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8080 Fax: 972-488-8080

LIME TREATED SOIL THICKNESS DETERMINATIONS

Client: Ed Bell Construction

Distribution:

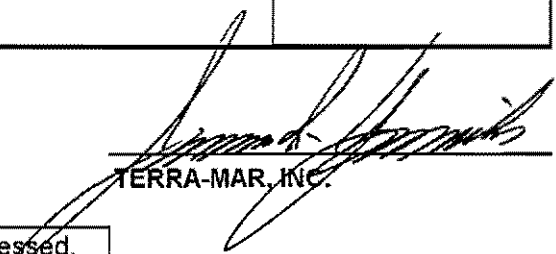
Project: Arapaho Road Improvements

Ed Bell Construction - Doug Teter

Report No.: DC98-050-101

Report Date: 02/26/99

TEST NO.	LIME TREATED SOIL DEPTH CHECKS LOCATIONS	DEPTH (in)
1	East Bound Arapaho Rd @ 41 +00	8.0"
2	East Bound Arapaho Rd @ 42 +00	7.5"
3	Section of new pavement @ Old Arapaho Rd @ east bound	8.0"



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 DALLAS FORT WORTH HOUSTON LONGVIEW LUBBOCK AUSTIN

11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800

CONCRETE INSPECTION AND FLEXURAL STRENGTH TEST REPORT
(THIRD POINT LOADING)

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 02/24/99
TMI REPORT #: DC98-050-98

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 650
 Slump (in.): 5 4
 Air Content (%): _____
 Concrete Temp (°F): _____

PROJECT DATA

Placement Date: 02/05/99
 Sampled By: J. Perez
 Weather: Cloudy
 Supplier/Mix: Lattimore

FIELD DATA SET #1

Ticket #: 65479 Time Batched: 11:20 Time Sampled: 11:45
 Slump (in.): 5.00 Air Content: 4.5 Unit Weight (pcf): na
 Conc. Temp. (°F): 70 Ambient Temp. (°F): 64 Yardage (c.y.): na
 Placement Location: Median at Quorum Road

FIELD DATA SET #2

Ticket #: _____ Time Batched: _____ Time Sampled: _____
 Slump (in.): _____ Air Content: _____ Unit Weight (pcf): _____
 Conc. Temp. (°F): _____ Ambient Temp. (°F): _____ Yardage (c.y.): _____
 Placement Location: _____
 Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

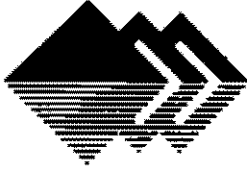
BEAMS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C78

Set #	Beam #	Test Date	Age (Days)	Max. Load (lbs)	Average Depth, D	Average Width, B	Modulus of Rupture (psi)	Notes
1	AR020501	02/12/99	7	8940	6.00	6.20	745	
	AR020502	02/12/99	7	9060	6.10	6.00	755	
	AR020503	03/05/99	28					
	AR020504	03/05/99	28					

- (1) SPAN LENGTH OF 18 INCHES, UNLESS NOTED ABOVE.
- (2) SPECIMENS GROUND PRIOR TO TESTING, LEATHER SHIMS USED DURING TESTING.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

Note: This report is for the exclusive use of the Client addressed. This report may not be reproduced except in its entirety, without the written consent of TMI. Results apply only to above tests.

Henry L. Fox, Jr.
 TERRA-MAR, INC.



Certified Mail # P 572 663 477
Registered, Return Receipt Requested

January 29, 1999

Mr. Robert Weber
Mr. Pat Rivera
Ed Bell Construction Company
10605 Harry Hines Boulevard
Dallas, Texas 75220

RE: Demand for Payment
Project DC98-050
Invoice # DC8050923 - 9/30/98
Invoice # DC80501015 - 10/31/98
Invoice # DC80501115 - 11/30/98

Dear Mr. Weber and Mr. Rivera:

Terra-Mar, Inc. has provided Construction Materials Services on Project #DC98-050 as shown on the following invoices:

Invoice # DC8050923 - 09/30/98 in the amount of \$6,260.00
Invoice # DC80501015 - 10/31/98 in the amount of \$1,770.00
Invoice # DC80501115 - 11/30/98 in the amount of \$1,645.00

As of today, the total amount due on these invoices is \$9,675.00. This amount does not include additional additional payments due for any work that may have been completed in 1998 or January 1999.

As of this date, our records reflect no payment or partial payment having been received from Ed Bell Construction Company. Therefore, demand is hereby made upon you for payment of \$9,675.00 This amount is to be paid directly to Terra-Mar within ten (10) days of your receipt of this letter. Should such payment not be forthcoming or other arrangements made for the satisfaction of this obligation, we may have no other option than to seek whatever legal remedies are available. Should such a step become necessary, Terra-Mar will seek recovery of the principal amount owed, interest, attorney's fees, and court costs.

If payment has already been sent, please disregard this letter.

Sincerely,

TERRA-MAR, INC.

Brit Jennings
Controller

Attachments: Invoice Copies

✓ C: James C. Pierce, Jr., P.E.
Assistant City Engineer
Town of Addison

COPY

TERRA-MAR, INC.

CONSULTING ENGINEERS * GEOTECHNICAL * ENVIRONMENTAL * CONSTRUCTION MATERIALS ENGINEERS

11050 Ables Lane, Dallas, Texas 75229

Phone: (972) 488-8800 Fax: (972) 488-8080

DALLAS FORT WORTH HOUSTON AUSTIN LONGVIEW LUBBOCK

INVOICE

TO: Ed Bell Construction
 P.O. Box 540787
 Dallas, Texas 75354-0787

INVOICE DATE **INVOICE NUMBER**

9/30/98	DC8050923
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ATTN: Mr. Troy Childers

PHONE NO.: 214-358-6581

FAX NO.: 214-352-3201

PROJECT #: DC98-050

PROJECT: Arapaho Road Improvements

Total Amount Due **\$ 6,260.00**

Period of

Service: September 1, 1998 to September 30, 1998

REPORT NUMBER	TECH	DATE	DESCRIPTION	QUANT	UNIT MEASURE	UNIT PRICE	AMOUNT
57	MK	9/1	In-Place Densities	5.00	each	10.00	50.00
58	MK	9/1	Field Gradations	2.00	each	10.00	20.00
"	"	"	Technician Time (am)	4.00	hours	28.00	112.00
"	"	"	Transportation Charge	1.00	trip	15.00	15.00
59	MK	9/1	Lime Depth Checks	8.00	each	10.00	80.00
60	MK	9/1	Field Gradations	2.00	each	10.00	20.00
"	"	"	Technician Time (pm)	4.00	hours	28.00	112.00
"	"	"	Transportation Charge	1.00	trip	15.00	15.00
61	MK	9/2	Proctor #7	1.00	each	120.00	120.00
"	"	"	Atterberg Limits	1.00	each	40.00	40.00
62	BG	9/2	Flexural Beams	8.00	each	20.00	160.00
"	"	"	Technician Time	6.00	hours	28.00	168.00
"	"	"	Transportation Charge	1.00	trip	15.00	15.00
63	MK	9/2	In-Place Densities	7.00	each	10.00	70.00
64	MK	9/2	Field Gradations	7.00	each	10.00	70.00
"	"	"	Technician Time	6.00	hours	28.00	168.00
"	"	"	Transportation Charge	1.00	trip	15.00	15.00
65	MK	9/3	Field Gradations	8.00	each	10.00	80.00
66	MK	9/3	In-Place Densities	4.00	each	10.00	40.00
"	"	"	Technician Time	4.00	hours	28.00	112.00
"	"	"	Transportation Charge	1.00	trip	15.00	15.00
67	JS	9/3	Flexural Beams	4.00	each	20.00	80.00
"	"	"	Technician Time (1st trip)	4.00	hours	28.00	112.00
"	"	"	Transportation Charge	1.00	trip	15.00	15.00
68	MK	9/2	Field Gradations	4.00	each	10.00	40.00
"	"	"	Technician Time (pm)	4.00	hours	28.00	112.00
"	"	"	Transportation Charge	1.00	trip	15.00	15.00
69	JS	9/3	Flexural Beams	4.00	each	20.00	80.00
"	"	"	Technician Time (2nd trip)	3.00	hours	28.00	84.00
"	"	"	Transportation Charge	1.00	trip	15.00	15.00
70	EE	9/4	Flexural Beams	12.00	each	20.00	240.00
"	"	"	Technician Time	8.00	hours	28.00	224.00
"	"	"	Transportation Charge	1.00	trip	15.00	15.00

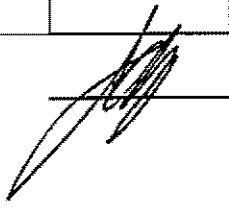
LINE	DATE	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT	
71	JS	9/8	Flexural Beams	8.00	each	20.00	160.00
"	"	"	Technician Time	8.00	hours	28.00	224.00
"	"	"	Transportation Charge	1.00	trip	15.00	15.00
72	JS	9/9	Flexural Beams	12.00	each	20.00	240.00
"	"	"	Technician Time	8.00	hours	28.00	224.00
"	"	"	Transportation Charge	1.00	trip	15.00	15.00
73	BG	9/10	Flexural Beams	4.00	each	20.00	80.00
"	"	"	Technician Time	4.00	hours	28.00	112.00
"	"	"	Transportation Charge	1.00	trip	15.00	15.00
		9/11	Beam Pickup Time	2.00	hours	28.00	56.00
		"	Transportation Charge	1.00	trip	15.00	15.00
74	JS	9/21	Flexural Beams	8.00	each	20.00	160.00
"	"	"	Technician Time	8.00	hours	28.00	224.00
"	"	"	Transportation Charge	1.00	trip	15.00	15.00
75	JS	9/22	Flexural Beams	8.00	each	20.00	160.00
"	"	"	Technician Time	8.00	hours	28.00	224.00
"	"	"	Transportation Charge	1.00	trip	15.00	15.00
76	JS	9/23	Flexural Beams	12.00	each	20.00	240.00
"	"	"	Technician Time	8.00	hours	28.00	224.00
"	"	"	Overtime	4.00	hours	42.00	168.00
"	"	"	Transportation Charge	1.00	trip	15.00	15.00
77	JS	9/24	Flexural Beams	8.00	each	20.00	160.00
"	"	"	Technician Time	8.00	hours	28.00	224.00
"	"	"	Overtime	2.00	hours	42.00	84.00
"	"	"	Transportation Charge	1.00	trip	15.00	15.00
78	JS	9/25	Flexural Beams	4.00	each	20.00	80.00
"	"	"	Technician Time	4.00	hours	28.00	112.00
"	"	"	Transportation Charge	1.00	trip	15.00	15.00
	JY	9/30	Project Management	8.00	hours	55.00	440.00

Note: 1. Due on receipt or by terms of contract.
2. Include invoice copy or number with payment.

TOTAL 6,260.00

Thank You, We appreciate your business.

MANAGER APPROVAL



TERRA-MAR, INC.

Consulting Engineers * Geotechnical * Environmental * Construction Materials Engineers

11050 Ables Lane, Dallas, Texas 75229
 Phone: (972) 488-8800 Fax: (972) 488-8080

Dallas Fort Worth Austin Houston Longview Lubbock

INVOICE

TO: Ed Bell Construction
 P.O. Box 540787
 Dallas, Texas 75354-0787

INVOICE DATE INVOICE NUMBER

10/31/98	DC80501015
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ATTN: Mr. Troy Childers

PHONE NO.: 214-358-6581
 FAX NO.: 214-352-3201

Total Amount Due \$ 1,770.00

PROJECT #: DC98-050
 PROJECT: Arapaho Road Improvements

Period of Service: October 1, 1998 to October 31, 1998

REPORT NUMBER	TECH	DATE	DESCRIPTION	QUANT	UNIT MEASURE	UNIT PRICE	AMOUNT
79	BWG	10/13	Flexural Beams	4.00	each	20.00	80.00
"	"	"	Technician Time	4.00	hour	28.00	112.00
"	"	"	Transportation Charge	1.00	trip	15.00	15.00
80	BWG	10/14	Flexural Beams	4.00	each	20.00	80.00
"	"	"	Technician Time	4.00	hour	28.00	112.00
"	"	"	Transportation Charge	1.00	trip	15.00	15.00
	BWG	10/15	Beam Pickup Time	2.00	hour	28.00	56.00
	"	"	Transportation Charge	1.00	trip	15.00	15.00
81	MK	10/16	Flexural Beams	4.00	each	20.00	80.00
"	"	"	Technician Time	4.00	hour	28.00	112.00
"	"	"	Transportation Charge	1.00	trip	15.00	15.00
	MK	10/17	Beam Pickup Time	2.00	hour	28.00	56.00
	"	"	Transportation Charge	1.00	trip	15.00	15.00
82	JP	10/19	Flexural Beams	12.00	each	20.00	240.00
"	"	"	Technician Time	6.00	hour	28.00	168.00
"	"	"	Transportation Charge	1.00	trip	15.00	15.00
	JP	10/20	Beam Pickup Time	2.00	hour	28.00	56.00
	"	"	Transportation Charge	1.00	trip	15.00	15.00
83	MY	10/29	Drilled Cores for Compressive	4.00	each	55.00	220.00
"	"	"	Technician Time	3.00	hour	28.00	84.00
"	JS	10/29	2nd Technician Time	3.00	hour	28.00	84.00
"	"	"	Transportation Charge	1.00	trip	15.00	15.00
	JY	10/31	Project Management	2.00	hour	55.00	110.00
						TOTAL	1,770.00

Note: 1. Due on receipt or by terms of contract.
 2. Include invoice copy or number with payment.

Thank You, we appreciate your business.

MANAGER APPROVAL _____

TERRA-MAR, INC.

Consulting Engineers * Geotechnical * Environmental * Construction Materials Engineers

11050 Ables Lane, Dallas, Texas 75229

Phone: (2972-488-8800 Fax: (972) 488-8080

Dallas Fort Worth Austin Houston Longview Lubbock

INVOICE

TO: Ed Bell Construction
P.O. Box 540787
Dallas, Texas 75354-0787

INVOICE DATE INVOICE NUMBER

11/30/98	DC80501115
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ATTN: Mr. Troy Childers

PHONE No.: 214-358-6581

FAX NO.: 214-352-3201

PROJECT #: DC98-050

PROJECT: Arapaho Road Improvements

Total Amount Due	\$ 1,645.00
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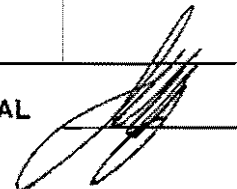
Period of Service: November 1, 1998 to November 30, 1998

REPORT NUMBER	TECH	DATE	DESCRIPTION	QUANT	UNIT MEASURE	UNIT PRICE	AMOUNT
84	EE	11/6	Flexural Beams	4.00	each	20.00	80.00
"	"	"	Technician Time	4.00	hours	28.00	112.00
"	"	"	Transportation Charge	1.00	trip	15.00	15.00
"	EE	11/7	Beam Pickup Time	3.00	hours	28.00	84.00
"	"	"	Transportation Charge	1.00	trip	15.00	15.00
85	MK	11/13	Daily Activity Report	4.00	hours	28.00	112.00
"	"	"	Transportation Charge	1.00	trip	15.00	15.00
86	MK	11/17	In-Place Densities (min 4 per trip)	4.00	each	10.00	40.00
"	"	"	Technician Time	3.00	hours	28.00	84.00
"	"	"	Transportation Charge	1.00	trip	15.00	15.00
87	MK	11/16	Field Gradations (min 4 per trip)	4.00	each	15.00	60.00
"	"	"	Technician Time	3.00	hours	28.00	84.00
"	"	"	Transportation Charge	1.00	trip	15.00	15.00
88	EE	11/25	Flexural Beams	4.00	each	20.00	80.00
"	"	"	Technician Time	6.00	hours	28.00	168.00
"	"	"	Transportation Charge	1.00	trip	15.00	15.00
"	EE	11/27	Beam Pickup Time	3.00	hours	28.00	84.00
"	"	"	Transportation Charge	1.00	trip	15.00	15.00
89	MK	11/30	Flexural Beams	8.00	each	20.00	160.00
"	"	"	Technician Time	6.00	hours	28.00	168.00
"	"	"	Transportation Charge	1.00	trip	15.00	15.00
"	EE	12/1	Beam Pickup Time	3.00	hours	28.00	84.00
"	"	"	Transportation Charge	1.00	trip	15.00	15.00
	JY	11/30	Project Management	2.00	hours	55.00	110.00
						TOTAL	1,645.00

Note: 1. Due on receipt or by terms of contract.
2. Include invoice copy or number with payment.

Thank You, We appreciate your business.

MANAGER APPROVAL



TERRA-MAR, INC.
GEOTECHNICAL ENVIRONMENTAL AND MATERIALS ENGINEERS
 DALLAS FORT WORTH HOUSTON LONGVIEW LUBBOCK AUSTIN
 11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800 Fax: 972-488-8080

CONCRETE INSPECTION AND COMPRESSION TEST REPORT

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 1/8/99
TMI REPORT #: DC98-050-91

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 4000
 Slump (in.): 3-5
 Air Content (%): na
 Concrete Temp (°F): 95

PROJECT DATA

Placement Date: 12/8/98
 Sampled By: Chris Theriot
 Weather: Clear
 Supplier/Mix: Lattimore

FIELD DATA SET #1

Ticket #: 662157 Time Batched: 9:34 Time Sampled: 10:30
 Slump (in.): 2.00 Air Content: na Unit Weight (pcf): na
 Conc. Temp. (°F): 60 Ambient Temp. (°F): 52 Yardage (c.y.): 7
 Placement Location: Four area inlets
 Remarks: _____

FIELD DATA SET #2

Ticket #: _____ Time Batched: _____ Time Sampled: _____
 Slump (in.): _____ Air Content: _____ Unit Weight (pcf): _____
 Conc. Temp. (°F): _____ Ambient Temp. (°F): _____ Yardage (c.y.): _____
 Placement Location: _____
 Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

CYLINDERS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C39, CAPPED PER ASTM C617

Set #	Cylinder #	Test Date	Age (Days)	Max. Load (lbs)	Area (sq. in.)	Strength (psi)	FC	Notes
1	AR120801	1/5/99	28	174780	28.27	6180	U	
	AR120802	1/5/99	28	173070	28.27	6120	U	

- (1) NORMAL CYLINDER SIZE 6" X 12", AREA 28.27 sq. in., UNLESS NOTED ABOVE.
 (2) TYPE "A" CONE FRACTURE UNLESS INDICATED OTHERWISE IN NOTES.
 (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
 (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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Berry L. Fox, P.E.
 TERRA-MAR, Inc.

TERRA-MAR, INC.
GEOTECHNICAL ENVIRONMENTAL AND MATERIALS ENGINEERS
 DALLAS FORT WORTH HOUSTON LONGVIEW LUBBOCK AUSTIN

11050 Ables Lane, Dallas, Texas 75229 Phone:972-488-8800

CONCRETE INSPECTION AND FLEXURAL STRENGTH TEST REPORT
(THIRD POINT LOADING)

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 1/8/99
TMI REPORT #: DC98-050-92

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 550
 Slump (in.): 4
 Air Content (%): 5
 Concrete Temp (°F): _____

PROJECT DATA

Placement Date: 12/9/98
 Sampled By: John Sullivan
 Weather: Cloudy & cool
 Supplier/Mix: Lattimore

FIELD DATA SET #1

Ticket #: 7062751 Time Batched: 12:57 Time Sampled: 1:15
 Slump (in.): 4.00 Air Content: 5.0 Unit Weight (pcf): na
 Conc. Temp. (°F): 65 Ambient Temp. (°F): 54 Yardage (c.y.): na
 Placement Location: West intersection of quiram and Arapaho Rd. left turning lane

FIELD DATA SET #2

Ticket #: _____ Time Batched: _____ Time Sampled: _____
 Slump (in.): _____ Air Content: _____ Unit Weight (pcf): _____
 Conc. Temp. (°F): _____ Ambient Temp. (°F): _____ Yardage (c.y.): _____
 Placement Location: _____
 Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

BEAMS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C78

Set #	Beam #	Test Date	Age (Days)	Max. Load (lbs)	Average Depth, D	Average Width, B	Modulus of Rupture (psi)	Notes
1	APR120901	12/16/98	7	8160	6.10	6.00	680	
	APR120902	12/16/98	7	9300	6.20	6.10	775	
	APR120903	1/6/99	28	9660	5.95	6.15	805	
	APR120904	1/6/99	28	1008	6.00	6.00	840	

- (1) SPAN LENGTH OF 18 INCHES, UNLESS NOTED ABOVE.
- (2) SPECIMENS GROUND PRIOR TO TESTING, LEATHER SHIMS USED DURING TESTING.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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George L. Foster
 TERRA-MAR, INC.

TERRA-MAR, INC.
GEOTECHNICAL ENVIRONMENTAL AND MATERIALS ENGINEERS
 DALLAS FORT WORTH HOUSTON LONGVIEW LUBBOCK AUSTIN
 11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800 Fax: 972-488-8080

CONCRETE INSPECTION AND COMPRESSION TEST REPORT

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 1/6/99
TMI REPORT #: DC98-050-90

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 3000
 Slump (in.): 5
 Air Content (%): na
 Concrete Temp (°F): 95

PROJECT DATA

Placement Date: 12/8/98
 Sampled By: A. Johnson
 Weather: Clear
 Supplier/Mix: Lattimore #38

FIELD DATA SET #1

Ticket #: 6085991 Time Batched: 1:57 Time Sampled: 4:00
 Slump (in.): 3.00 Air Content: na Unit Weight (pcf): na
 Conc. Temp. (°F): 69 Ambient Temp. (°F): 70 Yardage (c.y.): 5
 Placement Location: Arapaho Road light pole piers
 Remarks: _____

FIELD DATA SET #2

Ticket #: _____ Time Batched: _____ Time Sampled: _____
 Slump (in.): _____ Air Content: _____ Unit Weight (pcf): _____
 Conc. Temp. (°F): _____ Ambient Temp. (°F): _____ Yardage (c.y.): _____
 Placement Location: _____
 Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

CYLINDERS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C39, CAPPED PER ASTM C617

Set #	Cylinder #	Test Date	Age (Days)	Max. Load (lbs)	Area (sq. in.)	Strength (psi)	FC	Notes
1	AR120801	12/15/98	7	108210	28.27	3830	U	
	AR120801	1/5/99	28	147370	28.27	5210	U	
	AR120801	1/5/99	28	150530	28.27	5320	U	
	AR120801	DISCARD						

- (1) NORMAL CYLINDER SIZE 6" X 12", AREA 28.27 sq. in., UNLESS NOTED ABOVE.
 (2) TYPE "A" CONE FRACTURE UNLESS INDICATED OTHERWISE IN NOTES.
 (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
 (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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Serry L. Ford, P.E.
 TERRA-MAR, Inc.

TERRA-MAR, INC.
GEOTECHNICAL ENVIRONMENTAL AND MATERIALS ENGINEERS
 DALLAS FORT WORTH HOUSTON LONGVIEW LUBBOCK AUSTIN

11050 Ables Lane, Dallas, Texas 75229 Phone:972-488-8800

CONCRETE INSPECTION AND FLEXURAL STRENGTH TEST REPORT
(THIRD POINT LOADING)

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 12/29/98
TMI REPORT #: DC98-050-89

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 650 Flex
 Slump (in.): _____
 Air Content (%): 4-6
 Concrete Temp (°F): _____

PROJECT DATA

Placement Date: 11/30/98
 Sampled By: M. Kashem
 Weather: Clear
 Supplier/Mix: Lattimore

FIELD DATA SET #1

Ticket #: 3074204 Time Batched: 8:11 Time Sampled: 9:35
 Slump (in.): 4.00 Air Content: 5.1 Unit Weight (pcf): _____
 Conc. Temp. (°F): 66 Ambient Temp. (°F): 60 Yardage (c.y.): 9
 Placement Location: Paving @ E. bound Arapaho Rd. @ intersection of Arapaho & Quaroun Rd. station 21+75

FIELD DATA SET #2

Ticket #: 3074216 Time Batched: 10:18 Time Sampled: 11:30
 Slump (in.): 3.50 Air Content: 4.6 Unit Weight (pcf): _____
 Conc. Temp. (°F): 70 Ambient Temp. (°F): 64 Yardage (c.y.): 54
 Placement Location: Paving @ Quaroun Rd. S. bound @ station 2+55
 Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

BEAMS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C78

Set #	Beam #	Test Date	Age (Days)	Max. Load (lbs)	Average Depth, D	Average Width, B	Modulus of Rupture (psi)	Notes
1	ARI113001	12/07/98	7	6840	6.05	6.15	570	
	ARI113002	12/07/98	7	7080	6.00	6.25	590	
	ARI113003	12/28/98	28	8160	6.00	6.20	680	
	ARI113004	12/28/98	28	8340	5.85	6.25	695	
2	ARI113005	12/07/98	7	7980	5.90	6.15	665	
	ARI113006	12/07/98	7	8880	6.00	6.25	740	
	ARI113007	12/28/98	28	9120	6.00	6.10	760	
	ARI113008	12/28/98	28	9060	6.00	6.20	755	

- (1) SPAN LENGTH OF 18 INCHES, UNLESS NOTED ABOVE.
 (2) SPECIMENS GROUND PRIOR TO TESTING, LEATHER SHIMS USED DURING TESTING.
 (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
 (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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Gerry L. Fox, P.E.
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TERRA-MAR, INC.
GEOTECHNICAL ENVIRONMENTAL AND MATERIALS ENGINEERS
 DALLAS FORT WORTH HOUSTON LONGVIEW LUBBOCK AUSTIN

11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800

CONCRETE INSPECTION AND FLEXURAL STRENGTH TEST REPORT
(THIRD POINT LOADING)

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 12/17/98
TMI REPORT #: DC98-050-92

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 550
 Slump (in.): 4
 Air Content (%): 5
 Concrete Temp (°F): _____

PROJECT DATA

Placement Date: 12/09/98
 Sampled By: John Sullivan
 Weather: Cloudy
 Supplier/Mix: On site

FIELD DATA SET #1

Ticket #: 7062751 Time Batched: 12:57 Time Sampled: 1:15
 Slump (in.): 4.00 Air Content: 5.0 Unit Weight (pcf): na
 Conc. Temp. (°F): 65 Ambient Temp. (°F): 54 Yardage (c.y.): na
 Placement Location: West intersection of Quorum Road and Arapaho, left turn lane

FIELD DATA SET #2

Ticket #: _____ Time Batched: _____ Time Sampled: _____
 Slump (in.): _____ Air Content: _____ Unit Weight (pcf): _____
 Conc. Temp. (°F): _____ Ambient Temp. (°F): _____ Yardage (c.y.): _____
 Placement Location: _____
 Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

BEAMS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C78

Set #	Beam #	Test Date	Age (Days)	Max. Load (lbs)	Average Depth, D	Average Width, B	Modulus of Rupture (psi)	Notes
1	APR120901	12/16/98	7	8160	6.10	6.00	680	
	APR120902	12/16/98	7	9300	6.20	6.10	775	
	APR120903	01/06/99	28					
	APR120904	01/06/99	28					
2								

- (1) SPAN LENGTH OF 18 INCHES, UNLESS NOTED ABOVE.
- (2) SPECIMENS GROUND PRIOR TO TESTING, LEATHER SHIMS USED DURING TESTING.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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 11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800 Fax: 972-488-8080

CONCRETE INSPECTION AND COMPRESSION TEST REPORT

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 12/16/98
TMI REPORT #: DC98-050-90

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 3000
 Slump (in.): 5
 Air Content (%): na
 Concrete Temp (°F): 95

PROJECT DATA

Placement Date: 12/08/98
 Sampled By: A. Johnson
 Weather: Clear
 Supplier/Mix: Lattimore #38

FIELD DATA SET #1

Ticket #: 6085991 Time Batched: 1:57 Time Sampled: 4:00
 Slump (in.): 3.00 Air Content: na Unit Weight (pcf): na
 Conc. Temp. (°F): 69 Ambient Temp. (°F): 70 Yardage (c.y.): 5
 Placement Location: Arapaho Road light pole piers
 Remarks: _____

FIELD DATA SET #2

Ticket #: _____ Time Batched: _____ Time Sampled: _____
 Slump (in.): _____ Air Content: _____ Unit Weight (pcf): _____
 Conc. Temp. (°F): _____ Ambient Temp. (°F): _____ Yardage (c.y.): _____
 Placement Location: _____
 Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

CYLINDERS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C39, CAPPED PER ASTM C617

Set #	Cylinder #	Test Date	Age (Days)	Max. Load (lbs)	Area (sq. in.)	Strength (psi)	FC	Notes
1	AR120801	12/15/98	7	108210	28.27	3830	U	
	AR120801	01/05/99	28					
	AR120801	01/05/99	28					
	AR120801		hold					

- (1) NORMAL CYLINDER SIZE 6" X 12", AREA 28.27 sq. in., UNLESS NOTED ABOVE.
- (2) TYPE "A" CONE FRACTURE UNLESS INDICATED OTHERWISE IN NOTES.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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 DALLAS FORT WORTH HOUSTON LONGVIEW LUBBOCK AUSTIN

11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800

CONCRETE INSPECTION AND FLEXURAL STRENGTH TEST REPORT
(THIRD POINT LOADING)

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 12/14/98
TMI REPORT #: DC98-050-89

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 650 Flex
 Slump (in.): _____
 Air Content (%): 4-6
 Concrete Temp (°F): _____

PROJECT DATA

Placement Date: 11/30/98
 Sampled By: M. Kashem
 Weather: Clear
 Supplier/Mix: Lattimore

FIELD DATA SET #1

Ticket #: 3074204 Time Batched: 8:11 Time Sampled: 9:35
 Slump (in.): 4.00 Air Content: 5.1 Unit Weight (pcf): _____
 Conc. Temp. (°F): 66 Ambient Temp. (°F): 60 Yardage (c.y.): 9
 Placement Location: Paving @ E. bound Arapaho Rd. @ intersection of Arapaho & Quaroun Rd.
station 21+75

FIELD DATA SET #2

Ticket #: 3074216 Time Batched: 10:18 Time Sampled: 11:30
 Slump (in.): 3.50 Air Content: 4.6 Unit Weight (pcf): _____
 Conc. Temp. (°F): 70 Ambient Temp. (°F): 64 Yardage (c.y.): 54
 Placement Location: Paving @ Quaroun Rd. S. bound @ station 2+55
 Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

BEAMS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C78

Set #	Beam #	Test Date	Age (Days)	Max. Load (lbs)	Average Depth, D	Average Width, B	Modulus of Rupture (psi)	Notes
1	ARI113001	12/7/98	7	6840	6.05	6.15	570	
	ARI113002	12/7/98	7	7080	6.00	6.25	590	
	ARI113003	12/28/98	28					
	ARI113004	12/28/98	28					
2	ARI113005	12/7/98	7	7980	5.90	6.15	665	
	ARI113006	12/7/98	7	8880	6.00	6.25	740	
	ARI113007	12/28/98	28					
	ARI113008	12/28/98	28					

- (1) SPAN LENGTH OF 18 INCHES, UNLESS NOTED ABOVE.
 (2) SPECIMENS GROUND PRIOR TO TESTING, LEATHER SHIMS USED DURING TESTING.
 (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
 (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800

CONCRETE INSPECTION AND FLEXURAL STRENGTH TEST REPORT
(THIRD POINT LOADING)

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 12/07/98
TMI REPORT #: DC98-050-84

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Hultt-Zollars, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 650
 Slump (in.): 4
 Air Content (%): 4-6
 Concrete Temp (°F): _____

PROJECT DATA

Placement Date: 11/06/98
 Sampled By: E.E.
 Weather: Cloudy & cool
 Supplier/Mix: Ed Bell

FIELD DATA SET #1

Ticket #: 13263 Time Batched: 11:10 Time Sampled: 11:50
 Slump (in.): 4.25 Air Content: 4.3 Unit Weight (pcf): _____
 Conc. Temp. (°F): 62 Ambient Temp. (°F): _____ Yardage (c.y.): 10
 Placement Location: East bound left turn lane station 6+00
 Remarks: _____

FIELD DATA SET #2

Ticket #: _____ Time Batched: _____ Time Sampled: _____
 Slump (in.): _____ Air Content: _____ Unit Weight (pcf): _____
 Conc. Temp. (°F): _____ Ambient Temp. (°F): _____ Yardage (c.y.): _____
 Placement Location: _____
 Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

BEAMS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C78

Set #	Beam #	Test Date	Age (Days)	Max. Load (lbs)	Average Depth, D	Average Width, B	Modulus of Rupture (psi)	Notes
1	ARI110601	11/13/98	7	7500	5.95	6.10	625	** Does not meet specification
	ARI110602	11/13/98	7	6960	5.95	6.25	580	
	ARI110603	12/04/98	28	7200	6.00	6.00	600	
	ARI110604	12/04/98	28	7980	6.00	6.00	665	

- (1) SPAN LENGTH OF 18 INCHES, UNLESS NOTED ABOVE.
- (2) SPECIMENS GROUND PRIOR TO TESTING, LEATHER SHIMS USED DURING TESTING.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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 11050 Ables Lane, Dallas, Texas 75229 Phone:972-488-8800

CONCRETE INSPECTION AND FLEXURAL STRENGTH TEST REPORT
(THIRD POINT LOADING)

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 12/3/98
TMI REPORT #: DC98-050-88

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 650 Flex
 Slump (in.): 4
 Air Content (%): 4-6
 Concrete Temp (°F): 95

PROJECT DATA

Placement Date: 11/25/98
 Sampled By: E.E.
 Weather: Clear & warm
 Supplier/Mix: Ed Bell/Lattimore

FIELD DATA SET #1

Ticket #: 62653 Time Batched: 1:34 Time Sampled: 2:18
 Slump (in.): 3.25 Air Content: 4.9 Unit Weight (pcf): _____
 Conc. Temp. (°F): 77 Ambient Temp. (°F): _____ Yardage (c.y.): 20
 Placement Location: Quirum, South bound lane
 Remarks: _____

FIELD DATA SET #2

Ticket #: _____ Time Batched: _____ Time Sampled: _____
 Slump (in.): _____ Air Content: _____ Unit Weight (pcf): _____
 Conc. Temp. (°F): _____ Ambient Temp. (°F): _____ Yardage (c.y.): _____
 Placement Location: _____
 Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

BEAMS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C78

Set #	Beam #	Test Date	Age (Days)	Max. Load (lbs)	Average Depth, D	Average Width, B	Modulus of Rupture (psi)	Notes
1	ARI112501	12/2/98	7	6540	6.10	6.15	545	No aggregate fracture
	ARI112502	12/2/98	7	6180	6.05	6.10	515	
	ARI112503	12/23/98	28					
	ARI112504	12/23/98	28					

- (1) SPAN LENGTH OF 18 INCHES, UNLESS NOTED ABOVE.
- (2) SPECIMENS GROUND PRIOR TO TESTING, LEATHER SHIMS USED DURING TESTING.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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Sergio L. Lopez

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 DALLAS FORT WORTH HOUSTON LONGVIEW LUBBOCK AUSTIN

11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800

CONCRETE INSPECTION AND FLEXURAL STRENGTH TEST REPORT
(THIRD POINT LOADING)

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 11/19/98
TMI REPORT #: DC98-050-81

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 650
 Slump (in.): 3-5
 Air Content (%): 5-8
 Concrete Temp (°F): _____

PROJECT DATA

Placement Date: 10/16/98
 Sampled By: M. Kashem
 Weather: Clear
 Supplier/Mix: Ed Bell

FIELD DATA SET #1

Ticket #: 13124 Time Batched: 7:30 Time Sampled: 9:15
 Slump (in.): 5.00 Air Content: 4.5 Unit Weight (pcf): na
 Conc. Temp. (°F): 82 Ambient Temp. (°F): 73 Yardage (c.y.): 9
 Placement Location: Paving at westbound Arapaho Rd @ right turn lane from Arapaho to tollway service road
 Remarks: _____

FIELD DATA SET #2

Ticket #: _____ Time Batched: _____ Time Sampled: _____
 Slump (in.): _____ Air Content: _____ Unit Weight (pcf): _____
 Conc. Temp. (°F): _____ Ambient Temp. (°F): _____ Yardage (c.y.): _____
 Placement Location: _____
 Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

BEAMS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C78

Set #	Beam #	Test Date	Age (Days)	Max. Load (lbs)	Average Depth, D	Average Width, B	Modulus of Rupture (psi)	Notes
1	ARI101601	10/23/98	7	7200	5.85	6.20	600	
	ARI101602	11/13/98	28	8220	6.00	6.05	685	
	ARI101603	11/13/98	28	7980	6.05	6.05	665	
	ARI101604	DISCARD						
2								

- (1) SPAN LENGTH OF 18 INCHES, UNLESS NOTED ABOVE.
 (2) SPECIMENS GROUND PRIOR TO TESTING, LEATHER SHIMS USED DURING TESTING.
 (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
 (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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Larry L. Jones
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 DALLAS FORT WORTH HOUSTON LONGVIEW LUBBOCK AUSTIN

11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800

SOIL MOISTURE - DENSITY TEST REPORT
IN-PLACE TESTS BY NUCLEAR METHODS

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 11/17/98
TMI REPORT NO.: DC98-050-86

DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt Zollar, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde, P.E.

SPECIFICATIONS

Percent Compaction: 95+
 Moisture Content (%): opt+

TEST DATA

Date Tested: 11/17/98
 Technician: M. Kashem

MATERIAL REFERENCE CURVE DATA

CURVE NO.	TEST METHOD	MATERIAL DESCRIPTION	OPTIMUM MOISTURE (%)	MAX. DRY DENSITY (pcf)
8	ASTM D698	Lime Treated Brown Clay with Gravel	36.6	80.6

IN-PLACE TEST RESULTS

DENSITY AND MOISTURE TESTS ARE PER ASTM D2922, D3017, RESPECTIVELY

TEST NO.	ELEVATION OR LIFT	LOCATION	REF. CURVE	% MOISTURE	DRY DENSITY	% DENSITY
1	Grade	Quorum Road, southbound, sta 3+00	8	36.7	85.9	106.6
2	Grade	Quorum Road, southbound, sta 5+25	8	38.7	83.6	103.7

GAUGE I.D.: 10746 STD. DENSITY COUNT: 2591 STD. MOISTURE COUNT: 502

"R" AFTER TEST NUMBER INDICATES RETEST.

* INDICATES FAILURE TO COMPLY WITH PROJECT SPECIFICATIONS

REMARKS: _____

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CONCRETE INSPECTION AND FLEXURAL STRENGTH TEST REPORT
(THIRD POINT LOADING)

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 11/17/98
TMI REPORT #: DC98-050-84

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Hultt-Zollars, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 650 Flex
 Slump (in.): 4
 Air Content (%): 4-6
 Concrete Temp (°F): _____

PROJECT DATA

Placement Date: 11/6/98
 Sampled By: E.E.
 Weather: Cloudy & cool
 Supplier/Mix: Ed Bell

FIELD DATA SET #1

Ticket #: 13263 Time Batched: 11:10 Time Sampled: 11:50
 Slump (in.): 4.25 Air Content: 4.3 Unit Weight (pcf): _____
 Conc. Temp. (°F): 62 Ambient Temp. (°F): _____ Yardage (c.y.): 10
 Placement Location: East bound left turn lane station 6+00
 Remarks: _____

FIELD DATA SET #2

Ticket #: _____ Time Batched: _____ Time Sampled: _____
 Slump (in.): _____ Air Content: _____ Unit Weight (pcf): _____
 Conc. Temp. (°F): _____ Ambient Temp. (°F): _____ Yardage (c.y.): _____
 Placement Location: _____
 Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

BEAMS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C78

Set #	Beam #	Test Date	Age (Days)	Max. Load (lbs)	Average Depth, D	Average Width, B	Modulus of Rupture (psi)	Notes
1	ARI110601	11/13/98	7	7500	5.95	6.10	625	
	ARI110602	11/13/98	7	6960	5.95	6.25	580	
	ARI110603	12/4/98	28					
	ARI110604	12/4/98	28					

- (1) SPAN LENGTH OF 18 INCHES, UNLESS NOTED ABOVE.
- (2) SPECIMENS GROUND PRIOR TO TESTING, LEATHER SHIMS USED DURING TESTING.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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CONCRETE INSPECTION AND FLEXURAL STRENGTH TEST REPORT
(THIRD POINT LOADING)

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 11/17/98
TMI REPORT #: DC98-050-82

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

FIELD DATA SET #3

Ticket #: 1163114 Time Batched: 10:45 Time Sampled: 11:25
 Slump (in.): 5.00 Air Content: 5.7 Unit Weight (pcf): na
 Conc. Temp. (°F): 73 Ambient Temp. (°F): 67 Yardage (c.y.): 100
 Placement Location: Off Quorum driveway
 Remarks: _____

FIELD DATA SET #4

Ticket #: _____ Time Batched: _____ Time Sampled: _____
 Slump (in.): _____ Air Content: _____ Unit Weight (pcf): _____
 Conc. Temp. (°F): _____ Ambient Temp. (°F): _____ Yardage (c.y.): _____
 Placement Location: _____
 Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

BEAMS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C78

Set #	Beam #	Test Date	Age (Days)	Max. Load (lbs)	Average Depth, D	Average Width, B	Modulus of Rupture (psi)	Notes
3	ARI101909	10/26/98	7	6240	6.00	6.10	520	* * Does not meet specification
	ARI101910	10/26/98	7	6240	5.90	6.10	520	
	ARI101911	11/16/98	28	7620	5.85	6.20	635	
	ARI101912	11/16/98	28	7800	5.90	6.20	650	
4								

- (1) SPAN LENGTH OF 18 INCHES, UNLESS NOTED ABOVE.
- (2) SPECIMENS GROUND PRIOR TO TESTING, LEATHER SHIMS USED DURING TESTING.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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CONCRETE INSPECTION AND FLEXURAL STRENGTH TEST REPORT
(THIRD POINT LOADING)

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 11/17/98
TMI REPORT #: DC98-050-82

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 650
 Slump (in.): 3-5
 Air Content (%): 5-8
 Concrete Temp (°F): _____

PROJECT DATA

Placement Date: 10/19/98
 Sampled By: J. Perez
 Weather: Cloudy
 Supplier/Mix: Lattimore

FIELD DATA SET #1

Ticket #: 7060213 Time Batched: 8:09 Time Sampled: 9:20
 Slump (in.): na Air Content: 5.7 Unit Weight (pcf): na
 Conc. Temp. (°F): 70 Ambient Temp. (°F): 68 Yardage (c.y.): 100
 Placement Location: East side of Arapaho Rd
 Remarks: _____

FIELD DATA SET #2

Ticket #: 7060234 Time Batched: 11:00 Time Sampled: 12:45
 Slump (in.): na Air Content: 5.7 Unit Weight (pcf): na
 Conc. Temp. (°F): 70 Ambient Temp. (°F): 68 Yardage (c.y.): 100
 Placement Location: West side of Arapaho Rd
 Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

BEAMS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C78

Set #	Beam #	Test Date	Age (Days)	Max. Load (lbs)	Average Depth, D	Average Width, B	Modulus of Rupture (psi)	Notes
1	ARI101901	10/26/98	7	9540	6.00	6.20	795	
	ARI101902	10/26/98	7	8640	6.00	6.20	720	
	ARI101903	11/16/98	28	9840	6.00	6.05	820	
	ARI101904	11/16/98	28	8640	6.05	6.10	720	
2	ARI101905	10/26/98	7	9840	6.00	6.00	820	
	ARI101906	10/26/98	7	8400	5.85	6.20	700	
	ARI101907	11/16/98	28	10620	5.90	6.35	885	
	ARI101908	11/16/98	28	10860	6.00	6.35	905	

- (1) SPAN LENGTH OF 18 INCHES, UNLESS NOTED ABOVE.
- (2) SPECIMENS GROUND PRIOR TO TESTING, LEATHER SHIMS USED DURING TESTING.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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Berry L. Fox, P.E.
 TERRA-MAR, INC.

TERRA-MAR, INC.

GEOTECHNICAL, ENVIRONMENTAL, AND CONSTRUCTION MATERIALS TESTING

Dallas Fort Worth Houston Lubbock Longview Austin

11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800 Fax: 972-488-8080

DAILY ACTIVITY OBSERVATION REPORT

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
PROJECT NO.: DC98-050-85
REPORT DATE: 11/16/98

DISTRIBUTION:
Ed Bell Construction – Doug Teter
Huitt Zollars, Inc. – Kenneth Roberts, P.E.
Town of Addison – James Pierce, P.E.
Town of Addison – Dave Wilde

On 11/13/98, TMI representative Mohammed Kashem was present at the above referenced project to perform in-place density and field gradations. Upon arrival, TMI was notified by the contractor that the tests were cancelled for the day due to inclement weather conditions.


Terra-Mar, Inc.

Note: This report is for the exclusive use of the Client addressed. This report may not be reproduced except in its entirety, without the written consent of TMI. Results apply only to above tests.

DAILY ACTIVITY OBSERVATION REPORT

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
PROJECT NO.: DC98-050-85
REPORT DATE: 11/16/98

DISTRIBUTION:
Ed Bell Construction – Doug Teter
Huitt Zollars, Inc. – Kenneth Roberts, P.E.
Town of Addison – James Pierce, P.E.
Town of Addison – Dave Wilde

On 11/13/98, TMI representative Mohammed Kashem was present at the above referenced project to perform in-place density and field gradations. Upon arrival, TMI was notified by the contractor that the tests were cancelled for the day due to inclement weather conditions.


Terra-Mar, Inc.

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TERRA-MAR, INC.

GEOTECHNICAL ENVIRONMENTAL AND MATERIALS ENGINEERS

DALLAS FORT WORTH HOUSTON AUSTIN LONGVIEW LUBBOCK

11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800 Fax: (972)488-8080

STABILIZED SOIL GRADATION REPORT

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 11/16/98
TMI REPORT #: DC98-050-87

DISTRIBUTION:
Ed Bell Construction - Doug Teter
Huitf-Zollars, Inc. - Kenneth Roberts, P.E.
Town of Addison - James Pierce, P.E.
Town of Addison - Dave Wilde

Test Method: Technician: M. Kashem
Minimum % Passing 1 3/4" Sieve: 100 Date Tested: 11/16/98
Minimum % Passing No. 4 Sieve: 60 Stabilizing Agent: Lime

Table with 4 columns: TEST NUMBER, LOCATION, PERCENT PASSING 1 3/4" SIEVE, PERCENT PASSING #4 SIEVE. Contains 2 rows of test data.

Remarks:

Note: This report is for the exclusive use of the Client addressed. This report may not be reproduced except in its entirety, without the written consent of TMI. Results apply only to above tests.

Signature of Jerry L. Fox, P.E.
TERRA-MAR, INC.

TERRA-MAR, INC.
GEOTECHNICAL ENVIRONMENTAL AND MATERIALS ENGINEERS
 DALLAS FORT WORTH HOUSTON LONGVIEW LUBBOCK AUSTIN

11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800

CONCRETE INSPECTION AND FLEXURAL STRENGTH TEST REPORT
(THIRD POINT LOADING)

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 10/25/98
TMI REPORT #: DC98-050-80

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 650
 Slump (in.): 3-5
 Air Content (%): 5-8
 Concrete Temp (°F): _____

PROJECT DATA

Placement Date: 10/14/98
 Sampled By: J. Perez & B. Eberts
 Weather: Sunny & warm
 Supplier/Mix: TXI

FIELD DATA SET #1

Ticket #: 1159413 Time Batched: 11:11 Time Sampled: 12:40
 Slump (in.): 5.50 Air Content: 4.1 Unit Weight (pcf): _____
 Conc. Temp. (°F): 88 Ambient Temp. (°F): 88 Yardage (c.y.): 20
 Placement Location: Driveway exit off Arapaho Road
 Remarks: _____

FIELD DATA SET #2

Ticket #: _____ Time Batched: _____ Time Sampled: _____
 Slump (in.): _____ Air Content: _____ Unit Weight (pcf): _____
 Conc. Temp. (°F): _____ Ambient Temp. (°F): _____ Yardage (c.y.): _____
 Placement Location: _____
 Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

BEAMS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C78

Set #	Beam #	Test Date	Age (Days)	Max. Load (lbs)	Average Depth, D	Average Width, B	Modulus of Rupture (psi)	Notes
1	ARI101401	10/21/98	7	6540	5.65	6.20	545	
	ARI101402	10/21/98	7	6480	5.90	6.25	540	
	ARI101403	11/11/98	28	7800	6.00	6.00	650	
	ARI101404	11/11/98	28	8100	6.00	6.00	675	
2								

- (1) SPAN LENGTH OF 18 INCHES, UNLESS NOTED ABOVE.
- (2) SPECIMENS GROUND PRIOR TO TESTING, LEATHER SHIMS USED DURING TESTING.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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Henry L. Fox, P.E.
 TERRA-MAR, INC.

TERRA-MAR, INC.
GEOTECHNICAL ENVIRONMENTAL AND MATERIALS ENGINEERS
 DALLAS FORT WORTH HOUSTON LONGVIEW LUBBOCK AUSTIN

11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800

CONCRETE INSPECTION AND FLEXURAL STRENGTH TEST REPORT
(THIRD POINT LOADING)

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 10/30/98
TMI REPORT #: DC98-050-82

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 650
 Slump (in.): 3-5
 Air Content (%): 5-8
 Concrete Temp (°F): _____

PROJECT DATA

Placement Date: 10/19/98
 Sampled By: J. Perez
 Weather: Cloudy
 Supplier/Mix: Lattimore

FIELD DATA SET #1

Ticket #: 7060213 Time Batched: 8:09 Time Sampled: 9:20
 Slump (in.): na Air Content: 5.7 Unit Weight (pcf): na
 Conc. Temp. (°F): 70 Ambient Temp. (°F): 68 Yardage (c.y.): 100
 Placement Location: East side of Arapaho Rd
 Remarks: _____

FIELD DATA SET #2

Ticket #: 7060234 Time Batched: 11:00 Time Sampled: 12:45
 Slump (in.): na Air Content: 5.7 Unit Weight (pcf): na
 Conc. Temp. (°F): 70 Ambient Temp. (°F): 68 Yardage (c.y.): 100
 Placement Location: West side of Arapaho Rd
 Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

BEAMS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C78

Set #	Beam #	Test Date	Age (Days)	Max. Load (lbs)	Average Depth, D	Average Width, B	Modulus of Rupture (psi)	Notes
1	ARI101901	10/26/98	7	9540	6.00	6.00	795	
	ARI101902	10/26/98	7	8640	6.00	6.00	720	
	ARI101903	11/16/98	28					
	ARI101904	11/16/98	28					
2	ARI101905	10/26/98	7	9840	6.00	6.00	820	
	ARI101906	10/26/98	7	8400	6.00	6.00	700	
	ARI101907	11/16/98	28					
	ARI101908	11/16/98	28					

- (1) SPAN LENGTH OF 18 INCHES, UNLESS NOTED ABOVE.
 (2) SPECIMENS GROUND PRIOR TO TESTING, LEATHER SHIMS USED DURING TESTING.
 (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
 (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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Benny L. Ford, P.E.
 TERRA-MAR, INC.

TERRA-MAR, INC.
GEOTECHNICAL ENVIRONMENTAL AND MATERIALS ENGINEERS
 DALLAS FORT WORTH HOUSTON LONGVIEW LUBBOCK AUSTIN

11050 Ables Lane, Dallas, Texas 75229 Phone:972-488-8800

CONCRETE INSPECTION AND FLEXURAL STRENGTH TEST REPORT
(THIRD POINT LOADING)

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 10/30/98
TMI REPORT #: DC98-050-82

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS	FIELD DATA SET #3	PROJECT DATA
Ticket #: 1163114	Time Batched: 10:45	Time Sampled: 11:25
Slump (in.): 5.00	Air Content: 5.7	Unit Weight (pcf): na
Conc. Temp. (°F): 73	Ambient Temp. (°F): 67	Yardage (c.y.): 100
Placement Location: Off Quorum driveway		
Remarks:		

FIELD DATA SET #4		
Ticket #: _____	Time Batched: _____	Time Sampled: _____
Slump (in.): _____	Air Content: _____	Unit Weight (pcf): _____
Conc. Temp. (°F): _____	Ambient Temp. (°F): _____	Yardage (c.y.): _____
Placement Location: _____		
Remarks: _____		

CONCRETE COMPRESSION TEST RESULTS								
BEAMS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C78								
Set #	Beam #	Test Date	Age (Days)	Max. Load (lbs)	Average Depth, D	Average Width, B	Modulus of Rupture (psi)	Notes
3	ARI101909	10/26/98	7	6240	6.00	6.00	520	
	ARI101910	10/26/98	7	6240	6.00	6.00	520	
	ARI101911	11/16/98	28					
	ARI101912	11/16/98	28					
4								

- (1) SPAN LENGTH OF 18 INCHES, UNLESS NOTED ABOVE.
- (2) SPECIMENS GROUND PRIOR TO TESTING, LEATHER SHIMS USED DURING TESTING.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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Serry L. Fox, P.E.

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GEOTECHNICAL ENVIRONMENTAL AND MATERIALS ENGINEERS
 DALLAS FORT WORTH HOUSTON LONGVIEW LUBBOCK AUSTIN

11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800

CONCRETE INSPECTION AND FLEXURAL STRENGTH TEST REPORT
(THIRD POINT LOADING)

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 10/25/98
TMI REPORT #: DC98-050-74

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 650
 Slump (in.): 3+/-1
 Air Content (%): 5 - 8
 Concrete Temp (°F): na

PROJECT DATA

Placement Date: 9/21/98
 Sampled By: John Sullivan
 Weather: Clear
 Supplier/Mix: Ed Bell

FIELD DATA SET #1

Ticket #: 14212 Time Batched: na Time Sampled: 10:30
 Slump (in.): 2.50 Air Content: 5.1 Unit Weight (pcf): na
 Conc. Temp. (°F): 85 Ambient Temp. (°F): na Yardage (c.y.): na
 Placement Location: Station 45+50, north side of paving at Arapaho
 Remarks: _____

FIELD DATA SET #2

Ticket #: 7058711 Time Batched: na Time Sampled: 1:45
 Slump (in.): 2.00 Air Content: 5.0 Unit Weight (pcf): na
 Conc. Temp. (°F): 87 Ambient Temp. (°F): 98 Yardage (c.y.): na
 Placement Location: Station 30+07.33, left turn lane, south side
 Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

BEAMS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C78

Set #	Beam #	Test Date	Age (Days)	Max. Load (lbs)	Average Depth, D	Average Width, B	Modulus of Rupture (psi)	Notes
1	ARI092101	9/28/98	7	5760	6.00	6.00	480	
	ARI092102	9/28/98	7	6720	6.00	6.00	560	
	ARI092103	10/19/98	28	7860	5.90	6.30	655	
	ARI092104	10/19/98	28	9300	6.00	6.15	775	
2	ARI092105	9/28/98	7	7800	6.00	6.00	650	
	ARI092106	9/28/98	7	8160	6.00	6.00	680	
	ARI092107	10/19/98	28	9540	6.00	6.10	795	
	ARI092108	10/19/98	28	9300	6.00	6.00	775	

- (1) SPAN LENGTH OF 18 INCHES, UNLESS NOTED ABOVE.
 (2) SPECIMENS GROUND PRIOR TO TESTING, LEATHER SHIMS USED DURING TESTING.
 (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
 (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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Serry L. Ford, P.E.
 TERRA-MAR, INC.

TERRA-MAR, INC.
GEOTECHNICAL ENVIRONMENTAL AND MATERIALS ENGINEERS
 DALLAS FORT WORTH HOUSTON LONGVIEW LUBBOCK AUSTIN

11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800

CONCRETE INSPECTION AND FLEXURAL STRENGTH TEST REPORT
(THIRD POINT LOADING)

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 10/23/98
TMI REPORT #: DC98-050-77

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 650
 Slump (in.): 3+/-1
 Air Content (%): 5 - 8
 Concrete Temp (°F): _____

PROJECT DATA

Placement Date: 9/24/98
 Sampled By: John Sullivan
 Weather: Clear & warm
 Supplier/Mix: Lattimore

FIELD DATA SET #1

Ticket #: 6080933 Time Batched: _____ Time Sampled: 11:00
 Slump (in.): 2.50 Air Content: 5.1 Unit Weight (pcf): _____
 Conc. Temp. (°F): 82 Ambient Temp. (°F): 87 Yardage (c.y.): _____
 Placement Location: Station 6+00 Southpaving Arapaho Rd.
 Remarks: _____

FIELD DATA SET #2

Ticket #: 13064 Time Batched: _____ Time Sampled: 3:45
 Slump (in.): 3.00 Air Content: 5.1 Unit Weight (pcf): _____
 Conc. Temp. (°F): 85 Ambient Temp. (°F): _____ Yardage (c.y.): _____
 Placement Location: Westside of Southwestern Bell next to building, Arapaho exit.
 Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

BEAMS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C78

Set #	Beam #	Test Date	Age (Days)	Max. Load (lbs)	Average Depth, D	Average Width, B	Modulus of Rupture (psi)	Notes
1	ARI092401	10/1/98	7	8340	6.00	6.00	695	
	ARI092402	10/1/98	7	7920	5.95	6.10	660	
	ARI092403	10/22/98	28	8580	5.95	6.10	715	
	ARI092404	10/22/98	28	8820	6.00	6.00	735	
2	ARI092405	10/1/98	7	7440	6.00	6.05	620	
	ARI092406	10/1/98	7	7680	6.00	6.10	640	
	ARI092407	10/22/98	28	9420	6.00	6.15	785	
	ARI092408	10/22/98	28	8940	5.85	6.10	745	

- (1) SPAN LENGTH OF 18 INCHES, UNLESS NOTED ABOVE.
- (2) SPECIMENS GROUND PRIOR TO TESTING, LEATHER SHIMS USED DURING TESTING.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

Note: This report is for the exclusive use of the Client addressed. This report may not be reproduced except in its entirety, without the written consent of TMI. Results apply only to above tests.

Randy L. Fox, P.E.
 TERRA-MAR, INC.

TERRA-MAR, INC.
GEOTECHNICAL ENVIRONMENTAL AND MATERIALS ENGINEERS
 DALLAS FORT WORTH HOUSTON LONGVIEW LUBBOCK AUSTIN

11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800

CONCRETE INSPECTION AND FLEXURAL STRENGTH TEST REPORT
(THIRD POINT LOADING)

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 10/25/98
TMI REPORT #: DC98-050-80

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 650
 Slump (in.): 3-5
 Air Content (%): 5-8
 Concrete Temp (°F): _____

PROJECT DATA

Placement Date: 10/14/98
 Sampled By: J. Perez & B. Eberts
 Weather: Sunny & warm
 Supplier/Mix: TXI

FIELD DATA SET #1

Ticket #: 1159413 Time Batched: 11:11 Time Sampled: 12:40
 Slump (in.): 5.50 Air Content: 4.1 Unit Weight (pcf): _____
 Conc. Temp. (°F): 88 Ambient Temp. (°F): 88 Yardage (c.y.): 20
 Placement Location: Driveway exit off Arapaho Road
 Remarks: _____

FIELD DATA SET #2

Ticket #: _____ Time Batched: _____ Time Sampled: _____
 Slump (in.): _____ Air Content: _____ Unit Weight (pcf): _____
 Conc. Temp. (°F): _____ Ambient Temp. (°F): _____ Yardage (c.y.): _____
 Placement Location: _____
 Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

BEAMS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C78

Set #	Beam #	Test Date	Age (Days)	Max. Load (lbs)	Average Depth, D	Average Width, B	Modulus of Rupture (psi)	Notes
1	ARI101401	10/21/98	7	6540	5.65	6.20	545	
	ARI101402	10/21/98	7	6480	5.90	6.25	540	
	ARI101403	11/11/98	28					
	ARI101404	11/11/98	28					
2								

- (1) SPAN LENGTH OF 18 INCHES, UNLESS NOTED ABOVE.
- (2) SPECIMENS GROUND PRIOR TO TESTING, LEATHER SHIMS USED DURING TESTING.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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Serry L. Fox, P.E.
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GEOTECHNICAL ENVIRONMENTAL AND MATERIALS ENGINEERS
 DALLAS FORT WORTH HOUSTON LONGVIEW LUBBOCK AUSTIN

11050 Ables Lane, Dallas, Texas 75229 Phone:972-488-8800

CONCRETE INSPECTION AND FLEXURAL STRENGTH TEST REPORT
(THIRD POINT LOADING)

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 10/25/98
TMI REPORT #: DC98-050-76

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 650
 Slump (in.): 3+/-1
 Air Content (%): 5 - 8
 Concrete Temp (°F): _____

PROJECT DATA

Placement Date: 9/23/98
 Sampled By: John Sullivan
 Weather: Clear
 Supplier/Mix: Lattimore

FIELD DATA SET #1

Ticket #: 6080783 Time Batched: _____ Time Sampled: 8:45
 Slump (in.): 3.00 Air Content: 5.5 Unit Weight (pcf): _____
 Conc. Temp. (°F): 80 Ambient Temp. (°F): 80 Yardage (c.y.): _____
 Placement Location: South end of Arapaho, west of Tollway, station 66+50
 Remarks: _____

FIELD DATA SET #2

Ticket #: 13024 Time Batched: _____ Time Sampled: 12:00
 Slump (in.): 2.50 Air Content: 5.4 Unit Weight (pcf): _____
 Conc. Temp. (°F): 84 Ambient Temp. (°F): 88 Yardage (c.y.): _____
 Placement Location: South end of Arapaho, west of Tollway, station 64+50
 Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

BEAMS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C78

Set #	Beam #	Test Date	Age (Days)	Max. Load (lbs)	Average Depth, D	Average Width, B	Modulus of Rupture (psi)	Notes
1	ARI092301	9/30/98	7	9480	6.00	6.00	790	
	ARI092302	9/30/98	7	8760	6.00	6.00	730	
	ARI092303	10/21/98	28	10500	6.00	6.25	875	
	ARI092304	10/21/98	28	10200	5.95	6.25	850	
2	ARI092305	9/30/98	7	8820	6.00	6.00	735	
	ARI092306	9/30/98	7	7500	6.00	6.00	625	
	ARI092307	10/21/98	28	10680	5.95	6.15	890	
	ARI092308	10/21/98	28	9540	5.90	6.10	795	

- (1) SPAN LENGTH OF 18 INCHES, UNLESS NOTED ABOVE.
 (2) SPECIMENS GROUND PRIOR TO TESTING, LEATHER SHIMS USED DURING TESTING.
 (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
 (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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Sandy L. Fox, P.E.
 TERRA-MAR, INC.

TERRA-MAR, INC.
GEOTECHNICAL ENVIRONMENTAL AND MATERIALS ENGINEERS
 DALLAS FORT WORTH HOUSTON LONGVIEW LUBBOCK AUSTIN

11050 Ables Lane, Dallas, Texas 75229 Phone:972-488-8800

CONCRETE INSPECTION AND FLEXURAL STRENGTH TEST REPORT
(THIRD POINT LOADING)

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 10/25/98
TMI REPORT #: DC98-050-76

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huit-Zollars, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

FIELD DATA SET #3

Ticket #:	na	Time Batched:	na	Time Sampled:	4:40
Slump (in.):	2.50	Air Content:	5.0	Unit Weight (pcf):	na
Conc. Temp. (°F):	na	Ambient Temp. (°F):	90	Yardage (c.y.):	na

Placement Location: South end of Arapaho, station 6+00
 Remarks: _____

FIELD DATA SET #4

Ticket #:	_____	Time Batched:	_____	Time Sampled:	_____
Slump (in.):	_____	Air Content:	_____	Unit Weight (pcf):	_____
Conc. Temp. (°F):	_____	Ambient Temp. (°F):	_____	Yardage (c.y.):	_____

Placement Location: _____
 Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

BEAMS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C78

Set #	Beam #	Test Date	Age (Days)	Max. Load (lbs)	Average Depth, D	Average Width, B	Modulus of Rupture (psi)	Notes
3	ARI092309	9/30/98	7	8580	6.00	6.00	715	
	ARI092310	9/30/98	7	7440	6.00	6.00	620	
	ARI092311	10/21/98	28	9300	6.00	6.10	775	
	ARI092312	10/21/98	28	9360	6.10	6.15	780	

- (1) SPAN LENGTH OF 18 INCHES, UNLESS NOTED ABOVE.
- (2) SPECIMENS GROUND PRIOR TO TESTING, LEATHER SHIMS USED DURING TESTING.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

Curry L. F. Inc. PE

 TERRA-MAR, INC.

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TERRA-MAR, INC.
GEOTECHNICAL ENVIRONMENTAL AND MATERIALS ENGINEERS
 DALLAS FORT WORTH HOUSTON LONGVIEW LUBBOCK AUSTIN

11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800

CONCRETE INSPECTION AND FLEXURAL STRENGTH TEST REPORT
(THIRD POINT LOADING)

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 10/27/98
TMI REPORT #: DC98-050-78

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 650
 Slump (in.): 3+/-1
 Air Content (%): 5 - 8
 Concrete Temp (°F): na

PROJECT DATA

Placement Date: 09/25/98
 Sampled By: John Sullivan
 Weather: Clear
 Supplier/Mix: Lattimore

FIELD DATA SET #1

Ticket #: 13073 Time Batched: na Time Sampled: 11:00
 Slump (in.): 2.50 Air Content: 5.0 Unit Weight (pcf): na
 Conc. Temp. (°F): 81 Ambient Temp. (°F): 90 Yardage (c.y.): na
 Placement Location: Arapaho Road exit next to SWB building
 Remarks: _____

FIELD DATA SET #2

Ticket #: _____ Time Batched: _____ Time Sampled: _____
 Slump (in.): _____ Air Content: _____ Unit Weight (pcf): _____
 Conc. Temp. (°F): _____ Ambient Temp. (°F): _____ Yardage (c.y.): _____
 Placement Location: _____
 Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

BEAMS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C78

Set #	Beam #	Test Date	Age (Days)	Max. Load (lbs)	Average Depth, D	Average Width, B	Modulus of Rupture (psi)	Notes
1	ARI092501	10/02/98	7	7440	6.00	6.00	620	
	ARI092502	10/02/98	7	7560	6.00	6.00	630	
	ARI092503	10/23/98	28	9600	6.00	6.00	800	
	ARI092504	10/23/98	28	9060	6.00	6.00	755	
2								

- (1) SPAN LENGTH OF 18 INCHES, UNLESS NOTED ABOVE.
 (2) SPECIMENS GROUND PRIOR TO TESTING, LEATHER SHIMS USED DURING TESTING.
 (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
 (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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Serry L. Foy, P.E.
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 DALLAS FORT WORTH HOUSTON LONGVIEW LUBBOCK AUSTIN

11050 Ables Lane, Dallas, Texas 75229 Phone:972-488-8800

CONCRETE INSPECTION AND FLEXURAL STRENGTH TEST REPORT
(THIRD POINT LOADING)

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 10/25/98
TMI REPORT #: DC98-050-81

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 650
 Slump (in.): 3-5
 Air Content (%): 5-8
 Concrete Temp (°F): _____

PROJECT DATA

Placement Date: 10/16/98
 Sampled By: M. Kashem
 Weather: Clear
 Supplier/Mix: Ed Bell

FIELD DATA SET #1

Ticket #: 13124 Time Batched: 7:30 Time Sampled: 9:15
 Slump (in.): 5.00 Air Content: 4.5 Unit Weight (pcf): na
 Conc. Temp. (°F): 82 Ambient Temp. (°F): 73 Yardage (c.y.): 9
 Placement Location: Paving at westbound Arapaho Rd @ right turn lane from Arapaho to tollway service road
 Remarks: _____

FIELD DATA SET #2

Ticket #: _____ Time Batched: _____ Time Sampled: _____
 Slump (in.): _____ Air Content: _____ Unit Weight (pcf): _____
 Conc. Temp. (°F): _____ Ambient Temp. (°F): _____ Yardage (c.y.): _____
 Placement Location: _____
 Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

BEAMS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C78

Set #	Beam #	Test Date	Age (Days)	Max. Load (lbs)	Average Depth, D	Average Width, B	Modulus of Rupture (psi)	Notes
1	ARI101601	10/23/98	7	7200	6.00	6.00	600	
	ARI101602	11/13/98	28					
	ARI101603	11/13/98	28					
	ARI101604		hold					
2								

- (1) SPAN LENGTH OF 18 INCHES, UNLESS NOTED ABOVE.
- (2) SPECIMENS GROUND PRIOR TO TESTING, LEATHER SHIMS USED DURING TESTING.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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Ernie L. Fox, P.E.
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11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800

SOIL MOISTURE - DENSITY TEST REPORT
IN-PLACE TESTS BY NUCLEAR METHODS

*Revised Copy - Report No

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 09/10/98
TMI REPORT NO.: DC98-050-66*

DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt Zollar, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde, P.E.

SPECIFICATIONS

Percent Compaction: 95+
 Moisture Content (%): opt+

TEST DATA

Date Tested: 09/03/98
 Technician: M. Kashem

MATERIAL REFERENCE CURVE DATA

CURVE NO.	TEST METHOD	MATERIAL DESCRIPTION	OPTIMUM MOISTURE (%)	MAX. DRY DENSITY (pcf)
5	D698	Lime Treated Brown Clay with Gravel	25.7	93.6

IN-PLACE TEST RESULTS

DENSITY AND MOISTURE TESTS ARE PER ASTM D2922, D3017, RESPECTIVELY

TEST NO.	ELEVATION OR LIFT	LOCATION	REF. CURVE	% MOISTURE	DRY DENSITY	% DENSITY
1	Grade	East bound Arapaho Rd. station 60+75	5	27.7	92.6	98.9
2	Grade	East bound Arapaho Rd. station 62+25	5	29.0	91.1	97.3
3	Grade	East bound Arapaho Rd. station 64+00	5	27.8	90.0	96.2
4	Grade	East bound Arapaho Rd. station 65+50	5	26.5	90.9	97.1

GAUGE I.D.: 10903 STD. DENSITY COUNT: 2356 STD. MOISTURE COUNT: 608

"R" AFTER TEST NUMBER INDICATES RETEST.

* INDICATES FAILURE TO COMPLY WITH PROJECT SPECIFICATIONS

REMARKS: _____

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11050 Ables Lane, Dallas, Texas 75229 Phone:972-488-8800

CONCRETE INSPECTION AND FLEXURAL STRENGTH TEST REPORT
(THIRD POINT LOADING)

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 10/21/98
TMI REPORT #: DC98-050-79

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 650
 Slump (in.): 3+/-1
 Air Content (%): 5 - 8
 Concrete Temp (°F): na

PROJECT DATA

Placement Date: 10/13/98
 Sampled By: Brent Gilbert
 Weather: Sunny
 Supplier/Mix: Ed Bell

FIELD DATA SET #1

Ticket #: na Time Batched: na Time Sampled: 10:50
 Slump (in.): 3.00 Air Content: 5.0 Unit Weight (pcf): na
 Conc. Temp. (°F): 89 Ambient Temp. (°F): 78 Yardage (c.y.): 60
 Placement Location: Centerline paving at Arapaho, 100 yds east of Quorum
 Remarks: _____

FIELD DATA SET #2

Ticket #: _____ Time Batched: _____ Time Sampled: _____
 Slump (in.): _____ Air Content: _____ Unit Weight (pcf): _____
 Conc. Temp. (°F): _____ Ambient Temp. (°F): _____ Yardage (c.y.): _____
 Placement Location: _____
 Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

BEAMS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C78

Set #	Beam #	Test Date	Age (Days)	Max. Load (lbs)	Average Depth, D	Average Width, B	Modulus of Rupture (psi)	Notes
1	ARI101301	10/20/98	7	9240	6.00	6.00	770	
	ARI101302	10/20/98	7	8400	6.00	6.00	700	
	ARI101303	11/10/98	28					
	ARI101304	11/10/98	28					
2								

- (1) SPAN LENGTH OF 18 INCHES, UNLESS NOTED ABOVE.
- (2) SPECIMENS GROUND PRIOR TO TESTING, LEATHER SHIMS USED DURING TESTING.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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Serry L. Fox P.E.
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 DALLAS FORT WORTH HOUSTON LONGVIEW LUBBOCK AUSTIN

11050 Ables Lane, Dallas, Texas 75229 Phone:972-488-8800

CONCRETE INSPECTION AND FLEXURAL STRENGTH TEST REPORT
(THIRD POINT LOADING)

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 10/21/98
TMI REPORT #: DC98-050-75

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 650
 Slump (in.): 3+/-1
 Air Content (%): 5 - 8
 Concrete Temp (°F): na

PROJECT DATA

Placement Date: 09/22/98
 Sampled By: John Sullivan
 Weather: Clear
 Supplier/Mix: Lattimore

FIELD DATA SET #1

Ticket #: 705877 Time Batched: 09:00 Time Sampled: 10:00
 Slump (in.): 3.50 Air Content: 5.0 Unit Weight (pcf): na
 Conc. Temp. (°F): 81 Ambient Temp. (°F): 90 Yardage (c.y.): na
 Placement Location: Main paving east side of Quorum Rd, station 3+50
 Remarks: _____

FIELD DATA SET #2

Ticket #: 7058818 Time Batched: na Time Sampled: 4:20
 Slump (in.): _____ Air Content: 5.0 Unit Weight (pcf): na
 Conc. Temp. (°F): 88 Ambient Temp. (°F): 99 Yardage (c.y.): na
 Placement Location: Main paving east side of Quorum Rd
 Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

BEAMS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C78

Set #	Beam #	Test Date	Age (Days)	Max. Load (lbs)	Average Depth, D	Average Width, B	Modulus of Rupture (psi)	Notes
1	ARI092201	09/29/98	7	7440	6.00	6.00	620	
	ARI092202	09/29/98	7	8040	6.00	6.00	670	
	ARI092203	10/20/98	28	10380	6.00	6.00	865	
	ARI092204	10/20/98	28	10620	6.00	6.00	885	
2	ARI092205	09/29/98	7	7980	6.00	6.00	665	
	ARI092206	09/29/98	7	7800	6.00	6.00	650	
	ARI092207	10/20/98	28	9420	6.00	6.00	785	
	ARI092208	10/20/98	28	9000	6.00	6.00	750	

- (1) SPAN LENGTH OF 18 INCHES, UNLESS NOTED ABOVE.
- (2) SPECIMENS GROUND PRIOR TO TESTING, LEATHER SHIMS USED DURING TESTING.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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Russell L. Jones
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11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800

CONCRETE INSPECTION AND FLEXURAL STRENGTH TEST REPORT
(THIRD POINT LOADING)

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 10/15/98
TMI REPORT #: DC98-050-71

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 650
 Slump (in.): 3 - 5
 Air Content (%): 5 - 8
 Concrete Temp (°F): na

PROJECT DATA

Placement Date: 09/08/98
 Sampled By: John Sullivan
 Weather: Clear
 Supplier/Mix: Ed Bell/Lattimore

FIELD DATA SET #1

Ticket #: 14360 Time Batched: na Time Sampled: 12:45
 Slump (in.): 3.00 Air Content: na Unit Weight (pcf): na
 Conc. Temp. (°F): 91 Ambient Temp. (°F): 104 Yardage (c.y.): na
 Placement Location: Paving at Arapaho Road
 Remarks: _____

FIELD DATA SET #2

Ticket #: 6079754 Time Batched: na Time Sampled: 1:20
 Slump (in.): 3.00 Air Content: 5.1 Unit Weight (pcf): na
 Conc. Temp. (°F): 91 Ambient Temp. (°F): 104 Yardage (c.y.): na
 Placement Location: Paving at Arapaho Road
 Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

BEAMS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C78

Set #	Beam #	Test Date	Age (Days)	Max. Load (lbs)	Average Depth, D	Average Width, B	Modulus of Rupture (psi)	Notes
1	ARI090801	09/15/98	7	6960	6.05	6.20	580	
	ARI090802	09/15/98	7	6720	6.00	6.05	560	
	ARI090803	10/06/98	28	7980	5.95	6.10	665	
	ARI090804	10/06/98	28	8460	6.05	6.15	705	
2	ARI090805	09/15/98	7	6180	6.00	6.15	515	
	ARI090806	09/15/98	7	6000	6.00	6.10	500	
	ARI090807	10/06/98	28	8640			720	
	ARI090808	10/06/98	28	9000	6.00	6.15	750	

- (1) SPAN LENGTH OF 18 INCHES, UNLESS NOTED ABOVE.
 (2) SPECIMENS GROUND PRIOR TO TESTING, LEATHER SHIMS USED DURING TESTING.
 (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
 (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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Henry L. Ford, P.E.
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 DALLAS FORT WORTH HOUSTON LONGVIEW LUBBOCK AUSTIN

11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800

CONCRETE INSPECTION AND FLEXURAL STRENGTH TEST REPORT
(THIRD POINT LOADING)

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 10/15/98
TMI REPORT #: DC98-050-71

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS	FIELD DATA SET #3	PROJECT DATA
Ticket #: <u>6079798</u>	Time Batched: <u>03:14</u>	Time Sampled: <u>4:00</u>
Slump (in.): <u>3.00</u>	Air Content: <u>5.0</u>	Unit Weight (pcf): <u>na</u>
Conc. Temp. (°F): <u>92</u>	Ambient Temp. (°F): <u>107</u>	Yardage (c.y.): <u>na</u>
Placement Location: <u>Paving at Arapaho Road</u>		
Remarks: _____		

FIELD DATA SET #4		
Ticket #: _____	Time Batched: _____	Time Sampled: _____
Slump (in.): _____	Air Content: _____	Unit Weight (pcf): _____
Conc. Temp. (°F): _____	Ambient Temp. (°F): _____	Yardage (c.y.): _____
Placement Location: _____		
Remarks: _____		

CONCRETE COMPRESSION TEST RESULTS								
BEAMS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C78								
Set #	Beam #	Test Date	Age (Days)	Max. Load (lbs)	Average Depth, D	Average Width, B	Modulus of Rupture (psi)	Notes
3	ARI090809	09/15/98	7	7320	6.00	6.15	610	
	ARI090810	09/15/98	7	6840	6.10	6.25	570	
	ARI090811	10/06/98	28	10560	6.00	6.20	880	
	ARI090812	10/06/98	28	8580	6.00	6.20	715	

- (1) SPAN LENGTH OF 18 INCHES, UNLESS NOTED ABOVE.
- (2) SPECIMENS GROUND PRIOR TO TESTING, LEATHER SHIMS USED DURING TESTING.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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Serry L. Foo, p.e.
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 11050 Ables Lane, Dallas, Texas 75229 Phone:972-488-8800

CONCRETE INSPECTION AND FLEXURAL STRENGTH TEST REPORT
(THIRD POINT LOADING)

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 10/09/98
TMI REPORT #: DC98-050-72

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 650
 Slump (in.): 3 - 5
 Air Content (%): 5 - 8
 Concrete Temp (°F): 95

PROJECT DATA

Placement Date: 09/09/98
 Sampled By: John Sullivan
 Weather: Clear
 Supplier/Mix: Ed Bell/Lattimore

FIELD DATA SET #1

Ticket #: 14379 Time Batched: na Time Sampled: 8:30
 Slump (in.): 3.00 Air Content: 5.0 Unit Weight (pcf): na
 Conc. Temp. (°F): 85 Ambient Temp. (°F): 79 Yardage (c.y.): na
 Placement Location: Paving at Arapaho Road south side
 Remarks: _____

FIELD DATA SET #2

Ticket #: 607900 Time Batched: na Time Sampled: 11:00
 Slump (in.): 3.00 Air Content: 5.1 Unit Weight (pcf): na
 Conc. Temp. (°F): 87 Ambient Temp. (°F): na Yardage (c.y.): na
 Placement Location: Paving at Arapaho Road south side
 Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

BEAMS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C78

Set #	Beam #	Test Date	Age (Days)	Max. Load (lbs)	Average Depth, D	Average Width, B	Modulus of Rupture (psi)	Notes
1	ARI090901	09/16/98	7	8400	6.00	6.00	700	
	ARI090902	09/16/98	7	6840	6.00	6.00	570	
	ARI090903	10/07/98	28	9000	6.00	6.00	750	
	ARI090904	10/07/98	28	8640	6.00	6.00	720	
2	ARI090905	09/16/98	7	6780	6.00	6.00	565	
	ARI090906	09/16/98	7	7560	6.00	6.00	630	
	ARI090907	10/07/98	28	8580	6.00	6.00	715	
	ARI090908	10/07/98	28	10800	6.00	6.00	900	

- (1) SPAN LENGTH OF 18 INCHES, UNLESS NOTED ABOVE.
 (2) SPECIMENS GROUND PRIOR TO TESTING, LEATHER SHIMS USED DURING TESTING.
 (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
 (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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Suzanne L. Fox, P.E.
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11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800

CONCRETE INSPECTION AND FLEXURAL STRENGTH TEST REPORT
(THIRD POINT LOADING)

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 10/09/98
TMI REPORT #: DC98-050-72

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS	FIELD DATA SET #3	PROJECT DATA
Ticket #: 7058176	Time Batched: na	Time Sampled: 12:45
Slump (in.): 3.00	Air Content: 5.0	Unit Weight (pcf): na
Conc. Temp. (°F): 87	Ambient Temp. (°F): na	Yardage (c.y.): na
Placement Location: Paving at Arapaho Road south side		
Remarks:		

FIELD DATA SET #4		
Ticket #: _____	Time Batched: _____	Time Sampled: _____
Slump (in.): _____	Air Content: _____	Unit Weight (pcf): _____
Conc. Temp. (°F): _____	Ambient Temp. (°F): _____	Yardage (c.y.): _____
Placement Location: _____		
Remarks: _____		

CONCRETE COMPRESSION TEST RESULTS								
BEAMS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C78								
Set #	Beam #	Test Date	Age (Days)	Max. Load (lbs)	Average Depth, D	Average Width, B	Modulus of Rupture (psi)	Notes
3	ARI090909	09/16/98	7	9240	6.00	6.00	770	
	ARI090910	09/16/98	7	8280	6.00	6.00	690	
	ARI090911	10/07/98	28	9600	6.00	6.00	800	
	ARI090912	10/07/98	28	12060	6.00	6.00	1005	
4								

- (1) SPAN LENGTH OF 18 INCHES, UNLESS NOTED ABOVE.
- (2) SPECIMENS GROUND PRIOR TO TESTING, LEATHER SHIMS USED DURING TESTING.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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Henry L. Fox, P.E.
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GEOTECHNICAL ENVIRONMENTAL AND MATERIALS ENGINEERS
 DALLAS FORT WORTH HOUSTON LONGVIEW LUBBOCK AUSTIN

11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800

CONCRETE INSPECTION AND FLEXURAL STRENGTH TEST REPORT
(THIRD POINT LOADING)

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 09/17/98
TMI REPORT #: DC98-050-72

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 650
 Slump (in.): 3 - 5
 Air Content (%): 5 - 8
 Concrete Temp (°F): 95

PROJECT DATA

Placement Date: 09/09/98
 Sampled By: John Sullivan
 Weather: Clear
 Supplier/Mix: Ed Bell/Lattimore

FIELD DATA SET #1

Ticket #: 14379 Time Batched: na Time Sampled: 8:30
 Slump (in.): 3.00 Air Content: 5.0 Unit Weight (pcf): na
 Conc. Temp. (°F): 85 Ambient Temp. (°F): 79 Yardage (c.y.): na
 Placement Location: Paving at Arapaho Road south side
 Remarks: _____

FIELD DATA SET #2

Ticket #: 607900 Time Batched: na Time Sampled: 11:00
 Slump (in.): 3.00 Air Content: 5.1 Unit Weight (pcf): na
 Conc. Temp. (°F): 87 Ambient Temp. (°F): na Yardage (c.y.): na
 Placement Location: Paving at Arapaho Road south side
 Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

BEAMS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C78

Set #	Beam #	Test Date	Age (Days)	Max. Load (lbs)	Average Depth, D	Average Width, B	Modulus of Rupture (psi)	Notes
1	ARI090901	09/16/98	7	8400	6.00	6.00	700	
	ARI090902	09/16/98	7	6840	6.00	6.00	570	
	ARI090903	10/07/98	28					
	ARI090904	10/07/98	28					
2	ARI090905	09/16/98	7	6780	6.00	6.00	565	
	ARI090906	09/16/98	7	7560	6.00	6.00	630	
	ARI090907	10/07/98	28					
	ARI090908	10/07/98	28					

- (1) SPAN LENGTH OF 18 INCHES, UNLESS NOTED ABOVE.
 (2) SPECIMENS GROUND PRIOR TO TESTING, LEATHER SHIMS USED DURING TESTING.
 (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
 (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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 DALLAS FORT WORTH HOUSTON LONGVIEW LUBBOCK AUSTIN

11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800

CONCRETE INSPECTION AND FLEXURAL STRENGTH TEST REPORT
(THIRD POINT LOADING)

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 09/17/98
TMI REPORT #: DC98-050-72

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS	FIELD DATA SET #3	PROJECT DATA
Ticket #: 7058176	Time Batched: na	Time Sampled: 12:45
Slump (in.): 3.00	Air Content: 5.0	Unit Weight (pcf): na
Conc. Temp. (°F): 87	Ambient Temp. (°F): na	Yardage (c.y.): na
Placement Location: Paving at Arapaho Road south side		
Remarks:		

FIELD DATA SET #4		
Ticket #: _____	Time Batched: _____	Time Sampled: _____
Slump (in.): _____	Air Content: _____	Unit Weight (pcf): _____
Conc. Temp. (°F): _____	Ambient Temp. (°F): _____	Yardage (c.y.): _____
Placement Location: _____		
Remarks: _____		

CONCRETE COMPRESSION TEST RESULTS								
BEAMS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C78								
Set #	Beam #	Test Date	Age (Days)	Max. Load (lbs)	Average Depth, D	Average Width, B	Modulus of Rupture (psi)	Notes
3	ARI090909	09/16/98	7	9240	6.00	6.00	770	
	ARI090910	09/16/98	7	8280	6.00	6.00	690	
	ARI090911	10/07/98	28					
	ARI090912	10/07/98	28					
4								

- (1) SPAN LENGTH OF 18 INCHES, UNLESS NOTED ABOVE.
- (2) SPECIMENS GROUND PRIOR TO TESTING, LEATHER SHIMS USED DURING TESTING.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

Henry L. Fox, P.E.
 TERRA-MAR, INC.

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GEOTECHNICAL ENVIRONMENTAL AND MATERIALS ENGINEERS
 DALLAS FORT WORTH HOUSTON LONGVIEW LUBBOCK AUSTIN

11050 Ables Lane, Dallas, Texas 75229 Phone:972-488-8800

CONCRETE INSPECTION AND FLEXURAL STRENGTH TEST REPORT
(THIRD POINT LOADING)

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 09/29/98
TMI REPORT #: DC98-050-75

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 650
 Slump (in.): 3+/-1
 Air Content (%): 5 - 8
 Concrete Temp (°F): na

PROJECT DATA

Placement Date: 09/22/98
 Sampled By: John Sullivan
 Weather: Clear
 Supplier/Mix: Lattimore

FIELD DATA SET #1

Ticket #: 705877 Time Batched: 09:00 Time Sampled: 10:00
 Slump (in.): 3.50 Air Content: 5.0 Unit Weight (pcf): na
 Conc. Temp. (°F): 81 Ambient Temp. (°F): 90 Yardage (c.y.): na
 Placement Location: Main paving east side of Quorum Rd, station 3+50
 Remarks: _____

FIELD DATA SET #2

Ticket #: 7058818 Time Batched: na Time Sampled: 4:20
 Slump (in.): _____ Air Content: 5.0 Unit Weight (pcf): na
 Conc. Temp. (°F): 88 Ambient Temp. (°F): 99 Yardage (c.y.): na
 Placement Location: Main paving east side of Quorum Rd
 Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

BEAMS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C78

Set #	Beam #	Test Date	Age (Days)	Max. Load (lbs)	Average Depth, D	Average Width, B	Modulus of Rupture (psi)	Notes
1	ARI092201	09/29/98	7	7440	6.00	6.00	620	
	ARI092202	09/29/98	7	8040	6.00	6.00	670	
	ARI092203	10/20/98	28					
	ARI092204	10/20/98	28					
2	ARI092205	09/29/98	7	7980	6.00	6.00	665	
	ARI092206	09/29/98	7	7800	6.00	6.00	650	
	ARI092207	10/20/98	28					
	ARI092208	10/20/98	28					

- (1) SPAN LENGTH OF 18 INCHES, UNLESS NOTED ABOVE.
- (2) SPECIMENS GROUND PRIOR TO TESTING, LEATHER SHIMS USED DURING TESTING.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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CONCRETE INSPECTION AND FLEXURAL STRENGTH TEST REPORT
(THIRD POINT LOADING)

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 09/29/98
TMI REPORT #: DC98-050-74

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 650
 Slump (in.): 3+/-1
 Air Content (%): 5 - 8
 Concrete Temp (°F): na

PROJECT DATA

Placement Date: 09/21/98
 Sampled By: John Sullivan
 Weather: Clear
 Supplier/Mix: Ed Bell

FIELD DATA SET #1

Ticket #: 14212 Time Batched: na Time Sampled: 10:30
 Slump (in.): 2.50 Air Content: 5.1 Unit Weight (pcf): na
 Conc. Temp. (°F): 85 Ambient Temp. (°F): na Yardage (c.y.): na
 Placement Location: Station 45+50, north side of paving at Arapaho
 Remarks: _____

FIELD DATA SET #2

Ticket #: 7058711 Time Batched: na Time Sampled: 1:45
 Slump (in.): 2.00 Air Content: 5.0 Unit Weight (pcf): na
 Conc. Temp. (°F): 87 Ambient Temp. (°F): 98 Yardage (c.y.): na
 Placement Location: Station 30+07.33, left turn lane, south side
 Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

BEAMS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C78

Set #	Beam #	Test Date	Age (Days)	Max. Load (lbs)	Average Depth, D	Average Width, B	Modulus of Rupture (psi)	Notes
1	ARI092101	09/28/98	7	5760	6.00	6.00	480	
	ARI092102	09/28/98	7	6720	6.00	6.00	560	
	ARI092103	10/19/98	28					
	ARI092104	10/19/98	28					
2	ARI092105	09/28/98	7	7800	6.00	6.00	650	
	ARI092106	09/28/98	7	8160	6.00	6.00	680	
	ARI092107	10/19/98	28					
	ARI092108	10/19/98	28					

- (1) SPAN LENGTH OF 18 INCHES, UNLESS NOTED ABOVE.
 (2) SPECIMENS GROUND PRIOR TO TESTING, LEATHER SHIMS USED DURING TESTING.
 (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
 (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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Sergio L. Flores

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11050 Ables Lane, Dallas, Texas 75229 Phone:972-488-8800

CONCRETE INSPECTION AND FLEXURAL STRENGTH TEST REPORT
(THIRD POINT LOADING)

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 10/8/98
TMI REPORT #: DC98-050-77

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 650
 Slump (in.): 3+/-1
 Air Content (%): 5 - 8
 Concrete Temp (°F): _____

PROJECT DATA

Placement Date: 9/24/98
 Sampled By: John Sullivan
 Weather: Clear & warm
 Supplier/Mix: Lattimore

FIELD DATA SET #1

Ticket #: 6080933 Time Batched: _____ Time Sampled: 11:00
 Slump (in.): 2.50 Air Content: 5.1 Unit Weight (pcf): _____
 Conc. Temp. (°F): 82 Ambient Temp. (°F): 87 Yardage (c.y.): _____
 Placement Location: Station 6+00 Southpaving Arapaho Rd.
 Remarks: _____

FIELD DATA SET #2

Ticket #: 13064 Time Batched: _____ Time Sampled: 3:45
 Slump (in.): 3.00 Air Content: 5.1 Unit Weight (pcf): _____
 Conc. Temp. (°F): 85 Ambient Temp. (°F): _____ Yardage (c.y.): _____
 Placement Location: Westside of Southwestern Bell next to building, Arapaho exit.
 Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

BEAMS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C78

Set #	Beam #	Test Date	Age (Days)	Max. Load (lbs)	Average Depth, D	Average Width, B	Modulus of Rupture (psi)	Notes
1	ARI092401	10/1/98	7	8340	6.00	6.00	695	
	ARI092402	10/1/98	7	7920	5.95	6.10	660	
	ARI092403	10/22/98	28					
	ARI092404	10/22/98	28					
2	ARI092405	10/1/98	7	7440	6.00	6.05	620	
	ARI092406	10/1/98	7	7680	6.00	6.10	640	
	ARI092407	10/22/98	28					
	ARI092408	10/22/98	28					

- (1) SPAN LENGTH OF 18 INCHES, UNLESS NOTED ABOVE.
- (2) SPECIMENS GROUND PRIOR TO TESTING, LEATHER SHIMS USED DURING TESTING.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800

CONCRETE INSPECTION AND FLEXURAL STRENGTH TEST REPORT
(THIRD POINT LOADING)

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 10/8/98
TMI REPORT #: DC98-050-69

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 650
 Slump (in.): 3 - 5
 Air Content (%): 5 - 8
 Concrete Temp (°F): 95

PROJECT DATA

Placement Date: 9/3/98
 Sampled By: John Sullivan
 Weather: Clear
 Supplier/Mix: Ed Bell

FIELD DATA SET #1

Ticket #: 14285 Time Batched: na Time Sampled: 12:30
 Slump (in.): 3.00 Air Content: 5.0 Unit Weight (pcf): na
 Conc. Temp. (°F): 90 Ambient Temp. (°F): 98 Yardage (c.y.): na
 Placement Location: Paving at Arapaho Road, station 50+20
 Remarks: _____

FIELD DATA SET #2

Ticket #: _____ Time Batched: _____ Time Sampled: _____
 Slump (in.): _____ Air Content: _____ Unit Weight (pcf): _____
 Conc. Temp. (°F): _____ Ambient Temp. (°F): _____ Yardage (c.y.): _____
 Placement Location: _____
 Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

BEAMS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C78

Set #	Beam #	Test Date	Age (Days)	Max. Load (lbs)	Average Depth, D	Average Width, B	Modulus of Rupture (psi)	Notes
1	ARI090305	9/10/98	7	7380	6.05	6.25	615	
	ARI090306	9/10/98	7	7740	6.00	6.25	645	
	ARI090307	10/1/98	28	9120	6.00	6.25	760	
	ARI090308	10/1/98	28	8580	6.00	6.10	715	

- (1) SPAN LENGTH OF 18 INCHES, UNLESS NOTED ABOVE.
- (2) SPECIMENS GROUND PRIOR TO TESTING, LEATHER SHIMS USED DURING TESTING.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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 11050 Ables Lane, Dallas, Texas 75229 Phone:972-488-8800

CONCRETE INSPECTION AND FLEXURAL STRENGTH TEST REPORT
(THIRD POINT LOADING)

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 10/8/98
TMI REPORT #: DC98-050-67

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 650
 Slump (in.): 3 - 5
 Air Content (%): 5 - 8
 Concrete Temp (°F): 95

PROJECT DATA

Placement Date: 9/3/98
 Sampled By: John Sullivan
 Weather: Clear
 Supplier/Mix: Ed Bell

FIELD DATA SET #1

Ticket #: na Time Batched: na Time Sampled: 10:15
 Slump (in.): 2.50 Air Content: 5.1 Unit Weight (pcf): na
 Conc. Temp. (°F): 89 Ambient Temp. (°F): 90 Yardage (c.y.): na
 Placement Location: Paving at Arapaho Road
 Remarks: _____

FIELD DATA SET #2

Ticket #: _____ Time Batched: _____ Time Sampled: _____
 Slump (in.): _____ Air Content: _____ Unit Weight (pcf): _____
 Conc. Temp. (°F): _____ Ambient Temp. (°F): _____ Yardage (c.y.): _____
 Placement Location: _____
 Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

BEAMS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C78

Set #	Beam #	Test Date	Age (Days)	Max. Load (lbs)	Average Depth, D	Average Width, B	Modulus of Rupture (psi)	Notes
1	ARI090301	9/10/98	7	7140	6.00	6.20	595	
	ARI090302	9/10/98	7	6960	6.00	6.15	580	
	ARI090303	10/1/98	28	9120	6.00	6.20	740	
	ARI090304	10/1/98	28	8640	6.10	6.10	720	
2								

- (1) SPAN LENGTH OF 18 INCHES, UNLESS NOTED ABOVE.
- (2) SPECIMENS GROUND PRIOR TO TESTING, LEATHER SHIMS USED DURING TESTING.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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CONCRETE INSPECTION AND FLEXURAL STRENGTH TEST REPORT
(THIRD POINT LOADING)

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 9/21/98
TMI REPORT #: DC98-050-73

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 650
 Slump (in.): _____
 Air Content (%): _____
 Concrete Temp (°F): _____

PROJECT DATA

Placement Date: 9/10/98
 Sampled By: Bryan Glennon
 Weather: Cloudy
 Supplier/Mix: Lattimore

FIELD DATA SET #1

Ticket #:	<u>14406</u>	Time Batched:	<u>08:20</u>	Time Sampled:	<u>9:00</u>
Slump (in.):	<u>2.00</u>	Air Content:	<u>3.0</u>	Unit Weight (pcf):	<u>na</u>
Conc. Temp. (°F):	<u>85</u>	Ambient Temp. (°F):	<u>70</u>	Yardage (c.y.):	<u>63</u>
Placement Location:	<u>Paving at station F1.26, 10' westbound</u>				
Remarks:	_____				

FIELD DATA SET #2

Ticket #:	_____	Time Batched:	_____	Time Sampled:	_____
Slump (in.):	_____	Air Content:	_____	Unit Weight (pcf):	_____
Conc. Temp. (°F):	_____	Ambient Temp. (°F):	_____	Yardage (c.y.):	_____
Placement Location:	_____				
Remarks:	_____				

CONCRETE COMPRESSION TEST RESULTS

BEAMS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C78

Set #	Beam #	Test Date	Age (Days)	Max. Load (lbs)	Average Depth, D	Average Width, B	Modulus of Rupture (psi)	Notes
1	ARI091001	9/17/98	7	8700	5.85	6.20	725	
	ARI091002	9/17/98	7	6840	5.80	6.25	570	
	ARI091003	10/8/98	28	10080	5.90	6.10	840	
	ARI091004	10/8/98	28	10020	6.00	6.25	835	
2								

- (1) SPAN LENGTH OF 18 INCHES, UNLESS NOTED ABOVE.
- (2) SPECIMENS GROUND PRIOR TO TESTING, LEATHER SHIMS USED DURING TESTING.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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11050 Ables Lane, Dallas, Texas 75229 Phone:972-488-8800

CONCRETE INSPECTION AND FLEXURAL STRENGTH TEST REPORT
(THIRD POINT LOADING)

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 10/05/98
TMI REPORT #: DC98-050-78

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 650
 Slump (in.): 3+/-1
 Air Content (%): 5 - 8
 Concrete Temp (°F): na

PROJECT DATA

Placement Date: 09/25/98
 Sampled By: John Sullivan
 Weather: Clear
 Supplier/Mix: Lattimore

FIELD DATA SET #1

Ticket #: 13073 Time Batched: na Time Sampled: 11:00
 Slump (in.): 2.50 Air Content: 5.0 Unit Weight (pcf): na
 Conc. Temp. (°F): 81 Ambient Temp. (°F): 90 Yardage (c.y.): na
 Placement Location: Arapaho Road exit next to SWB building
 Remarks: _____

FIELD DATA SET #2

Ticket #: _____ Time Batched: _____ Time Sampled: _____
 Slump (in.): _____ Air Content: _____ Unit Weight (pcf): _____
 Conc. Temp. (°F): _____ Ambient Temp. (°F): _____ Yardage (c.y.): _____
 Placement Location: _____
 Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

BEAMS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C78

Set #	Beam #	Test Date	Age (Days)	Max. Load (lbs)	Average Depth, D	Average Width, B	Modulus of Rupture (psi)	Notes
1	ARI092501	10/02/98	7	7440	6.00	6.00	620	
	ARI092502	10/02/98	7	7560	6.00	6.00	630	
	ARI092503	10/23/98	28					
	ARI092504	10/23/98	28					
2								

- (1) SPAN LENGTH OF 18 INCHES, UNLESS NOTED ABOVE.
- (2) SPECIMENS GROUND PRIOR TO TESTING, LEATHER SHIMS USED DURING TESTING.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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Sergio L. Ford, P.E.
 TERRA-MAR, INC.



Recd 9-21-98

Report of Moisture-Density Relationship

Client Ed Bell Construction
Project Arapaho Road Improvements

Report Distribution Ed Bell Construction - Doug Teter
Town of Addison - James Pierce, P.E.
Town of Addison - Dave Wilde
Huitt-Zollars, Inc. - Kenneth Roberts, P.E.

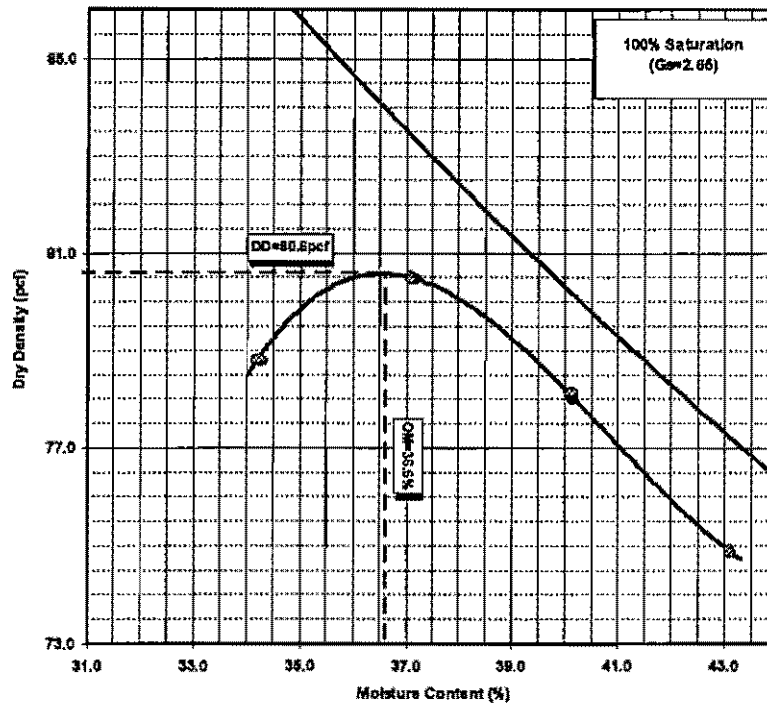
TMI Project No. DC98-050
TMI Report No. DC98-050-61
Report Date 09/03/98

Project Information

Material Origin:
Sample Location: Eastbound Arapaho Road, station 62+00
Material Description: Lime Treated Brown Clay
Material Use: Roadway

Sampled By: M. Kashem
Sample Date: 09/02/98
Tested By: Jason Allen

Moisture-Density Relationship - Curve No. 7



Material Properties and Test Information - Curve No. 7

Maximum Dry Density:	80.6 pcf	Liquid Limit:	48	Passing No. 200:	43.8 %
Optimum Moisture Percent:	36.6 %	Plastic Limit:	39	USCS:	
		Plasticity Index:	9		

Test Method(s): ASTM D698-A, D4318-B, D1140

Rammer Description: Mechanical

Preparation Procedure: Moist

Remarks:

TERRA-MAR, INC.

Serry L. Foo PE

The results presented in this report pertain only to the specific items tested. This report was produced for the exclusive use of the client. Any reproduction of this report, or any part therein, is strictly prohibited without the express written consent of TMI.

TERRA-MAR, INC.
GEOTECHNICAL ENVIRONMENTAL AND MATERIALS ENGINEERS
 DALLAS FORT WORTH HOUSTON LONGVIEW LUBBOCK AUSTIN

11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800

CONCRETE INSPECTION AND FLEXURAL STRENGTH TEST REPORT
(THIRD POINT LOADING)

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 09/11/98
TMI REPORT #: DC98-050-62

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 650 $\times 0.75 = 487.5$ (7 day strength)
 Slump (in.): _____
 Air Content (%): _____
 Concrete Temp (°F): _____

PROJECT DATA

Placement Date: 09/02/98
 Sampled By: Bryan Glennon
 Weather: Clear
 Supplier/Mix: Ed Bell Construction

FIELD DATA SET #1

Ticket #: 14247 Time Batched: 09:30 Time Sampled: 10:00
 Slump (in.): 5.50 Air Content: 4.5 Unit Weight (pcf): na
 Conc. Temp. (°F): 90 Ambient Temp. (°F): na Yardage (c.y.): 60
 Placement Location: Paving, 20' north of south end and 15' east of west end
 Remarks: _____

FIELD DATA SET #2

Ticket #: 14255 Time Batched: 01:00 Time Sampled: 1:30
 Slump (in.): 4.00 Air Content: 4.0 Unit Weight (pcf): na
 Conc. Temp. (°F): 90 Ambient Temp. (°F): na Yardage (c.y.): 130
 Placement Location: Paving at Quorum Road at station 6+00
 Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

BEAMS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C78

Set #	Beam #	Test Date	Age (Days)	Max. Load (lbs)	Average Depth, D	Average Width, B	Modulus of Rupture (psi)	Notes
1	ARI090201	09/09/98	7		6.00	6.00	450	
	ARI090202	09/09/98	7		6.00	6.00	450	
	ARI090203	09/30/98	28					
	ARI090204	09/30/98	28					
2	ARI090205	09/09/98	7		6.00	6.00	495	OK
	ARI090206	09/09/98	7		6.00	6.00	590	
	ARI090207	09/30/98	28					
	ARI090208	09/30/98	28					

- (1) SPAN LENGTH OF 18 INCHES, UNLESS NOTED ABOVE.
- (2) SPECIMENS GROUND PRIOR TO TESTING, LEATHER SHIMS USED DURING TESTING.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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Serge L. Foss, P.E.
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11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800

SOIL MOISTURE - DENSITY TEST REPORT
IN-PLACE TESTS BY NUCLEAR METHODS

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 9/10/98
TMI REPORT NO.: DC98-050-166

DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt Zollar, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde, P.E.

SPECIFICATIONS

Percent Compaction: 95+
 Moisture Content (%): opt+

TEST DATA

Date Tested: 9/3/98
 Technician: M. Kashem

MATERIAL REFERENCE CURVE DATA

CURVE NO.	TEST METHOD	MATERIAL DESCRIPTION	OPTIMUM MOISTURE (%)	MAX. DRY DENSITY (pcf)
5	D698	Lime Treated Brown Clay with Gravel	25.7	93.6

IN-PLACE TEST RESULTS

DENSITY AND MOISTURE TESTS ARE PER ASTM D2922, D3017, RESPECTIVELY

TEST NO.	ELEVATION OR LIFT	LOCATION	REF. CURVE	% MOISTURE	DRY DENSITY	% DENSITY
1	Grade	East bound Arapaho Rd. 60+75	5	27.7	92.6	98.9
2	Grade	East bound Arapaho Rd. 62+25	5	29.0	91.1	97.3
3	Grade	East bound Arapaho Rd. 64+00	5	27.8	90.0	96.2
4	Grade	East bound Arapaho Rd. 65+50	5	26.5	90.9	97.1

GAUGE I.D.: 10903 STD. DENSITY COUNT: 2356 STD. MOISTURE COUNT: 608

"R" AFTER TEST NUMBER INDICATES RETEST.

* INDICATES FAILURE TO COMPLY WITH PROJECT SPECIFICATIONS

REMARKS: _____

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George L. Fox, P.E.

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11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800

SOIL MOISTURE - DENSITY TEST REPORT
IN-PLACE TESTS BY NUCLEAR METHODS

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 9/10/98

DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt Zollar, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde, P.E.

TMI REPORT NO.: DC98-050-57

SPECIFICATIONS

Percent Compaction: 95%
 Moisture Content (%): opt+

TEST DATA

Date Tested: 9/1/98
 Technician: M. Kashem

MATERIAL REFERENCE CURVE DATA

CURVE NO.	TEST METHOD	MATERIAL DESCRIPTION	OPTIMUM MOISTURE (%)	MAX. DRY DENSITY (pcf)
6	D698	Lime Treated Yellow & Brown Clay	21.0	102.5
5	D698	Lime Treated Brown Clay	25.7	93.6

IN-PLACE TEST RESULTS

DENSITY AND MOISTURE TESTS ARE PER ASTM D2922, D3017, RESPECTIVELY

TEST NO.	ELEVATION OR LIFT	LOCATION	REF. CURVE	% MOISTURE	DRY DENSITY	% DENSITY
1	Grade	West bound Arapaho Rd. station 53+25	6	24.2	102.1	99.6
2	Grade	West bound Arapaho Rd. station 54+85	5	26.2	97.9	104.6
3	Grade	West bound Arapaho Rd. station 56+50	5	29.1	90.9	97.1
4	Grade	West bound Arapaho Rd. station 57+75	5	29.4	92.9	99.3
5	Grade	West bound Arapaho Rd. station 58+70	5	29.5	92.0	98.3

Gauge I.D.: 10903 STD. DENSITY COUNT: 2416 STD. MOISTURE COUNT: 601

"R" AFTER TEST NUMBER INDICATES RETEST.

* INDICATES FAILURE TO COMPLY WITH PROJECT SPECIFICATIONS

REMARKS: _____

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Mary L. Fox, P.E.
 TERRA-MAR, INC.

TERRA-MAR, INC.
GEOTECHNICAL ENVIRONMENTAL AND MATERIALS ENGINEERS
 DALLAS FORT WORTH HOUSTON LONGVIEW LUBBOCK AUSTIN

11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800

SOIL MOISTURE - DENSITY TEST REPORT
IN-PLACE TESTS BY NUCLEAR METHODS

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 9/10/98
TMI REPORT NO.: DC98-050-63

DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitz Zollar, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde, P.E.

SPECIFICATIONS

Percent Compaction: 95+
 Moisture Content (%): opt+

TEST DATA

Date Tested: 9/2/98
 Technician: M. Kashem

MATERIAL REFERENCE CURVE DATA

CURVE NO.	TEST METHOD	MATERIAL DESCRIPTION	OPTIMUM MOISTURE (%)	MAX. DRY DENSITY (pcf)
5	D698	Lime Treated Brown Clay	25.7	93.6
6	D698	Lime Treated Brown & Gray Clay with Gravel	21.0	102.5

IN-PLACE TEST RESULTS

DENSITY AND MOISTURE TESTS ARE PER ASTM D2922, D3017, RESPECTIVELY

TEST NO.	ELEVATION OR LIFT	LOCATION	REF. CURVE	% MOISTURE	DRY DENSITY	% DENSITY
1	Grade	East bound Arapaho Rd. station 53+50	6	22.8	101.3	98.8
2	Grade	East bound Arapaho Rd. station 54+75	6	23.2	101.2	98.7
3	Grade	East bound Arapaho Rd. station 56+00	6	24.4	99.4	97.0
4	Grade	East bound Arapaho Rd. @ driveway @ Northwest corner	6	23.7	99.2	96.8
5	Grade	East bound Arapaho Rd. @ driveway @ Southeast corner	6	22.5	99.8	97.4
6	Grade	East bound Arapaho Rd. station 57+23	6	27.6	91.1	88.9
7	Grade	East bound Arapaho Rd. @ spectrum	6	28.6	91.0	88.8

GAUGE I.D.: 10903 STD. DENSITY COUNT: 2414 STD. MOISTURE COUNT: 597

"R" AFTER TEST NUMBER INDICATES RETEST.

* INDICATES FAILURE TO COMPLY WITH PROJECT SPECIFICATIONS

REMARKS:

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Berry L. Fox, Inc.
 TERRA-MAR, INC.

TERRA-MAR, INC.

GEOTECHNICAL ENVIRONMENTAL AND MATERIALS ENGINEERS

Dallas Fort Worth Houston Austin Longview Lubbock

11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8080 Fax: 972-488-8080

LIME TREATED SOIL THICKNESS DETERMINATIONS

*Revised Copy - Report No.

Client: Ed Bell Construction
Project: Arapaho Road Improvements
Report No.: DC98-050-55*
Report Date: 09/02/98
Sample Date: 08/31/98

Distribution:
Ed Bell Construction - Doug Teter
Huitt-Zollars, Inc. - Kenneth Roberts, P.E.
Town of Addison - James Pierce, P.E.
Town of Addison - Dave Wilde

TEST NO.	LOCATION	ACTUAL DEPTH (in)	REQUIRED DEPTH
1	Westbound Arapaho, station 44+50	6.5	
2	Westbound Arapaho, station 43+25	7.0	
3	Westbound Arapaho, station 42+00	7.0	
4	Westbound Arapaho, station 41+25	7.0	
5	Eastbound Arapaho, station 41+50	6.5	
6	Eastbound Arapaho, station 42+25	7.0	

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[Signature]
TERRA-MAR, INC.

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GEOTECHNICAL ENVIRONMENTAL AND MATERIALS ENGINEERS
 DALLAS FORT WORTH HOUSTON LONGVIEW LUBBOCK AUSTIN

11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800

CONCRETE INSPECTION AND FLEXURAL STRENGTH TEST REPORT
(THIRD POINT LOADING)

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 09/14/98
TMI REPORT #: DC98-050-70

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 650
 Slump (in.): _____
 Air Content (%): _____
 Concrete Temp (°F): _____

PROJECT DATA

Placement Date: 09/04/98
 Sampled By: Ed Emanuel
 Weather: Sunny
 Supplier/Mix: Ed Bell Construction

FIELD DATA SET #1

Ticket #: 14318 Time Batched: 09:45 Time Sampled: 9:55
 Slump (in.): 2.00 Air Content: 3.8 Unit Weight (pcf): na
 Conc. Temp. (°F): 91 Ambient Temp. (°F): 97 Yardage (c.y.): 126
 Placement Location: Paving at Arapaho Road, station 46+25
 Remarks: _____

FIELD DATA SET #2

Ticket #: 14323 Time Batched: 11:00 Time Sampled: 11:22
 Slump (in.): _____ Air Content: 3.8 Unit Weight (pcf): na
 Conc. Temp. (°F): 98 Ambient Temp. (°F): 98 Yardage (c.y.): 171
 Placement Location: Paving at Arapaho Road, station 45+45
 Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

BEAMS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C78

Set #	Beam #	Test Date	Age (Days)	Max. Load (lbs)	Average Depth, D	Average Width, B	Modulus of Rupture (psi)	Notes
1	ARI090401	09/11/98	7		6.00	6.00	510	
	ARI090402	09/11/98	7		6.00	6.00	485	
	ARI090403	10/02/98	28					
	ARI090404	10/02/98	28					
2	ARI090405	09/11/98	7		6.00	6.00	390	
	ARI090406	09/11/98	7		6.00	6.00	470	
	ARI090407	10/02/98	28					
	ARI090408	10/02/98	28					

- (1) SPAN LENGTH OF 18 INCHES, UNLESS NOTED ABOVE.
 (2) SPECIMENS GROUND PRIOR TO TESTING, LEATHER SHIMS USED DURING TESTING.
 (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
 (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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Sunny L. Fox, P.E.
 TERRA-MAR, INC.

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 DALLAS FORT WORTH HOUSTON LONGVIEW LUBBOCK AUSTIN

11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800

CONCRETE INSPECTION AND FLEXURAL STRENGTH TEST REPORT
(THIRD POINT LOADING)

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 09/14/98
TMI REPORT #: DC98-050-70

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS	FIELD DATA SET #3	PROJECT DATA
Ticket #: 14333	Time Batched: 13:40	Time Sampled: 14:08
Slump (in.): 3.50	Air Content: 4.0	Unit Weight (pcf): na
Conc. Temp. (°F): 94	Ambient Temp. (°F): 103	Yardage (c.y.): 261
Placement Location: Paving at Arapaho Road, station 44+50		
Remarks:		

FIELD DATA SET #4		
Ticket #: _____	Time Batched: _____	Time Sampled: _____
Slump (in.): _____	Air Content: _____	Unit Weight (pcf): _____
Conc. Temp. (°F): _____	Ambient Temp. (°F): _____	Yardage (c.y.): _____
Placement Location: _____		
Remarks: _____		

CONCRETE COMPRESSION TEST RESULTS								
BEAMS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C78								
Set #	Beam #	Test Date	Age (Days)	Max. Load (lbs)	Average Depth, D	Average Width, B	Modulus of Rupture (psi)	Notes
3	ARI090409	09/11/98	7				545	
	ARI090410	09/11/98	7				425	
	ARI090411	10/02/98	28					
	ARI090412	10/02/98	28					
4								

- (1) SPAN LENGTH OF 18 INCHES, UNLESS NOTED ABOVE.
- (2) SPECIMENS GROUND PRIOR TO TESTING, LEATHER SHIMS USED DURING TESTING.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C136, C143, C172, C231

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Henry L. Ford, P.E.

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GEOTECHNICAL ENVIRONMENTAL AND MATERIALS ENGINEERS
 DALLAS FORT WORTH HOUSTON LONGVIEW LUBBOCK AUSTIN

11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800

SOIL MOISTURE - DENSITY TEST REPORT
IN-PLACE TESTS BY NUCLEAR METHODS

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 9/8/98

DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt Zollar, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde, P.E.

TMI REPORT NO.: DC98-050-54

SPECIFICATIONS

Percent Compaction: 95+
 Moisture Content (%): opt+

TEST DATA

Date Tested: 8/3/98
 Technician: M. Kashem

MATERIAL REFERENCE CURVE DATA

CURVE NO.	TEST METHOD	MATERIAL DESCRIPTION	OPTIMUM MOISTURE (%)	MAX. DRY DENSITY (pcf)
5	D698	Lime Treated Brown Clay With Gravel	25.7	95.6

IN-PLACE TEST RESULTS

DENSITY AND MOISTURE TESTS ARE PER ASTM D2922, D3017, RESPECTIVELY

TEST NO.	ELEVATION OR LIFT	LOCATION	REF. CURVE	% MOISTURE	DRY DENSITY	% DENSITY
1	Grade	West bound Arapaho Rd. @ station 44+	5	26.4	96.8	101.3
2	Grade	West bound Arapaho Rd. @ station 43+	5	26.2	98.6	103.1
3	Grade	West bound Arapaho Rd. @ station 41+	5	27.3	100.4	105.0
4	Grade	West bound Arapaho Rd. @ station 40+	5	26.1	101.3	106.0
5	Grade	East bound Arapaho Rd, @ station 41+5	5	26.1	100.8	105.4
6	Grade	East bound Arapaho Rd, @ station 42+8	5	26.5	99.5	104.1

GAUGE I.D.: 10903 STD. DENSITY COUNT: 2363 STD. MOISTURE COUNT: 596

"R" AFTER TEST NUMBER INDICATES RETEST.

* INDICATES FAILURE TO COMPLY WITH PROJECT SPECIFICATIONS

REMARKS: _____

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Henry L. Fox, P.E.
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 11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800 Fax: 972-488-8080

CONCRETE INSPECTION AND COMPRESSION TEST REPORT

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 9/4/98
TMI REPORT #: DC98-050-39

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 4000
 Slump (in.): 4
 Air Content (%): na
 Concrete Temp (°F): 95

PROJECT DATA

Placement Date: 8/5/98
 Sampled By: E.M.
 Weather: Cloudy & warm
 Supplier/Mix: Lattimore #42

FIELD DATA SET #1

Ticket #: 7056035 Time Batched: 01:34 Time Sampled: 2:25
 Slump (in.): 3.50 Air Content: na Unit Weight (pcf): na
 Conc. Temp. (°F): 94 Ambient Temp. (°F): 91 Yardage (c.y.): 10
 Placement Location: Retaining wall - East end
 Remarks: _____

FIELD DATA SET #2

Ticket #: _____ Time Batched: _____ Time Sampled: _____
 Slump (in.): _____ Air Content: _____ Unit Weight (pcf): _____
 Conc. Temp. (°F): _____ Ambient Temp. (°F): _____ Yardage (c.y.): _____
 Placement Location: _____
 Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

CYLINDERS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C39, CAPPED PER ASTM C617

Set #	Cylinder #	Test Date	Age (Days)	Max. Load (lbs)	Area (sq. in.)	Strength (psi)	FC	Notes
1	ARI080501	8/12/98	7	115150	28.27	4070	U	
	ARI080502	9/2/98	28	127200	28.27	4500	U	
	ARI080503	9/2/98	28	135210	28.27	4780	U	
	ARI080504	DISCARD						

- (1) NORMAL CYLINDER SIZE 6" X 12", AREA 28.27 sq. in., UNLESS NOTED ABOVE.
- (2) TYPE "A" CONE FRACTURE UNLESS INDICATED OTHERWISE IN NOTES.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

Note: This report is for the exclusive use of the Client addressed. This report may not be reproduced except in its entirety, without the written consent of TMI. Results apply only to above tests.

Henry L. Fox, P.E.

 TERRA-MAR, Inc.

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 DALLAS FORT WORTH HOUSTON LONGVIEW LUBBOCK AUSTIN

11050 Ables Lane, Dallas, Texas 75229 Phone:972-488-8800

CONCRETE INSPECTION AND FLEXURAL STRENGTH TEST REPORT
(THIRD POINT LOADING)

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 10/01/98
TMI REPORT #: DC98-050-62

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 650
 Slump (in.): _____
 Air Content (%): _____
 Concrete Temp (°F): _____

PROJECT DATA

Placement Date: 09/02/98
 Sampled By: Bryan Glennon
 Weather: Clear
 Supplier/Mix: Ed Bell Construction

FIELD DATA SET #1

Ticket #: 14247 Time Batched: 09:30 Time Sampled: 10:00
 Slump (in.): 5.50 Air Content: 4.5 Unit Weight (pcf): na
 Conc. Temp. (°F): 90 Ambient Temp. (°F): na Yardage (c.y.): 60
 Placement Location: Paving, 20' north of south end and 15' east of west end
 Remarks: _____

FIELD DATA SET #2

Ticket #: 14255 Time Batched: 01:00 Time Sampled: 1:30
 Slump (in.): 4.00 Air Content: 4.0 Unit Weight (pcf): na
 Conc. Temp. (°F): 90 Ambient Temp. (°F): na Yardage (c.y.): 130
 Placement Location: Paving at Quorum Road at station 6+00
 Remarks: _____


CONCRETE COMPRESSION TEST RESULTS

BEAMS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C78

Set #	Beam #	Test Date	Age (Days)	Max. Load (lbs)	Average Depth, D	Average Width, B	Modulus of Rupture (psi)	Notes
1	ARI090201	09/09/98	7	5400	6.00	6.00	450	
	ARI090202	09/09/98	7	5400	6.00	6.00	450	
	ARI090203	09/30/98	28	7980	6.00	6.00	665	
	ARI090204	09/30/98	28	8820	6.00	6.00	735	
2	ARI090205	09/09/98	7	5940	6.00	6.00	495	
	ARI090206	09/09/98	7	7080	6.00	6.00	590	
	ARI090207	09/30/98	28	7980	6.00	6.00	665	
	ARI090208	09/30/98	28	7860	6.00	6.00	655	

- (1) SPAN LENGTH OF 18 INCHES, UNLESS NOTED ABOVE.
- (2) SPECIMENS GROUND PRIOR TO TESTING, LEATHER SHIMS USED DURING TESTING.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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GEOTECHNICAL ENVIRONMENTAL AND MATERIALS ENGINEERS
 DALLAS FORT WORTH HOUSTON LONGVIEW LUBBOCK AUSTIN
 11050 Ables Lane, Dallas, Texas 75229 Phone:972-488-8800 Fax: 972-488-8080

CONCRETE INSPECTION AND COMPRESSION TEST REPORT

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 9/29/98
TMI REPORT #: DC98-050-36

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 4000
 Slump (in.): 4
 Air Content (%): na
 Concrete Temp (°F): 95

PROJECT DATA

Placement Date: 8/3/98
 Sampled By: E.M.
 Weather: Hot
 Supplier/Mix: Lattimore #42

FIELD DATA SET #1

Ticket #: 53591 Time Batched: 02:00 Time Sampled: 3:10
 Slump (in.): 3.00 Air Content: na Unit Weight (pcf): na
 Conc. Temp. (°F): 98 Ambient Temp. (°F): 102 Yardage (c.y.): 10
 Placement Location: Retaining wall - Northside
 Remarks: _____

FIELD DATA SET #2

Ticket #: _____ Time Batched: _____ Time Sampled: _____
 Slump (in.): _____ Air Content: _____ Unit Weight (pcf): _____
 Conc. Temp. (°F): _____ Ambient Temp. (°F): _____ Yardage (c.y.): _____
 Placement Location: _____
 Remarks: _____

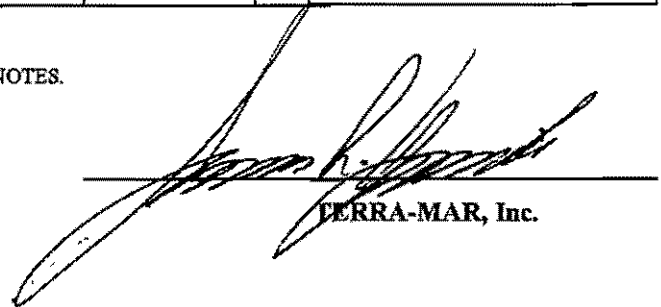
CONCRETE COMPRESSION TEST RESULTS

CYLINDERS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C39, CAPPED PER ASTM C617

Set #	Cylinder #	Test Date	Age (Days)	Max. Load (lbs)	Area (sq. in.)	Strength (psi)	FC	Notes
1	ARI080301	8/10/98	7	89110	28.27	3150	U	
	ARI080302	8/31/98	28	100630	28.27	3560	U	* * Does not meet specification
	ARI080303	8/31/98	28	91480	28.27	3240	U	* * Does not meet specification
	ARI080304	9/28/98	56	113460	28.27	4010	U	

- (1) NORMAL CYLINDER SIZE 6" X 12", AREA 28.27 sq. in., UNLESS NOTED ABOVE.
 (2) TYPE "A" CONE FRACTURE UNLESS INDICATED OTHERWISE IN NOTES.
 (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
 (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800

CONCRETE INSPECTION AND FLEXURAL STRENGTH TEST REPORT
(THIRD POINT LOADING)

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 10/01/98
TMI REPORT #: DC98-050-76

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 650
 Slump (in.): 3+/-1
 Air Content (%): 5 - 8
 Concrete Temp (°F): na

PROJECT DATA

Placement Date: 09/23/98
 Sampled By: John Sullivan
 Weather: Clear
 Supplier/Mix: Lattimore

FIELD DATA SET #1

Ticket #: 6080783 Time Batched: na Time Sampled: 8:45
 Slump (in.): 3.00 Air Content: 5.5 Unit Weight (pcf): na
 Conc. Temp. (°F): 80 Ambient Temp. (°F): 80 Yardage (c.y.): na
 Placement Location: South end of Arapaho, west of Tollway, station 66+50
 Remarks: _____

FIELD DATA SET #2

Ticket #: 13024 Time Batched: na Time Sampled: 12:00
 Slump (in.): 2.50 Air Content: 5.4 Unit Weight (pcf): na
 Conc. Temp. (°F): 84 Ambient Temp. (°F): 88 Yardage (c.y.): na
 Placement Location: South end of Arapaho, west of Tollway, station 64+50
 Remarks: _____

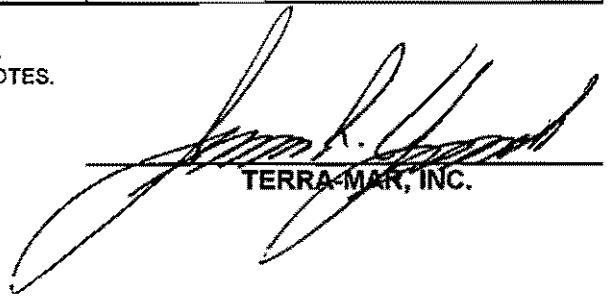
CONCRETE COMPRESSION TEST RESULTS

BEAMS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C78

Set #	Beam #	Test Date	Age (Days)	Max. Load (lbs)	Average Depth, D	Average Width, B	Modulus of Rupture (psi)	Notes
1	ARI092301	09/30/98	7	9480	6.00	6.00	790	
	ARI092302	09/30/98	7	8760	6.00	6.00	730	
	ARI092303	10/21/98	28					
	ARI092304	10/21/98	28					
2	ARI092305	09/30/98	7	8820	6.00	6.00	735	
	ARI092306	09/30/98	7	7500	6.00	6.00	625	
	ARI092307	10/21/98	28					
	ARI092308	10/21/98	28					

- (1) SPAN LENGTH OF 18 INCHES, UNLESS NOTED ABOVE.
- (2) SPECIMENS GROUND PRIOR TO TESTING, LEATHER SHIMS USED DURING TESTING.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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11050 Ables Lane, Dallas, Texas 75229 Phone:972-488-8800

CONCRETE INSPECTION AND FLEXURAL STRENGTH TEST REPORT
(THIRD POINT LOADING)

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 10/01/98
TMI REPORT #: DC98-050-76

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

FIELD DATA SET #3

PROJECT DATA

Ticket #:	<u>na</u>	Time Batched:	<u>na</u>	Time Sampled:	<u>4:40</u>
Slump (in.):	<u>2.50</u>	Air Content:	<u>5.0</u>	Unit Weight (pcf):	<u>na</u>
Conc. Temp. (°F):	<u>na</u>	Ambient Temp. (°F):	<u>90</u>	Yardage (c.y.):	<u>na</u>
Placement Location:	<u>South end of Arapaho, station 6+00</u>				
Remarks:	<u> </u>				

FIELD DATA SET #4

Ticket #:	<u> </u>	Time Batched:	<u> </u>	Time Sampled:	<u> </u>
Slump (in.):	<u> </u>	Air Content:	<u> </u>	Unit Weight (pcf):	<u> </u>
Conc. Temp. (°F):	<u> </u>	Ambient Temp. (°F):	<u> </u>	Yardage (c.y.):	<u> </u>
Placement Location:	<u> </u>				
Remarks:	<u> </u>				

CONCRETE COMPRESSION TEST RESULTS

BEAMS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C78

Set #	Beam #	Test Date	Age (Days)	Max. Load (lbs)	Average Depth, D	Average Width, B	Modulus of Rupture (psi)	Notes
3	ARI092309	09/30/98	7	8580	6.00	6.00	715	
	ARI092310	09/30/98	7	7440	6.00	6.00	620	
	ARI092311	10/21/98	28					
	ARI092312	10/21/98	28					
4								

- (1) SPAN LENGTH OF 18 INCHES, UNLESS NOTED ABOVE.
- (2) SPECIMENS GROUND PRIOR TO TESTING, LEATHER SHIMS USED DURING TESTING.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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CONCRETE INSPECTION AND FLEXURAL STRENGTH TEST REPORT
(THIRD POINT LOADING)

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 09/21/98
TMI REPORT #: DC98-050-73

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 650
 Slump (in.): _____
 Air Content (%): _____
 Concrete Temp (°F): _____

PROJECT DATA

Placement Date: 09/10/98
 Sampled By: Bryan Glennon
 Weather: Cloudy
 Supplier/Mix: Lattimore

FIELD DATA SET #1

Ticket #: 14406 Time Batched: 08:20 Time Sampled: 9:00
 Slump (in.): 2.00 Air Content: 3.0 Unit Weight (pcf): na
 Conc. Temp. (°F): 85 Ambient Temp. (°F): 70 Yardage (c.y.): 63
 Placement Location: Paving at station F1.26, 10' westbound
 Remarks: _____

FIELD DATA SET #2

Ticket #: _____ Time Batched: _____ Time Sampled: _____
 Slump (in.): _____ Air Content: _____ Unit Weight (pcf): _____
 Conc. Temp. (°F): _____ Ambient Temp. (°F): _____ Yardage (c.y.): _____
 Placement Location: _____
 Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

BEAMS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C78

Set #	Beam #	Test Date	Age (Days)	Max. Load (lbs)	Average Depth, D	Average Width, B	Modulus of Rupture (psi)	Notes
1	ARI091001	09/17/98	7		6.00	6.00	725	
	ARI091002	09/17/98	7		6.00	6.00	570	
	ARI091003	10/08/98	28					
	ARI091004	10/08/98	28					
2								

- (1) SPAN LENGTH OF 18 INCHES, UNLESS NOTED ABOVE.
- (2) SPECIMENS GROUND PRIOR TO TESTING, LEATHER SHIMS USED DURING TESTING.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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Randy L. Fox, P.E.

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 11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800 Fax: 972-488-8080

CONCRETE INSPECTION AND COMPRESSION TEST REPORT

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 08/31/98
TMI REPORT #: DC98-050-36

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 4000
 Slump (in.): 4
 Air Content (%): na
 Concrete Temp (°F): 95

PROJECT DATA

Placement Date: 08/03/98
 Sampled By: E.M.
 Weather: Hot
 Supplier/Mix: Lattimore #42

FIELD DATA SET #1

Ticket #: 53591 Time Batched: 02:00 Time Sampled: 3:10
 Slump (in.): 3.00 Air Content: na Unit Weight (pcf): na
 Conc. Temp. (°F): 98 Ambient Temp. (°F): 102 Yardage (c.y.): 10
 Placement Location: Retaining wall - Northside
 Remarks: _____

FIELD DATA SET #2

Ticket #: _____ Time Batched: _____ Time Sampled: _____
 Slump (in.): _____ Air Content: _____ Unit Weight (pcf): _____
 Conc. Temp. (°F): _____ Ambient Temp. (°F): _____ Yardage (c.y.): _____
 Placement Location: _____
 Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

CYLINDERS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C39, CAPPED PER ASTM C617

Set #	Cylinder #	Test Date	Age (Days)	Max. Load (lbs)	Area (sq. in.)	Strength (psi)	FC	Notes
1	ARI080301	08/10/98	7	89110	28.27	3150	U	
	ARI080302	08/31/98	28	100630	28.27	3560		* * Does not meet specification
	ARI080303	08/31/98	28	91480	28.27	3240		* * Does not meet specification
	ARI080304	09/28/98	56					

- (1) NORMAL CYLINDER SIZE 6" X 12", AREA 28.27 sq. in., UNLESS NOTED ABOVE.
- (2) TYPE "A" CONE FRACTURE UNLESS INDICATED OTHERWISE IN NOTES.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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Curry L. Fox, P.E.

 TERRA-MAR, Inc.

Reed 9-21-98

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GEOTECHNICAL ENVIRONMENTAL AND MATERIALS ENGINEERS

Dallas Fort Worth Houston Austin Longview Lubbock

11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8080 Fax: 972-488-8080

LIME TREATED SOIL THICKNESS DETERMINATIONS

Client: Ed Bell Construction
Project: Arapaho Road Improvements
Report No.: DC98-050-65
Report Date: 09/04/98
Sample Date: 09/03/98

Distribution:
Ed Bell Construction - Doug Teter
Huit-Zollars, Inc. - Kenneth Roberts, P.E.
Town of Addison - James Pierce, P.E.
Town of Addison - Dave Wilde

Table with 4 columns: TEST NO., LOCATION, ACTUAL DEPTH (in), and REQUIRED DEPTH. It contains 8 rows of data for Arapaho Road tests.

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Handwritten signature of Terry L. Fox, P.E. and printed name TERRA-MAR, INC.

TERRA-MAR, INC.

GEOTECHNICAL ENVIRONMENTAL AND MATERIALS ENGINEERS

Dallas Fort Worth Houston Austin Longview Lubbock

11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8080 Fax: 972-488-8080

LIME TREATED SOIL THICKNESS DETERMINATIONS

Client: Ed Bell Construction
 Project: Arapaho Road Improvements
 Report No.: DC98-050-59
 Report Date: 09/04/98
 Sample Date: 09/01/98

Distribution:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

TEST NO.	LOCATION	ACTUAL DEPTH (in)	REQUIRED DEPTH
1	Westbound Arapaho, station 58+50	6.75	
2	Westbound Arapaho, station 57+75	7.25	
3	Westbound Arapaho, station 57+00	7.0	
4	Westbound Arapaho, station 56+25	7.25	
5	Westbound Arapaho, station 55+50	7.0	
6	Westbound Arapaho, station 54+75	7.0	
7	Westbound Arapaho, station 54+00	7.25	
8	Westbound Arapaho, station 53+25	7.50	

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Serry L. Lopez
 TERRA-MAR, INC.

GEOTECHNICAL ENVIRONMENTAL AND MATERIALS ENGINEERS

Dallas Fort Worth Houston Austin Longview Lubbock

11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8080 Fax: 972-488-8080

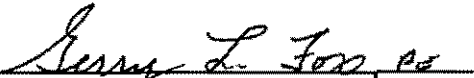
LIME TREATED SOIL THICKNESS DETERMINATIONS

Client: Ed Bell Construction
Project: Arapaho Road Improvements
Report No.: DC98-050-64
Report Date: 09/04/98
Sample Date: 09/02/98

Distribution:
Ed Bell Construction - Doug Teter
Huilt-Zollars, Inc. - Kenneth Roberts, P.E.
Town of Addison - James Pierce, P.E.
Town of Addison - Dave Wilde

TEST NO.	LOCATION	ACTUAL DEPTH (in)	REQUIRED DEPTH
1	Eastbound Arapaho, station 53+75	7.5	
2	Eastbound Arapaho, station 54+50	7.5	
3	Eastbound Arapaho, station 55+25	7.0	
4	Eastbound Arapaho, station 56+50	7.5	
5	Eastbound Arapaho, station 57+23	6.25	
6	Eastbound Arapaho, SE corner driveway	7.0	
7	Eastbound Arapaho, NW corner driveway	7.0	
8	Eastbound Arapaho at Spectrum	6.5	

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11050 Ables Lane, Dallas, Texas 75229 Phone:972-488-8800 Fax: (972)488-8080

STABILIZED SOIL GRADATION REPORT

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 09/04/98
TMI REPORT #: DC98-050-58

DISTRIBUTION:
Ed Bell Construction - Doug Teter
Huitt-Zollars, Inc. - Kenneth Roberts, P.E.
Town of Addison - James Pierce, P.E.
Town of Addison - Dave Wilde

Test Method: _____ **Technician:** M. Kashem
Minimum % Passing 1 3/4" Sieve: 100 **Date Tested:** 09/01/98
Minimum % Passing No. 4 Sieve: 60 **Stabilizing Agent:** Lime

TEST NUMBER	LOCATION	PERCENT PASSING 1 3/4" SIEVE	PERCENT PASSING #4 SIEVE
1	Westbound Arapaho Rd, station 57+50	100 ✓	66.5 ✓
2	Westbound Arapaho Rd, station 54+85	100 ✓	73.2 ✓

Remarks: _____

Note: This report is for the exclusive use of the Client addressed. This report may not be reproduced except in its entirety, without the written consent of TMI. Results apply only to above tests.

Russell L. Fox
TERRA-MAR, INC.

TERRA-MAR, INC.
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11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800

CONCRETE INSPECTION AND FLEXURAL STRENGTH TEST REPORT
(THIRD POINT LOADING)

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 09/16/98
TMI REPORT #: DC98-050-69

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 650
 Slump (in.): 3 - 5
 Air Content (%): 5 - 8
 Concrete Temp (°F): 95

PROJECT DATA

Placement Date: 09/03/98
 Sampled By: John Sullivan
 Weather: Clear
 Supplier/Mix: Ed Bell

FIELD DATA SET #1

Ticket #: 14285 Time Batched: na Time Sampled: 12:30
 Slump (in.): 3.00 Air Content: 5.0 Unit Weight (pcf): na
 Conc. Temp. (°F): 90 Ambient Temp. (°F): 98 Yardage (c.y.): na
 Placement Location: Paving at Arapaho Road, station 50+20
 Remarks: _____

FIELD DATA SET #2

Ticket #: _____ Time Batched: _____ Time Sampled: _____
 Slump (in.): _____ Air Content: _____ Unit Weight (pcf): _____
 Conc. Temp. (°F): _____ Ambient Temp. (°F): _____ Yardage (c.y.): _____
 Placement Location: _____
 Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

BEAMS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C78

Set #	Beam #	Test Date	Age (Days)	Max. Load (lbs)	Average Depth, D	Average Width, B	Modulus of Rupture (psi)	Notes
1	ARI090305	09/10/98	7		6.00	6.00	615	
	ARI090306	09/10/98	7		6.00	6.00	645	
	ARI090307	10/01/98	28					
	ARI090308	10/01/98	28					
2								

- (1) SPAN LENGTH OF 18 INCHES, UNLESS NOTED ABOVE.
- (2) SPECIMENS GROUND PRIOR TO TESTING, LEATHER SHIMS USED DURING TESTING.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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Serry L. Fox, P.E.
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GEOTECHNICAL ENVIRONMENTAL AND MATERIALS ENGINEERS

DALLAS FORT WORTH HOUSTON AUSTIN LONGVIEW LUBBOCK

11050 Ables Lane, Dallas, Texas 75229 Phone:972-488-8800 Fax: (972)488-8080

STABILIZED SOIL GRADATION REPORT

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 09/04/98
TMI REPORT #: DC98-050-60

DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

Test Method: _____ **Technician:** M. Kashem
Minimum % Passing 1 3/4" Sieve: 100 **Date Tested:** 09/01/98
Minimum % Passing No. 4 Sieve: 60 **Stabilizing Agent:** Lime

TEST NUMBER	LOCATION	PERCENT PASSING 1 3/4" SIEVE	PERCENT PASSING #4 SIEVE
1	Eastbound Arapaho Rd, station 54+00	100 ✓	74.6 ✓
2	Eastbound Arapaho Rd, station 56+25	100 ✓	66.9 ✓

Remarks: _____

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George L. Ford, P.E.
 TERRA-MAR, INC.

TERRA-MAR, INC.

GEOTECHNICAL ENVIRONMENTAL AND MATERIALS ENGINEERS

DALLAS FORT WORTH HOUSTON AUSTIN LONGVIEW LUBBOCK

11050 Ables Lane, Dallas, Texas 75229 Phone:972-488-8800 Fax: (972)488-8080

STABILIZED SOIL GRADATION REPORT

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 09/04/98
TMI REPORT #: DC98-050-68

DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

Test Method: _____	Technician: M. Kashem
Minimum % Passing 1 3/4" Sieve: 100	Date Tested: 09/02/98
Minimum % Passing No. 4 Sieve: 60	Stabilizing Agent: Lime

TEST NUMBER	LOCATION	PERCENT PASSING 1 3/4" SIEVE	PERCENT PASSING #4 SIEVE
1	Eastbound Arapaho Rd, station 62+00	100 ✓	67.4 ✓
2	Eastbound Arapaho Rd, station 64+50	100 ✓	65.5 ✓

Remarks: _____

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[Signature]
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GEOTECHNICAL ENVIRONMENTAL AND MATERIALS ENGINEERS
 DALLAS FORT WORTH HOUSTON LONGVIEW LUBBOCK AUSTIN

11050 Ables Lane, Dallas, Texas 75229 Phone:972-488-8800

CONCRETE INSPECTION AND FLEXURAL STRENGTH TEST REPORT
(THIRD POINT LOADING)

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 09/16/98
TMI REPORT #: DC98-050-67

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 650
 Slump (in.): 3 - 5
 Air Content (%): 5 - 8
 Concrete Temp (°F): 95

PROJECT DATA

Placement Date: 09/03/98
 Sampled By: John Sullivan
 Weather: Clear
 Supplier/Mix: Ed Bell

FIELD DATA SET #1

Ticket #: na Time Batched: na Time Sampled: 10:15
 Slump (in.): 2.50 Air Content: 5.1 Unit Weight (pcf): na
 Conc. Temp. (°F): 89 Ambient Temp. (°F): 90 Yardage (c.y.): na
 Placement Location: Paving at Arapaho Road
 Remarks: _____

FIELD DATA SET #2

Ticket #: _____ Time Batched: _____ Time Sampled: _____
 Slump (in.): _____ Air Content: _____ Unit Weight (pcf): _____
 Conc. Temp. (°F): _____ Ambient Temp. (°F): _____ Yardage (c.y.): _____
 Placement Location: _____
 Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

BEAMS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C78

Set #	Beam #	Test Date	Age (Days)	Max. Load (lbs)	Average Depth, D	Average Width, B	Modulus of Rupture (psi)	Notes
1	ARI090301	09/10/98	7		6.00	6.00	595	
	ARI090302	09/10/98	7		6.00	6.00	580	
	ARI090303	10/01/98	28					
	ARI090304	10/01/98	28					
2								

- (1) SPAN LENGTH OF 18 INCHES, UNLESS NOTED ABOVE.
- (2) SPECIMENS GROUND PRIOR TO TESTING, LEATHER SHIMS USED DURING TESTING.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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 DALLAS FORT WORTH HOUSTON LONGVIEW LUBBOCK AUSTIN

11050 Ables Lane, Dallas, Texas 75229 Phone:972-488-8800

CONCRETE INSPECTION AND FLEXURAL STRENGTH TEST REPORT
(THIRD POINT LOADING)

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 09/14/98
TMI REPORT #: DC98-050-71

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 650
 Slump (in.): _____
 Air Content (%): _____
 Concrete Temp (°F): _____

PROJECT DATA

Placement Date: 09/08/98
 Sampled By: John Sullivan
 Weather: Clear
 Supplier/Mix: Ed Bell/Lattimore

FIELD DATA SET #1

Ticket #: 14360 Time Batched: na Time Sampled: 12:45
 Slump (in.): 3.00 Air Content: na Unit Weight (pcf): na
 Conc. Temp. (°F): 91 Ambient Temp. (°F): 104 Yardage (c.y.): na
 Placement Location: Paving at Arapaho Road
 Remarks: _____

FIELD DATA SET #2

Ticket #: 607754 Time Batched: na Time Sampled: 1:20
 Slump (in.): 3.00 Air Content: 5.1 Unit Weight (pcf): na
 Conc. Temp. (°F): 91 Ambient Temp. (°F): 104 Yardage (c.y.): na
 Placement Location: Paving at Arapaho Road
 Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

BEAMS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C78

Set #	Beam #	Test Date	Age (Days)	Max. Load (lbs)	Average Depth, D	Average Width, B	Modulus of Rupture (psi)	Notes
1	ARI090801	09/15/98	7		6.00	6.00	580	
	ARI090802	09/15/98	7		6.00	6.00	560	
	ARI090803	10/06/98	28					
	ARI090804	10/06/98	28					
2	ARI090805	09/15/98	7		6.00	6.00	515	
	ARI090806	09/15/98	7		6.00	6.00	500	
	ARI090807	10/06/98	28					
	ARI090808	10/06/98	28					

- (1) SPAN LENGTH OF 18 INCHES, UNLESS NOTED ABOVE.
- (2) SPECIMENS GROUND PRIOR TO TESTING, LEATHER SHIMS USED DURING TESTING.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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 DALLAS FORT WORTH HOUSTON LONGVIEW LUBBOCK AUSTIN

11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800

CONCRETE INSPECTION AND FLEXURAL STRENGTH TEST REPORT
(THIRD POINT LOADING)

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 09/14/98
TMI REPORT #: DC98-050-71

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS	FIELD DATA SET #3	PROJECT DATA
Ticket #: 6079798	Time Batched: 03:14	Time Sampled: 4:00
Slump (in.): 3.00	Air Content: 5.0	Unit Weight (pcf): na
Conc. Temp. (°F): 92	Ambient Temp. (°F): 107	Yardage (c.y.): na
Placement Location: Paving at Arapaho Road		
Remarks:		

FIELD DATA SET #4		
Ticket #: _____	Time Batched: _____	Time Sampled: _____
Slump (in.): _____	Air Content: _____	Unit Weight (pcf): _____
Conc. Temp. (°F): _____	Ambient Temp. (°F): _____	Yardage (c.y.): _____
Placement Location: _____		
Remarks: _____		

CONCRETE COMPRESSION TEST RESULTS								
BEAMS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C78								
Set #	Beam #	Test Date	Age (Days)	Max. Load (lbs)	Average Depth, D	Average Width, B	Modulus of Rupture (psi)	Notes
3	ARI090809	09/15/98	7		6.00	6.00	610	
	ARI090810	09/15/98	7		6.00	6.00	570	
	ARI090811	10/06/98	28					
	ARI090812	10/06/98	28					
4								

- (1) SPAN LENGTH OF 18 INCHES, UNLESS NOTED ABOVE.
- (2) SPECIMENS GROUND PRIOR TO TESTING, LEATHER SHIMS USED DURING TESTING.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

Serry L. Ford, P.E.
 TERRA-MAR, INC.

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GEOTECHNICAL ENVIRONMENTAL AND MATERIALS ENGINEERS
Dallas Fort Worth Houston Austin Longview Lubbock

11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8080 Fax: 972-488-8080

LIME TREATED SOIL THICKNESS DETERMINATIONS

Client: Ed Bell Construction
Project: Arapaho Road Improvements
Report No.: DC98-050-45
Report Date: 09/02/98
Sample Date: 08/31/98

Distribution:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

TEST NO.	LOCATION	ACTUAL DEPTH (in)	REQUIRED DEPTH
1	Westbound Arapaho, station 44+50	6.5	
2	Westbound Arapaho, station 43+25	7.0	
3	Westbound Arapaho, station 42+00	7.0	
4	Westbound Arapaho, station 41+25	7.0	
5	Eastbound Arapaho, station 41+50	6.5	
6	Eastbound Arapaho, station 42+25	7.0	

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Larry L. Fox, P.E.
 TERRA-MAR, INC.

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GEOTECHNICAL ENVIRONMENTAL AND MATERIALS ENGINEERS

DALLAS FORT WORTH HOUSTON AUSTIN LONGVIEW LUBBOCK

11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800 Fax: (972)488-8080

STABILIZED SOIL GRADATION REPORT

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 09/02/98
TMI REPORT #: DC98-050-56

DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

Test Method: _____ **Technician:** M. Kashem
Minimum % Passing 1 3/4" Sieve: 100 **Date Tested:** 08/31/98
Minimum % Passing No. 4 Sieve: 60 **Stabilizing Agent:** Lime

TEST NUMBER	LOCATION	PERCENT PASSING 1 3/4" SIEVE	PERCENT PASSING #4 SIEVE
1	Westbound Arapaho, station 44+50	100	63.5

Remarks: _____

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Henry L. Fox

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11050 Ables Lane, Dallas, Texas 75229 Phone:972-488-8800 Fax: (972)488-8080

STABILIZED SOIL GRADATION REPORT

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 09/02/98
TMI REPORT #: DC98-050-51


DISTRIBUTION:
Ed Bell Construction - Doug Teter
Huitt-Zollars, Inc. - Kenneth Roberts, P.E.
Town of Addison - James Pierce, P.E.
Town of Addison - Dave Wilde

Test Method: _____ Technician: M. Kashem
Minimum % Passing 1 3/4" Sieve: 100 Date Tested: 08/28/98
Minimum % Passing No. 4 Sieve: 60 Stabilizing Agent: Lime

TEST NUMBER	LOCATION	PERCENT PASSING 1 3/4" SIEVE	PERCENT PASSING #4 SIEVE
1	Westbound Arapaho, station 51+80	100	67.3
2	Westbound Arapaho, station 47+50	100	66.8
3	Quorum Rd, station 4+95	100	64.5

Remarks: _____

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STABILIZED SOIL GRADATION REPORT

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 09/02/98
TMI REPORT #: DC98-050-48

DISTRIBUTION:
Ed Bell Construction - Doug Teter
Huitt-Zollars, Inc. - Kenneth Roberts, P.E.
Town of Addison - James Pierce, P.E.
Town of Addison - Dave Wilde

Test Method: Technician: M. Kashem
Minimum % Passing 1 3/4" Sieve: 100 Date Tested: 08/27/98
Minimum % Passing No. 4 Sieve: 60 Stabilizing Agent Lime

Table with 4 columns: TEST NUMBER, LOCATION, PERCENT PASSING 1 3/4" SIEVE, PERCENT PASSING #4 SIEVE. Contains 3 rows of test data.

Remarks:

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Signature: Henry L. Fox, P.E.
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GEOTECHNICAL ENVIRONMENTAL AND MATERIALS ENGINEERS

Dallas Fort Worth Houston Austin Longview Lubbock

11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8080 Fax: 972-488-8080

LIME TREATED SOIL THICKNESS DETERMINATIONS

Client: Ed Bell Construction
Project: Arapaho Road Improvements
Report No.: DC98-050-53
Report Date: 09/02/98
Sample Date: 08/28/98

Distribution:
Ed Bell Construction - Doug Teter
Huitt-Zollars, Inc. - Kenneth Roberts, P.E.
Town of Addison - James Pierce, P.E.
Town of Addison - Dave Wilde

TEST NO.	LOCATION	ACTUAL DEPTH (in)	REQUIRED DEPTH
1	Quorum Drive @ station 2+75	7.5	
2	Quorum Drive @ station 3+50	7.0	
3	Quorum Drive @ station 4+25	7.5	
4	Quorum Drive @ station 5+50	7.5	
5	Westbound Arapaho, station 51+80	6.5	
6	Westbound Arapaho, station 51+05	6.5	
7	Westbound Arapaho, station 50+20	7.0	
8	Westbound Arapaho, station 49+45	7.5	
9	Westbound Arapaho, station 48+70	7.0	
10	Westbound Arapaho, station 47+95	7.0	
11	Westbound Arapaho, station 47+20	7.0	
12	Westbound Arapaho, station 46+45	7.0	
13	Westbound Arapaho, station 45+70	7.0	

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Dallas Fort Worth Houston Austin Longview Lubbock

11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8080 Fax: 972-488-8080

LIME TREATED SOIL THICKNESS DETERMINATIONS

Client: Ed Bell Construction

Distribution:

Project: Arapaho Road Improvements

Ed Bell Construction - Doug Teter

Report No.: DC98-050-46

Huitt-Zollars, Inc. - Kenneth Roberts, P.E.

Report Date: 09/02/98

Town of Addison - James Pierce, P.E.

Sample Date: 08/27/98

Town of Addison - Dave Wilde

TEST NO.	LOCATION	ACTUAL DEPTH (in)	REQUIRED DEPTH
1	Eastbound Arapaho, station 43+50	6.5	
2	Eastbound Arapaho, station 44+25	7.0	
3	E.bound Arapaho @ WB entrance sta 4+08	6.5	
4	E.bound Arapaho @ WB entrance sta 4+75	6.5	
5	Eastbound Arapaho, station 45+00	7.0	
6	Eastbound Arapaho, station 45+75	7.0	
7	Eastbound Arapaho, station 46+50	7.0	
8	Eastbound Arapaho, station 47+25	7.0	
9	Eastbound Arapaho, station 48+00	7.0	
10	Eastbound Arapaho, station 48+75	7.0	
11	Eastbound Arapaho, station 49+50	7.0	
12	Eastbound Arapaho, station 50+25	7.5	
13	Eastbound Arapaho, station 51+00	7.0	
14	Eastbound Arapaho, station 51+65	7.5	

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GEOTECHNICAL ENVIRONMENTAL AND MATERIALS ENGINEERS
 DALLAS FORT WORTH HOUSTON LONGVIEW LUBBOCK AUSTIN

11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800

SOIL MOISTURE - DENSITY TEST REPORT
IN-PLACE TESTS BY NUCLEAR METHODS

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 08/31/98
TMI REPORT NO.: DC98-050-49

DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt Zollars, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde
 E.L. Dalton & Company - Mike Claxton

SPECIFICATIONS

Percent Compaction: 95+
 Moisture Content (%): Opt +

TEST DATA

Date Tested: 08/27/98
 Technician: M. Kasheem

MATERIAL REFERENCE CURVE DATA

CURVE NO.	TEST METHOD	MATERIAL DESCRIPTION	OPTIMUM MOISTURE (%)	MAX. DRY DENSITY (pcf)
5	D698	Lime Treated Brown Clay	25.7	93.6
6	D698	Lime Treated Yellow & Tan Clay	21.0	102.5

IN-PLACE TEST RESULTS

DENSITY AND MOISTURE TESTS ARE PER ASTM D2922, D3017, RESPECTIVELY

TEST NO.	ELEVATION OR LIFT	LOCATION	REF. CURVE	% MOISTURE	DRY DENSITY	% DENSITY
1	Grade	E. bound Arapaho Rd. station 43+20	5	26.4	96.5	103.1
2	Grade	East bound Arapaho Rd. @ W. bound entrance	5	25.8	91.6	97.9
3	Grade	East bound Arapaho Rd. station 44+60	5	26.8	95.7	102.2
4	Grade	East bound Arapaho Rd. station 45+95	5	28.3	92.1	98.4
5	Grade	East bound Arapaho Rd. station 47+30	5	27.5	93.6	100.0

GAUGE I.D.: 10903

STD. DENSITY COUNT: 2353

STD. MOISTURE COUNT: 602

"R" AFTER TEST NUMBER INDICATES RETEST.

* INDICATES FAILURE TO COMPLY WITH PROJECT SPECIFICATIONS

REMARKS:

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Sunny L. Fox, P.E.
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11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800

SOIL MOISTURE - DENSITY TEST REPORT
IN-PLACE TESTS BY NUCLEAR METHODS

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 08/31/98
TMI REPORT NO.: DC98-050-47

DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt Zollars, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde
 E.L. Dalton & Company - Mike Claxton

SPECIFICATIONS

Percent Compaction: 95+
 Moisture Content (%): Opt +

TEST DATA

Date Tested: 08/27/98
 Technician: M. Kasheem

MATERIAL REFERENCE CURVE DATA

CURVE NO.	TEST METHOD	MATERIAL DESCRIPTION	OPTIMUM MOISTURE (%)	MAX. DRY DENSITY (pcf)
6	D698	Lime Treated Yellow & Gray Clay With Limestone Fragments	21.0	102.5

IN-PLACE TEST RESULTS

DENSITY AND MOISTURE TESTS ARE PER ASTM D2922, D3017, RESPECTIVELY

TEST NO.	ELEVATION OR LIFT	LOCATION	REF. CURVE	% MOISTURE	DRY DENSITY	% DENSITY
1	Grade	East bound Arapaho Rd. @ 51+65	6	24.5	101.2	98.7
2	Grade	East bound Arapaho Rd. @ 50+30	6	22.9	101.7	99.2
3	Grade	East bound Arapaho Rd. @ 48+85	6	22.0	106.1	103.5

GAUGE I.D.: 10903 STD. DENSITY COUNT: 2366 STD. MOISTURE COUNT: 612

"R" AFTER TEST NUMBER INDICATES RETEST.

* INDICATES FAILURE TO COMPLY WITH PROJECT SPECIFICATIONS

REMARKS: _____

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Scary L. Fox, PE
 TERRA-MAR, INC.

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 DALLAS FORT WORTH HOUSTON LONGVIEW LUBBOCK AUSTIN

11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800

SOIL MOISTURE - DENSITY TEST REPORT
IN-PLACE TESTS BY NUCLEAR METHODS

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 08/31/98
TMI REPORT NO.: DC98-050-50

DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt Zollars, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde
 E.L. Dalton & Company - Mike Claxton

SPECIFICATIONS

Percent Compaction: 95+
 Moisture Content (%): Opt +

TEST DATA

Date Tested: 08/28/98
 Technician: M. Kasheem

MATERIAL REFERENCE CURVE DATA

CURVE NO.	TEST METHOD	MATERIAL DESCRIPTION	OPTIMUM MOISTURE (%)	MAX. DRY DENSITY (pcf)
5	D698	Lime Treated Brown Clay	25.7	93.6
6	D698	Lime Treated Yellow & Tan Clay	21.0	102.5

IN-PLACE TEST RESULTS

DENSITY AND MOISTURE TESTS ARE PER ASTM D2922, D3017, RESPECTIVELY

TEST NO.	ELEVATION OR LIFT	LOCATION	REF. CURVE	% MOISTURE	DRY DENSITY	% DENSITY
1	Grade	Arapaho Rd. West bound @ 51+75	6	21.9	104.6	102.0
2	Grade	Arapaho Rd. West bound @ 50+40	6	23.7	100.2	97.8
3	Grade	Arapaho Rd. West bound @ 49+00	6	23.8	102.0	99.5
4	Grade	Arapaho Rd. West bound @ 47+65	6	21.5	99.5	97.1
5	Grade	Arapaho Rd. West bound @ 46+25	5	27.3	93.4	99.8
6	Grade	Arapaho Rd. West bound @ 44+60	5	26.3	94.1	100.5

GAUGE I.D.: 10903 STD. DENSITY COUNT: 2368 STD. MOISTURE COUNT: 591

"R" AFTER TEST NUMBER INDICATES RETEST.

* INDICATES FAILURE TO COMPLY WITH PROJECT SPECIFICATIONS

REMARKS: _____

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Gregory L. Fox, P.E.
 TERRA-MAR, INC.

TERRA-MAR, INC.
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 DALLAS FORT WORTH HOUSTON LONGVIEW LUBBOCK AUSTIN

11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800

SOIL MOISTURE - DENSITY TEST REPORT
IN-PLACE TESTS BY NUCLEAR METHODS

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 08/31/98
TMI REPORT NO.: DC98-050-52

DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt Zollars, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde
 E.L. Dalton & Company - Mike Claxton

SPECIFICATIONS

Percent Compaction: 95+
 Moisture Content (%): Opt +

TEST DATA

Date Tested: 08/28/98
 Technician: M. Kasheem

MATERIAL REFERENCE CURVE DATA

CURVE NO.	TEST METHOD	MATERIAL DESCRIPTION	OPTIMUM MOISTURE (%)	MAX. DRY DENSITY (pcf)
6	D698	Tan & Gray Lime Treated Clay	21.0	102.5
5	D698	Lime Treated Brown Clay	25.7	93.6

IN-PLACE TEST RESULTS

DENSITY AND MOISTURE TESTS ARE PER ASTM D2922, D3017, RESPECTIVELY

TEST NO.	ELEVATION OR LIFT	LOCATION	REF. CURVE	% MOISTURE	DRY DENSITY	% DENSITY
1	Grade	Quorum Dr. @ station 5+50	6	22.0	98.5	96.1
2	Grade	Quorum Dr. @ station 3+50	5	27.6	92.4	98.7

GAUGE I.D.: 10903 STD. DENSITY COUNT: 2368 STD. MOISTURE COUNT: 591

"R" AFTER TEST NUMBER INDICATES RETEST.

* INDICATES FAILURE TO COMPLY WITH PROJECT SPECIFICATIONS

REMARKS: _____

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Serry L. Fox, P.E.
 TERRA-MAR, INC.



Report of Moisture-Density Relationship

Client Ed Bell Construction
Project Arapaho Road Improvements

Report Distribution Ed Bell Construction - Doug Teter
Town of Addison - James Pierce, P.E.
Town of Addison - Dave Wilde
Huitt-Zollars, Inc. - Kenneth Roberts, P.E.

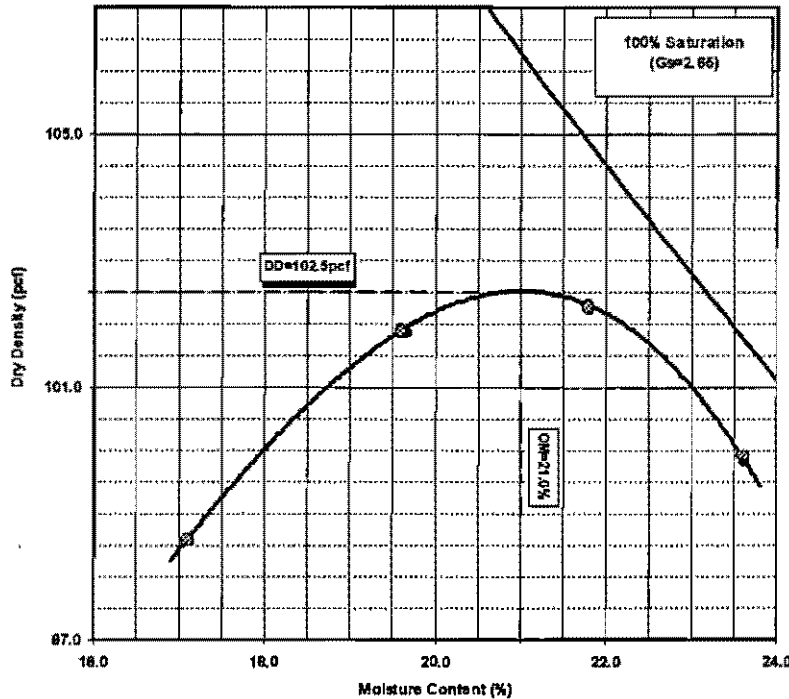
TMI Project No. DC98-050
TMI Report No. DC98-050-45
Report Date 08/25/98

Project Information

Material Origin:
Sample Location: Eastbound Arapaho Rd, station 49+90
Material Description: Lime Treated Yellow and Light Tan Clay w/WLSF & Gravel
Material Use: Roadway

Sampled By: M. Kashem
Sample Date: 08/24/98
Tested By: Jason Allen

Moisture-Density Relationship - Curve No. 6



Material Properties and Test Information - Curve No. 6

Maximum Dry Density:	102.5 pcf	Liquid Limit:	36	Passing No. 200:	20.6 %
Optimum Moisture Percent:	21 %	Plastic Limit:	26	USCS:	
		Plasticity Index:	10		

Test Method(s): ASTM D698-A, D4318-B, D1140

Rammer Description: Mechanical

Preparation Procedure: Moist

Remarks:

TERRA-MAR, INC.

George L. Ford, P.E.

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Report of Moisture-Density Relationship

Client Ed Bell Construction
Project Arapaho Road Improvements

Report Distribution Ed Bell Construction - Doug Teter
Town of Addison - James Pierce, P.E.
Town of Addison - Dave Wilde
Huitt-Zollars, Inc. - Kenneth Roberts, P.E.

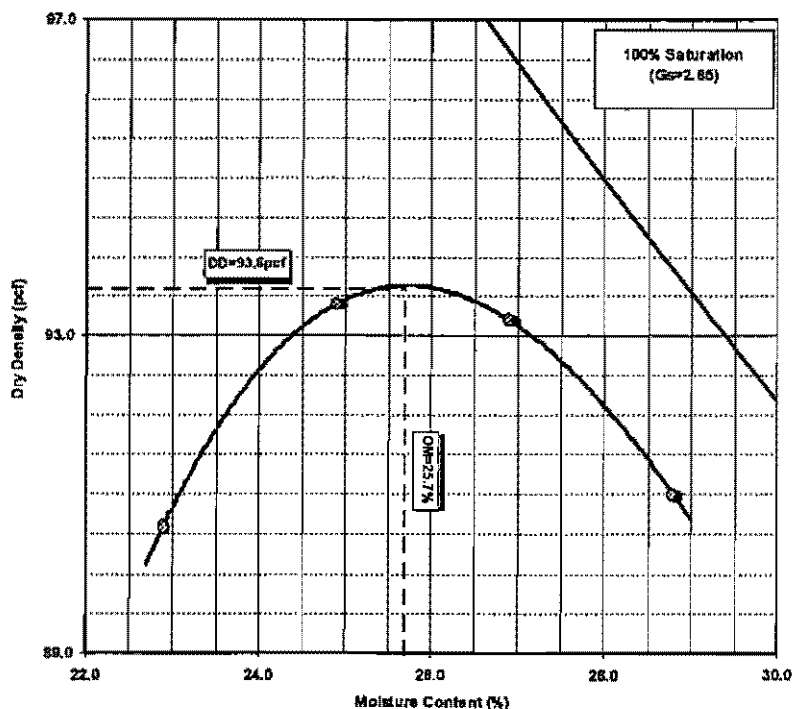
TMI Project No. DC98-050
TMI Report No. DC98-050-44
Report Date 08/25/98

Project Information

Material Origin:
Sample Location: Westbound Arapaho Rd, station 45+00
Material Description: Lime Treated Brown Clay with Gravel
Material Use: Roadway

Sampled By: M. Kashem
Sample Date: 08/24/98
Tested By: Jason Allen

Moisture-Density Relationship - Curve No. 5



Material Properties and Test Information - Curve No. 5

Maximum Dry Density:	93.6 pcf	Liquid Limit:	non-plastic	Passing No. 200:	49.6 %
Optimum Moisture Percent:	25.7 %	Plastic Limit:	non-plastic	USCS:	
		Plasticity Index:	non-plastic		

Test Method(s): ASTM D698-A, D4318-B, D1140
Rammer Description: Mechanical
Preparation Procedure: Moist

Remarks:

TERRA-MAR, INC. *Berry L. Fox, P.E.*

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GEOTECHNICAL ENVIRONMENTAL AND MATERIALS ENGINEERS
 DALLAS FORT WORTH HOUSTON LONGVIEW LUBBOCK AUSTIN
 11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800 Fax: 972-488-8080

CONCRETE INSPECTION AND COMPRESSION TEST REPORT

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 8/28/98
TMI REPORT #: DC98-050-034

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 4000
 Slump (in.): 4
 Air Content (%): na
 Concrete Temp (°F): 95

PROJECT DATA

Placement Date: 7/29/98
 Sampled By: E.M.
 Weather: Sunny & hot
 Supplier/Mix: Lattimore #42

FIELD DATA SET #1

Ticket #: 653515 Time Batched: 01:25 Time Sampled: 2:15
 Slump (in.): 4.00 Air Content: na Unit Weight (pcf): na
 Conc. Temp. (°F): 97 Ambient Temp. (°F): 101 Yardage (c.y.): 8.5
 Placement Location: Retaining wall - Northside, second span
 Remarks: _____

FIELD DATA SET #2

Ticket #: _____ Time Batched: _____ Time Sampled: _____
 Slump (in.): _____ Air Content: _____ Unit Weight (pcf): _____
 Conc. Temp. (°F): _____ Ambient Temp. (°F): _____ Yardage (c.y.): _____
 Placement Location: _____
 Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

CYLINDERS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C39, CAPPED PER ASTM C617

Set #	Cylinder #	Test Date	Age (Days)	Max. Load (lbs)	Area (sq. in.)	Strength (psi)	FC	Notes
1	ARI072901	8/5/98	7	88810	28.27	3140	U	
	ARI072902	8/26/98	28	130120	28.27	4600	U	
	ARI072903	8/26/98	28	129590	28.27	4580	U	
	ARI072904	DISCARD						

- (1) NORMAL CYLINDER SIZE 6" X 12", AREA 28.27 sq. in., UNLESS NOTED ABOVE.
- (2) TYPE "A" CONE FRACTURE UNLESS INDICATED OTHERWISE IN NOTES.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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Sergio L. Fox, P.E.

 TERRA-MAR, Inc.

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 11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800 Fax: 972-488-8080

CONCRETE INSPECTION AND COMPRESSION TEST REPORT

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 8/21/98
TMI REPORT #: DC98-050-27

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 3600
 Slump (in.): na
 Air Content (%): na
 Concrete Temp (°F): na

PROJECT DATA

Placement Date: 7/23/98
 Sampled By: Client
 Weather: na
 Supplier/Mix: na

FIELD DATA SET #1

Ticket #: na Time Batched: na Time Sampled: na
 Slump (in.): na Air Content: na Unit Weight (pcf): na
 Conc. Temp. (°F): na Ambient Temp. (°F): na Yardage (c.y.): na
 Placement Location: Retaining wall @ Northeast corner
 Remarks: _____

FIELD DATA SET #2

Ticket #: _____ Time Batched: _____ Time Sampled: _____
 Slump (in.): _____ Air Content: _____ Unit Weight (pcf): _____
 Conc. Temp. (°F): _____ Ambient Temp. (°F): _____ Yardage (c.y.): _____
 Placement Location: _____
 Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

CYLINDERS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C39, CAPPED PER ASTM C617

Set #	Cylinder #	Test Date	Age (Days)	Max. Load (lbs)	Area (sq. in.)	Strength (psi)	FC	Notes
1	ARI072301	7/30/98	7	97710	28.27	3460	U	
	ARI072302	8/20/98	28	112302	28.27	3970	U	
	ARI072303	8/20/98	28	113600	28.27	4020	U	
	ARI072304	DISCARD						

- (1) NORMAL CYLINDER SIZE 6" X 12", AREA 28.27 sq. in., UNLESS NOTED ABOVE.
- (2) TYPE "A" CONE FRACTURE UNLESS INDICATED OTHERWISE IN NOTES.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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Serry L. Fox, P.E.

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CONCRETE INSPECTION AND COMPRESSION TEST REPORT

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 8/26/98
TMI REPORT #: DC98-050-030

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 4000
 Slump (in.): 4
 Air Content (%): na
 Concrete Temp (°F): 95

PROJECT DATA

Placement Date: 7/27/98
 Sampled By: E.M.
 Weather: Sunny & hot
 Supplier/Mix: na

FIELD DATA SET #1

Ticket #:	<u>653315</u>	Time Batched:	<u>01:38</u>	Time Sampled:	<u>2:35</u>
Slump (in.):	<u>4.00</u>	Air Content:	<u>na</u>	Unit Weight (pcf):	<u>na</u>
Conc. Temp. (°F):	<u>93</u>	Ambient Temp. (°F):	<u>102</u>	Yardage (c.y.):	<u>9</u>
Placement Location:	<u>Retaining wall - 1st span from 90 degree corner</u>				
Remarks:	<u></u>				

FIELD DATA SET #2

Ticket #:	<u></u>	Time Batched:	<u></u>	Time Sampled:	<u></u>
Slump (in.):	<u></u>	Air Content:	<u></u>	Unit Weight (pcf):	<u></u>
Conc. Temp. (°F):	<u></u>	Ambient Temp. (°F):	<u></u>	Yardage (c.y.):	<u></u>
Placement Location:	<u></u>				
Remarks:	<u></u>				

CONCRETE COMPRESSION TEST RESULTS

CYLINDERS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C39, CAPPED PER ASTM C617

Set #	Cylinder #	Test Date	Age (Days)	Max. Load (lbs)	Area (sq. in.)	Strength (psi)	FC	Notes
1	ARI072701	8/3/98	7	99010	28.27	3500	U	
	AR072702	8/24/98	28	130520	28.27	4620	U	
	AR072703	8/24/98	28	127190	28.27	4500	U	
	AR072704	DISCARD						

- (1) NORMAL CYLINDER SIZE 6" X 12", AREA 28.27 sq. in., UNLESS NOTED ABOVE.
- (2) TYPE "A" CONE FRACTURE UNLESS INDICATED OTHERWISE IN NOTES.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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Serry L. Fox, P.E.

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11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800

SOIL MOISTURE - DENSITY TEST REPORT
IN-PLACE TESTS BY NUCLEAR METHODS

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 08/13/98
TMI REPORT NO.: DC98-050-42

DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt Zollars, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde
 E.L. Dalton & Company - Mike Claxton

SPECIFICATIONS

Percent Compaction: 95+
 Moisture Content (%): op++

TEST DATA

Date Tested: 08/11/98
 Technician: M. Kasheem

MATERIAL REFERENCE CURVE DATA

CURVE NO.	TEST METHOD	MATERIAL DESCRIPTION	OPTIMUM MOISTURE (%)	MAX. DRY DENSITY (pcf)
3	D698	Brown & Yellow Brown Sandy Clay	16.9	109.4
4	D698	Dark brown clay with some limestone fragments	25.0	92.9

IN-PLACE TEST RESULTS

DENSITY AND MOISTURE TESTS ARE PER ASTM D2922, D3017, RESPECTIVELY

TEST NO.	ELEVATION OR LIFT	LOCATION	REF. CURVE	% MOISTURE	DRY DENSITY	% DENSITY
1	Grade	36" Storm sewer line C-2, station 14+2	4	26.2	91.3	98.3
2	Grade	39" Storm sewer line C-3, station 13+8	4	29.0	91.9	98.9
3	Grade	18" lateral at C-12	4	27.5	95.3	102.6
4	Grade	18" lateral at C-12	4	26.7	95.5	102.8
5	2' B.G.	Retaining wall at east end	3	18.9	107.3	98.1
6	4' B.G.	Retaining wall at middle	3	18.5	107.6	98.4
7	4' B.G.	Retaining wall at west end	3	17.7	109.5	100.1

GAUGE I.D.: 10903 STD. DENSITY COUNT: 2317 STD. MOISTURE COUNT: 589

"R" AFTER TEST NUMBER INDICATES RETEST.

* INDICATES FAILURE TO COMPLY WITH PROJECT SPECIFICATIONS

REMARKS:

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Henry L. Fox, P.E.
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11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800

SOIL MOISTURE -DENSITY TEST REPORT
IN-PLACE TESTS BY NUCLEAR METHODS

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 08/20/98
TMI REPORT NO.: DC98-050-43

DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt Zollars, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde
 E.L. Dalton & Company - Mike Claxton

SPECIFICATIONS

Percent Compaction: 95+
 Moisture Content (%): Opt +

TEST DATA

Date Tested: 08/19/98
 Technician: M. Kasheem

MATERIAL REFERENCE CURVE DATA

CURVE NO.	TEST METHOD	MATERIAL DESCRIPTION	OPTIMUM MOISTURE (%)	MAX. DRY DENSITY (pcf)
3	D698	Brown & Yellow Brown Sandy Clay	16.9	109.4
4	D698	Dark brown clay with some limestone fragments	25.0	92.9

IN-PLACE TEST RESULTS

DENSITY AND MOISTURE TESTS ARE PER ASTM D2922, D3017, RESPECTIVELY

TEST NO.	ELEVATION OR LIFT	LOCATION	REF. CURVE	% MOISTURE	DRY DENSITY	% DENSITY
1	Grade	18" storm drain, lateral C-23	4	27.0	91.8	98.8
2	Grade	18" storm drain, lateral C-22	4	26.7	90.9	97.8
3	Grade	18" storm drain, lateral C-20	4	26.5	91.6	98.6

GAUGE I.D.: 10903 STD. DENSITY COUNT: 2405 STD. MOISTURE COUNT: 581

"R" AFTER TEST NUMBER INDICATES RETEST.
 * INDICATES FAILURE TO COMPLY WITH PROJECT SPECIFICATIONS
 REMARKS: _____

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Serry L. Fox, P.E.

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 11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800 Fax: 972-488-8080

CONCRETE INSPECTION AND COMPRESSION TEST REPORT

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 08/14/98
TMI REPORT #: DC98-050-025

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

Time left lab: _____ **Arrived at site:** _____ **Left site:** _____ **Arrived at lab:** _____

SPECIFICATIONS

Strength (psi): 3600
 Slump (in.): 5
 Air Content (%): na
 Concrete Temp (°F): 95

PROJECT DATA

Placement Date: 07/16/98
 Sampled By: E.M.
 Weather: Sunny & Hot
 Supplier/Mix: Lattimore 42

FIELD DATA SET #1

Ticket #: 55338 Time Batched: 01:04 Time Sampled: 1:55
 Slump (in.): 3.50 Air Content: na Unit Weight (pcf): na
 Conc. Temp. (°F): 99* Ambient Temp. (°F): 100 Yardage (c.y.): 20 / 40
 Placement Location: Footing for retaining wall
 Remarks: *Temperature exceeds specifications

FIELD DATA SET #2

Ticket #: _____ Time Batched: _____ Time Sampled: _____
 Slump (in.): _____ Air Content: _____ Unit Weight (pcf): _____
 Conc. Temp. (°F): _____ Ambient Temp. (°F): _____ Yardage (c.y.): _____
 Placement Location: _____
 Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

CYLINDERS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C39, CAPPED PER ASTM C617

Set #	Cylinder #	Test Date	Age (Days)	Max. Load (lbs)	Area (sq. in.)	Strength (psi)	FC	Notes
1	ARI071601	07/23/98	7	95340	28.27	3370	U	
	ARI071602	08/13/98	28	111770	28.27	3950	U	
	ARI071603	08/13/98	28	109590	28.27	3880	U	
	ARI071604	DISCARD						

- (1) NORMAL CYLINDER SIZE 6" X 12", AREA 28.27 sq. in., UNLESS NOTED ABOVE.
- (2) TYPE "A" CONE FRACTURE UNLESS INDICATED OTHERWISE IN NOTES.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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Serge L. Foss, P.E.

 TERRA-MAR, Inc.

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 11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800 Fax: 972-488-8080

CONCRETE INSPECTION AND COMPRESSION TEST REPORT

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 8/17/98
TMI REPORT #: DC98-050-39

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 4000
 Slump (in.): 4
 Air Content (%): na
 Concrete Temp (°F): 95

PROJECT DATA

Placement Date: 8/5/98
 Sampled By: E.M.
 Weather: Cloudy & warm
 Supplier/Mix: Lattimore #42

FIELD DATA SET #1

Ticket #:	<u>7056035</u>	Time Batched:	<u>01:34</u>	Time Sampled:	<u>2:25</u>
Slump (in.):	<u>3.50</u>	Air Content:	<u>na</u>	Unit Weight (pcf):	<u>na</u>
Conc. Temp. (°F):	<u>94</u>	Ambient Temp. (°F):	<u>91</u>	Yardage (c.y.):	<u>10</u>
Placement Location:	<u>Retaining wall - East end</u>				
Remarks:	<u></u>				

FIELD DATA SET #2

Ticket #:	<u></u>	Time Batched:	<u></u>	Time Sampled:	<u></u>
Slump (in.):	<u></u>	Air Content:	<u></u>	Unit Weight (pcf):	<u></u>
Conc. Temp. (°F):	<u></u>	Ambient Temp. (°F):	<u></u>	Yardage (c.y.):	<u></u>
Placement Location:	<u></u>				
Remarks:	<u></u>				

CONCRETE COMPRESSION TEST RESULTS

CYLINDERS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C39, CAPPED PER ASTM C617

Set #	Cylinder #	Test Date	Age (Days)	Max. Load (lbs)	Area (sq. in.)	Strength (psi)	FC	Notes
1	ARI080501	8/12/98	7	115150	28.27	4070	U	
	ARI080502	9/2/98	28					
	ARI080503	9/2/98	28					
	ARI080504	HOLD						

- (1) NORMAL CYLINDER SIZE 6" X 12", AREA 28.27 sq. in., UNLESS NOTED ABOVE.
 (2) TYPE "A" CONE FRACTURE UNLESS INDICATED OTHERWISE IN NOTES.
 (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
 (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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Benny L. Fox, P.E.
 TERRA-MAR, Inc.

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GEOTECHNICAL ENVIRONMENTAL AND MATERIALS ENGINEERS
DALLAS FORT WORTH HOUSTON LONGVIEW LUBBOCK AUSTIN

11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800

SOIL MOISTURE - DENSITY TEST REPORT
IN-PLACE TESTS BY NUCLEAR METHODS

CLIENT: E. L. Dalton & Company, Inc.
PROJECT: Arapaho Road Improvements
REPORT DATE: 08/05/98
TMI REPORT NO.: DC98-050-38

DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt Zollars, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde
 E.L. Dalton & Company - Mike Claxton

SPECIFICATIONS

Percent Compaction: 95+
 Moisture Content (%): op++

TEST DATA

Date Tested: 08/04/98
 Technician: M. Kasheem

MATERIAL REFERENCE CURVE DATA

CURVE NO.	TEST METHOD	MATERIAL DESCRIPTION	OPTIMUM MOISTURE (%)	MAX. DRY DENSITY (pcf)
2	D698	Light Gray Clay w/LSF	20.7	102.8

IN-PLACE TEST RESULTS

DENSITY AND MOISTURE TESTS ARE PER ASTM D2922, D3017, RESPECTIVELY

TEST NO.	ELEVATION OR LIFT	LOCATION	REF. CURVE	% MOISTURE	DRY DENSITY	% DENSITY
1	Grade	39" Storm Sewer, Line C-3 at Strn. 13+	2	21.7	99.7	97.0
2	Grade	39" Storm Sewer, Line C-3 at Strn. 12+	2	20.8	100.2	97.5

GAUGE I.D.: 10903 STD. DENSITY COUNT: 2375 STD. MOISTURE COUNT: 583

"R" AFTER TEST NUMBER INDICATES RETEST.
 * INDICATES FAILURE TO COMPLY WITH PROJECT SPECIFICATIONS
 REMARKS: _____

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Kerry L. Fox, P.E.
 TERRA-MAR, INC.

TERRA-MAR, INC.
GEOTECHNICAL ENVIRONMENTAL AND MATERIALS ENGINEERS
 DALLAS FORT WORTH HOUSTON LONGVIEW LUBBOCK AUSTIN

11050 Ables Lane, Dallas, Texas 75229 Phone:972-488-8800

SOIL MOISTURE -DENSITY TEST REPORT
IN-PLACE TESTS BY NUCLEAR METHODS

CLIENT: E. L. Dalton & Company, Inc.
PROJECT: Arapaho Road Improvements
REPORT DATE: 08/03/98
TMI REPORT NO.: DC98-050-35

DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt Zollars, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde
 E.L. Dalton & Company - Mike Claxton

SPECIFICATIONS

Percent Compaction: 95+
 Moisture Content (%): opt ++

TEST DATA

Date Tested: 08/03/98
 Technician: M. Kashem

MATERIAL REFERENCE CURVE DATA

CURVE NO.	TEST METHOD	MATERIAL DESCRIPTION	OPTIMUM MOISTURE (%)	MAX. DRY DENSITY (pcf)
2	D698	Light Gray Calcareous Clay w/LSF	20.7	102.8
4	D698	Dark Brown and Light Brown Clay w/LSF	25.0	92.6

IN-PLACE TEST RESULTS

DENSITY AND MOISTURE TESTS ARE PER ASTM D2922, D3017, RESPECTIVELY

TEST NO.	ELEVATION OR LIFT	LOCATION	REF. CURVE	% MOISTURE	DRY DENSITY	% DENSITY
1	Grade	39" Storm Sewer Line C-2 and C-3 at Station 12 + 05	2	21.0	100.9	98.2
2	Grade	39" Storm Sewer Line C-2 and C-3 at Station 12 + 90	4	25.6	90.6	97.8
3	Grade	39" Storm Sewer Line C-3 at Station 12 + 98	4	25.8	90.1	97.3

GAUGE I.D.: 10903 STD. DENSITY COUNT: 2374 STD. MOISTURE COUNT: 589

"R" AFTER TEST NUMBER INDICATES RETEST.

* INDICATES FAILURE TO COMPLY WITH PROJECT SPECIFICATIONS

REMARKS:

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Sunny L. Jones
 TERRA-MAR, INC.

TERRA-MAR, INC.
GEOTECHNICAL ENVIRONMENTAL AND MATERIALS ENGINEERS
 DALLAS FORT WORTH HOUSTON LONGVIEW LUBBOCK AUSTIN
 11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800 Fax: 972-488-8080

CONCRETE INSPECTION AND COMPRESSION TEST REPORT

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 8/5/98
TMI REPORT #: DC98-050-034

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 4000
 Slump (in.): 4
 Air Content (%): na
 Concrete Temp (°F): 95

PROJECT DATA

Placement Date: 7/29/98
 Sampled By: E.M.
 Weather: Sunny & hot
 Supplier/Mix: Lattimore #42

FIELD DATA SET #1

Ticket #: 653515 Time Batched: 01:25 Time Sampled: 2:15
 Slump (in.): 4.00 Air Content: na Unit Weight (pcf): na
 Conc. Temp. (°F): 97 Ambient Temp. (°F): 101 Yardage (c.y.): 8.5
 Placement Location: Retaining wall - Northside, second span
 Remarks: _____

FIELD DATA SET #2

Ticket #: _____ Time Batched: _____ Time Sampled: _____
 Slump (in.): _____ Air Content: _____ Unit Weight (pcf): _____
 Conc. Temp. (°F): _____ Ambient Temp. (°F): _____ Yardage (c.y.): _____
 Placement Location: _____
 Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

CYLINDERS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C39, CAPPED PER ASTM C617

Set #	Cylinder #	Test Date	Age (Days)	Max. Load (lbs)	Area (sq. in.)	Strength (psi)	FC	Notes
1	ARI072901	8/5/98	7	88810	28.27	3140	U	
	ARI072902	8/26/98	28					
	ARI072903	8/26/98	28					
	ARI072904	HOLD						

- (1) NORMAL CYLINDER SIZE 6" X 12", AREA 28.27 sq. in., UNLESS NOTED ABOVE.
 (2) TYPE "A" CONE FRACTURE UNLESS INDICATED OTHERWISE IN NOTES.
 (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
 (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

Note: This report is for the exclusive use of the Client addressed. This report may not be reproduced except in its entirety, without the written consent of TMI. Results apply only to above tests.

Sunny L. Fox, P.E.
 TERRA-MAR, Inc.

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GEOTECHNICAL ENVIRONMENTAL AND MATERIALS ENGINEERS
 DALLAS FORT WORTH HOUSTON LONGVIEW LUBBOCK AUSTIN

11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800

SOIL MOISTURE -DENSITY TEST REPORT
IN-PLACE TESTS BY NUCLEAR METHODS

CLIENT: E. L. Dalton & Company, Inc.
PROJECT: Arapaho Road Improvements
REPORT DATE: 8/12/98
TMI REPORT NO.: DC98-050-41

DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt Zollars, Inc. - Kenneth Roberts, P.E.
 ✓ Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde
 E.L. Dalton & Company - Mike Claxton

SPECIFICATIONS

Percent Compaction: 95+
 Moisture Content (%): op++

TEST DATA

Date Tested: 8/11/98
 Technician: M. Kasheem

MATERIAL REFERENCE CURVE DATA

CURVE NO.	TEST METHOD	MATERIAL DESCRIPTION	OPTIMUM MOISTURE (%)	MAX. DRY DENSITY (pcf)
2	D698	Light gray calcareous clay with limestone fragments	20.7	102.8
4	D698	Dark brown clay with some limestone fragments	25.0	92.6

IN-PLACE TEST RESULTS

DENSITY AND MOISTURE TESTS ARE PER ASTM D2922, D3017, RESPECTIVELY

TEST NO.	ELEVATION OR LIFT	LOCATION	REF. CURVE	% MOISTURE	DRY DENSITY	% DENSITY
1	1st lift	36" Storm sewer line C-2, station 13+9	2	22.4	100.0	97.3
2	Grade	24" Storm sewer line C-1, station 1+76	2	21.2	100.1	97.4
3	Grade	18" Storm sewer lateral B-18, station 3 (15' Right)	4	25.3	91.6	98.9

GAUGE I.D.: 10903 STD. DENSITY COUNT: 2408 STD. MOISTURE COUNT: 600

"R" AFTER TEST NUMBER INDICATES RETEST.

* INDICATES FAILURE TO COMPLY WITH PROJECT SPECIFICATIONS

REMARKS:

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Henry L. Fox, P.E.
 TERRA-MAR, INC.

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GEOTECHNICAL ENVIRONMENTAL AND MATERIALS ENGINEERS
 DALLAS FORT WORTH HOUSTON LONGVIEW LUBBOCK AUSTIN

11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800

SOIL MOISTURE - DENSITY TEST REPORT
IN-PLACE TESTS BY NUCLEAR METHODS

CLIENT: E. L. Dalton & Company, Inc.
PROJECT: Arapaho Road Improvements
REPORT DATE: 8/12/98
TMI REPORT NO.: DC98-050-40

DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt Zollars, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde
 E.L. Dalton & Company - Mike Claxton

SPECIFICATIONS

Percent Compaction: 95+
 Moisture Content (%): op++

TEST DATA

Date Tested: 8/6/98
 Technician: M. Kasheem

MATERIAL REFERENCE CURVE DATA

CURVE NO.	TEST METHOD	MATERIAL DESCRIPTION	OPTIMUM MOISTURE (%)	MAX. DRY DENSITY (pcf)
2	D698	Light gray calcareous clay with limestone fragments	20.7	102.8
4	D698	Dark brown clay with some limestone fragments	25.0	92.6

IN-PLACE TEST RESULTS

DENSITY AND MOISTURE TESTS ARE PER ASTM D2922, D3017, RESPECTIVELY

TEST NO.	ELEVATION OR LIFT	LOCATION	REF. CURVE	% MOISTURE	DRY DENSITY	% DENSITY
1	1st lift	24" Storm sewer line C-1, station 0+40	2	21.9	99.6	96.9
2	Grade	24" Storm sewer line C-1, station 0+38	2	20.9	98.5	95.8
3	1st lift	24" Storm sewer line C-1, station 1+37	2	22.0	102.0	99.2
4	Grade	24" Storm sewer line C-1, station 1+40	2	21.2	102.8	100.0
5	1st lift	18" Lateral C-15, @ station 0+52	4	27.0	96.8	104.5
6	Grade	18" Lateral C-15, @ station 0+55	4	26.5	96.5	104.2

GAUGE I.D.: 10903 STD. DENSITY COUNT: 2360 STD. MOISTURE COUNT: 605

"R" AFTER TEST NUMBER INDICATES RETEST.

* INDICATES FAILURE TO COMPLY WITH PROJECT SPECIFICATIONS

REMARKS:

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Gerry L. Fox, P.E.
 TERRA-MAR, INC.

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DALLAS FORT WORTH HOUSTON LONGVIEW LUBBOCK AUSTIN
 11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800 Fax: 972-488-8080

CONCRETE INSPECTION AND COMPRESSION TEST REPORT

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 8/14/98
TMI REPORT #: DC98-050-36

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 4000
 Slump (in.): 4
 Air Content (%): na
 Concrete Temp (°F): 95

PROJECT DATA

Placement Date: 8/3/98
 Sampled By: E.M.
 Weather: Hot
 Supplier/Mix: Lattimore #42

FIELD DATA SET #1

Ticket #: 53591 Time Batched: 02:00 Time Sampled: 3:10
 Slump (in.): 3.00 Air Content: na Unit Weight (pcf): na
 Conc. Temp. (°F): 98 Ambient Temp. (°F): 102 Yardage (c.y.): 10
 Placement Location: Retaining wall - Northside
 Remarks: _____

FIELD DATA SET #2

Ticket #: _____ Time Batched: _____ Time Sampled: _____
 Slump (in.): _____ Air Content: _____ Unit Weight (pcf): _____
 Conc. Temp. (°F): _____ Ambient Temp. (°F): _____ Yardage (c.y.): _____
 Placement Location: _____
 Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

CYLINDERS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C39, CAPPED PER ASTM C617

Set #	Cylinder #	Test Date	Age (Days)	Max. Load (lbs)	Area (sq. in.)	Strength (psi)	FC	Notes
1	ARI080301	8/10/98	7	89110	28.27	3150	U	
	ARI080302	8/31/98	28					
	ARI080303	8/31/98	28					
	ARI080304	HOLD						

- (1) NORMAL CYLINDER SIZE 6" X 12", AREA 28.27 sq. in., UNLESS NOTED ABOVE.
- (2) TYPE "A" CONE FRACTURE UNLESS INDICATED OTHERWISE IN NOTES.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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Serry L. Fox, P.E.
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 DALLAS FORT WORTH HOUSTON LONGVIEW LUBBOCK AUSTIN

11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800

SOIL MOISTURE - DENSITY TEST REPORT
IN-PLACE TESTS BY NUCLEAR METHODS

CLIENT: E. L. Dalton & Company, Inc.
PROJECT: Arapaho Road Improvements
REPORT DATE: 08/03/98
TMI REPORT NO.: DC98-050-32

DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt Zollars, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde
 E.L. Dalton & Company - Mike Claxton

SPECIFICATIONS

Percent Compaction: 95+
 Moisture Content (%): opt +

TEST DATA

Date Tested: 07/28/98
 Technician: M. Kashem

MATERIAL REFERENCE CURVE DATA

CURVE NO.	TEST METHOD	MATERIAL DESCRIPTION	OPTIMUM MOISTURE (%)	MAX. DRY DENSITY (pcf)
1	ASTM698	Dark Gray & Gray Clay with Gravel	16.3	106.2

IN-PLACE TEST RESULTS

DENSITY AND MOISTURE TESTS ARE PER ASTM D2922, D3017, RESPECTIVELY

TEST NO.	ELEVATION OR LIFT	LOCATION	REF. CURVE	% MOISTURE	DRY DENSITY	% DENSITY
1	1' B.G.	Embankment on roadway, station 55+00	1	16.7	104.3	98.2

GAUGE I.D.: 5429 STD. DENSITY COUNT: 2673 STD. MOISTURE COUNT: 730

"R" AFTER TEST NUMBER INDICATES RETEST.

* INDICATES FAILURE TO COMPLY WITH PROJECT SPECIFICATIONS

REMARKS: _____

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Curry L. Fox
 TERRA-MAR, INC.

TERRA-MAR, INC.
GEOTECHNICAL ENVIRONMENTAL AND MATERIALS ENGINEERS
 DALLAS FORT WORTH HOUSTON LONGVIEW LUBBOCK AUSTIN

11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800

SOIL MOISTURE -DENSITY TEST REPORT
IN-PLACE TESTS BY NUCLEAR METHODS

CLIENT: E. L. Dalton & Company, Inc.
PROJECT: Arapaho Road Improvements
REPORT DATE: 08/03/98
TMI REPORT NO.: DC98-050-33

DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt Zollars, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde
 E.L. Dalton & Company - Mike Claxton

SPECIFICATIONS

Percent Compaction: 95+
 Moisture Content (%): opt +

TEST DATA

Date Tested: 07/29/98
 Technician: M. Kashem

MATERIAL REFERENCE CURVE DATA

CURVE NO.	TEST METHOD	MATERIAL DESCRIPTION	OPTIMUM MOISTURE (%)	MAX. DRY DENSITY (pcf)
2	ASTM698	Lime Treated Gray Calcareous Clay w/LSF	20.7	102.8

IN-PLACE TEST RESULTS

DENSITY AND MOISTURE TESTS ARE PER ASTM D2922, D3017, RESPECTIVELY

TEST NO.	ELEVATION OR LIFT	LOCATION	REF. CURVE	% MOISTURE	DRY DENSITY	% DENSITY
1	Grade	24" storm sewer later 21, station 0+18	2	21.2	100.6	97.9
2	Grade	24" storm sewer later 22, station 0+08	2	22.4	100.1	97.4

GAUGE I.D.: 10903 STD. DENSITY COUNT: 2341 STD. MOISTURE COUNT: 600

"R" AFTER TEST NUMBER INDICATES RETEST.
 * INDICATES FAILURE TO COMPLY WITH PROJECT SPECIFICATIONS
 REMARKS: _____

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Benny L. Fox P.E.
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TERRA-MAR, INC.
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DALLAS FORT WORTH HOUSTON LONGVIEW LUBBOCK AUSTIN

11050 Ables Lane, Dallas, Texas 75229 Phone:972-488-8800

SOIL MOISTURE -DENSITY TEST REPORT
IN-PLACE TESTS BY NUCLEAR METHODS

CLIENT: E. L. Dalton & Company, Inc.
PROJECT: Arapaho Road Improvements
REPORT DATE: 08/03/98
TMI REPORT NO.: DC98-050-31

DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt Zollars, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde
 E.L. Dalton & Company - Mike Claxton

SPECIFICATIONS

Percent Compaction: 95+
Moisture Content (%): opt +

TEST DATA

Date Tested: 07/28/98
Technician: M. Kashem

MATERIAL REFERENCE CURVE DATA

CURVE NO.	TEST METHOD	MATERIAL DESCRIPTION	OPTIMUM MOISTURE (%)	MAX. DRY DENSITY (pcf)
2	ASTM698	Lime Treated Gray Calcareous Clay w/LSF	20.7	102.8

IN-PLACE TEST RESULTS

DENSITY AND MOISTURE TESTS ARE PER ASTM D2922, D3017, RESPECTIVELY

TEST NO.	ELEVATION OR LIFT	LOCATION	REF. CURVE	% MOISTURE	DRY DENSITY	% DENSITY
1	Grade	42" Storm sew lateral B-21 @ 0+40	2	21.5	100.5	97.8
2	Grade	24" Storm sewer lateral B-20 @ 0+10	2	21.0	101.5	98.7

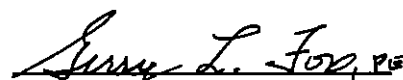
GAUGE I.D.: 10903 STD. DENSITY COUNT: 2404 STD. MOISTURE COUNT: 602

"R" AFTER TEST NUMBER INDICATES RETEST.

* INDICATES FAILURE TO COMPLY WITH PROJECT SPECIFICATIONS

REMARKS: _____

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 11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800 Fax: 972-488-8080

CONCRETE INSPECTION AND COMPRESSION TEST REPORT

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 8/3/98
TMI REPORT #: DC98-050-027

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

Time left lab: _____ **Arrived at site:** _____ **Left site:** _____ **Arrived at lab:** _____

SPECIFICATIONS

Strength (psi): 3600
 Slump (in.): na
 Air Content (%): na
 Concrete Temp (°F): na

PROJECT DATA

Placement Date: 7/23/98
 Sampled By: Client
 Weather: na
 Supplier/Mix: na

FIELD DATA SET #1

Ticket #: na Time Batched: na Time Sampled: na
 Slump (in.): na Air Content: na Unit Weight (pcf): na
 Conc. Temp. (°F): na Ambient Temp. (°F): na Yardage (c.y.): na
 Placement Location: Retaining wall @ Northeast corner
 Remarks: _____

FIELD DATA SET #2

Ticket #: _____ Time Batched: _____ Time Sampled: _____
 Slump (in.): _____ Air Content: _____ Unit Weight (pcf): _____
 Conc. Temp. (°F): _____ Ambient Temp. (°F): _____ Yardage (c.y.): _____
 Placement Location: _____
 Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

CYLINDERS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C39, CAPPED PER ASTM C617

Set #	Cylinder #	Test Date	Age (Days)	Max. Load (lbs)	Area (sq. in.)	Strength (psi)	FC	Notes
1	ARI072301	7/30/98	7	97710	28.27	3460	U	
	ARI072302	8/20/98	28					
	ARI072303	8/20/98	28					
	ARI072304	HOLD						

- (1) NORMAL CYLINDER SIZE 6" X 12", AREA 28.27 sq. in., UNLESS NOTED ABOVE.
- (2) TYPE "A" CONE FRACTURE UNLESS INDICATED OTHERWISE IN NOTES.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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George L. Joo, P.E.

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 11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800 Fax: 972-488-8080

CONCRETE INSPECTION AND COMPRESSION TEST REPORT

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 8/4/98
TMI REPORT #: DC98-050-030

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Strength (psi): 4000
 Slump (in.): 4
 Air Content (%): na
 Concrete Temp (°F): 95

PROJECT DATA

Placement Date: 7/27/98
 Sampled By: E.M.
 Weather: Sunny & hot
 Supplier/Mix: na

FIELD DATA SET #1

Ticket #: 653315 Time Batched: 01:38 Time Sampled: 2:35
 Slump (in.): 4.00 Air Content: na Unit Weight (pcf): na
 Conc. Temp. (°F): 93 Ambient Temp. (°F): 102 Yardage (c.y.): 9
 Placement Location: Retaining wall - 1st span from 90 degree corner
 Remarks: _____

FIELD DATA SET #2

Ticket #: _____ Time Batched: _____ Time Sampled: _____
 Slump (in.): _____ Air Content: _____ Unit Weight (pcf): _____
 Conc. Temp. (°F): _____ Ambient Temp. (°F): _____ Yardage (c.y.): _____
 Placement Location: _____
 Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

CYLINDERS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C39, CAPPED PER ASTM C617

Set #	Cylinder #	Test Date	Age (Days)	Max. Load (lbs)	Area (sq. in.)	Strength (psi)	FC	Notes
1	ARI072701	8/3/98	7	99010	28.27	3500	U	
	AR072702	8/24/98	28					
	AR072703	8/24/98	28					
	AR072704	HOLD						

- (1) NORMAL CYLINDER SIZE 6" X 12", AREA 28.27 sq. in., UNLESS NOTED ABOVE.
- (2) TYPE "A" CONE FRACTURE UNLESS INDICATED OTHERWISE IN NOTES.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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Berry L. Fox P.E.
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CONCRETE INSPECTION AND COMPRESSION TEST REPORT

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 07/27/98
TMI REPORT #: DC98-050-025

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

Time left lab: _____ **Arrived at site:** _____ **Left site:** _____ **Arrived at lab:** _____

SPECIFICATIONS

Strength (psi): 4000
 Slump (in.): 5
 Air Content (%): na
 Concrete Temp (°F): 95

PROJECT DATA

Placement Date: 07/16/98
 Sampled By: E.M.
 Weather: Sunny & Hot
 Supplier/Mix: Lattimore 42

FIELD DATA SET #1

Ticket #: 55338 Time Batched: 01:04 Time Sampled: 1:55
 Slump (in.): 3.50 Air Content: na Unit Weight (pcf): na
 Conc. Temp. (°F): 99* Ambient Temp. (°F): 100 Yardage (c.y.): 20 / 40
 Placement Location: Footing for retaining wall
 Remarks: *Temperature exceeds specifications

FIELD DATA SET #2

Ticket #: _____ Time Batched: _____ Time Sampled: _____
 Slump (in.): _____ Air Content: _____ Unit Weight (pcf): _____
 Conc. Temp. (°F): _____ Ambient Temp. (°F): _____ Yardage (c.y.): _____
 Placement Location: _____
 Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

CYLINDERS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C39, CAPPED PER ASTM C617

Set #	Cylinder #	Test Date	Age (Days)	Max. Load (lbs)	Area (sq. in.)	Strength (psi)	FC	Notes
I	ARI071601	07/23/98	7	95340	28.27	3370	U	Concrete was 45 minutes late.
	ARI071602	08/13/98	28					
	ARI071603	08/13/98	28					
	ARI071604	HOLD						

- (1) NORMAL CYLINDER SIZE 6" X 12", AREA 28.27 sq. in., UNLESS NOTED ABOVE.
- (2) TYPE "A" CONE FRACTURE UNLESS INDICATED OTHERWISE IN NOTES.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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Berry L. Ford, P.E.

 TERRA-MAR, Inc.

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GEOTECHNICAL ENVIRONMENTAL AND MATERIALS ENGINEERS
 DALLAS FORT WORTH HOUSTON LONGVIEW LUBBOCK AUSTIN

11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800

SOIL MOISTURE -DENSITY TEST REPORT
IN-PLACE TESTS BY NUCLEAR METHODS

CLIENT: E. L. Dalton & Company, Inc.
PROJECT: Arapaho Road Improvements
REPORT DATE: 07/28/98
TMI REPORT NO.: DC98-050-29

DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt Zollars, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde
 E.L. Dalton & Company - Mike Claxton

SPECIFICATIONS

Percent Compaction: 95+
 Moisture Content (%): opt +

TEST DATA

Date Tested: 07/26/98
 Technician: M. Kashem

MATERIAL REFERENCE CURVE DATA

CURVE NO.	TEST METHOD	MATERIAL DESCRIPTION	OPTIMUM MOISTURE (%)	MAX. DRY DENSITY (pcf)
1	ASTM698	Dark gray / gray clay with limestone treated gravel	16.3	106.2
3	ASTM698	Brown & yellow sandy clay	16.9	109.4

IN-PLACE TEST RESULTS

DENSITY AND MOISTURE TESTS ARE PER ASTM D2922, D3017, RESPECTIVELY

TEST NO.	ELEVATION OR LIFT	LOCATION	REF. CURVE	% MOISTURE	DRY DENSITY	% DENSITY
1	grade	42" Storm sewer lateral B-21 @ 0+40	1	19.0	106.8	100.6
2	grade	18" Storm sewer lateral B-17 @ station 0+00	1	19.1	105.4	99.2
3	grade	18" Storm sewer lateral B-17 @ station 0+30	1	17.2	102.9	96.9
4	grade	24" Storm sewer lateral B-23 @ station 0+00	3	17.9	107.7	98.4
5	grade	24" Storm sewer lateral B-23 @ station 0+40	3	18.1	106.1	97.0

GAUGE I.D.: 10903 STD. DENSITY COUNT: 2428 STD. MOISTURE COUNT: 604

"R" AFTER TEST NUMBER INDICATES RETEST.

* INDICATES FAILURE TO COMPLY WITH PROJECT SPECIFICATIONS

REMARKS: _____

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Surry L. Ford, P.E.
 TERRA-MAR, INC.

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GEOTECHNICAL ENVIRONMENTAL AND MATERIALS ENGINEERS
 DALLAS FORT WORTH HOUSTON LONGVIEW LUBBOCK AUSTIN

11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800

SOIL MOISTURE - DENSITY TEST REPORT
IN-PLACE TESTS BY NUCLEAR METHODS

CLIENT: E. L. Dalton & Company, Inc.
PROJECT: Arapaho Road Improvements
REPORT DATE: 7/28/98
TMI REPORT NO.: DC98-050-028

DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt Zollars, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde
 E.L. Dalton & Company - Mike Claxton

SPECIFICATIONS

Percent Compaction: 95+
 Moisture Content (%): opt +

TEST DATA

Date Tested: 7/25/98
 Technician: M. Kashem

MATERIAL REFERENCE CURVE DATA

CURVE NO.	TEST METHOD	MATERIAL DESCRIPTION	OPTIMUM MOISTURE (%)	MAX. DRY DENSITY (pcf)
3	ASTM698	Brown & yellow sandy clay	16.9	109.4

IN-PLACE TEST RESULTS

DENSITY AND MOISTURE TESTS ARE PER ASTM D2922, D3017, RESPECTIVELY

TEST NO.	ELEVATION OR LIFT	LOCATION	REF. CURVE	% MOISTURE	DRY DENSITY	% DENSITY
1	grade	42" Storm sewer lateral B-21 @ station 0+00 @ existing 66' tie-in.	3	18.8	107.0	97.8

GAUGE I.D.: 10903 STD. DENSITY COUNT: 2387 STD. MOISTURE COUNT: 590

"R" AFTER TEST NUMBER INDICATES RETEST.

* INDICATES FAILURE TO COMPLY WITH PROJECT SPECIFICATIONS

REMARKS: _____

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Henry L. Fox, P.E.
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 DALLAS FORT WORTH HOUSTON LONGVIEW LUBBOCK AUSTIN

11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800

SOIL MOISTURE -DENSITY TEST REPORT
IN-PLACE TESTS BY NUCLEAR METHODS

CLIENT: E. L. Dalton & Company, Inc.
PROJECT: Arapaho Road Improvements
REPORT DATE: 7/24/98
TMI REPORT NO.: DC98-050-026

DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt Zollars, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde
 E.L. Dalton & Company - Mike Claxton

SPECIFICATIONS

Percent Compaction: 95+
 Moisture Content (%): opt +

TEST DATA

Date Tested: 7/23/98
 Technician: M. Kashem

MATERIAL REFERENCE CURVE DATA

CURVE NO.	TEST METHOD	MATERIAL DESCRIPTION	OPTIMUM MOISTURE (%)	MAX. DRY DENSITY (pcf)
2	ASTM D698	Light gray & gray gravel	20.7	102.8

IN-PLACE TEST RESULTS

DENSITY AND MOISTURE TESTS ARE PER ASTM D2922, D3017, RESPECTIVELY

TEST NO.	ELEVATION OR LIFT	LOCATION	REF. CURVE	% MOISTURE	DRY DENSITY	% DENSITY
1	1' BFG	Arapaho Road Extension @ 41+50	2	20.8	99.4	96.7

GAUGE I.D.: 10903 STD. DENSITY COUNT: 2356 STD. MOISTURE COUNT: 607

"R" AFTER TEST NUMBER INDICATES RETEST.
 * INDICATES FAILURE TO COMPLY WITH PROJECT SPECIFICATIONS
 REMARKS: _____

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Larry L. Jones, P.E.
 TERRA-MAR, INC.

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11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800

SOIL MOISTURE - DENSITY TEST REPORT
IN-PLACE TESTS BY NUCLEAR METHODS

CLIENT: E. L. Dalton & Company, Inc.
PROJECT: Arapaho Road Improvements
REPORT DATE: 07/13/98
TMI REPORT NO.: DC98-050-21

DISTRIBUTION:
Ed Bell Construction - Doug Teter
Huitt Zollars, Inc. - Kenneth Roberts, P.E.
Town of Addison - James Pierce, P.E.
Town of Addison - Dave Wilde
E.L. Dalton & Company - Mike Claxton

SPECIFICATIONS

Percent Compaction: 95+
Moisture Content (%): Opt to +4

TEST DATA

Date Tested: 07/07/98
Technician: M. Kashem

MATERIAL REFERENCE CURVE DATA

CURVE NO.	TEST METHOD	MATERIAL DESCRIPTION	OPTIMUM MOISTURE (%)	MAX. DRY DENSITY (pcf)
2	ASTM D698	Light Gray Calcareous Clay w/Yel & Blue WLS	20.7	102.8
3	ASTM D698	Brown & Yellow Brown Sandy Clay	16.9	109.4
1	ASTM D698	Gray Clay with Gravel	16.3	106.2

IN-PLACE TEST RESULTS

DENSITY AND MOISTURE TESTS ARE PER ASTM D2922, D3017, RESPECTIVELY

TEST NO.	ELEVATION OR LIFT	LOCATION	REF. CURVE	% MOISTURE	DRY DENSITY	% DENSITY
1	Grade	24" storm sewer line A-2 and A-1 at station 21+56	1	18.7	103.2	97.2

GAUGE I.D.: 10903

STD. DENSITY COUNT: 2407

STD. MOISTURE COUNT: 571

"R" AFTER TEST NUMBER INDICATES RETEST.

* INDICATES FAILURE TO COMPLY WITH PROJECT SPECIFICATIONS

REMARKS: _____

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Berry L. Ford, P.E.
TERRA-MAR, INC.

TERRA-MAR, INC.

GEOTECHNICAL ENVIRONMENTAL AND MATERIALS ENGINEERS

DALLAS FORT WORTH HOUSTON LONGVIEW LUBBOCK AUSTIN

11050 Ables Lane, Dallas, Texas 75229 Phone:972-488-8800

**SOIL MOISTURE -DENSITY TEST REPORT
IN-PLACE TESTS BY NUCLEAR METHODS**

CLIENT: E. L. Dalton & Company, Inc.
PROJECT: Arapaho Road Improvements
REPORT DATE: 07/13/98
TMI REPORT NO.: DC98-050-22

DISTRIBUTION:
Ed Bell Construction - Doug Teter
Huitt Zollars, Inc. - Kenneth Roberts, P.E.
Town of Addison - James Pierce, P.E.
Town of Addison - Dave Wilde
E.L. Dalton & Company - Mike Claxton

SPECIFICATIONS

Percent Compaction: 95+
Moisture Content (%): Opt to +4

TEST DATA

Date Tested: 07/08/98
Technician: M. Kashem

MATERIAL REFERENCE CURVE DATA

CURVE NO.	TEST METHOD	MATERIAL DESCRIPTION	OPTIMUM MOISTURE (%)	MAX. DRY DENSITY (pcf)
2	ASTM D698	Light Gray Calcareous Clay w/Yel & Blue WLS	20.7	102.8
3	ASTM D698	Brown & Yellow Brown Sandy Clay	16.9	109.4
1	ASTM D698	Gray Clay with Gravel	16.3	106.2

IN-PLACE TEST RESULTS

DENSITY AND MOISTURE TESTS ARE PER ASTM D2922, D3017, RESPECTIVELY

TEST NO.	ELEVATION OR LIFT	LOCATION	REF. CURVE	% MOISTURE	DRY DENSITY	% DENSITY
1	Grade	24" storm sewer line A-2, station 22+50	1	19.6	103.4	97.4

Gauge I.D.: 10903

STD. DENSITY COUNT: 2359

STD. MOISTURE COUNT: 584

"R" AFTER TEST NUMBER INDICATES RETEST.

* INDICATES FAILURE TO COMPLY WITH PROJECT SPECIFICATIONS

REMARKS: _____

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11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800

SOIL MOISTURE -DENSITY TEST REPORT
IN-PLACE TESTS BY NUCLEAR METHODS

CLIENT: E. L. Dalton & Company, Inc.
PROJECT: Arapaho Road Improvements
REPORT DATE: 07/13/98
TMI REPORT NO.: DC98-050-20

DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt Zollars, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde
 E.L. Dalton & Company - Mike Claxton

SPECIFICATIONS

Percent Compaction: 95+
 Moisture Content (%): Opt to +4

TEST DATA

Date Tested: 07/02/98
 Technician: M. Kashem

MATERIAL REFERENCE CURVE DATA

CURVE NO.	TEST METHOD	MATERIAL DESCRIPTION	OPTIMUM MOISTURE (%)	MAX. DRY DENSITY (pcf)
2	ASTM D698	Light Gray Calcareous Clay w/Yel & Blue WLS	20.7	102.8
3	ASTM D698	Brown & Yellow Brown Sandy Clay	16.9	109.4
1	ASTM D698	Gray Clay with Gravel	16.3	106.2

IN-PLACE TEST RESULTS

DENSITY AND MOISTURE TESTS ARE PER ASTM D2922, D3017, RESPECTIVELY

TEST NO.	ELEVATION OR LIFT	LOCATION	REF. CURVE	% MOISTURE	DRY DENSITY	% DENSITY
1	Grade	24" storm sewer line A-2 and A-1 at station 21+35	1	17.8	106.0	99.8
2	Grade	24" storm sewer line A-2 and A-1 at station 21+11	1	19.2	105.2	99.1

GAUGE I.D.: 10903 STD. DENSITY COUNT: 2434 STD. MOISTURE COUNT: 607

"R" AFTER TEST NUMBER INDICATES RETEST.

* INDICATES FAILURE TO COMPLY WITH PROJECT SPECIFICATIONS

REMARKS: _____

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Serry L. Fox, P.E.
 TERRA-MAR, INC.

TERRA-MAR, INC.

GEOTECHNICAL ENVIRONMENTAL AND MATERIALS ENGINEERS

DALLAS FORT WORTH HOUSTON LONGVIEW LUBBOCK AUSTIN

11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800

**SOIL MOISTURE -DENSITY TEST REPORT
IN-PLACE TESTS BY NUCLEAR METHODS**

CLIENT: E. L. Dalton & Company, Inc.
PROJECT: Arapaho Road Improvements
REPORT DATE: 06/24/98
TMI REPORT NO.: DC98-050-18

DISTRIBUTION:
Ed Bell Construction - Doug Teter
Huitt Zollars, Inc. - Kenneth Roberts, P.E.
Town of Addison - James Pierce, P.E.
Town of Addison - Dave Wilde
E.L. Dalton & Company - Mike Claxton

SPECIFICATIONS

Percent Compaction: 95+
Moisture Content (%): Opt to +4

TEST DATA

Date Tested: 06/19/98
Technician: M. Kashem

MATERIAL REFERENCE CURVE DATA

CURVE NO.	TEST METHOD	MATERIAL DESCRIPTION	OPTIMUM MOISTURE (%)	MAX. DRY DENSITY (pcf)
2	ASTM D698	Light Gray Calcareous Clay w/Yel & Blue WLS	20.7	102.8
3	ASTM D698	Brown & Yellow Brown Sandy Clay	16.9	109.4

IN-PLACE TEST RESULTS

DENSITY AND MOISTURE TESTS ARE PER ASTM D2922, D3017, RESPECTIVELY

TEST NO.	ELEVATION OR LIFT	LOCATION	REF. CURVE	% MOISTURE	DRY DENSITY	% DENSITY
1	1' B.G.	4E-6, TU electric line, station 0+50	2	20.7	101.4	98.6
2	4' B.G.	4E-6, TU electric line, station 1+00	2	22.0	106.1	103.2

GAUGE I.D.: 10746

STD. DENSITY COUNT: 2638

STD. MOISTURE COUNT: 496

"R" AFTER TEST NUMBER INDICATES RETEST.

* INDICATES FAILURE TO COMPLY WITH PROJECT SPECIFICATIONS

REMARKS: _____

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11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800

SOIL MOISTURE - DENSITY TEST REPORT
IN-PLACE TESTS BY NUCLEAR METHODS

CLIENT: E. L. Dalton & Company, Inc.
PROJECT: Arapaho Road Improvements
REPORT DATE: 06/24/98
TMI REPORT NO.: DC98-050-19

DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt Zollars, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde
 E.L. Dalton & Company - Mike Claxton

SPECIFICATIONS

Percent Compaction: 95+
Moisture Content (%): Opt to +4

TEST DATA

Date Tested: 06/23/98
Technician: M. Kashem

MATERIAL REFERENCE CURVE DATA

CURVE NO.	TEST METHOD	MATERIAL DESCRIPTION	OPTIMUM MOISTURE (%)	MAX. DRY DENSITY (pcf)
2	ASTM D698	Light Gray Calcareous Clay w/Yel & Blue WLS	20.7	102.8
3	ASTM D698	Brown & Yellow Brown Sandy Clay	16.9	109.4

IN-PLACE TEST RESULTS

DENSITY AND MOISTURE TESTS ARE PER ASTM D2922, D3017, RESPECTIVELY

TEST NO.	ELEVATION OR LIFT	LOCATION	REF. CURVE	% MOISTURE	DRY DENSITY	% DENSITY
1	Grade	6" TU electric line at station I+58	2	21.5	104.3	101.5
2	4' B.G.	6" TU electric line at station I+85	2	24.4	103.7	100.9

GAUGE I.D.: 10746

STD. DENSITY COUNT: 2621

STD. MOISTURE COUNT: 507

"R" AFTER TEST NUMBER INDICATES RETEST.

* INDICATES FAILURE TO COMPLY WITH PROJECT SPECIFICATIONS

REMARKS: _____

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GEOTECHNICAL ENVIRONMENTAL AND MATERIALS ENGINEERS

DALLAS FORT WORTH HOUSTON LONGVIEW LUBBOCK AUSTIN
 11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800 Fax: 972-488-8080

CONCRETE INSPECTION AND COMPRESSION TEST REPORT

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 06/11/98
TMI REPORT #: DC98-050-9

REPORT DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt-Zollars, Inc. Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

Time left lab: _____ **Arrived at site:** _____ **Left site:** _____ **Arrived at lab:** _____

SPECIFICATIONS

Strength (psi): _____
 Slump (in.): _____
 Air Content (%): _____
 Concrete Temp (°F): _____

PROJECT DATA

Placement Date: 05/12/98
 Sampled By: Client
 Weather: na
 Supplier/Mix: _____

FIELD DATA SET #1

Ticket #: _____ Time Batched: _____ Time Sampled: _____
 Slump (in.): _____ Air Content: _____ Unit Weight (pcf): _____
 Conc. Temp. (°F): _____ Ambient Temp. (°F): _____ Yardage (c.y.): _____
 Placement Location: Client made cylinders, no location given
 Remarks: _____

FIELD DATA SET #2

Ticket #: _____ Time Batched: _____ Time Sampled: _____
 Slump (in.): _____ Air Content: _____ Unit Weight (pcf): _____
 Conc. Temp. (°F): _____ Ambient Temp. (°F): _____ Yardage (c.y.): _____
 Placement Location: _____
 Remarks: _____

CONCRETE COMPRESSION TEST RESULTS

CYLINDERS MOLDED AND CURED PER ASTM C31, TESTED PER ASTM C39, CAPPED PER ASTM C617

Set #	Cylinder #	Test Date	Age (Days)	Max. Load (lbs)	Area (sq. in.)	Strength (psi)	FC	Notes
1	ARE051201	05/19/98	7	147800	28.27	5230	A	
	ARE051202	06/09/98	28	156130	28.27	5520	C	
	ARE051203	06/09/98	28	152410	28.27	5390	C	
	ARE051204	Discard						
2								

- (1) NORMAL CYLINDER SIZE 6" X 12", AREA 28.27 sq. in., UNLESS NOTED ABOVE.
- (2) TYPE "A" CONE FRACTURE UNLESS INDICATED OTHERWISE IN NOTES.
- (3) TEST RESULTS COMPLY WITH PROJECT SPECIFICATIONS UNLESS INDICATED IN NOTES.
- (4) FIELD TESTS ARE PER APPLICABLE ASTM STANDARDS: C138, C143, C172, C231

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Berry L. Fox

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GEOTECHNICAL ENVIRONMENTAL AND MATERIALS ENGINEERS

DALLAS FORT WORTH HOUSTON LONGVIEW LUBBOCK AUSTIN

11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800

**SOIL MOISTURE -DENSITY TEST REPORT
IN-PLACE TESTS BY NUCLEAR METHODS**

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 06/04/98
TMI REPORT NO.: DC98-050-16

DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt Zollars, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Percent Compaction: 95+
 Moisture Content (%): Opt to +4

TEST DATA

Date Tested: 05/29/98
 Technician: M. Kashem

MATERIAL REFERENCE CURVE DATA

CURVE NO.	TEST METHOD	MATERIAL DESCRIPTION	OPTIMUM MOISTURE (%)	MAX. DRY DENSITY (pcf)
2	ASTM D698	Light Gray Calcareous Clay w/Yel & Blue WLS	20.7	102.8
3	ASTM D698	Brown & Yellow Brown Sandy Clay	16.9	109.4

IN-PLACE TEST RESULTS

DENSITY AND MOISTURE TESTS ARE PER ASTM D2922, D3017, RESPECTIVELY

TEST NO.	ELEVATION OR LIFT	LOCATION	REF. CURVE	% MOISTURE	DRY DENSITY	% DENSITY
1	Grade	8" water line, line B, station 52+96	2	21.4	100.5	97.8

GAUGE I.D.: 10746 STD. DENSITY COUNT: 2571 STD. MOISTURE COUNT: 491

"R" AFTER TEST NUMBER INDICATES RETEST.

* INDICATES FAILURE TO COMPLY WITH PROJECT SPECIFICATIONS

REMARKS: _____

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 TERRY L. FOX P.E.
 TERRA-MAR, INC.

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TECHNICAL ENVIRONMENTAL AND MATERIALS ENGINEERS

DALLAS FORT WORTH HOUSTON LONGVIEW LUBBOCK AUSTIN

11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800

**SOIL-MOISTURE -DENSITY TEST REPORT
IN-PLACE TESTS BY NUCLEAR METHODS**

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 06/04/98
TMI REPORT NO.: DC98-050-15

DISTRIBUTION:
Ed Bell Construction - Doug Teter
Huitt Zollars, Inc. - Kenneth Roberts, P.E.
Town of Addison - James Pierce, P.E.
Town of Addison - Dave Wilde

SPECIFICATIONS

Percent Compaction: 95+
Moisture Content (%): Opt to +4

TEST DATA

Date Tested: 05/21/98
Technician: M. Kashem

MATERIAL REFERENCE CURVE DATA

CURVE NO.	TEST METHOD	MATERIAL DESCRIPTION	OPTIMUM MOISTURE (%)	MAX. DRY DENSITY (pcf)
2	ASTM D698	Light Gray Calcareous Clay w/Yel & Blue WLS	20.7	102.8
3	ASTM D698	Brown & Yellow Brown Sandy Clay	16.9	109.4

IN-PLACE TEST RESULTS

DENSITY AND MOISTURE TESTS ARE PER ASTM D2922, D3017, RESPECTIVELY

TEST NO.	ELEVATION OR LIFT	LOCATION	REF. CURVE	% MOISTURE	DRY DENSITY	% DENSITY
1	Grade	8" water line, line B, station 52+35	2	21.9	101.1	98.3

GAUGE I.D.: 10746 STD. DENSITY COUNT: 2571 STD. MOISTURE COUNT: 517

"R" AFTER TEST NUMBER INDICATES RETEST.

* INDICATES FAILURE TO COMPLY WITH PROJECT SPECIFICATIONS

REMARKS: _____

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11050 Ables Lane, Dallas, Texas 75229 Phone:972-488-8800

SOIL MOISTURE -DENSITY TEST REPORT IN-PLACE TESTS BY NUCLEAR METHODS

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 05/26/98
TMI REPORT NO.: DC98-050-14

DISTRIBUTION:
Ed Bell Construction - Doug Teter
Huitt Zollars, Inc. - Kenneth Roberts, P.E.
Town of Addison - James Pierce, P.E.
Town of Addison - Dave Wilde

SPECIFICATIONS

Percent Compaction: 95+
Moisture Content (%): Opt to +4

TEST DATA

Date Tested: 05/20/98
Technician: M. Kashem

MATERIAL REFERENCE CURVE DATA

CURVE NO.	TEST METHOD	MATERIAL DESCRIPTION	OPTIMUM MOISTURE (%)	MAX. DRY DENSITY (pcf)
2	ASTM D698	Light Gray Calcareous Clay w/Yel & Blue WLS	20.7	102.8
3	ASTM D698	Brown & Yellow Brown Sandy Clay	16.9	109.4

IN-PLACE TEST RESULTS

DENSITY AND MOISTURE TESTS ARE PER ASTM D2922, D3017, RESPECTIVELY

TEST NO.	ELEVATION OR LIFT	LOCATION	REF. CURVE	% MOISTURE	DRY DENSITY	% DENSITY
1	8' B.G.	8" water line, station 52+95	2	21.6	103.7	100.9
2	Grade	8" water line, station 52+45	2	23.4	102.6	99.8
3	Grade	8" water line, station 52+00	3	20.0	107.7	98.4

GAUGE I.D.: 10746

STD. DENSITY COUNT: 2565

STD. MOISTURE COUNT: 498

"R" AFTER TEST NUMBER INDICATES RETEST.

* INDICATES FAILURE TO COMPLY WITH PROJECT SPECIFICATIONS

REMARKS:

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11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800

SOIL MOISTURE - DENSITY TEST REPORT
IN-PLACE TESTS BY NUCLEAR METHODS

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 05/18/98
TMI REPORT NO.: DC98-050-11

DISTRIBUTION:
Ed Bell Construction - Doug Teter
Huitt Zollars, Inc. - Kenneth Roberts, P.E.
Town of Addison - James Pierce, P.E.
Town of Addison - Dave Wilde

SPECIFICATIONS

Percent Compaction: 95+
Moisture Content (%): Opt to +4

TEST DATA

Date Tested: 05/14/98
Technician: M. Kashem

MATERIAL REFERENCE CURVE DATA

CURVE NO.	TEST METHOD	MATERIAL DESCRIPTION	OPTIMUM MOISTURE (%)	MAX. DRY DENSITY (pcf)
2	ASTM D698	Light Gray Calcareous Clay w/Yel & Blue WLS	20.7	102.8
3	ASTM D698	Brown & Yellow Brown Sandy Clay	16.9	109.4
4	ASTM D698	Drk Brn & Light Brn Clay with WLSF	25.0	92.6

IN-PLACE TEST RESULTS

DENSITY AND MOISTURE TESTS ARE PER ASTM D2922, D3017, RESPECTIVELY

TEST NO.	ELEVATION OR LIFT	LOCATION	REF. CURVE	% MOISTURE	DRY DENSITY	% DENSITY
1	2nd	8" sanitary line C, station 1+00	4	26.8	90.2	97.4
2	1st	8" sanitary line C, station 2+00	4	27.3	89.3	96.4
3	2nd	8" sanitary line C, station 0+50	4	26.7	90.5	97.7

GAUGE I.D.: 10746

STD. DENSITY COUNT: 2677

STD. MOISTURE COUNT: 512

"R" AFTER TEST NUMBER INDICATES RETEST.

* INDICATES FAILURE TO COMPLY WITH PROJECT SPECIFICATIONS

REMARKS: _____

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TERRY L. FOX, P.E.
TERRA-MAR, INC.



Report of Moisture-Density Relationship

Client Ed Bell Construction
Project Arapaho Road Improvements

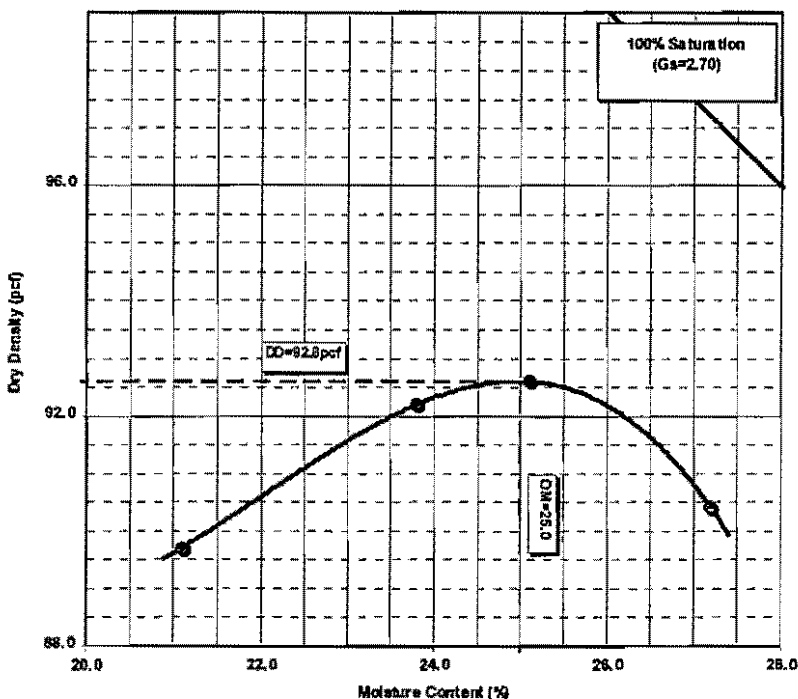
Report Distribution Ed Bell Construction - Doug Teter
Town of Addison - James Pierce, P.E.
Town of Addison - Dave Wilde
Huitt-Zollars, Inc. - Kenneth Roberts, P.E.

TMI Project No. DC98-050
TMI Report No. DC98-050-12
Report Date 05/19/98

Project Information

Material Origin:		Sampled By:	M. Kashem
Sample Location:	8" Sewer Line at Station 1+50	Sample Date:	05/14/98
Material Description:	Dark Brown & Light Brown Clay with Weathered Limestone Fragments	Tested By:	Jason Allen
Material Use:	Backfill Material		

Moisture-Density Relationship - Curve No. 4



Material Properties and Test Information - Curve No. 4

Maximum Dry Density:	92.6 pcf	Liquid Limit:	67	Passing No. 200:	89.7 %
Optimum Moisture Percent:	25 %	Plastic Limit:	24	USCS:	
		Plasticity Index:	43		

Test Method(s): ASTM D698-A, D4318-B, D1140
Rammer Description: Mechanical Preparation Procedure: Moist

Remarks:

TERRA-MAR, INC. *Berry L. Fox, PE*

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TERRA-MAR, INC.
GEOTECHNICAL ENVIRONMENTAL AND MATERIALS ENGINEERS
 DALLAS FORT WORTH HOUSTON LONGVIEW LUBBOCK AUSTIN

11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800

SOIL MOISTURE -DENSITY TEST REPORT
IN-PLACE TESTS BY NUCLEAR METHODS

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 05/18/98
TMI REPORT NO.: DC98-050-13

DISTRIBUTION:
 Ed Bell Construction - Doug Teter
 Huitt Zollars, Inc. - Kenneth Roberts, P.E.
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde

SPECIFICATIONS

Percent Compaction: 95+
 Moisture Content (%): Opt to +4

TEST DATA

Date Tested: 05/15/98
 Technician: M. Kashem

MATERIAL REFERENCE CURVE DATA

CURVE NO.	TEST METHOD	MATERIAL DESCRIPTION	OPTIMUM MOISTURE (%)	MAX. DRY DENSITY (pcf)
2	ASTM D698	Light Gray Calcareous Clay w/Yel & Blue WLS	20.7	102.8
3	ASTM D698	Brown & Yellow Brown Sandy Clay	16.9	109.4

IN-PLACE TEST RESULTS

DENSITY AND MOISTURE TESTS ARE PER ASTM D2922, D3017, RESPECTIVELY

TEST NO.	ELEVATION OR LIFT	LOCATION	REF. CURVE	% MOISTURE	DRY DENSITY	% DENSITY
1	Grade	8" sanitary line C, station 2+00	2	24.7	99.4	96.7
2	Grade	8" sanitary line C, station 1+50	2	22.6	102.3	99.5
3	Grade	8" sanitary line C, station 1+00	2	20.9	99.7	97.0

GAUGE I.D.: 10746 STD. DENSITY COUNT: 2642 STD. MOISTURE COUNT: 493

"R" AFTER TEST NUMBER INDICATES RETEST.

* INDICATES FAILURE TO COMPLY WITH PROJECT SPECIFICATIONS

REMARKS: _____

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Kerry L. Fox, P.E.
 TERRA-MAR, INC.

TERRA-MAR, INC.

GEOTECHNICAL ENVIRONMENTAL AND MATERIALS ENGINEERS

DALLAS FORT WORTH HOUSTON LONGVIEW LUBBOCK AUSTIN

11050 Ables Lane, Dallas, Texas 75229 Phone:972-488-8800

SOIL MOISTURE -DENSITY TEST REPORT
IN-PLACE TESTS BY NUCLEAR METHODS

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 05/15/98
TMI REPORT NO.: DC98-050-10

DISTRIBUTION:
Ed Bell Construction - Doug Teter
Huitt Zollars, Inc. - Kenneth Roberts, P.E.
Town of Addison - James Pierce, P.E.
Town of Addison - Dave Wilde

SPECIFICATIONS

Percent Compaction: 95+
Moisture Content (%): Opt to +4

TEST DATA

Date Tested: 05/13/98
Technician: M. Kashem

MATERIAL REFERENCE CURVE DATA

CURVE NO.	TEST METHOD	MATERIAL DESCRIPTION	OPTIMUM MOISTURE (%)	MAX. DRY DENSITY (pcf)
2	ASTM D698	Light Gray Calcareous Clay w/Yel & Blue WLS	20.7	102.8
3	ASTM D698	Brown & Yellow Brown Sandy Clay	16.9	109.4

IN-PLACE TEST RESULTS

DENSITY AND MOISTURE TESTS ARE PER ASTM D2922, D3017, RESPECTIVELY

TEST NO.	ELEVATION OR LIFT	LOCATION	REF. CURVE	% MOISTURE	DRY DENSITY	% DENSITY
1	2' B.G.	8" water line B, station 50+95	2	21.7	105.3	102.4
2	1' B.G.	8" water line B, station 50+90	2	23.1	104.2	101.4
3	1' B.G.	8" water line B, station 51+10	2	21.0	100.7	98.0

GAUGE I.D.: 10746

STD. DENSITY COUNT: 2591

STD. MOISTURE COUNT: 529

"R" AFTER TEST NUMBER INDICATES RETEST.

* INDICATES FAILURE TO COMPLY WITH PROJECT SPECIFICATIONS

REMARKS:

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Serry L. Ford, P.E.
TERRA-MAR, INC.

TERRA-MAR, INC.

GEOTECHNICAL ENVIRONMENTAL AND MATERIALS ENGINEERS

DALLAS FORT WORTH HOUSTON LONGVIEW LUBBOCK AUSTIN

11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800

**SOIL MOISTURE -DENSITY TEST REPORT
IN-PLACE TESTS BY NUCLEAR METHODS**

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 05/14/98
TMI REPORT NO.: DC98-050-6

DISTRIBUTION:
Ed Bell Construction - Doug Teter
Huit Zollars, Inc. - Kenneth Roberts, P.E.
Town of Addison - James Pierce, P.E.
Town of Addison - Dave Wilde

SPECIFICATIONS

Percent Compaction: 95+
Moisture Content (%): Opt to +4

TEST DATA

Date Tested: 05/05/98
Technician: M. Kashem

MATERIAL REFERENCE CURVE DATA

CURVE NO.	TEST METHOD	MATERIAL DESCRIPTION	OPTIMUM MOISTURE (%)	MAX. DRY DENSITY (pcf)
2	ASTM D698	Light Gray Calcareous Clay w/Yel & Blue WLS	20.7	102.8
3	ASTM D698	Brown & Yellow Brown Sandy Clay	16.9	109.4

IN-PLACE TEST RESULTS

DENSITY AND MOISTURE TESTS ARE PER ASTM D2922, D3017, RESPECTIVELY

TEST NO.	ELEVATION OR LIFT	LOCATION	REF. CURVE	% MOISTURE	DRY DENSITY	% DENSITY
1	1' B.G.	8" water line B, station 49+90	2	22.8	102.0	99.2
2	Grade	8" water line B, station 50+60	2	21.7	102.9	100.1
3	3.5' B.G.	8" water line B, station 51+35	2	20.8	104.2	101.4

GAUGE I.D.: 10746 STD. DENSITY COUNT: 2547 STD. MOISTURE COUNT: 518

"R" AFTER TEST NUMBER INDICATES RETEST.

* INDICATES FAILURE TO COMPLY WITH PROJECT SPECIFICATIONS

REMARKS:

Note: This report is for the exclusive use of the Client addressed. This report may not be reproduced except in its entirety, without the written consent of TMI. Results apply only to above tests.

Sergio L. Flores, P.E.
TERRA-MAR, INC.

TERRA-MAR, INC.

GEOTECHNICAL ENVIRONMENTAL AND MATERIALS ENGINEERS

DALLAS FORT WORTH HOUSTON LONGVIEW LUBBOCK AUSTIN

11050 Ables Lane, Dallas, Texas 75229 Phone: 972-488-8800

**SOIL MOISTURE -DENSITY TEST REPORT
IN-PLACE TESTS BY NUCLEAR METHODS**

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 05/14/98
TMI REPORT NO.: DC98-050-5

DISTRIBUTION:
Ed Bell Construction - Doug Teter
Huitt Zollars, Inc. - Kenneth Roberts, P.E.
Town of Addison - James Pierce, P.E.
Town of Addison - Dave Wilde

SPECIFICATIONS

Percent Compaction: 95+
Moisture Content (%): Opt to +4

TEST DATA

Date Tested: 05/01/98
Technician: M. Kashem

MATERIAL REFERENCE CURVE DATA

CURVE NO.	TEST METHOD	MATERIAL DESCRIPTION	OPTIMUM MOISTURE (%)	MAX. DRY DENSITY (pcf)
2	ASTM D698	Light Gray Calcareous Clay w/Yel & Blue WLS	20.7	102.8
3	ASTM D698	Brown & Yellow Brown Sandy Clay	16.9	109.4

IN-PLACE TEST RESULTS

DENSITY AND MOISTURE TESTS ARE PER ASTM D2922, D3017, RESPECTIVELY

TEST NO.	ELEVATION OR LIFT	LOCATION	REF. CURVE	% MOISTURE	DRY DENSITY	% DENSITY
1	1' B.G.	8" water line B, station 48+50	2	20.8	104.3	101.5
2	1.5' B.G.	8" water line B, station 47+50	2	23.3	101.3	98.5
3	Grade	8" water line B, station 46+00	2	22.7	102.3	99.5

GUAGE I.D.: 10746 STD. DENSITY COUNT: 2547 STD. MOISTURE COUNT: 518

"R" AFTER TEST NUMBER INDICATES RETEST.

* INDICATES FAILURE TO COMPLY WITH PROJECT SPECIFICATIONS

REMARKS: _____

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Sergio L. Fox PE
TERRA-MAR, INC.

DAILY ACTIVITY OBSERVATION REPORT

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
PROJECT NO.: DC98-050-7
REPORT DATE: 05/14/98

DISTRIBUTION:
Ed Bell Construction – Doug Teter
Huitt Zollars, Inc. – Kenneth Roberts, P.E.
Town of Addison – James Pierce, P.E.
Town of Addison – Dave Wilde

On 05/07/98, TMI representative Mohammed Kashem was present at the above referenced project to perform in-place density tests. Upon arrival, TMI was notified that the contractor was not ready for testing. TMI returned to the Dallas Laboratory.


Terra-Mar, Inc.

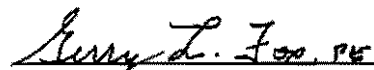
Note: This report is for the exclusive use of the Client addressed. This report may not be reproduced except in its entirety, without the written consent of TMI. Results apply only to above tests.

DAILY ACTIVITY OBSERVATION REPORT

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
PROJECT NO.: DC98-050-8
REPORT DATE: 05/15/98

DISTRIBUTION:
Ed Bell Construction – Doug Teter
Huitt Zollars, Inc. – Kenneth Roberts, P.E.
Town of Addison – James Pierce, P.E.
Town of Addison – Dave Wilde

On 05/12/98, TMI representative Mohammed Kashem was present at the above referenced project to perform concrete inspection and testing. Upon arrival, TMI was notified by the contractor that the concrete was delayed, and was not sure when it would arrive. TMI was instructed to leave cylinder molds at the site and the contractor would make the cylinders when the concrete arrived.


Terra-Mar, Inc.

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TERRA-MAR, INC.

GEOTECHNICAL ENVIRONMENTAL AND MATERIALS ENGINEERS

DALLAS FORT WORTH HOUSTON LONGVIEW LUBBOCK AUSTIN

11050 Ables Lane, Dallas, Texas 75229 Phone:972-488-8800

**SOIL MOISTURE -DENSITY TEST REPORT
IN-PLACE TESTS BY NUCLEAR METHODS**

CLIENT: Ed Bell Construction
PROJECT: Arapaho Road Improvements
REPORT DATE: 05/14/98
TMI REPORT NO.: DC98-050-4

DISTRIBUTION:
Ed Bell Construction - Doug Teter
Huitt Zollars, Inc. - Kenneth Roberts, P.E.
Town of Addison - James Pierce, P.E.
Town of Addison - Dave Wilde

SPECIFICATIONS

Percent Compaction: 95+
Moisture Content (%): Opt to +4

TEST DATA

Date Tested: 04/30/98
Technician: M. Kashem

MATERIAL REFERENCE CURVE DATA

CURVE NO.	TEST METHOD	MATERIAL DESCRIPTION	OPTIMUM MOISTURE (%)	MAX. DRY DENSITY (pcf)
2	ASTM D698	Light Gray Calcareous Clay w/Yel & Blue WLS	20.7	102.8
3	ASTM D698	Brown & Yellow Brown Sandy Clay	16.9	109.4

IN-PLACE TEST RESULTS

DENSITY AND MOISTURE TESTS ARE PER ASTM D2922, D3017, RESPECTIVELY

TEST NO.	ELEVATION OR LIFT	LOCATION	REF. CURVE	% MOISTURE	DRY DENSITY	% DENSITY
1	2' B.G.	8" water line B, station 43+50	2	22.3	101.4	98.6
2	1' B.G.	8" water line B, station 44+00	2	21.7	102.4	99.6
3	Grade	8" water line B, station 44+70	2	22.6	103.5	100.7

GAUGE I.D.: 10746

STD. DENSITY COUNT: 2607

STD. MOISTURE COUNT: 516

"R" AFTER TEST NUMBER INDICATES RETEST.

* INDICATES FAILURE TO COMPLY WITH PROJECT SPECIFICATIONS

REMARKS: _____

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Report of Moisture-Density Relationship

Client: Ed Bell Construction
Project: Arapaho Road Improvements

Report Distribution: Ed Bell Construction - Doug Teter
Town of Addison - James Pierce, P.E.
Town of Addison - Dave Wilde
Huitt-Zollars, Inc. - Kenneth Roberts, P.E.

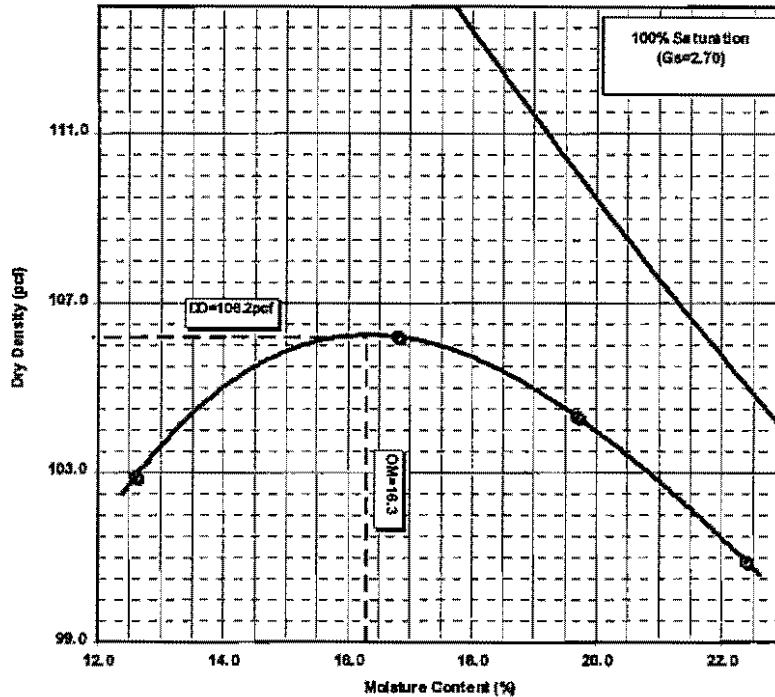
TMI Project No. DC98-050
TMI Report No. DC98-050-1
Report Date 05/01/98

Project Information

Material Origin:
Sample Location: Stockpile by jobsite
Material Description: Dark Gray and Gray Clay with Gravel
Material Use: On site backfill

Sampled By: M. Kashem
Sample Date: 04/28/98
Tested By: Jason Allen

Moisture-Density Relationship - Curve No. 1



Material Properties and Test Information - Curve No. 1

Maximum Dry Density:	106.2 pcf	Liquid Limit:	60	Passing No. 200:	58.9 %
Optimum Moisture Percent:	16.3 %	Plastic Limit:	20	USCS:	
		Plasticity Index:	40		

Test Method(s): ASTM D698-A, D4318-B, D1140

Rammer Description: Mechanical

Preparation Procedure: Moist

Remarks:

TERRA-MAR, INC. *Harry L. Fox, P.E.*

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Report of Moisture-Density Relationship

Client Ed Bell Construction
Project Arapaho Road Improvements

Report Distribution Ed Bell Construction - Doug Teter
Town of Addison - James Pierce, P.E.
Town of Addison - Dave Wilde
Huitt-Zollars, Inc. - Kenneth Roberts, P.E.

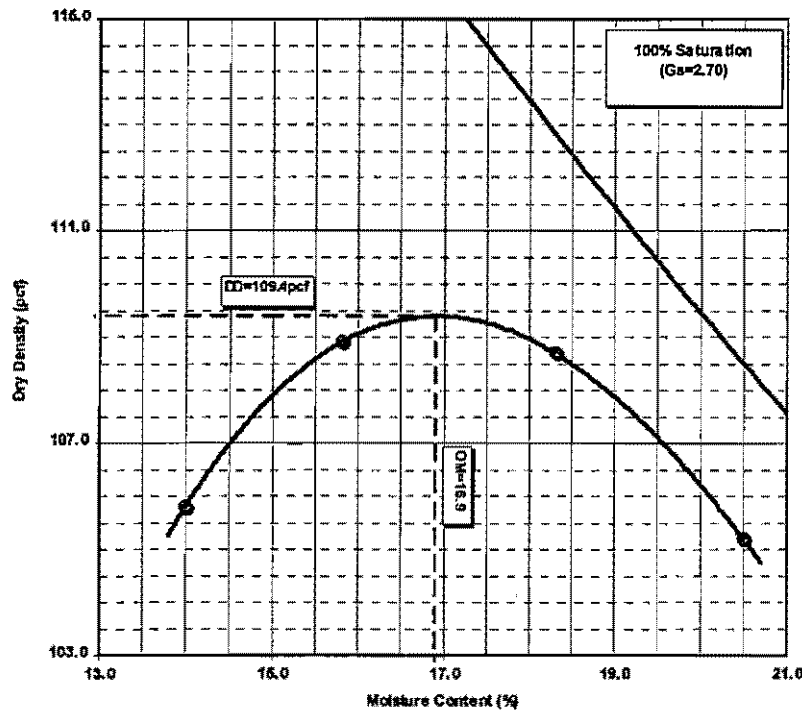
TMI Project No. DC98-050
TMI Report No. DC98-050-3
Report Date 05/06/98

Project Information

Material Origin:
Sample Location: 8" water line at line B, station 45+50
Material Description: Brown & Yellow Brown Sandy Clay
Material Use: Backfill Material

Sampled By: M. Kashem
Sample Date: 04/30/98
Tested By: Jason Allen

Moisture-Density Relationship - Curve No. 3



Material Properties and Test Information - Curve No. 3

Maximum Dry Density: 109.4 pcf	Liquid Limit: 46	Passing No. 200: 44.0 %
Optimum Moisture Percent: 16.9 %	Plastic Limit: 17	USCS:
	Plasticity Index: 29	

Test Method(s): ASTM D698-A, D4318-B, D1140

Rammer Description: Mechanical

Preparation Procedure: Moist

Remarks:

TERRA-MAR, INC. *George L. Fox, P.E.*

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Report of Moisture-Density Relationship

Client Ed Bell Construction
Project Arapaho Road Improvements

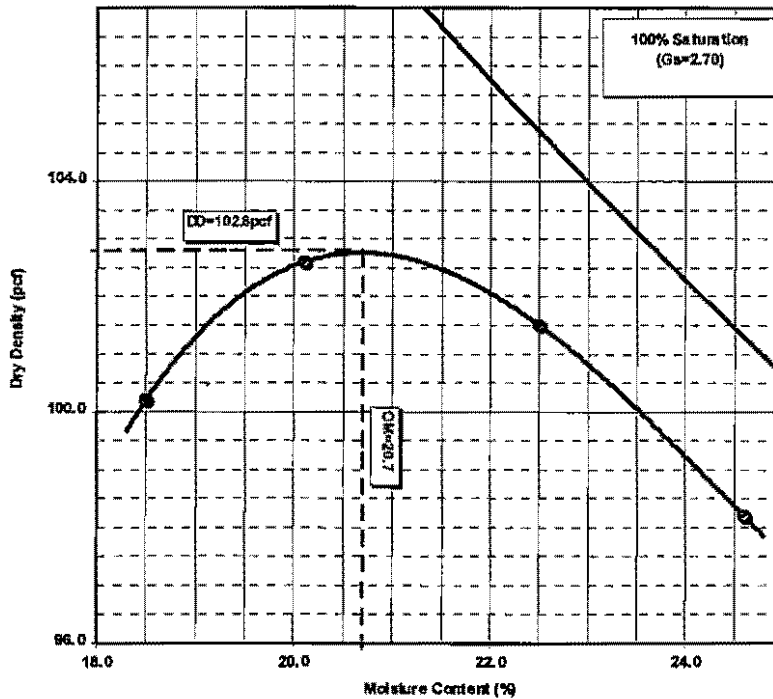
Report Distribution Ed Bell Construction - Doug Teter
 Town of Addison - James Pierce, P.E.
 Town of Addison - Dave Wilde
 Huitt-Zollars, Inc. - Kenneth Roberts, P.E.

TMI Project No. DC98-050
TMI Report No. DC98-050-2
Report Date 05/06/98

Project Information

Material Origin:		Sampled By:	M. Kashem
Sample Location:	8" water line at line B, station 46+00 to 48+00	Sample Date:	04/30/98
Material Description:	Light Gray Calcareous Clay with Yellow & Blue Weathered Limestone	Tested By:	Jason Allen
Material Use:	Backfill		

Moisture-Density Relationship - Curve No. 2



Material Properties and Test Information - Curve No. 2

Maximum Dry Density:	102.8 pcf	Liquid Limit:	48	Passing No. 200:	53.8 %
Optimum Moisture Percent:	20.7 %	Plastic Limit:	18	USCS:	
		Plasticity Index:	30		

Test Method(s): ASTM D698-A, D4318-B, D1140

Rammer Description: Mechanical

Preparation Procedure: Moist

Remarks:

TERRA-MAR, INC.

Barry L. Ford, P.E.

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