



**Empire Laboratories, Inc.**  
A Division of The Terracon Companies, Inc.

301 N. Howes Street  
Ft. Collins, CO 80521  
Phone (303) 484-0359  
Fax (303) 484-0454

### CONCRETE TEST RESULTS

Project Name & Location: Southeast Junior High School				The following tests have been performed by Empire in accordance with ASTM procedures.	
Contractor: R.C. Heath Construction				Sampling ASTM C172	X
Engineer/Architect: URS Consultants				Making ASTM C31	X
Location of Placement: Sidewalk E. half, 60'N of S. entrance of drive to front of school (SE corner of bldg.)				Curing C192	X
Empire Job No.: 2094	Concrete No.: 3040	Sample No.: 5	Date: 6/30/94	Capping C617	X
Reviewed by: Mike L. Walker		Mix I.D. No.: 60260Z		Compressive Strength C39	X

### CONCRETE MIX DESIGN DATA

Supplier: WMN	Batch Time: 7:55 a.m.	Specifications	Measured	Water Added (gal): 2
Ticket No.: 65845	Sample Time: 8:30 a.m.	Air (%): N/A	Air (%): 3.5	Unit Weight (#/Ft <sup>3</sup> ): 144.8
Truck No.: 646	Concrete Temperature °F: 77	Slump (in): N/A	Slump (in): 4	Specimen Size: 6x12
Batch Size: 5	Ambient Temperature °F: 81	Strength (psi): 3000	(7): 3300 (28):	No. of Cylinders: 4
Fine Agg. (lbs): 1300	Medium Agg. (lbs): 350	Coarse Agg. (lbs): 1475	Cement (lbs): 451	Fly Ash (lbs): 113
Water (gal): 32.5	WRA (oz/100#): 3.99	Air Ent (oz/sack): 1.3	Other: $\phi$	Yield (Ft <sup>3</sup> /Yd <sup>3</sup> ): 26.7

### CYLINDER TEST DATA

Cylinder No.	Date Made	Days Cured		Date Tested	Sample Age (Days)	Diameter (inches)	Cross Section Area, in. <sup>2</sup>	Length (inches)	Test Load (pounds)	Measured Strength (psi)	Type of Fracture	Tested By
		Field	Lab									
1	6/30/94	$\phi$	7	7/7/94	7	6.00	28.27	12.0	94,500	3340	Conical	EF
2	6/30/94	$\phi$	7	7/7/94	7	6.00	28.27	12.0	92,000	3250	Conical	EF
3	6/30/94	$\phi$	28	7/28/94	28	6.00	28.27	12.0			Conical	
4	6/30/94	$\phi$	28	7/28/94	28	6.00	28.27	12.0			Conical	

Distribution: (1) Poudre R-1; (1) URS; (1) Arch. Studio; (1) City; (1) WMN



**Empire Laboratories, Inc.**  
A Division of The Terracon Companies, Inc.

301 N. Howes Street  
Ft. Collins, CO 80521  
Phone (303) 484-0359  
Fax (303) 484-0454

### CONCRETE TEST RESULTS

Project Name & Location: Southeast Junior High School				The following tests have been performed by Empire in accordance with ASTM procedures.	
Contractor: R.C. Heath Construction				Sampling ASTM C172-82	X
Engineer/Architect: URS Consultants				Making ASTM C31-85	X
Location of Placement: SE corner of entrance of driveway to kitchen				Curing C192-81	
Empire Job No.: 2094	Concrete No.: 3040	Sample No.: 4	Date: 6/2/94	Capping C617-85b	X
Reviewed by: Gary M. Martinson		Mix I.D. No.: 60161B		Compressive Strength C39-86	X

### CONCRETE MIX DESIGN DATA

Supplier: WMN	Batch Time: 10:38	Specifications	Measured	Water Added (gal):	φ
Ticket No.: 64000	Sample Time: 10:55	Air (%): N/A	Air (%): 5.2	Unit Weight (#/Ft <sup>3</sup> ):	142.8
Truck No.: 641	Concrete Temperature °F: 74	Slump (in): N/A	Slump (in): 3.5	Specimen Size:	6x12
Batch Size: 6.25	Ambient Temperature °F: 77	Strength (psi): 3000	(7): 2925 (28):	No. of Cylinders:	4
Fine Agg. (lbs): 1300	Medium Agg. (lbs): 250	Coarse Agg. (lbs): 1500	Cement (lbs): 564	Fly Ash (lbs):	φ
Water (gal): 32.5	WRA (oz/100#): 5.0	Air Ent (oz/sack): 0.67	Other: 90.2	Yield (Ft <sup>3</sup> /Yd <sup>3</sup> ):	φ

### CYLINDER TEST DATA

Cylinder No.	Date Made	Days Cured		Date Tested	Sample Age (Days)	Diameter (inches)	Cross Section Area, in. <sup>2</sup>	Length (inches)	Test Load (pounds)	Measured Strength (psi)	Type of Fracture	Tested By
		Field	Lab									
1	6/2/94	φ	7	6/9/94	7	6.0	28.3	12.0	83,500	2950	Conical	EF
2	6/2	φ	7	6/9	7	6.0	28.3	12.0	82,000	2900	Conical	EF
3	6/2	φ	28	6/30/94	28	6.0	28.3	12.0			Conical	
4	6/2	φ	28	6/30	28	6.0	28.3	12.0			Conical	

Distribution: (1) Poudre R-1; (1) URS; (1) Arch. Studio; (1) City; (1) WMN



**Empire Laboratories, Inc.**  
A Division of The Terracon Companies, Inc.

301 N. Howes Street  
Ft. Collins, CO 80521  
Phone (303) 484-0359  
Fax (303) 484-0454

### CONCRETE TEST RESULTS

Project Name & Location: Southeast Junior High School				The following tests have been performed by Empire in accordance with ASTM procedures.	
Contractor: R.C. Heath Construction				Sampling ASTM C172-82	X
Engineer/Architect: URS Consultants				Making ASTM C31-85	X
Location of Placement: SE corner of entrance of driveway to kitchen				Curing C192-81	
Empire Job No.: 2094	Concrete No.: 3040	Sample No.: 4	Date: 6/2/94	Capping C617-85b	X
Reviewed by: Gary M. Martinson		Mix I.D. No.: 60161B		Compressive Strength C39-86	X

### CONCRETE MIX DESIGN DATA

Supplier: WMN	Batch Time: 10:38	Specifications		Measured		Water Added (gal): $\phi$
Ticket No.: 64000	Sample Time: 10:55	Air (%): N/A	Air (%): 5.2	Unit Weight (#/Ft <sup>3</sup> ): 142.8		
Truck No.: 641	Concrete Temperature °F: 74	Slump (in): N/A	Slump (in): 3.5	Specimen Size: 6x12		
Batch Size: 6.25	Ambient Temperature °F: 77	Strength (psi): 3000	(7): 2925	(28): 3870	No. of Cylinders: 4	
Fine Agg. (lbs): 1300	Medium Agg. (lbs): 250	Coarse Agg. (lbs): 1500	Cement (lbs): 564	Fly Ash (lbs): $\phi$		
Water (gal): 32.5	WRA (oz/100#): 5.0	Air Ent (oz/sack): 0.67	Other: 90.2	Yield (Ft <sup>3</sup> /Yd <sup>3</sup> ): $\phi$		

### CYLINDER TEST DATA

Cylinder No.	Date Made	Days Cured		Date Tested	Sample Age (Days)	Diameter (inches)	Cross Section Area, in. <sup>2</sup>	Length (inches)	Test Load (pounds)	Measured Strength (psi)	Type of Fracture	Tested By
		Field	Lab									
1	6/2/94	$\phi$	7	6/9/94	7	6.0	28.3	12.0	83,500	2950	Conical	EF
2	6/2	$\phi$	7	6/9	7	6.0	28.3	12.0	82,000	2900	Conical	EF
3	6/2	$\phi$	28	6/30/94	28	6.0	28.3	12.0	109,000	3860	Conical	EF
4	6/2	$\phi$	28	6/30	28	6.0	28.3	12.0	109,500	3870	Conical	EF

Distribution: (1) Poudre R-1; (1) URS; (1) Arch. Studio; (1) City; (1) WMN



**Empire Laboratories, Inc.**  
A Division of The Terracon Companies, Inc.

301 N. Howe Street  
Ft. Collins, CO 80521  
Phone (303) 484-0359  
Fax (303) 484-0454

### CONCRETE TEST RESULTS

Project Name & Location: Southeast Junior High School				The following tests have been performed by Empire in accordance with ASTM procedures.	
Contractor: R.C. Heath Construction				Sampling ASTM C172-82	X
Engineer/Architect: URS Consultants				Making ASTM C31-85	X
Location of Placement: West side bus lane				Curing C192-81	
Empire Job No.: 2094	Concrete No.: 3040	Sample No.: 3	Date: 5/23/94	Capping C617-85b	X
Reviewed by: Gary M. Martinson		Mix I.D. No.: 60160B		Compressive Strength C39-86	X

### CONCRETE MIX DESIGN DATA

Supplier: WMN	Batch Time: 10:04	Specifications		Measured		Water Added (gal): 10.0
Ticket No.: 63495	Sample Time: 10:45	Air (%): 7 ± 1.5	Air (%): 7.0	Unit Weight (#/Ft <sup>3</sup> ): 139.8		
Truck No.: 609	Concrete Temperature °F: 72	Slump (in): 4" max	Slump (in): 4.0	Specimen Size: 6x12		
Batch Size: 10.0	Ambient Temperature °F: 80	Strength (psi): 4000	(7): 3320	(28):	No. of Cylinders: 4	
Fine Agg. (lbs): 1300	Medium Agg. (lbs): 250	Coarse Agg. (lbs): 1500	Cement (lbs): 564	Fly Ash (lbs): φ		
Water (gal): 32.5	WRA (oz/100#): 28	Air Ent (oz/sack): 4	Other: φ	Yield (Ft <sup>3</sup> /Yd <sup>3</sup> ): 28.38		

### CYLINDER TEST DATA

Cylinder No.	Date Made	Days Cured		Date Tested	Sample Age (Days)	Diameter (inches)	Cross Section Area, in. <sup>2</sup>	Length (inches)	Test Load (pounds)	Measured Strength (psi)	Type of Fracture	Tested By
		Field	Lab									
1	5/23/94	φ	7	5/30/94	7	6.0	28.3	12.0	94,500	3340	Conical	GM
2	5/23	φ	7	5/30	7	6.0	28.3	12.0	93,000	3290	Conical	GM
3	5/23	φ	28	6/20/94	28	6.0	28.3	12.0			Conical	
4	5/23	φ	28	6/20	28	6.0	28.3	12.0			Conical	

Distribution: (1) Poudre R-1; (1) URS; (1) Arch. Studio; (1) City; (1) WMN



**Empire Laboratories, Inc.**  
A Division of The Terracon Companies, Inc.

301 N. Howes Street  
Ft. Collins, CO 80521  
Phone (303) 484-0359  
Fax (303) 484-0454

### CONCRETE TEST RESULTS

Project Name & Location: Southeast Junior High School				The following tests have been performed by Empire in accordance with ASTM procedures.	
Contractor: R.C. Heath Construction				Sampling ASTM C172-82	X
Engineer/Architect: URS Consultants				Making ASTM C31-85	X
Location of Placement: West side bus lane				Curing C192-81	
Empire Job No.: 2094	Concrete No.: 3040	Sample No.: 3	Date: 5/23/94	Capping C617-85b	X
Reviewed by: Gary M. Martinson		Mix I.D. No.: 60160B		Compressive Strength C39-86	X

### CONCRETE MIX DESIGN DATA

Supplier: WMN	Batch Time: 10:04	Specifications	Measured	Water Added (gal): 10.0
Ticket No.: 63495	Sample Time: 10:45	Air (%): 7 ± 1.5	Air (%): 7.0	Unit Weight (#/Ft <sup>3</sup> ): 139.8
Truck No.: 609	Concrete Temperature °F: 72	Slump (in): 4" max	Slump (in): 4.0	Specimen Size: 6x12
Batch Size: 10.0	Ambient Temperature °F: 80	Strength (psi): 4000	(7): 3320 (28): 4010	No. of Cylinders: 4
Fine Agg. (lbs): 1300	Medium Agg. (lbs): 250	Coarse Agg. (lbs): 1500	Cement (lbs): 564	Fly Ash (lbs): ϕ
Water (gal): 32.5	WRA (oz/100#): 28	Air Ent (oz/sack): 4	Other: ϕ	Yield (Ft <sup>3</sup> /Yd <sup>3</sup> ): 28.38

### CYLINDER TEST DATA

Cylinder No.	Date Made	Days Cured		Date Tested	Sample Age (Days)	Diameter (inches)	Cross Section Area, in. <sup>2</sup>	Length (inches)	Test Load (pounds)	Measured Strength (psi)	Type of Fracture	Tested By
		Field	Lab									
1	5/23/94	ϕ	7	5/30/94	7	6.0	28.3	12.0	94,500	3340	Conical	GM
2	5/23	ϕ	7	5/30	7	6.0	28.3	12.0	93,000	3290	Conical	GM
3	5/23	ϕ	28	6/20/94	28	6.0	28.3	12.0	113,500	4010	Conical	EF
4	5/23	ϕ	28	6/20	28	6.0	28.3	12.0	113,000	4000	Conical	EF

Distribution: (1) Poudre R-1; (1) URS; (1) Arch. Studio; (1) City; (1) WMN



**Empire Laboratories, Inc.**  
A Division of The Terracon Companies, Inc.

*EM*

301 N. Howes Street  
Ft. Collins, CO 80521  
Phone (303) 484-0359  
Fax (303) 484-0454

### CONCRETE TEST RESULTS

Project Name & Location: Southeast Junior High School				The following tests have been performed by Empire in accordance with ASTM procedures.	
Contractor: R.C. Heath Construction				Sampling ASTM C172-82	X
Engineer/Architect: URS Consultants				Making ASTM C31-85	X
Location of Placement: Curb & gutter NW section				Curing C192-81	
Empire Job No.: 2094	Concrete No.: 3040	Sample No.: 2	Date: 5/19/94	Capping C617-85b	X
Reviewed by: Gary M. Martinson		Mix I.D. No.: N/A		Compressive Strength C39-86	X

### CONCRETE MIX DESIGN DATA

Supplier: WMN	Batch Time: 11:01	Specifications	Measured	Water Added (gal): 8.0
Ticket No.: 63320	Sample Time: 11:30	Air (%): 5-7	Air (%): 5.4	Unit Weight (#/Ft <sup>3</sup> ): 142.0
Truck No.: 619	Concrete Temperature °F: 72	Slump (in): 4" max	Slump (in): 3.25	Specimen Size: 6x12
Batch Size: 8.0	Ambient Temperature °F: 83	Strength (psi): 3500	(7): 3565 (28): 4500	No. of Cylinders: 4
Fine Agg. (lbs): 1300	Medium Agg. (lbs): 250	Coarse Agg. (lbs): 1500	Cement (lbs): 564	Fly Ash (lbs): $\phi$
Water (gal): 32.5	WRA (oz/100#): 5.0	Air Ent (oz/sack): .67	Other: $\phi$	Yield (Ft <sup>3</sup> /Yd <sup>3</sup> ): 25.74

### CYLINDER TEST DATA

Cylinder No.	Date Made	Days Cured		Date Tested	Sample Age (Days)	Diameter (inches)	Cross Section Area, in. <sup>2</sup>	Length (inches)	Test Load (pounds)	Measured Strength (psi)	Type of Fracture	Tested By
		Field	Lab									
1	5/19/94	$\phi$	7	5/26/94	7	6.0	28.3	12.0	100,000	3540	Conical	EF
2	5/19	$\phi$	7	5/26	7	6.0	28.3	12.0	101,500	3590	Conical	EF
3	5/19	$\phi$	28	6/16/94	28	6.0	28.3	12.0	128,000	4530	Conical	BB
4	5/19	$\phi$	28	6/16	28	6.0	28.3	12.0	126,000	4460	Conical	BB

Distribution: (1) Poudre R-1; (1) URS; (1) Arch. Studio; (1) City; (1) WMN



**Empire Laboratories, Inc.**  
A Division of The Terracon Companies, Inc.

301 N. Howes Street  
Ft. Collins, CO 80521  
Phone (303) 484-0359  
Fax (303) 484-0454

**CONCRETE TEST RESULTS**

Project Name & Location: Southeast Junior High School					The following tests have been performed by Empire in accordance with ASTM procedures.	
Contractor: R.C. Heath Construction					Sampling ASTM C172-82	X
Engineer/Architect: URS Consultants					Making ASTM C31-85	X
Location of Placement: Curb & gutter NW section					Curing C192-81	
Empire Job No.: 2094	Concrete No.: 3040	Sample No.: 2	Date: 5/19/94	Capping C617-85b	X	
Reviewed by: Gary M. Martinson		Mix I.D. No.: N/A			Compressive Strength C39-86	X

**CONCRETE MIX DESIGN DATA**

Supplier: WMN	Batch Time: 11:01	Specifications		Measured		Water Added (gal): 8.0
Ticket No.: 63320	Sample Time: 11:30	Air (%): 5-7	Air (%): 5.4	Unit Weight (#/Ft <sup>3</sup> ): 142.0		
Truck No.: 619	Concrete Temperature °F: 72	Slump (in): 4" max	Slump (in): 3.25	Specimen Size: 6x12		
Batch Size: 8.0	Ambient Temperature °F: 83	Strength (psi): 3500	(7): 3565	(28):	No. of Cylinders: 4	
Fine Agg. (lbs): 1300	Medium Agg. (lbs): 250	Coarse Agg. (lbs): 1500	Cement (lbs): 564	Fly Ash (lbs): $\phi$		
Water (gal): 32.5	WRA (oz/100#): 5.0	Air Ent (oz/sack): .67	Other: $\phi$	Yield (Ft <sup>3</sup> /Yd <sup>3</sup> ): 25.74		

**CYLINDER TEST DATA**

Cylinder No.	Date Made	Days Cured		Date Tested	Sample Age (Days)	Diameter (inches)	Cross Section Area, in. <sup>2</sup>	Length (inches)	Test Load (pounds)	Measured Strength (psi)	Type of Fracture	Tested By
		Field	Lab									
1	5/19/94	$\phi$	7	5/26/94	7	6.0	28.3	12.0	100,000	3540	Conical	EF
2	5/19	$\phi$	7	5/26	7	6.0	28.3	12.0	101,500	3590	Conical	EF
3	5/19	$\phi$	28	6/16/94	28	6.0	28.3	12.0			Conical	
4	5/19	$\phi$	28	6/16	28	6.0	28.3	12.0			Conical	

Distribution: (1) Poudre R-1; (1) URS; (1) Arch. Studio; (1) City; (1) WMN



**Empire Laboratories, Inc.**  
A Division of The Terracon Companies, Inc.

301 N. Howes Street  
Ft. Collins, CO 80521  
Phone (303) 484-0359  
Fax (303) 484-0454

REL.D 1940072/0011/002

### CONCRETE TEST RESULTS

<b>Project Name &amp; Location:</b> Southeast Junior High School				<b>The following tests have been performed by Empire in accordance with ASTM procedures.</b>	
<b>Contractor:</b> R.C. Heath Construction				<b>Sampling ASTM C172-82</b>	X
<b>Engineer/Architect:</b> URS Consultants				<b>Making ASTM C31-85</b>	X
<b>Location of Placement:</b> Slab on grade - Utility entrance NW corner of slab on grade				<b>Curing C192-81</b>	
<b>Empire Job No.:</b> 2094	<b>Concrete No.:</b> 3040	<b>Sample No.:</b> 1	<b>Date:</b> 5/11/94	<b>Capping C617-85b</b>	X
<b>Reviewed by:</b> Gary M. Martinson		<b>Mix I.D. No.:</b> 60260Z		<b>Compressive Strength C39-86</b>	X

### CONCRETE MIX DESIGN DATA

<b>Supplier:</b> WMN	<b>Batch Time:</b> 10:34	<b>Specifications</b>		<b>Measured</b>		<b>Water Added (gal):</b> 10.0
<b>Ticket No.:</b> 62794	<b>Sample Time:</b> 11:30	<b>Air (%):</b> N/A	<b>Air (%):</b> 6.2			<b>Unit Weight (#/Ft<sup>3</sup>):</b> 140.1
<b>Truck No.:</b> 641	<b>Concrete Temperature °F:</b> 70	<b>Slump (in):</b> N/A	<b>Slump (in):</b> 5"			<b>Specimen Size:</b> 6x12
<b>Batch Size:</b> 8.0	<b>Ambient Temperature °F:</b> 69	<b>Strength (psi):</b> 3000	<b>(7):</b> 3190	<b>(28):</b>	<b>No. of Cylinders:</b> 4	
<b>Fine Agg. (lbs):</b> 1230	<b>Medium Agg. (lbs):</b> $\phi$	<b>Coarse Agg. (lbs):</b> 1755	<b>Cement (lbs):</b> 564			<b>Fly Ash (lbs):</b> 47
<b>Water (gal):</b> 32.0	<b>WRA (oz/100#):</b> 3.93	<b>Air Ent (oz/sack):</b> .69	<b>Other:</b> $\phi$			<b>Yield (Ft<sup>3</sup>/Yd<sup>3</sup>):</b> 27.64

### CYLINDER TEST DATA

Cylinder No.	Date Made	Days Cured		Date Tested	Sample Age (Days)	Diameter (inches)	Cross Section Area, in. <sup>2</sup>	Length (inches)	Test Load (pounds)	Measured Strength (psi)	Type of Fracture	Tested By
		Field	Lab									
1	5/11/94	$\phi$	7	5/18/94	7	6.0	28.3	12.0	88,500	3130	Conical	EF
2	5/11	$\phi$	7	5/18	7	6.0	28.3	12.0	92,000	3250	Conical	EF
3	5/11	$\phi$	28	6/8/94	28	6.0	28.3	12.0			Conical	
4	5/11	$\phi$	28	6/8	28	6.0	28.3	12.0			Conical	

Distribution: (1) Poudre R-1; (1) URS; (1) Arch. Studio; (1) City; (1) WMN





**Empire Laboratories, Inc.**  
A Division of The Terracon Companies, Inc.

301 N. Howes Street  
Ft. Collins, CO 80521  
Phone (303) 484-0359  
Fax (303) 484-0454

**CONCRETE TEST RESULTS**

Project Name & Location: Southeast Junior High School				The following tests have been performed by Empire in accordance with ASTM procedures.	
Contractor: R.C. Heath Construction				Sampling ASTM C172-82	X
Engineer/Architect: URS Consultants				Making ASTM C31-85	X
Location of Placement: Slab on grade - Utility entrance NW corner of slab on grade				Curing C192-81	
Empire Job No.: 2094	Concrete No.: 3040	Sample No.: 1	Date: 5/11/94	Capping C617-85b	X
Reviewed by: Gary M. Martinson		Mix I.D. No.: 60260Z		Compressive Strength C39-86	X

**CONCRETE MIX DESIGN DATA**

Supplier: WMN	Batch Time: 10:34	Specifications	Measured	Water Added (gal): 10.0
Ticket No.: 62794	Sample Time: 11:30	Air (%): N/A	Air (%): 6.2	Unit Weight (#/Ft <sup>3</sup> ): 140.1
Truck No.: 641	Concrete Temperature °F: 70	Slump (in): N/A	Slump (in): 5"	Specimen Size: 6x12
Batch Size: 8.0	Ambient Temperature °F: 69	Strength (psi): 3000	(7): 3190 (28): 3965	No. of Cylinders: 4
Fine Agg. (lbs): 1230	Medium Agg. (lbs): $\phi$	Coarse Agg. (lbs): 1755	Cement (lbs): 564	Fly Ash (lbs): 47
Water (gal): 32.0	WRA (oz/100#): 3.93	Air Ent (oz/sack): .69	Other: $\phi$	Yield (Ft <sup>3</sup> /Yd <sup>3</sup> ): 27.64

**CYLINDER TEST DATA**

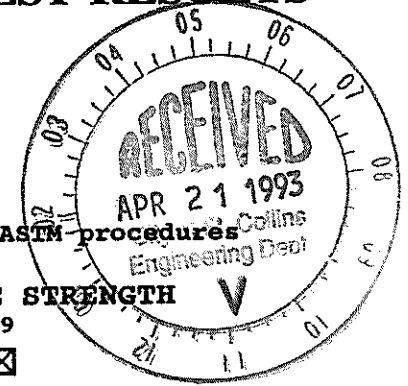
Cylinder No.	Date Made	Days Cured		Date Tested	Sample Age (Days)	Diameter (inches)	Cross Section Area, in. <sup>2</sup>	Length (inches)	Test Load (pounds)	Measured Strength (psi)	Type of Fracture	Tested By
		Field	Lab									
1	5/11/94	$\phi$	7	5/18/94	7	6.0	28.3	12.0	88,500	3130	Conical	EF
2	5/11	$\phi$	7	5/18	7	6.0	28.3	12.0	92,000	3250	Conical	EF
3	5/11	$\phi$	28	6/8/94	28	6.0	28.3	12.0	111,000	3930	Conical	EF
4	5/11	$\phi$	28	6/8	28	6.0	28.3	12.0	113,000	4000	Conical	EF

Distribution: (1) Poudre R-1; (1) URS; (1) Arch. Studio; (1) City; (1) WMN



**Empire Laboratories, Inc.**  
 A Division of Terracon Companies  
 Materials and Foundation Engineers  
 Fort Collins, Denver, Greeley,  
 Longmont, Colorado Springs, Colorado  
 and Cheyenne, Wyoming

# CONCRETE TEST RESULTS



Tests checked below have been performed by Empire Laboratories, Inc., in accordance with ASTM procedures

**SAMPLING**  
ASTM C172



**MAKING & CURING TEST SPECIMENS**  
ASTM C31



ASTM C192



**CAPPING**  
ASTM C617



**COMPRESSIVE STRENGTH**  
ASTM C39



NAME OF PROJECT Southeast Junior High School

CONTRACTOR R C Heath

ENGINEER OR ARCHITECT Architectural Studio

LOCATION OF PLACEMENT Footings - Grid Line M,14

EMPIRE JOB NO. 3012 MIX NO. \_\_\_\_\_ REPORT NO. 3

FINE 1330 Lbs. MEDIUM 1800 Lbs. COARSE AGG. φ Lbs. CEMENT 517 Lbs. FLY ASH φ Lbs. WATER 23.0 Gals.

REQUIRED STRENGTH 3000 SLUMP 2 In. AIR 4.6 % UNIT WEIGHT 141.3 #/Ft.<sup>3</sup> YIELD 27.17 Ft.<sup>3</sup>/Yd.<sup>3</sup>

TEMP. (CONCRETE) 69 °F (AMBIENT) 65 °F WRA 6.0 oz/100# AIR ENTRAINMENT 0.50 oz/sack

TRUCK NO. 6 TIME 1:45 CUBIC YARDS 8.0 CALCIUM CHLORIDE φ ACCELERATOR φ

CYLINDER NO.	DATE MADE	DATE BROKEN	BREAK DAYS	BREAK POUNDS	BREAK PSI	AVERAGE DIA. IN	CROSS SECTIONAL AREA IN <sup>2</sup>	LENGTH INCHES	TYPE OF FRACTURE	CURE DAY/LAB	CURE DAY/FIELD
1	4/9/93	4/16/93	7	79,000	2790	6.0	28.3	12.0	Conical	6	1
2	4/9	4/16	7	80,000	2830	6.0	28.3	12.0	Conical	6	1
3	4/9	5/7/93	28								
4	4/9	5/7	28								

CAST BY Empire Labs BROKEN BY: 24 HOUR \_\_\_\_\_ 48 HOUR \_\_\_\_\_ 3 DAY \_\_\_\_\_ 7 DAY BB 14 DAY \_\_\_\_\_ 28 DAY \_\_\_\_\_ 45 DAY \_\_\_\_\_

CONCRETE SUPPLIER WMN DISTRIBUTION Poudre (1); URS (1); Architects (1); Kehn (1); City (1); WMN (1)



# Empire Laboratories, Inc.

A Division of Terracon Companies  
 Materials and Foundation Engineers  
 Fort Collins, Denver, Greeley,  
 Longmont, Colorado Springs, Colorado  
 and Cheyenne, Wyoming

# CONCRETE TEST RESULTS

Tests checked below have been performed by Empire Laboratories, Inc., in accordance with ASTM procedures

SAMPLING  
 ASTM C172



MAKING & CURING TEST SPECIMENS  
 ASTM C31



ASTM C192



CAPPING  
 ASTM C617



COMPRESSIVE STRENGTH  
 ASTM C39



NAME OF PROJECT Southeast Junior High School

CONTRACTOR CG & S

ENGINEER OR ARCHITECT Architectural Studio

LOCATION OF PLACEMENT Curb & Gutter - Station 21 + 25

EMPIRE JOB NO. 3012 MIX NO. \_\_\_\_\_ REPORT NO. 2

FINE 1560 Lbs. MEDIUM 200 Lbs. COARSE AGG. 1415 Lbs. CEMENT 451 Lbs. FLY ASH 113 Lbs. WATER 31.0 Gals.

REQUIRED STRENGTH 3500 SLUMP 1 3/4 In. AIR 4.6 % UNIT WEIGHT 141.1 #/Ft.<sup>3</sup> YIELD 28.33 Ft.<sup>3</sup>/Yd.<sup>3</sup>

TEMP. (CONCRETE) 68 °F (AMBIENT) 31 °F WRA φ oz/100# AIR ENTRAINMENT 1.33 oz/sack

TRUCK NO. 60 TIME 9:20 CUBIC YARDS 8.0 CALCIUM CHLORIDE φ ACCELERATOR φ

CYLINDER NO.	DATE MADE	DATE BROKEN	BREAK DAYS	BREAK POUNDS	BREAK PSI	AVERAGE DIA. IN	CROSS SECTIONAL AREA IN <sup>2</sup>	LENGTH INCHES	TYPE OF FRACTURE	CURE	CURE
										DAY/LAB	DAY/FIELD
1	3/16/93	3/23/93	7	120,500	4260	6.0	28.3	12.0	Conical	7	φ
2	3/16	3/23	7	120,000	4240	6.0	28.3	12.0	Conical	7	φ
3	3/16	4/13/93	28								
4	3/16	4/13	Hold								

CAST BY Empire Labs BROKEN BY: 24 HOUR \_\_\_\_\_ 48 HOUR \_\_\_\_\_ 3 DAY \_\_\_\_\_ 7 DAY JC 14 DAY \_\_\_\_\_ 28 DAY \_\_\_\_\_ 45 DAY \_\_\_\_\_

CONCRETE SUPPLIER WMN DISTRIBUTION Poudre (1); URS (1); Architects (1); Kehn (1); City (1); WMN (1)



# Empire Laboratories, Inc.

A Division of Terracon Companies  
 Materials and Foundation Engineers  
 Fort Collins, Denver, Greeley,  
 Longmont, Colorado Springs, Colorado  
 and Cheyenne, Wyoming

# CONCRETE TEST RESULTS

Tests checked below have been performed by Empire Laboratories, Inc., in accordance with ASTM procedures

SAMPLING  
ASTM C172



MAKING & CURING TEST SPECIMENS  
ASTM C31



ASTM C192



CAPPING  
ASTM C617



COMPRESSIVE STRENGTH  
ASTM C39



NAME OF PROJECT Southeast Junior High School

CONTRACTOR CG & S

ENGINEER OR ARCHITECT Architectural Studio

LOCATION OF PLACEMENT Curb & Gutter - 225' S of N end - East Side

EMPIRE JOB NO. 3012 MIX NO. 240/60200M REPORT NO. 1

FINE 1560 Lbs. MEDIUM 200 Lbs. COARSE AGG. 1415 Lbs. CEMENT 451 Lbs. FLY ASH 113 Lbs. WATER 31.0 Gals.

REQUIRED STRENGTH 3500 SLUMP 1 3/4 In. AIR 5.4 % UNIT WEIGHT 140.0 #/Ft.<sup>3</sup> YIELD 28.55 Ft.<sup>3</sup>/Yd.<sup>3</sup>

TEMP. (CONCRETE) 70 °F (AMBIENT) 50 °F WRA φ oz/100# AIR ENTRAINMENT 1.33 oz/sack

TRUCK NO. 660 TIME 9:40 CUBIC YARDS 10.0 CALCIUM CHLORIDE φ ACCELERATOR φ

CYLINDER NO.	DATE MADE	DATE BROKEN	BREAK DAYS	BREAK POUNDS	BREAK PSI	AVERAGE DIA. IN	CROSS SECTIONAL AREA IN <sup>2</sup>	LENGTH INCHES	TYPE OF FRACTURE	CURE DAY/LAB	CURE DAY/FIELD
1	3/15/93	3/22/93	7	90,000	3180	6.0	28.3	12.0	Conical	7	φ
2	3/15	4/12/93	28								
3	3/15	4/12	28								
4	3/15		Hold								

CAST BY Empire Labs BROKEN BY: 24 HOUR \_\_\_\_\_ 48 HOUR \_\_\_\_\_ 3 DAY \_\_\_\_\_ 7 DAY BB 14 DAY \_\_\_\_\_ 28 DAY \_\_\_\_\_ 45 DAY \_\_\_\_\_

CONCRETE SUPPLIER WMN DISTRIBUTION Poudre (1); URS (1); Architects (1); Kehn (1); City (1); WMN (1)