Golden Eagle

Park Dam

Property of
Flood Control District of MC Library
Please Return to
2801 W. Durango
Phoenix, AZ 85009

Appendix C:

Testing

Impervious Material Tests
Contractor Impervious Material Tests
Filter Sand Tests
Contractor Filter Sand Tests
Compaction Tests
Concrete Tests
Contractor Concrete Tests
Concrete Aggregate Tests
Miscellaneous Tests
Contractor Miscellaneous Tests

PREPARED BY:

STANTEC CONSULTING INC.
8211 South 48th Street
Phoenix. Arizona 85044
(602) 438-2200

March 2001
Project No. 82000157

IMPERVIOUS MATERIAL TESTS

AGRA Earth & Environmental, Inc.

PROJECT:	GOLDEN EAGLE PARK DAM FCD 1999C071	JOB NO:	0-119-000113
LOCATION:	PALISADES & FOUNTAIN HILLS H.S.	WORK ORDER NO:	3
MATERIAL:	ABC IMPERVIOUS FILL	LAB NO:	5
SAMPLE SOURCE:	ON SITE SAMPLE B	DATE SAMPLED:	6/13/00

SIEVE ANALYSIS OF FINE AND COARSE AGGREGATES (ASTM C136/C117)

MECHANICAL ANALYSIS

SIEVE SIZE	% PASSING	SPECS**
6in.	100	
4in.	100	
3in.	90	100 *
2in.	86	
1 1/2in.	84	
1 1/4in.	84	
1in.	81	
3/4in.	80	
1/2in.	77	
3/8in.	75	
1/4in.	70	
#4	65	50-100
#8	53	
#10	49	
#16	39	
#30	30	
#40	27	
#50	24	
#100	19	
#200	15	15-60

* MATERIAL DID NOT FALL WITHIN SPECIFIED TOLERANCES.

AGRA Earth & Environmental, Inc.

PROJECT:	GOLDEN EAGLE PARK DAM FCD 1999C071	JOB NO:	0-119-000113
LOCATION:	PALISADES & FOUNTAIN HILLS H.S.	WORK ORDER NO:	3
MATERIAL:	ABC IMPERVIOUS FILL	LAB NO:	4
SAMPLE SOURCE:	ON SITE SAMPLE A	DATE SAMPLED:	6/13/00

SIEVE ANALYSIS OF FINE AND COARSE AGGREGATES (ASTM C136/C117)

MECHANICAL ANALYSIS

SIEVE SIZE	% PASSING	SPECS**
6in.	100	
4in.	100	
3in.	95	100 *
2in.	89	
1 1/2in.	88	
1 1/4in.	85	
1in.	84	
3/4in.	82	
1/2in.	80	
3/8in.	77	
1/4in.	72	
#4	67	60-100
#8	54	
#10	49	
#16	39	
#30	30	
#40	26	
#50	24	
#100	19	
#200	15	15-60

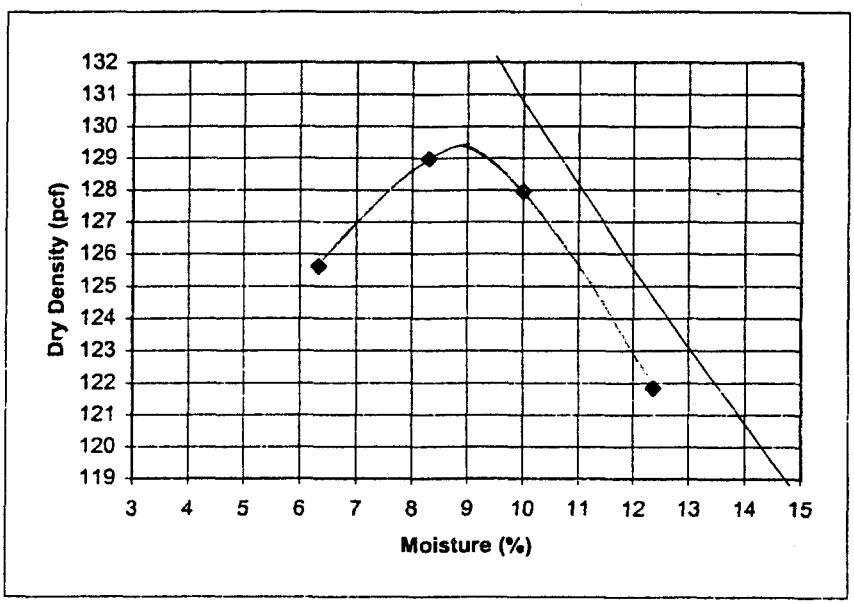
* MATERIAL DID NOT FALL WITHIN SPECIFIED TOLERANCES.

AGRA Earth & Environmental, Inc.

PROJECT:	GOLDEN EAGLE PARK DAM FCD 1999C071	**JOB NO:**	0-119-000113
LOCATION:	PALISADES & FOUNTAIN HILLS H.S.	**WORK ORDER NO:**	3
MATERIAL:	ABC IMPERVIOUS FILL	**LAB NO:**	4
SAMPLE SOURCE:	ON SITE SAMPLE A	**SAMPLE DATE:**	6/13/00

LABORATORY COMPACTION CHARACTERISTICS OF SOILS USING STANDARD EFFORTS (12,400ft-lb-ft/cu.ft) (ASTMD698A)
SIEVE ANALYSIS OF FINE AND COARSE AGGREGATES (ASTM C136/C117)
LIQUID LIMIT, PLASTIC LIMIT, AND PLASTICITY INDEX OF SOILS (ASTM D4318)

CURVE:	D
MAXIMUM DRY DENSITY (pcf):	129.4
OPTIMUM MOISTURE (%):	8.9



SIEVE SIZE	PERCENT PASSING	SPECS.**
6"	100	
4"	100	
3"	95	100 *
2"	89	
1 1/2"	88	
1 1/4"	85	
1"	84	
3/4"	82	
1/2"	80	
3/8"	77	
1/4"	72	
#4	67	60-100
#8	54	
#10	49	
#16	39	
#30	30	
#40	26	
#50	24	
#100	19	
#200	15	15-60
LL:	23	
PL:	15	
PI:	8	0 - 25
USCS:	SC	

NOTE: THE ZERO AIR VOIDS CURVE REPRESENTS A SPECIFIC GRAVITY OF: 2.651 ASSUMED.

THIS IS A SUMMARIZED REPORT OF THE REFERENCED PROCEDURES AND DOES NOT INCLUDE ALL REPORTING REQUIREMENTS. ADDITIONAL DATA CAN BE PROVIDED AT CLIENT'S REQUEST.

* MATERIAL DID NOT FALL WITHIN SPECIFIED TOLERANCES.

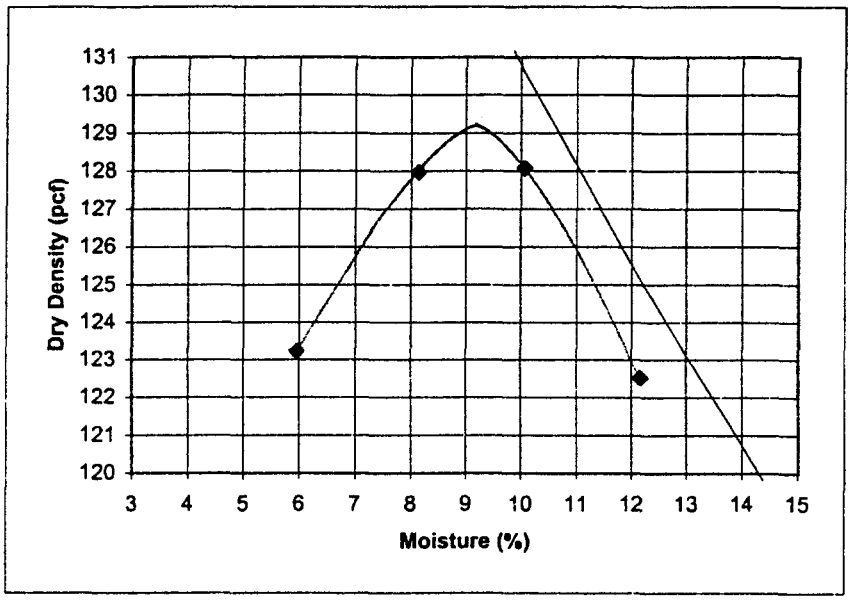
AGRA
ENGINEERING GLOBAL SOLUTIONS

AGRA Earth & Environmental, Inc.

PROJECT:	GOLDEN EAGLE PARK DAM FCD 1999C071	**JOB NO:**	0-119-000113
LOCATION:	PALISADES & FOUNTAIN HILLS H.S.	**WORK ORDER NO:**	3
MATERIAL:	ABC IMPERVIOUS FILL	**LAB NO:**	5
SAMPLE SOURCE:	ON SITE SAMPLE B	**SAMPLE DATE:**	6/13/00

LABORATORY COMPACTION CHARACTERISTICS OF SOILS USING STANDARD EFFORTS (12,400ft-lb-ft/cu.ft) (ASTMD698A)
SIEVE ANALYSIS OF FINE AND COARSE AGGREGATES (ASTM C136/C117)
LIQUID LIMIT, PLASTIC LIMIT, AND PLASTICITY INDEX OF SOILS (ASTM D4318)

CURVE:	E
MAXIMUM DRY DENSITY (pcf):	129.2
OPTIMUM MOISTURE (%):	9.2



SIEVE SIZE	PERCENT PASSING	SPECS.**
6"	100	
4"	100	
3"	90	100 *
2"	86	
1 1/2"	84	
1 1/4"	84	
1"	81	
3/4"	80	
1/2"	77	
3/8"	75	
1/4"	70	
#4	65	60-100
#8	53	
#10	49	
#16	39	
#30	30	
#40	27	
#50	24	
#100	19	
#200	15	15-60
LL:	21	
PL:	16	
PI:	5	0 - 25
USCS:	SC-SM	

NOTE: THE ZERO AIR VOIDS CURVE REPRESENTS A SPECIFIC GRAVITY OF: 2.651 ASSUMED.

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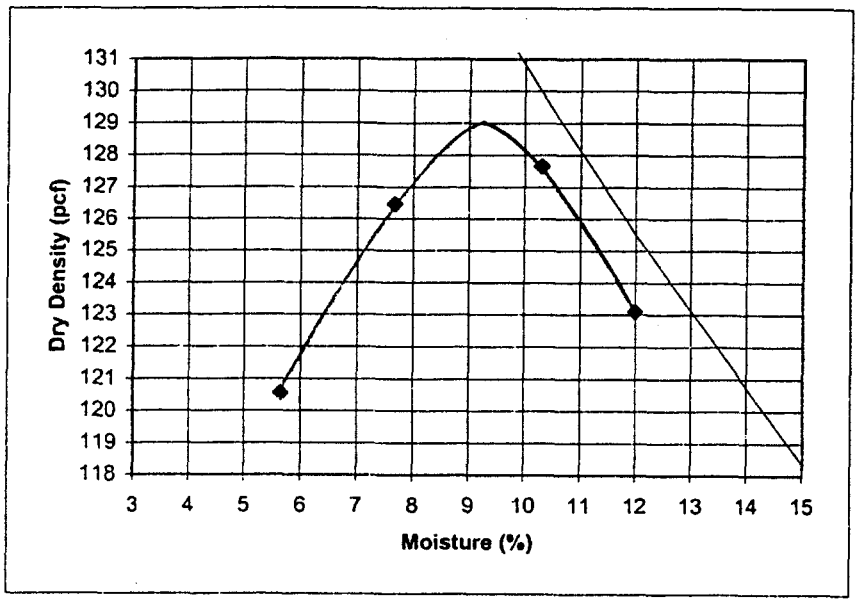
AGRA Earth & Environmental, Inc.

PROJECT:	GOLDEN EAGLE PARK DAM	**JOB NO:**	0-119-000113
LOCATION:	PALISADES & FOUNTAIN HILLS H.S.	**WORK ORDER NO:**	6
MATERIAL:	NATIVE-IMPERVIOUS FILL	**LAB NO:**	8
SAMPLE SOURCE:	SAMPLE C	**SAMPLE DATE:**	6/19/00

LABORATORY COMPACTION CHARACTERISTICS OF SOILS USING STANDARD EFFORTS (12,400ft-lb-ft/cu.ft) (ASTMD698A)
SIEVE ANALYSIS OF FINE AND COARSE AGGREGATES (ASTM C136/C117)
LIQUID LIMIT, PLASTIC LIMIT, AND PLASTICITY INDEX OF SOILS (ASTM D4318)

CURVE:	H
MAXIMUM DRY DENSITY (pcf):	129.0
OPTIMUM MOISTURE (%):	9.3



SIEVE SIZE	PERCENT PASSING	SPECS.**
6"	100	
4"	100	
3"	100	100
2"	99	
1 1/2"	97	
1 1/4"	96	
1"	94	
3/4"	92	
1/2"	87	
3/8"	83	
1/4"	78	
#4	73	60-100
#8	57	
#10	53	
#16	43	
#30	35	
#40	31	
#50	28	
#100	23	
#200	18	15-60

LL:	19
PL:	15
PI:	4
USCS:	SC-SM

NOTE: THE ZERO AIR VOIDS CURVE REPRESENTS A SPECIFIC GRAVITY OF: 2.651 ASSUMED.

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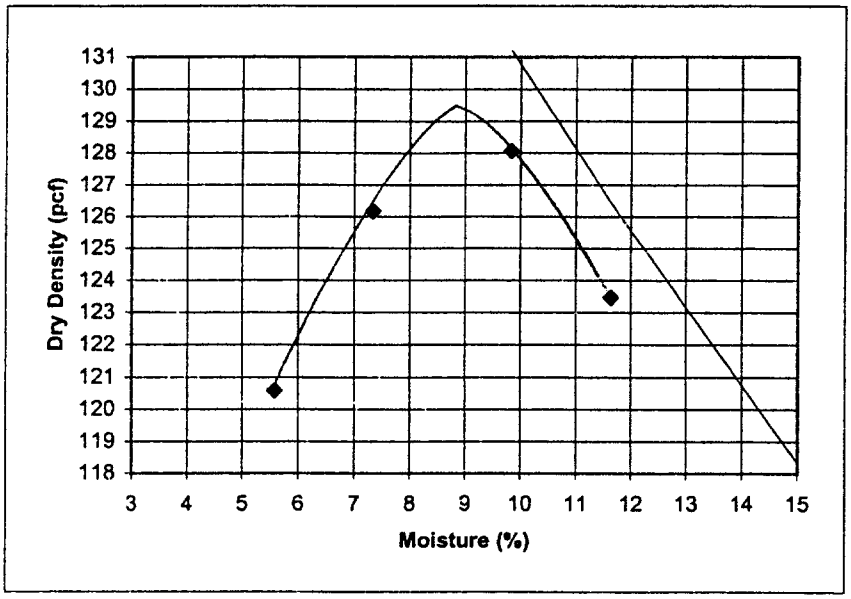
AGRA Earth & Environmental, Inc.

PROJECT:	GOLDEN EAGLE PARK DAM	**JOB NO:**	0-119-000113
LOCATION:	PALISADES & FOUNTAIN HILLS H.S.	**WORK ORDER NO:**	6
MATERIAL:	NATIVE-IMPERVIOUS FILL	**LAB NO:**	9
SAMPLE SOURCE:	SAMPLE D	**SAMPLE DATE:**	6/19/00

LABORATORY COMPACTION CHARACTERISTICS OF SOILS USING STANDARD EFFORTS (12,400ft-lb-ft/cu.ft) (ASTMD698A)
SIEVE ANALYSIS OF FINE AND COARSE AGGREGATES (ASTM C136/C117)
LIQUID LIMIT, PLASTIC LIMIT, AND PLASTICITY INDEX OF SOILS (ASTM D4318)

CURVE:	I
MAXIMUM DRY DENSITY (pcf):	129.3
OPTIMUM MOISTURE (%):	8.9



SIEVE SIZE	PERCENT PASSING	SPECS.**
6"	100	
4"	100	
3"	100	100
2"	98	
1 1/2"	95	
1 1/4"	95	
1"	93	
3/4"	89	
1/2"	85	
3/8"	82	
1/4"	76	
#4	72	60-100
#8	58	
#10	54	
#16	44	
#30	35	
#40	31	
#50	28	
#100	23	
#200	18	15-60

LL:	20
PL:	14
PI:	6
USCS:	SC-SM

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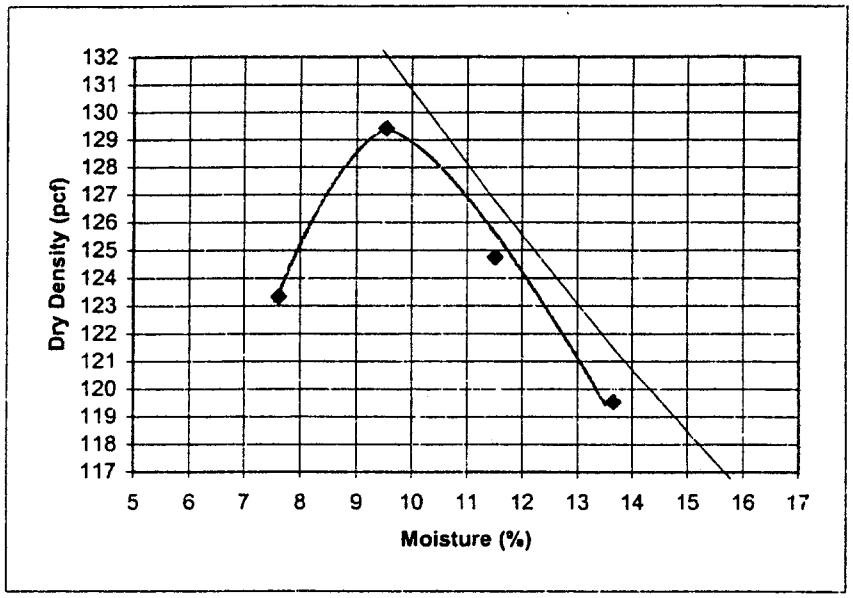
PROJECT:	GOLDEN EAGLE PARK DAM	**JOB NO:**	0-119-000113
LOCATION:	PALISADES & FOUNTAIN HILLS H.S.	**WORK ORDER NO:**	11
MATERIAL:	IMPERVIOUS FILL-SAMPLE E	**LAB NO:**	14
SAMPLE SOURCE:	ON SITE	**SAMPLE DATE:**	6/19/00

LABORATORY COMPACTION CHARACTERISTICS OF SOILS USING STANDARD EFFORTS (12,400ft-lb-ft/cu.ft) (ASTMD698A)
SIEVE ANALYSIS OF FINE AND COARSE AGGREGATES (ASTM C136/C117)
LIQUID LIMIT, PLASTIC LIMIT, AND PLASTICITY INDEX OF SOILS (ASTM D4318)

CURVE:	K
MAXIMUM DRY DENSITY (pcf):	129.5
OPTIMUM MOISTURE (%):	9.5



SIEVE SIZE	PERCENT PASSING	SPECS.**	
6"	100		
4"	100		
3"	100	100	
2"	99		
1 1/2"	98		
1 1/4"	98		
1"	97		
3/4"	96		
1/2"	94		
3/8"	92		
1/4"	87		
#4	46	60-100	*
#8	37		
#10	34		
#16	28		
#30	23		
#40	20		
#50	19		
#100	15		
#200	12	15-60	*

LL:	22
PL:	13
PI:	9
USCS:	GC

NOTE: THE ZERO AIR VOIDS CURVE REPRESENTS A SPECIFIC GRAVITY OF: 2.651 ASSUMED.

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ENGINEERING GLOBAL SOLUTIONS

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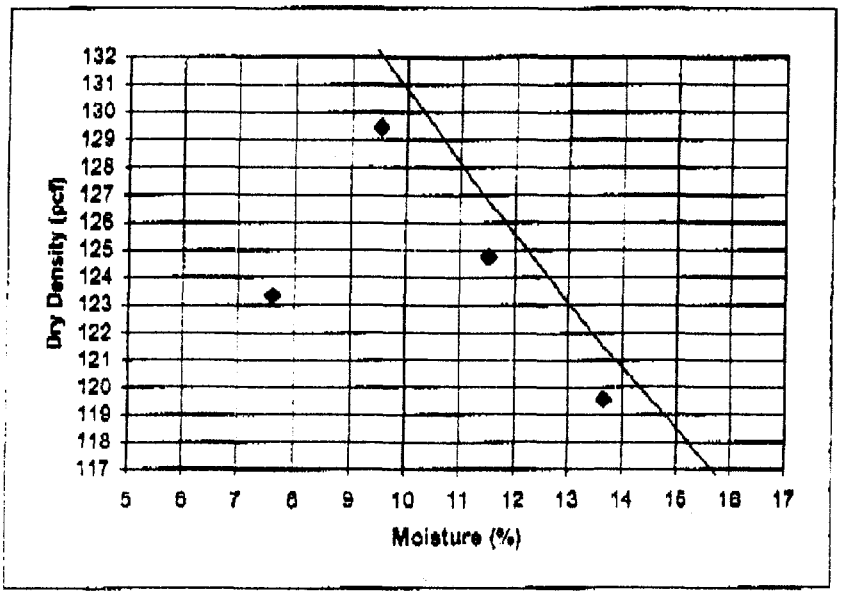
PROJECT:	GOLDEN EAGLE PARK DAM	JOB NO:	0-119-000113
LOCATION:	PALISADES & FOUNTAIN HILLS H.S.	WORK ORDER NO:	11
MATERIAL:	IMPERVIOUS FILL-SAMPLE E	LAB NO:	14
SAMPLE SOURCE:	ON SITE	SAMPLE DATE:	6/19/00

LABORATORY COMPACTION CHARACTERISTICS OF SOILS USING STANDARD EFFORTS (12,400ft-lb-ft/cu.ft) (ASTMD698A)
SIEVE ANALYSIS OF FINE AND COARSE AGGREGATES (ASTM C136/C117)
LIQUID LIMIT, PLASTIC LIMIT, AND PLASTICITY INDEX OF SOILS (ASTM D4318)

CURVE:	K
MAXIMUM DRY DENSITY (pcf):	129.5
OPTIMUM MOISTURE (%):	9.5



SIEVE SIZE	PERCENT PASSING	
6"	100	
4"	100	
3"	100	-- 100
2"	99	
1 1/2"	98	
1 1/4"	98	
1"	97	
3/4"	96	
1/2"	94	
3/8"	92	
1/4"	87	
#4	46	60-100
#8	37	
#10	34	
#16	28	
#30	23	
#40	20	
#50	19	
#100	15	
#200	12	15-60
LL:	22	
PL:	13	
PI:	9	
USCS:	GC	

NOTE: THE ZERO AIR VOIDS CURVE REPRESENTS A SPECIFIC GRAVITY OF: 2.651 ASSUMED.

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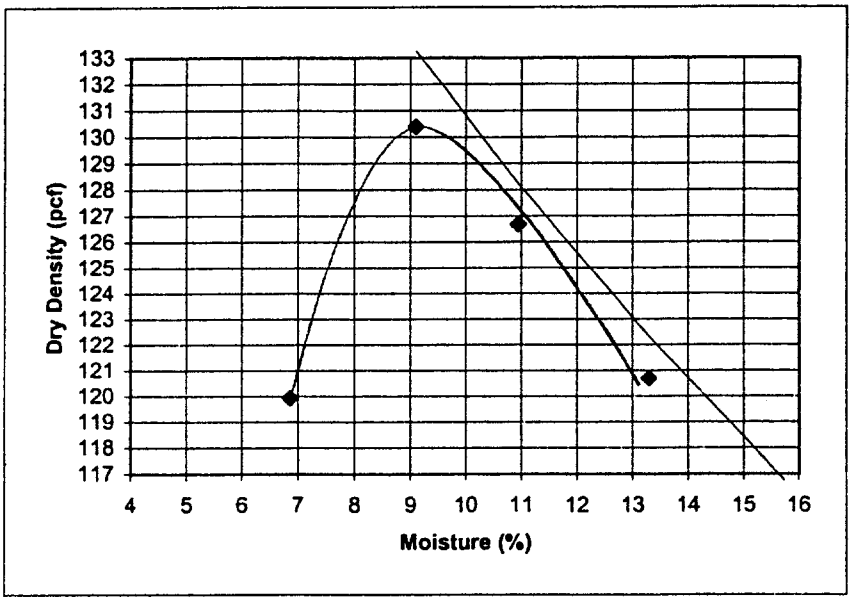
* FROM EXCAVATED DEPTH BOTTOM OF DIAPHRAGM - 5' BELOW S.G. LEVEL APPR. STA 2+95 ± - ZONE I EXISTING MATERIAL

AGRA Earth & Environmental, Inc.

PROJECT:	GOLDEN EAGLE PARK DAM	**JOB NO:**	0-119-000113
LOCATION:	PALISADES & FOUNTAIN HILLS H.S.	**WORK ORDER NO:**	13
MATERIAL:	IMPERVIOUS FILL	**LAB NO:**	16
SAMPLE SOURCE:	ON SITE-DIAPHRAGM EX.	**SAMPLE DATE:**	6/19/00

LABORATORY COMPACTION CHARACTERISTICS OF SOILS USING STANDARD EFFORTS (12,400ft-lb-ft/cu.ft) (ASTMD698A)
SIEVE ANALYSIS OF FINE AND COARSE AGGREGATES (ASTM C136/C117)
LIQUID LIMIT, PLASTIC LIMIT, AND PLASTICITY INDEX OF SOILS (ASTM D4318)

CURVE:	M
MAXIMUM DRY DENSITY (pcf):	130.1
OPTIMUM MOISTURE (%):	9.3



SIEVE SIZE	PERCENT PASSING	SPECS.**
6"	100	
4"	100	
3"	100	100
2"	99	
1 1/2"	98	
1 1/4"	98	
1"	97	
3/4"	96	
1/2"	93	
3/8"	90	
1/4"	85	
#4	78	60-100
#8	64	
#10	59	
#16	45	
#30	35	
#40	31	
#50	28	
#100	22	
#200	18	15-60

LL:	23
PL:	14
PI:	9
USCS:	SC

NOTE: THE ZERO AIR VOIDS CURVE REPRESENTS A SPECIFIC GRAVITY OF: 2.651 ASSUMED.

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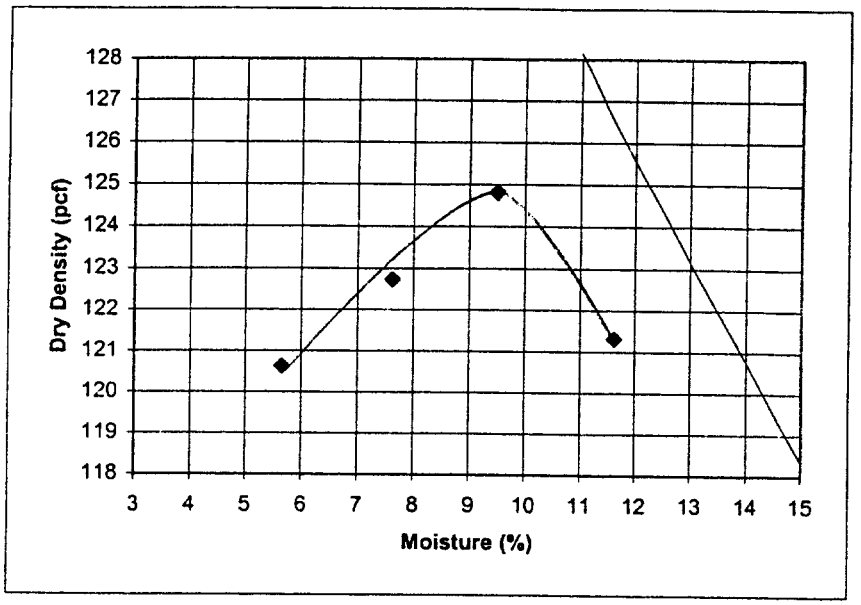
AGRA
ENGINEERING GLOBAL SOLUTIONS

AGRA Earth & Environmental, Inc.

PROJECT:	GOLDEN EAGLE PARK DAM	**JOB NO:**	0-119-000113
LOCATION:	PALISADES & FOUNTAIN HILLS H.S.	**WORK ORDER NO:**	15
MATERIAL:	IMPERVIOUS FILL SAMPLE G	**LAB NO:**	18
SAMPLE SOURCE:	ON-SITE	**SAMPLE DATE:**	6/19/00

LABORATORY COMPACTION CHARACTERISTICS OF SOILS USING STANDARD EFFORTS (12,400ft-lb-ft/cu.ft) (ASTMD698A)
SIEVE ANALYSIS OF FINE AND COARSE AGGREGATES (ASTM C136/C117)
LIQUID LIMIT, PLASTIC LIMIT, AND PLASTICITY INDEX OF SOILS (ASTM D4318)

	N
CURVE:	
MAXIMUM DRY DENSITY (pcf):	124.8
OPTIMUM MOISTURE (%):	9.5



SIEVE SIZE	PERCENT PASSING	SPECS.**
12"	100	100
6"	100	
4"	100	
3"	100	
2"	100	
1 1/2"	97	
1 1/4"	95	
1"	95	
3/4"	92	
1/2"	90	
3/8"	88	
1/4"	86	
#4	83	60-100
#8	68	
#10	64	
#16	53	
#30	43	
#40	40	
#50	36	
#100	30	
#200	22	15-60
LL:	20	
PL:	15	
PI:	5	<10
USCS:	SC-SM	

NOTE: THE ZERO AIR VOIDS CURVE REPRESENTS A SPECIFIC GRAVITY OF: 2.651 ASSUMED.

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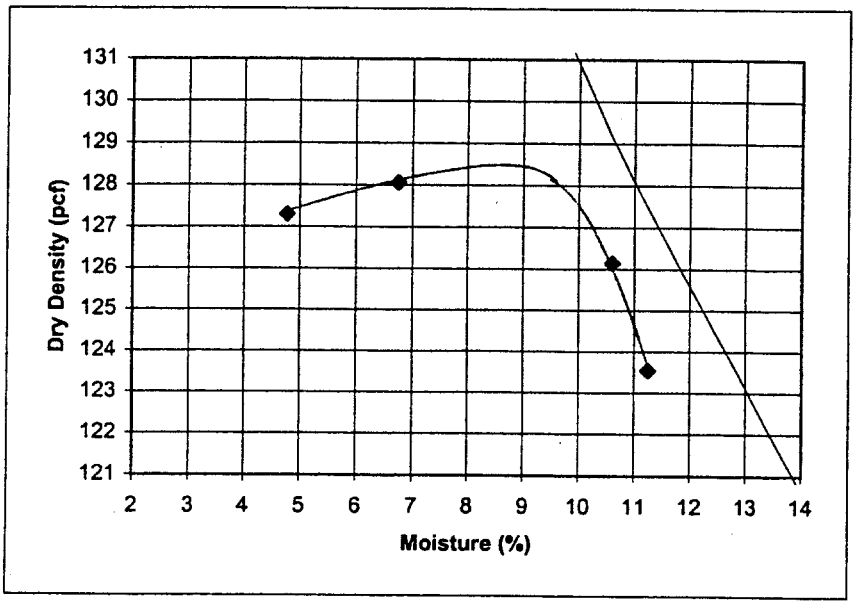
AGRA
ENGINEERING GLOBAL SOLUTIONS

amec

PROJECT:	Golden Eagle Park Dam	**JOB NO:**	0-119-000113
LOCATION:	Palisades & Fountain Hills H.S.	**WORK ORDER NO:**	24
MATERIAL:	Impervious Fill	**LAB NO:**	31
SAMPLE SOURCE:	Shea Blvd./Hunter	**SAMPLE DATE:**	9/13/00

LABORATORY COMPACTION CHARACTERISTICS OF SOILS USING STANDARD EFFORTS (12,400ft-lb-ft/cu.ft) (ASTMD698A)
SIEVE ANALYSIS OF FINE AND COARSE AGGREGATES (ASTM C136/C117)
LIQUID LIMIT, PLASTIC LIMIT, AND PLASTICITY INDEX OF SOILS (ASTM D4318)

CURVE:	S
MAXIMUM DRY DENSITY (pcf):	128.4
OPTIMUM MOISTURE (%):	8.5



SIEVE SIZE	PERCENT PASSING	SPECS.**	
6"	100		
4"	100		
3"	100	100	
2"	90		
1 1/2"	83		
1 1/4"	81		
1"	78		
3/4"	75		
1/2"	69		
3/8"	66		
1/4"	60		
#4	55	60-100	*
#8	41		
#10	36		
#16	26		
#30	17		
#40	13		
#50	11		
#100	7		
#200	5.1	15-60	*
LL:	NV		
PL:	21		
PI:	NP	NP-25	
USCS:	SP-SM		

NOTE: THE ZERO AIR VOIDS CURVE REPRESENTS A SPECIFIC GRAVITY OF: 2.651 ASSUMED.

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* MATERIAL DID NOT FALL WITHIN SPECIFIED TOLERANCES.

amec

Fax

To CHUCK GOPPERTON
Company STANTEC
Fax 602-431-9562
Charge no
File no
Fax operator

From MATT
Direct Tel 480-836-4529
Fax
Pages 2 (inc. this page)
Date
cc

Subject IMPERVIOUS FILL SIEVE ANALYSIS

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3232 West Virginia Avenue
Phoenix, Arizona 85009-1502
Tel +1 (602) 272-8848
Fax +1 (602) 272-7239
www.amec.com

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SIEVE ANALYSIS (ASTM C117/C136)

PROJECT:	Golden Eagle Park Dam	JOB NO:	0-119-000113
LOCATION:	Lakeridge & Fountain Hills H.S.	W.O. NO:	#1
MATERIAL:	Impervious Fill	LAB NO:	31
SAMPLE SOURCE:	Alle. Acad. - Hunter	SAMPLE DATE:	~~6-19-00~~ 7/10/00

PLEASE CHECK ONE: COARSE____ FINE____ BOTH (circled) -200 ONLY____

SIEVE NO.	WGT. RET.	% RET.	% PASS.	SPECS
6"				
4"				
3"	0	0	100%	100
2"	2792	9.9	90	
1 1/2"	1928	6.9	83	
1 1/4"	653	2.3	81	
1"	799	2.8	78	
3/4"	889	3.2	75	
1/2"	1519	5.4	70	
3/8"	912	3.2	66	
1/4"	1649	5.9	60	
#4	1433	5.1	55.3	60-80

224.5

6" to #4 % RET = ((wgt.ret / d)*100)

6" to #4 % PASS = (% PASS ABOVE THE LINE YOUR ON) - (% RET.)

RETAINED #4:	12577 (a)	SPLIT SPOON WGT.	—	MOISTURE:	
PASS #4, WET:	16262 (b)	WGT. BEFORE WASH, WET:	548.9 (e)	WET WEIGHT:(i)	576.0 (i)
PASS #4, DRY:(b/(1+k))	15552 (c)	WGT. BEFORE WASH, DRY:(e/(1+k))	525.3 (f)	DRY WEIGHT:(j)	535.0 (j)
TOTAL:(a+c)	28124 (d)	WGT. AFTER WASH, DRY:	479.8 (g)	MOISTURE:((i-j)/j*100)	9.5 (k)
		ELUTRATION:(f-g)	45.5 (h)	FINE FACTOR:(%pass#4/f)	.10 0.31 (L)

#8	138	14.5	41	
#10	179	18.8	37	
#16	277	29.2	26	
#30	363	38.2	17	
#40	397	41.8	14	
#50	421	44.3	11	
#100	457	48.1	7	
#200	477	50.2	5.1	15-60
-200	4768			

#8 to #200 % RET = (L * WGT. RET)

#8 to #200 % PASS = ((#4 % PASS) - (% RET))

Notes:

SIEVED BY: AC DATE:

CHECKED BY: DATE:

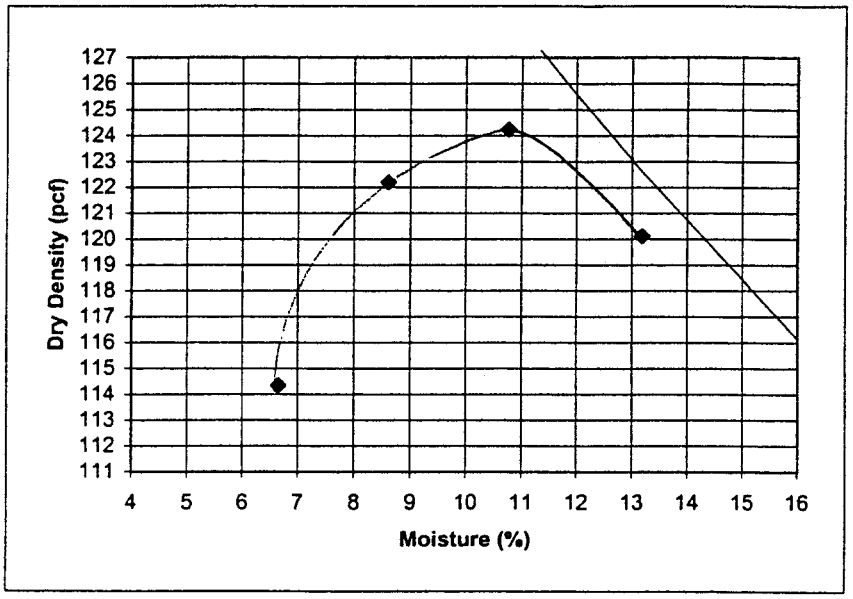
CONDITION OF MATERIAL AS RECEIVED:
ACCEPTABLE____
NOT ACCEPTABLE____

amec

PROJECT:	Golden Eagle Park Dam	**JOB NO:**	0-119-000113
LOCATION:	Palisades Blvd. & Fountain Hills H.S.	**WORK ORDER NO:**	26
MATERIAL:	Impervious Fill, import	**LAB NO:**	33
SAMPLE SOURCE:	Shea to Palisades Blvd.	**SAMPLE DATE:**	9/29/00

LABORATORY COMPACTION CHARACTERISTICS OF SOILS USING STANDARD EFFORTS (12,400ft-lb-ft/cu.ft) (ASTMD698A)
SIEVE ANALYSIS OF FINE AND COARSE AGGREGATES (ASTM C136/C117)
LIQUID LIMIT, PLASTIC LIMIT, AND PLASTICITY INDEX OF SOILS (ASTM D4318)

CURVE:	T
MAXIMUM DRY DENSITY (pcf):	124.5
OPTIMUM MOISTURE (%):	10.8



SIEVE SIZE	PERCENT PASSING	SPECS.**
6"	100	
4"	100	
3"	100	100
2"	100	
1 1/2"	99	
1 1/4"	98	
1"	96	
3/4"	95	
1/2"	93	
3/8"	89	
1/4"	84	
#4	78	60-100
#8	67	
#10	63	
#16	54	
#30	46	
#40	44	
#50	41	
#100	33	
#200	22	15-60
LL:	24	
PL:	21	
PI:	3	25 max
USCS:	SM	

NOTE: THE ZERO AIR VOIDS CURVE REPRESENTS A SPECIFIC GRAVITY OF: 2.651 ASSUMED.

THIS IS A SUMMARIZED REPORT OF THE REFERENCED PROCEDURES AND DOES NOT INCLUDE ALL REPORTING REQUIREMENTS. ADDITIONAL DATA CAN BE PROVIDED AT CLIENT'S REQUEST.

OCT 3 2000

amec

Fax

To CHUCK GOPPERTON
Company STANTEC
Fax 602-431-9562
Charge no
File no
Fax operator

From MATT
Direct Tel 480-836-4529
Fax 480-836-4530
Pages 2 (Inc. this page)
Date 10-2-00
cc

Subject

SIEVE ANALYSIS of IMPERVIOUS FILL
IMPORT BLEND.

AMEC Earth & Environmental, Inc.
3232 West Virginia Avenue
Phoenix, Arizona 85009-1502
Tel +1 (602) 272-8648
Fax +1 (602) 272-7239
www.amec.com

This fax message is confidential. If you are not the intended recipient please notify us by telephone as soon as possible and either return the message by post or destroy it. If you are not the intended recipient, any use by you of its contents is prohibited.

PROJECT:	Golden Eagle Park Dam	**JOB NO:**	0-119-000113
LOCATION:	Palisades Blvd. & Fountain Hills H.S.	**WORK ORDER NO:**	28
MATERIAL:	Impervious Fill, Import	**LAB NO:**	33
SAMPLE SOURCE:	Shea to Palisades Blvd	**DATE SAMPLED:**	9/20/00

SIEVE ANALYSIS OF FINE AND COARSE AGGREGATES (ASTM C136/C117)

MECHANICAL ANALYSIS

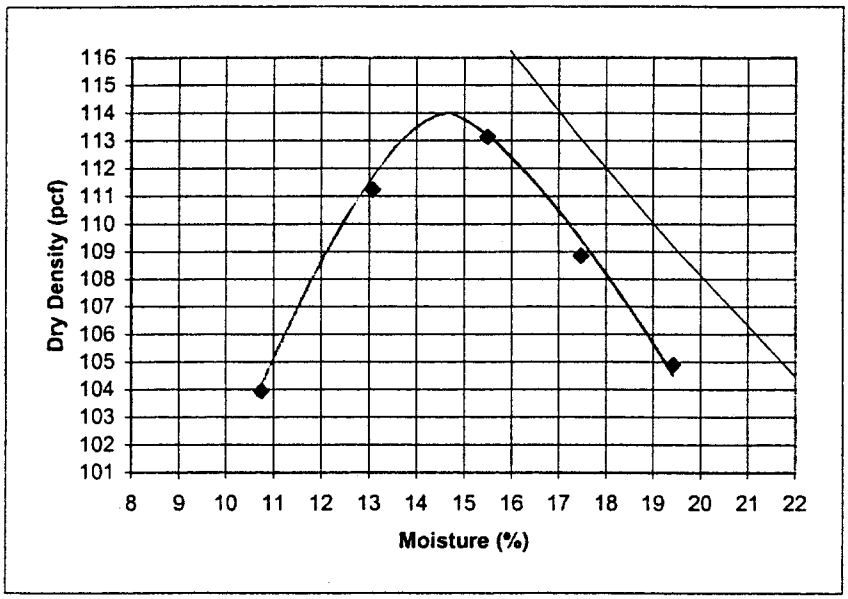
SIEVE SIZE	% PASSING	SPECS
6in.	100	
4in.	100	
3in.	100	100
2in.	100	
1 1/2in.	99	
1 1/4in	98	
1in.	96	
3/4in	95	
1/2in.	93	
3/8in.	89	
1/4in	84	
#4	78	60-100
#8	67	
#10	63	
#16	54	
#30	48	
#40	44	
#50	41	
#100	33	
#200	22	15-60

amec

PROJECT:	Golden Eagle Park Dam	**JOB NO:**	0-119-000113
LOCATION:	Palisades Blvd. & Fountain Hills H.S.	**WORK ORDER NO:**	27
MATERIAL:	Import - Silt	**LAB NO:**	34
SAMPLE SOURCE:	Ft. McDowell Sand & Gravel	**SAMPLE DATE:**	10/20/00

LABORATORY COMPACTION CHARACTERISTICS OF SOILS USING STANDARD EFFORTS (12,400ft-lb-ft/cu.ft) (ASTMD698A)
SIEVE ANALYSIS OF FINE AND COARSE AGGREGATES (ASTM C136/C117)
LIQUID LIMIT, PLASTIC LIMIT, AND PLASTICITY INDEX OF SOILS (ASTM D4318)

CURVE:	T
MAXIMUM DRY DENSITY (pcf):	114.0
OPTIMUM MOISTURE (%):	14.6



SIEVE SIZE	PERCENT PASSING	SPECS.**
6"	100	
4"	100	
3"	100	100
2"	100	
1 1/2"	100	
1 1/4"	100	
1"	100	
3/4"	100	
1/2"	99	
3/8"	99	
1/4"	99	
#4	98	60-100
#8	95	
#10	93	
#16	92	
#30	91	
#40	91	
#50	89	
#100	79	
#200	55	15-60
LL:	24	
PL:	22	
PI:	2	25 max
USCS:	ML	

NOTE: THE ZERO AIR VOIDS CURVE REPRESENTS A SPECIFIC GRAVITY OF: 2.651 ASSUMED.

THIS IS A SUMMARIZED REPORT OF THE REFERENCED PROCEDURES AND DOES NOT INCLUDE ALL REPORTING REQUIREMENTS. ADDITIONAL DATA CAN BE PROVIDED AT CLIENT'S REQUEST.

CONTRACTOR IMPERVIOUS MATERIAL TESTS

Ricker Atkinson McBee & Assoc., Inc.
2105 S. Hardy Drive, Suite 13
Tempe, AZ 85282-1924

Geotechnical Engineering
Construction Materials Testing
Phone (480) 921-8100
Fax (480) 921-4081

LABORATORY TEST RESULTS

Client: Hunter Contracting
Attn: Bob Carlson
701 N. Cooper Road
Gilbert, AZ 85234

Project No.: T05354
Report Date: 3-Oct-00
Lab No.: 5597

Project: **Golden Eagle Park Dam Modifications**
Location: Golden Eagle Blvd. North of Palisades Blvd., Ftn. Hills
Sample Source: Fountain Hills Concrete Stockpile

Sampled By: RAM/Adair
Date Sampled: 28-Sep-00
Submitted By: RAM/Adair
Date Submitted: 28-Sep-00

Material: Silt
Supplier:

Test Method(s): Sieve Analysis and Plasticity Index (ASTM C117, C136, AASHTO T89, T90)

Results:

Sieve Size	Percent Passing	Project Specifications	
		Minimum	Maximum
	100		
	100		
3"	100	100	
2"	100		
1-1/2"	100		
1"	100		
3/4"	100		
1/2"	100		
3/8"	100		
1/4"	99		
#4	99	60	100
#8	95		
#10	94		
#16	93		
#30	92		
#40	91		
#50	89		
#100	78		
#200	50	15	60

Liquid Limit: N/V
Plastic Limit: N/V
PLASTICITY INDEX: Non-Plastic
Project Specifications: 0-25

Remarks:

Distribution: Addressee (2)

Respectfully submitted,

Shawn C. Morman, E.I.T.
Technical Services Director

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Tempe, AZ 85282-1924

Geotechnical Engineering
Construction Materials Testing
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LABORATORY TEST RESULTS

Client: Hunter Contracting
Attn: Bob Carlson
701 N. Cooper Road
Gilbert, AZ 85234

Project No.: T05354
Report Date: 3-Oct-00
Lab No.: 5595

Project: **Golden Eagle Park Dam Modifications**
Location: Golden Eagle Blvd. North of Palisades Blvd., Ftn. Hills
Sample Source: Hunter Yard - Blend of 1/2 Bucket Ftn. Hills Conc. Silt with 1 Bucket of Hunter Sand
Material: Proposed Impervious Fill
Supplier:

Sampled By: RAM/Adair
Date Sampled: 28-Sep-00
Submitted By: RAM/Adair
Date Submitted: 28-Sep-00

Test Method(s): Sieve Analysis and Plasticity Index (ASTM C117, C136, AASHTO T89, T90)

Results:

Sieve Size	Percent Passing	Project Specifications	
		Minimum	Maximum
	100		
	100		
3"	100	100	
2"	100		
1-1/2"	100		
1"	100		
3/4"	100		
1/2"	93		
3/8"	91		
1/4"	86		
#4	81	60	100
#8	66		
#10	61		
#16	50		
#30	39		
#40	35		
#50	32		
#100	26		
#200	17	15	60

Liquid Limit: N/V
Plastic Limit: N/V
PLASTICITY INDEX: Non-Plastic
Project Specifications: 0-25

Remarks:

Distribution: Addressee (2)

Respectfully submitted,

Shawn C. Morman, E.I.T.
Technical Services Director

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LABORATORY TEST RESULTS

Client: Hunter Contracting
Attn: Bob Carlson
701 N. Cooper Road
Gilbert, AZ 85234

Project No.: T05354
Report Date: 3-Oct-00
Lab No.: 5596

Project: **Golden Eagle Park Dam Modifications**
Location: Golden Eagle Blvd. North of Palisades Blvd., Ftn. Hills
Sample Source: Hunter Yard - Blend of 1 Bucket Ftn. Hills Conc. Silt with 1 Bucket of Hunter Sand
Material: Proposed Impervious Fill
Supplier:

Sampled By: RAM/Adair
Date Sampled: 28-Sep-00
Submitted By: RAM/Adair
Date Submitted: 28-Sep-00

Test Method(s): Sieve Analysis and Plasticity Index (ASTM C117, C136, AASHTO T89, T90)

Results:

Sieve Size	Percent Passing	Project Specifications	
		Minimum	Maximum
6"	100		
4"	100		
3"	100	100	
2"	100		
1-1/2"	98		
1"	92		
3/4"	89		
1/2"	86		
3/8"	83		
1/4"	78		
#4	72	60	100
#8	58		
#10	55		
#16	45		
#30	37		
#40	34		
#50	32		
#100	26		
#200	18	15	60

Liquid Limit: N/A

Plastic Limit: N/V

PLASTICITY INDEX: Non-Plastic
Project Specifications: 0-25

Remarks:

Distribution: Addressee (2)

Respectfully submitted,

Shawn C. Morman, E.I.T.
Technical Services Director

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LABORATORY TEST RESULTS

Client: Hunter Contracting
Attn: Bob Carlson
701 N. Cooper Road
Gilbert, AZ 85234

Project No.: T05354
Report Date: 26-Sep-00
Lab No.: 5535

Project: **Golden Eagle Park Dam Modifications**
Location: Golden Eagle Blvd. North of Palisades Blvd., Ftn. Hills
Sample Source: Stockpile at Palisades Blvd. & Shea Blvd., Southwest Side of Pile
Material: Proposed Impervious Fill
Supplier:

Sampled By: RAM/Adair
Date Sampled: 21-Sep-00
Submitted By: RAM/Adair
Date Submitted: 21-Sep-00

Test Method(s): Sieve Analysis and Plasticity Index (ASTM C117, C136, AASHTO T89, T90)

Results:

Sieve Size	Percent Passing	Project Specifications	
		Minimum	Maximum
6"	100		
4"	100		
3"	100	100	
2"	100		
1-1/2"	94		
1"	90		
3/4"	88		
1/2"	82		
3/8"	79		
1/4"	71		
#4	64	60	100
#8	50		
#10	45		
#16	34		
#30	21		
#40	17		
#50	14		
#100	9		
#200	6.6	15	60

Liquid Limit: N/A
Plastic Limit: N/V
PLASTICITY INDEX: Non-Plastic
Project Specifications: 0-25

Remarks:

Distribution: Addressee (2)

Respectfully submitted,

Shawn C. Morman, E.I.T.
Technical Services Director

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LABORATORY TEST RESULTS

Client: Hunter Contracting
Attn: Bob Carlson
701 N. Cooper Road
Gilbert, AZ 85234

Project No.: T05354
Report Date: 26-Sep-00
Lab No.: 5536

Project: **Golden Eagle Park Dam Modifications**
Location: Golden Eagle Blvd. North of Palisades Blvd., Ftn. Hills
Sample Source: Stockpile at Palisades Blvd. & Shea Blvd., Southeast Side of Pile
Material: Proposed Impervious Fill
Supplier:

Sampled By: RAM/Adair
Date Sampled: 21-Sep-00
Submitted By: RAM/Adair
Date Submitted: 21-Sep-00

Test Method(s): Sieve Analysis and Plasticity Index (ASTM C117, C136, AASHTO T89, T90)

Results:

Sieve Size	Percent Passing	Project Specifications	
		Minimum	Maximum
6"	100		
4"	100		
3"	100	100	
2"	95		
1-1/2"	94		
1"	90		
3/4"	86		
1/2"	81		
3/8"	78		
1/4"	70		
#4	63	60	100
#8	49		
#10	45		
#16	33		
#30	21		
#40	17		
#50	13		
#100	9		
#200	5.9	15	60

Liquid Limit: N/A
Plastic Limit: N/V
PLASTICITY INDEX: Non-Plastic
Project Specifications: 0-25

Remarks:

Distribution: Addressee (2)

Respectfully submitted,

Shawn C. Morman, E.I.T.
Technical Services Director

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Fax (480) 921-4081

LABORATORY TEST RESULTS

Client: Hunter Contracting
Attn: Bob Carlson
701 N. Cooper Road
Gilbert, AZ 85234

Project No.: T05354
Report Date: 26-Sep-00
Lab No.: 5537

Project: **Golden Eagle Park Dam Modifications**
Location: Golden Eagle Blvd. North of Palisades Blvd., Ftn. Hills
Sample Source: Stockpile at Palisades Blvd. & Shea Blvd., Northeast Side of Pile
Material: Proposed Impervious Fill
Supplier:

Sampled By: RAM/Adair
Date Sampled: 21-Sep-00
Submitted By: RAM/Adair
Date Submitted: 21-Sep-00

Test Method(s): Sieve Analysis and Plasticity Index (ASTM C117, C136, AASHTO T89, T90)

Results:

Sieve Size	Percent Passing	Project Specifications	
		Minimum	Maximum
6"	100		
4"	90		
3"	90	100	
2"	90		
1-1/2"	88		
1"	85		
3/4"	83		
1/2"	79		
3/8"	76		
1/4"	70		
#4	64	60	100
#8	49		
#10	45		
#16	33		
#30	23		
#40	19		
#50	16		
#100	12		
#200	9.7	15	60

Liquid Limit: 24
Plastic Limit: 18
PLASTICITY INDEX: 6
Project Specifications: 0-25

Remarks:

Distribution: Addressee (2)

Respectfully submitted,

Shawn C. Morman, E.I.T.
Technical Services Director

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LABORATORY TEST RESULTS

Client: Hunter Contracting
Attn: Bob Carlson
701 N. Cooper Road
Gilbert, AZ 85234

Project No.: T05354
Report Date: 26-Sep-00
Lab No.: 5538

Project: **Golden Eagle Park Dam Modifications**
Location: Golden Eagle Blvd. North of Palisades Blvd., Ftn. Hills
Sample Source: Stockpile at Palisades Blvd. & Shea Blvd., Northwest Side of Pile
Material: Proposed Impervious Fill
Supplier:

Sampled By: RAM/Adair
Date Sampled: 21-Sep-00
Submitted By: RAM/Adair
Date Submitted: 21-Sep-00

Test Method(s): Sieve Analysis and Plasticity Index (ASTM C117, C136, AASHTO T89, T90)

Results:

Sieve Size	Percent Passing	Project Specifications	
		Minimum	Maximum
6"	100		
4"	100		
3"	92	100	
2"	92		
1-1/2"	89		
1"	84		
3/4"	82		
1/2"	78		
3/8"	75		
1/4"	69		
#4	64	60	100
#8	50		
#10	45		
#16	34		
#30	22		
#40	17		
#50	14		
#100	9		
#200	6.0	15	60

Liquid Limit: N/A
Plastic Limit: N/V
PLASTICITY INDEX: Non-Plastic
Project Specifications: 0-25

Remarks:

Distribution: Addressee (2)

Respectfully submitted,

Shawn C. Morman, E.I.T.
Technical Services Director

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Fax (480) 921-4081

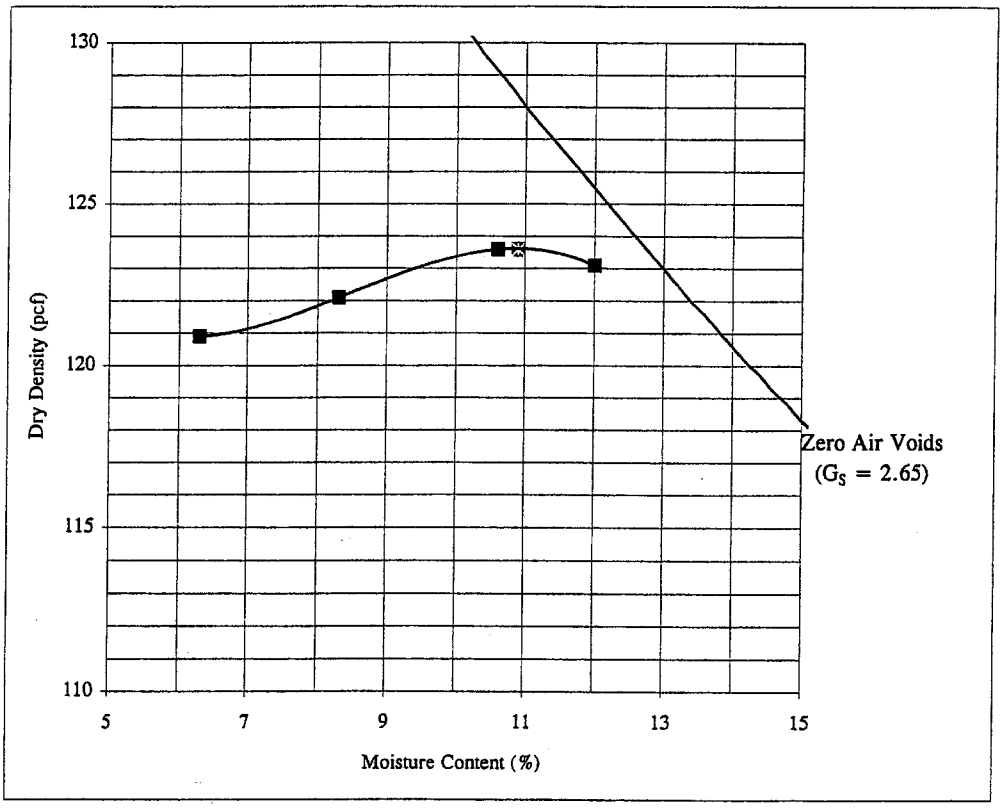
LABORATORY TEST RESULTS

Client:	Hunter Contracting Attn: Bob Carlson 701 N. Cooper Road Gilbert, AZ 85234	Project No.: Report Date: Lab No.:	T05354 26-Sep-00 5535
Project:	**Golden Eagle Park Dam Modifications**		
Location:	Golden Eagle Blvd. North of Palisades Blvd., Ftn. Hills	Sampled By: Date Sampled:	RAM/Adair 21-Sep-00
Sample Source:	Stockpile at Palisades Blvd. & Shea Blvd., Southwest Side of Pile	Submitted By: Date Submitted:	RAM/Adair 21-Sep-00
Material:	Proposed Impervious Fill	Supplier:	

Test Method(s): Maximum Density-Optimum Moisture Determination (ASTM D698 Method A)

Results:

Maximum Density (pcf) = 123.6 Optimum Moisture (%) = 10.9



Distribution: Addressee (2)

Respectfully submitted,

Shawn C. Morman, E.I.T.
Technical Services Director

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Tempe, AZ 85282-1924

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Construction Materials Testing
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Fax (480) 921-4081

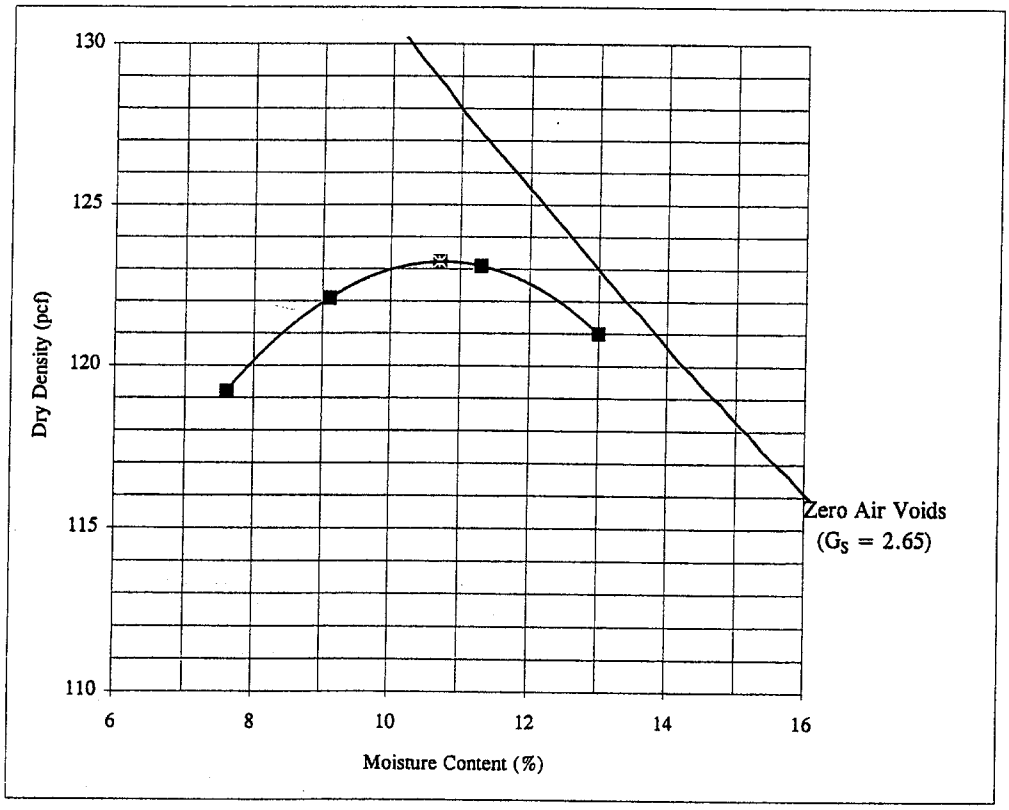
LABORATORY TEST RESULTS

Client:	Hunter Contracting Attn: Bob Carlson 701 N. Cooper Road Gilbert, AZ 85234	Project No.: Report Date: Lab No.:	T05354 26-Sep-00 5536
Project:	**Golden Eagle Park Dam Modifications**		
Location:	Golden Eagle Blvd. North of Palisades Blvd., Ftn. Hills	Sampled By: Date Sampled:	RAM/Adair 21-Sep-00
Sample Source:	Stockpile at Palisades Blvd. & Shea Blvd., Southeast Side of Pile	Submitted By: Date Submitted:	RAM/Adair 21-Sep-00
Material:	Proposed Impervious Fill	Supplier:	

Test Method(s): Maximum Density-Optimum Moisture Determination (ASTM D698 Method A)

Results:

Maximum Density (pcf) = 123.2 Optimum Moisture (%) = 10.7



Distribution: Addressee (2)

Respectfully submitted,

Shawn C. Morman, E.I.T.
Technical Services Director

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2105 S. Hardy Drive, Suite 13
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Geotechnical Engineering
Construction Materials Testing
Phone (480) 921-8100
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LABORATORY TEST RESULTS

Client: Hunter Contracting
Attn: Bob Carlson
701 N. Cooper Road
Gilbert, AZ 85234

Project No.: T05354
Report Date: 26-Sep-00
Lab No.: 5537

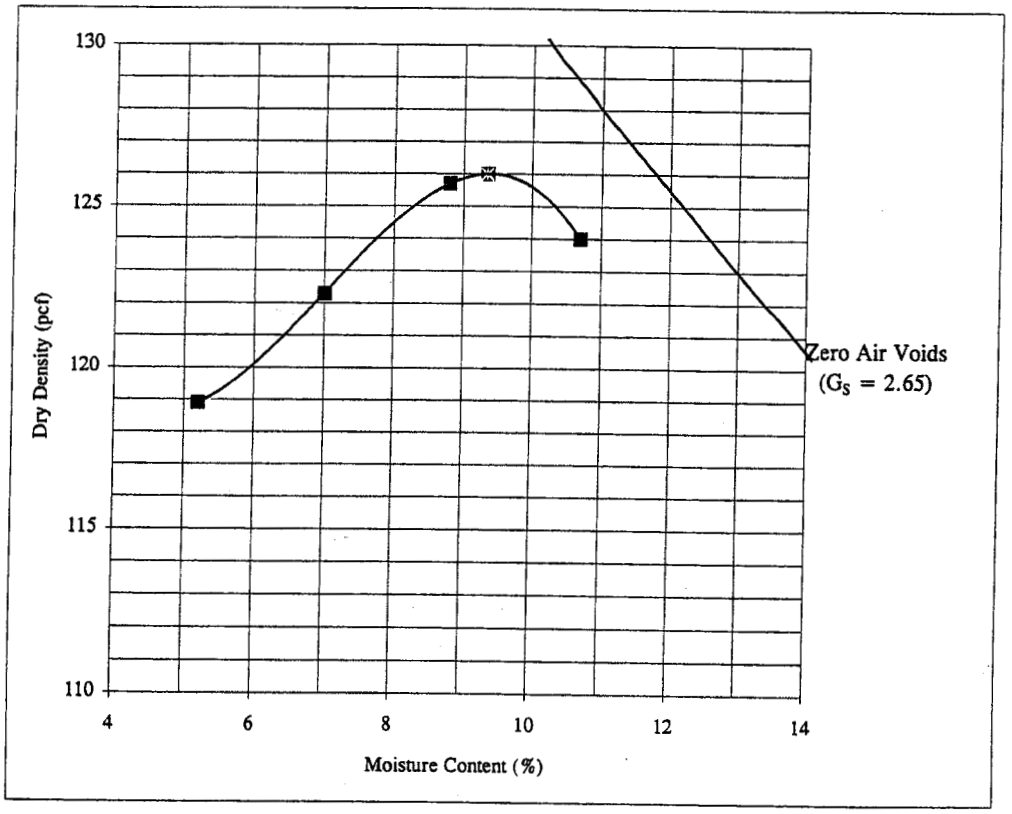
Project: **Golden Eagle Park Dam Modifications**
Location: Golden Eagle Blvd. North of Palisades Blvd., Ftn. Hills
Sample Source: Stockpile at Palisades Blvd. & Shea Blvd., Northeast Side of Pile
Material: Proposed Impervious Fill

Sampled By: RAM/Adair
Date Sampled: 21-Sep-00
Submitted By: RAM/Adair
Date Submitted: 21-Sep-00
Supplier:

Test Method(s): Maximum Density-Optimum Moisture Determination (ASTM D698 Method A)

Results:

Maximum Density (pcf) = 126.0 Optimum Moisture (%) = 9.4



Distribution: Addressee (2)

Respectfully submitted,

Shawn C. Morman, E.I.T.
Technical Services Director

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LABORATORY TEST RESULTS

Client: Hunter Contracting
Attn: Bob Carlson
701 N. Cooper Road
Gilbert, AZ 85234

Project No.: T05354
Report Date: 26-Sep-00
Lab No.: 5538

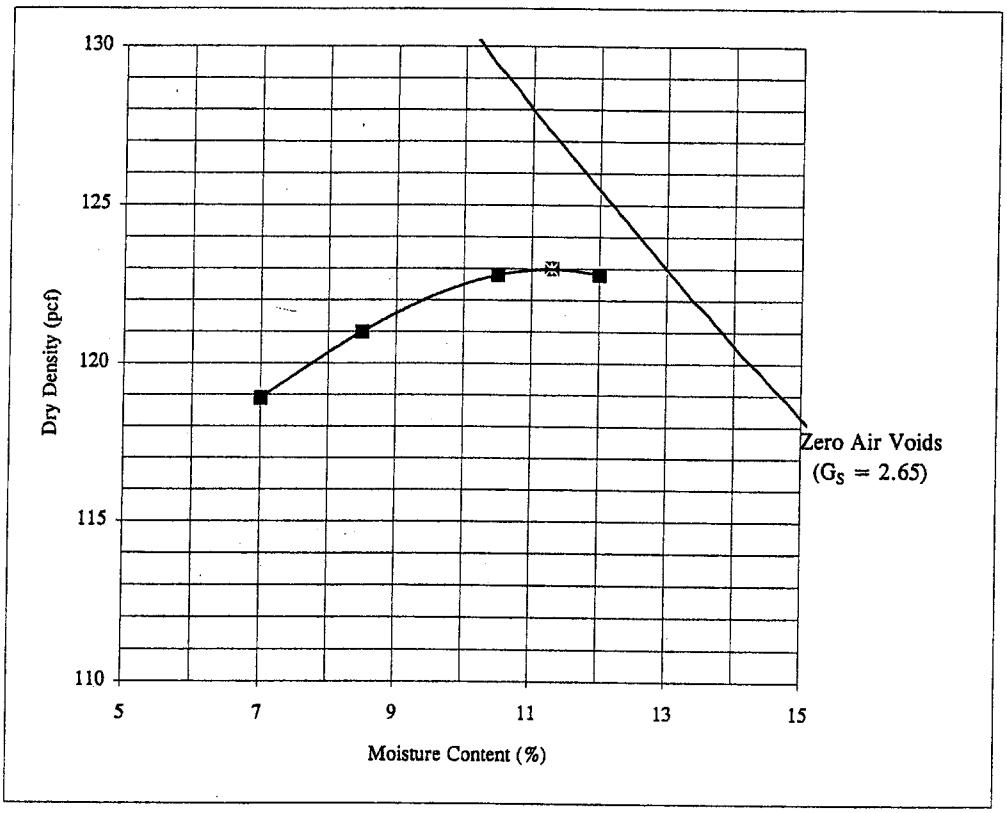
Project: **Golden Eagle Park Dam Modifications**
Location: Golden Eagle Blvd. North of Palisades Blvd., Ftn. Hills
Sample Source: Stockpile at Palisades Blvd. & Shea Blvd., Northwest Side of Pile
Material: Proposed Impervious Fill

Sampled By: RAM/Adair
Date Sampled: 21-Sep-00
Submitted By: RAM/Adair
Date Submitted: 21-Sep-00
Supplier:

Test Method(s): Maximum Density-Optimum Moisture Determination (ASTM D698 Method A)

Results:

Maximum Density (pcf) = 123.0 Optimum Moisture (%) = 11.3



Distribution: Addressee (2)

Respectfully submitted,

Shawn C. Morman, E.I.T.
Technical Services Director

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Construction Materials Testing
Phone (480) 921-8100
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LABORATORY TEST RESULTS

Client: Hunter Contracting
Attn: Bob Carlson
701 N. Cooper Road
Gilbert, AZ 85234

Project No.: T05354
Report Date: 28-Jun-00
Lab No.: 4798

Project: **Golden Eagle Park Dam Modifications**
Location: Golden Eagle Blvd. North of Palisades Blvd., Ftn. Hills

Sample Source: Sta. 13+50

Sampled By: RAM/Hemphill
Date Sampled: 23-Jun-00
Submitted By: RAM/Hemphill
Date Submitted: 23-Jun-00

Material: Impervious Fill SHEA BLVD IMPORT Supplier:

Test Method(s): Sieve Analysis and Plasticity Index (ASTM C117, C136, AASHTO T89, T90)

Results:

Sieve Size	Percent Passing	Project Specifications	
		Minimum	Maximum
6"	100		
4"	100		
3"	100	100	
2"	100		
1-1/2"	99		
1"	97		
3/4"	97		
1/2"	95		
3/8"	93		
1/4"	86		
#4	79	60	100
#8	67		
#10	64		
#16	55		
#30	47		
#40	44		
#50	41		
#100	38		
#200	36	15	60

Liquid Limit: N/A

Plastic Limit: N/V

PLASTICITY INDEX: Non-Plastic
Project Specifications: 0-25

Remarks:

Distribution: Addressee (2)

Respectfully submitted,

Shawn C. Morman, E.I.T.
Technical Services Director

Ricker Atkinson McBee & Assoc., Inc.
2105 S. Hardy Drive, Suite 13
Tempe, AZ 85282-1924

Geotechnical Engineering
Construction Materials Testing
Phone (480) 921-8100
Fax (480) 921-4081

LABORATORY TEST RESULTS

Client: Hunter Contracting
Attn: Bob Carlson
701 N. Cooper Road
Gilbert, AZ 85234

Project No.: T05354
Report Date: 26-Jun-00
Lab No.: 4798

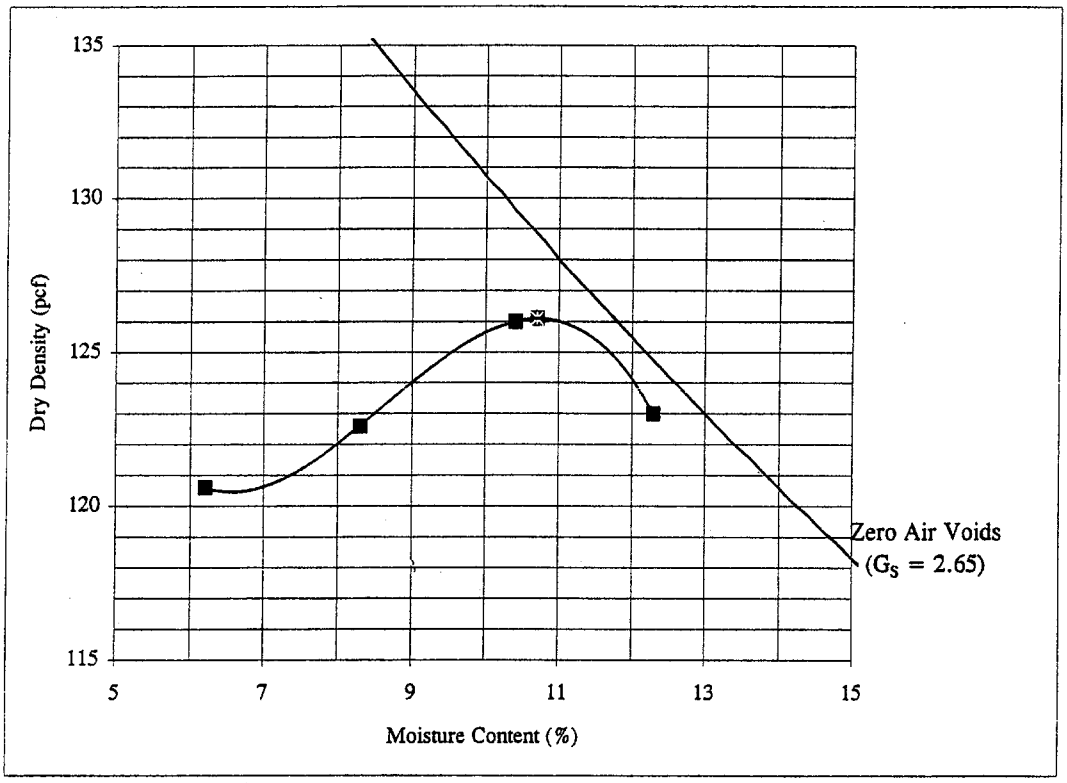
Project: **Golden Eagle Park Dam Modifications**
Location: Golden Eagle Blvd. North of Palisades Blvd., Ftn. Hills
Sample Source: Sta. 13+50
Material: Impervious Fill

Sampled By: RAM/Hemphill
Date Sampled: 23-Jun-00
Submitted By: RAM/Hemphill
Date Submitted: 23-Jun-00
Supplier:

Test Method(s): Maximum Density-Optimum Moisture Determination (ASTM D698 Method A)

Results:

Maximum Density (pcf) = 126.1 Optimum Moisture (%) = 10.7



Distribution: Addressee (2)

Respectfully submitted,

Shawn C. Morman, E.I.T.
Technical Services Director

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Tempe, AZ 85282-1924

Geotechnical Engineering
Construction Materials Testing
Phone (480) 921-8100
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LABORATORY TEST RESULTS

Client: Hunter Contracting
Attn: Bob Carlson
701 N. Cooper Road
Gilbert, AZ 85234

Project No.: T05354
Report Date: 14-Jun-00
Lab No.: 4685

Project: **Golden Eagle Park Dam Modifications**
Location: Golden Eagle Blvd. North of Palisades Blvd., Ftn. Hills

Sampled By: RAM/Horacek
Date Sampled: 13-Jun-00
Submitted By: RAM/Horacek
Date Submitted: 13-Jun-00

Sample Source: Impervious Fill Stockpile, Sta. 5+50, 50' Left, North Half of Stockpile
Material: Proposed Impervious Fill
Supplier:

Test Method(s): Sieve Analysis and Plasticity Index (ASTM C117, C136, AASHTO T89, T90)

Results:

Sieve Size	Percent Passing	Project Specifications	
		Minimum	Maximum
6"	100		
4"	100		
3"	100	100	
2"	95		
1-1/2"	92		
1"	88		
3/4"	84		
1/2"	79		
3/8"	75		
1/4"	69		
#4	62	60	100
#8	50		
#10	47		
#16	39		
#30	30		
#40	27		
#50	24		
#100	20		
#200	16	15	60

Liquid Limit: 24

Plastic Limit: 18

PLASTICITY INDEX: 6
Project Specifications: 0-25

Remarks:

Distribution: Addressee (2)

Respectfully submitted,

Shawn C. Morman, E.I.T.
Technical Services Director

Ricker Atkinson McBee & Assoc., Inc.
2105 S. Hardy Drive, Suite 13
Tempe, AZ 85282-1924

Geotechnical Engineering
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LABORATORY TEST RESULTS

Client: Hunter Contracting
Attn: Bob Carlson
701 N. Cooper Road
Gilbert, AZ 85234

Project No.: T05354
Report Date: 14-Jun-00
Lab No.: 4687

Project: **Golden Eagle Park Dam Modifications**
Location: Golden Eagle Blvd. North of Palisades Blvd., Ftn. Hills

Sampled By: RAM/Horacek
Date Sampled: 13-Jun-00
Submitted By: RAM/Horacek
Date Submitted: 13-Jun-00

Sample Source: Pervious Fill Stockpile, Sta. 4+00, 100' Left, South Half of Stockpile

Material: Proposed Pervious Fill

Supplier:

Test Method(s): Sieve Analysis and Plasticity Index (ASTM C117, C136, AASHTO T89, T90)

Results:

Sieve Size	Percent Passing	Project Specifications	
		Minimum	Maximum
12"	100	100	
4"	100		
3"	100		
2"	100		
1-1/2"	97		
1"	94		
3/4"	92		
1/2"	88		
3/8"	84		
1/4"	78		
#4	71	25	75
#8	56		
#10	52		
#16	42		
#30	32		
#40	28		
#50	25		
#100	21		
#200	16	0	20

Liquid Limit: 22

Plastic Limit: 19

PLASTICITY INDEX: 3

Project Specifications: 0 - 10

Remarks:

Distribution: Addressee (2)

Respectfully submitted,

Shawn C. Morman, E.I.T.
Technical Services Director

PERVIOUS MATERIAL TESTS

AGRA Earth & Environmental, Inc.

PROJECT:	GOLDEN EAGLE PARK DAM FCD 1999C071	**JOB NO:**	0-119-000113
LOCATION:	PALISADES & FOUNTAIN HILLS H.S.	**WORK ORDER NO:**	2
MATERIAL:	ABC PERVIOUS FILL	**LAB NO:**	3
SAMPLE SOURCE:	ON SITE SAMPLE B	**DATE SAMPLED:**	6/13/00

SIEVE ANALYSIS OF FINE AND COARSE AGGREGATES (ASTM C136/C117)

MECHANICAL ANALYSIS

SIEVE SIZE	% PASSING	SPECS**
6in.	100	100
4in.	100	
3in.	100	
2in.	92	
1 1/2in.	89	
1 1/4in.	88	
1in.	83	
3/4in.	78	
1/2in.	71	
3/8in.	67	
1/4in.	61	
#4	56	25-75
#8	47	
#10	45	
#16	38	
#30	32	
#40	29	
#50	27	
#100	23	
#200	19	0-20

AGRA Earth & Environmental, Inc.

PROJECT:	GOLDEN EAGLE PARK DAM FCD 1999C071	JOB NO:	0-119-000113
LOCATION:	PALISADES & FOUNTAIN HILLS H.S.	WORK ORDER NO:	2
MATERIAL:	ABC PERVIOUS FILL	LAB NO:	2
SAMPLE SOURCE:	ON SITE SAMPLE A	DATE SAMPLED:	6/13/00

SIEVE ANALYSIS OF FINE AND COARSE AGGREGATES (ASTM C136/C117)

MECHANICAL ANALYSIS

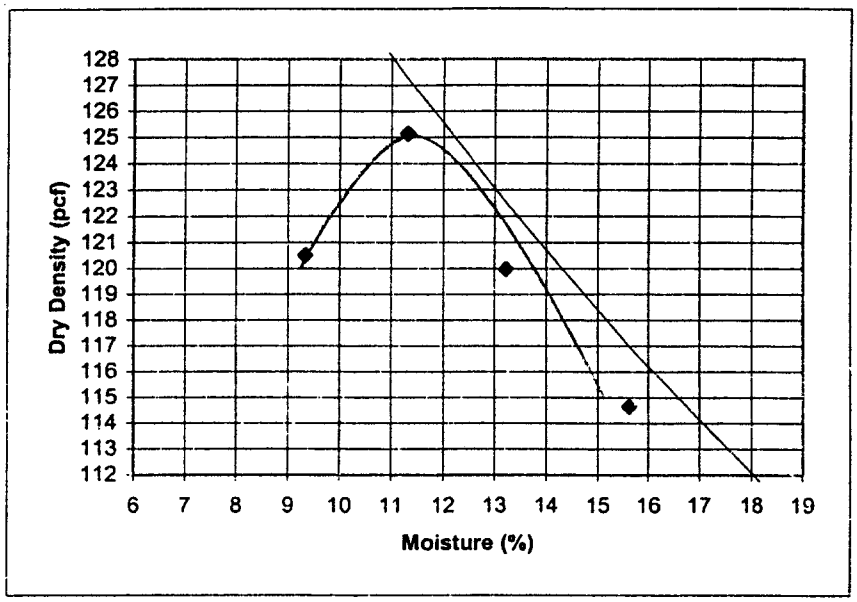
SIEVE SIZE	% PASSING	SPECS**
6in.	100	~~100~~ OK
4in.	92	
3in.	82	~~100~~
2in.	81	
1 1/2in.	76	
1 1/4in.	73	
1in.	70	
3/4in.	66	
1/2in.	59	
3/8in.	55	
1/4in.	50	
#4	46	25-75
#8	38	
#10	36	
#16	31	
#30	26	
#40	23	
#50	22	
#100	18	
#200	15	0-20

AGRA Earth & Environmental, Inc.

PROJECT:	GOLDEN EAGLE PARK DAM FCD 1999C071	**JOB NO:**	0-119-000113
LOCATION:	PALISADES & FOUNTAIN HILLS H.S.	**WORK ORDER NO:**	2
MATERIAL:	ABC PERVIOUS FILL	**LAB NO:**	2
SAMPLE SOURCE:	ON SITE SAMPLE A	**SAMPLE DATE:**	6/13/00

LABORATORY COMPACTION CHARACTERISTICS OF SOILS USING STANDARD EFFORTS (12,400ft-lb-ft/cu.ft) (ASTMD698A)
SIEVE ANALYSIS OF FINE AND COARSE AGGREGATES (ASTM C136/C117)
LIQUID LIMIT, PLASTIC LIMIT, AND PLASTICITY INDEX OF SOILS (ASTM D4318)

CURVE:	B
MAXIMUM DRY DENSITY (pcf):	125.1
OPTIMUM MOISTURE (%):	11.3



SIEVE SIZE	PERCENT PASSING	SPECS.**
12"	100	100
6"	100	
4"	92	
3"	82	
2"	81	
1 1/2"	76	
1 1/4"	73	
1"	70	
3/4"	66	
1/2"	59	
3/8"	55	
1/4"	50	
#4	46	25-75
#8	38	
#10	36	
#16	31	
#30	26	
#40	23	
#50	22	
#100	18	
#200	15	0-20
LL:	27	
PL:	20	
PI:	7	<10
USCS:	GC-GM	

NOTE: THE ZERO AIR VOIDS CURVE REPRESENTS A SPECIFIC GRAVITY OF: 2.651 ASSUMED.

THIS IS A SUMMARIZED REPORT OF THE REFERENCED PROCEDURES AND DOES NOT INCLUDE ALL REPORTING REQUIREMENTS. ADDITIONAL DATA CAN BE PROVIDED AT CLIENT'S REQUEST.

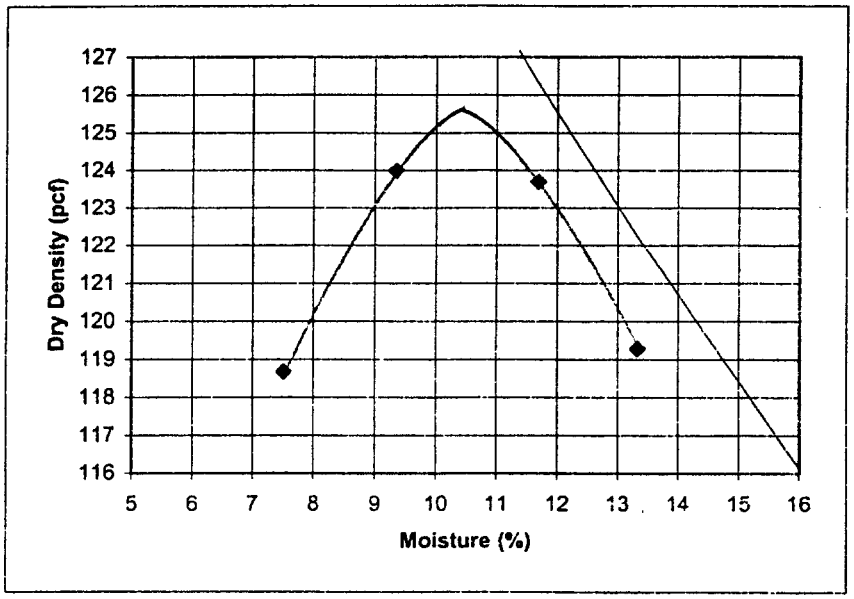
AGRA
ENGINEERING GLOBAL SOLUTIONS

AGRA Earth & Environmental, Inc.

PROJECT:	GOLDEN EAGLE PARK DAM FCD 1999C071	**JOB NO:**	0-119-000113
LOCATION:	PALISADES & FOUNTAIN HILLS H.S.	**WORK ORDER NO:**	2
MATERIAL:	ABC PERVIOUS FILL	**LAB NO:**	3
SAMPLE SOURCE:	ON SITE SAMPLE B	**SAMPLE DATE:**	6/13/00

LABORATORY COMPACTION CHARACTERISTICS OF SOILS USING STANDARD EFFORTS (12,400ft-lb-ft/cu.ft) (ASTMD698A)
SIEVE ANALYSIS OF FINE AND COARSE AGGREGATES (ASTM C136/C117)
LIQUID LIMIT, PLASTIC LIMIT, AND PLASTICITY INDEX OF SOILS (ASTM D4318)

CURVE:	C
MAXIMUM DRY DENSITY (pcf):	125.8
OPTIMUM MOISTURE (%):	10.5



SIEVE SIZE	PERCENT PASSING	SPECS.**
12"	100	100
6"	100	
4"	100	
3"	100	
2"	92	
1 1/2"	89	
1 1/4"	86	
1"	83	
3/4"	78	
1/2"	71	
3/8"	67	
1/4"	61	
#4	56	25-75
#8	47	
#10	45	
#16	38	
#30	32	
#40	29	
#50	27	
#100	23	
#200	19	0-20
LL:	28	
PL:	19	
PI:	9	<10
USCS:	GC	

NOTE: THE ZERO AIR VOIDS CURVE REPRESENTS A SPECIFIC GRAVITY OF: 2.651 ASSUMED.

THIS IS A SUMMARIZED REPORT OF THE REFERENCED PROCEDURES AND DOES NOT INCLUDE ALL REPORTING REQUIREMENTS. ADDITIONAL DATA CAN BE PROVIDED AT CLIENT'S REQUEST.

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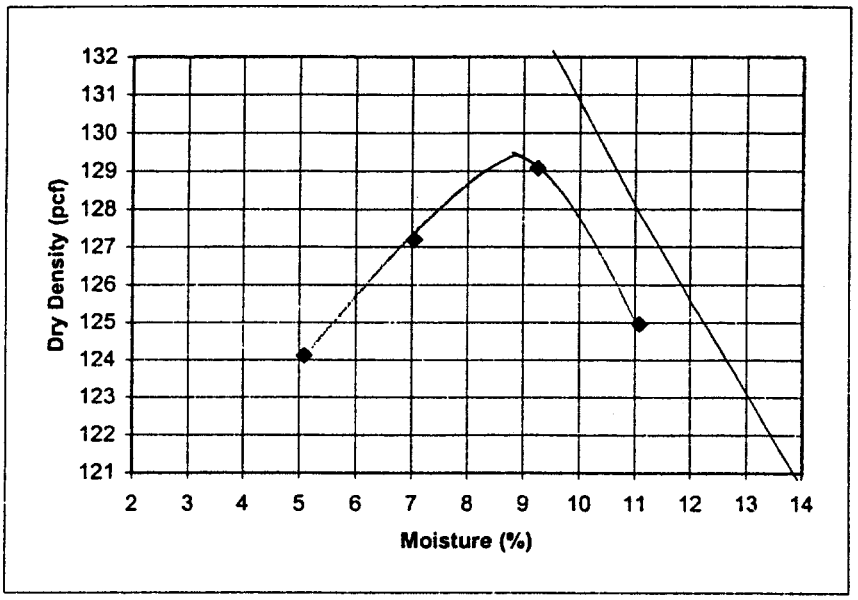
ENGINEERING GLOBAL SOLUTIONS

AGRA Earth & Environmental, Inc.

PROJECT:	GOLDEN EAGLE PARK DAM FCD 1999C071	**JOB NO:**	0-119-000113
LOCATION:	PALISADES & FOUNTAIN HILLS H.S.	**WORK ORDER NO:**	4
MATERIAL:	ABC PERVIOUS FILL	**LAB NO:**	6
SAMPLE SOURCE:	ON SITE-HUNTER	**SAMPLE DATE:**	6/14/00

LABORATORY COMPACTION CHARACTERISTICS OF SOILS USING STANDARD EFFORTS (12,400ft-lb-ft/cu.ft) (ASTMD698A)
SIEVE ANALYSIS OF FINE AND COARSE AGGREGATES (ASTM C136/C117)
LIQUID LIMIT, PLASTIC LIMIT, AND PLASTICITY INDEX OF SOILS (ASTM D4318)

CURVE:	F
MAXIMUM DRY DENSITY (pcf):	129.4
OPTIMUM MOISTURE (%):	8.9



SIEVE SIZE	PERCENT PASSING	SPECS.**
12"	100	100
6"	82	
4"	82	
3"	74	
2"	71	
1 1/2"	69	
1 1/4"	67	
1"	66	
3/4"	64	
1/2"	62	
3/8"	60	
1/4"	57	
#4	54	25-75
#8	44	
#10	40	
#16	32	
#30	24	
#40	20	
#50	17	
#100	13	
#200	9.3	0-20
LL:	NV	
PL:		
PI:	NP	< 10
USCS:	GP-GM	

NOTE: THE ZERO AIR VOIDS CURVE REPRESENTS A SPECIFIC GRAVITY OF: 2.651 ASSUMED.

THIS IS A SUMMARIZED REPORT OF THE REFERENCED PROCEDURES AND DOES NOT INCLUDE ALL REPORTING REQUIREMENTS. ADDITIONAL DATA CAN BE PROVIDED AT CLIENT'S REQUEST.

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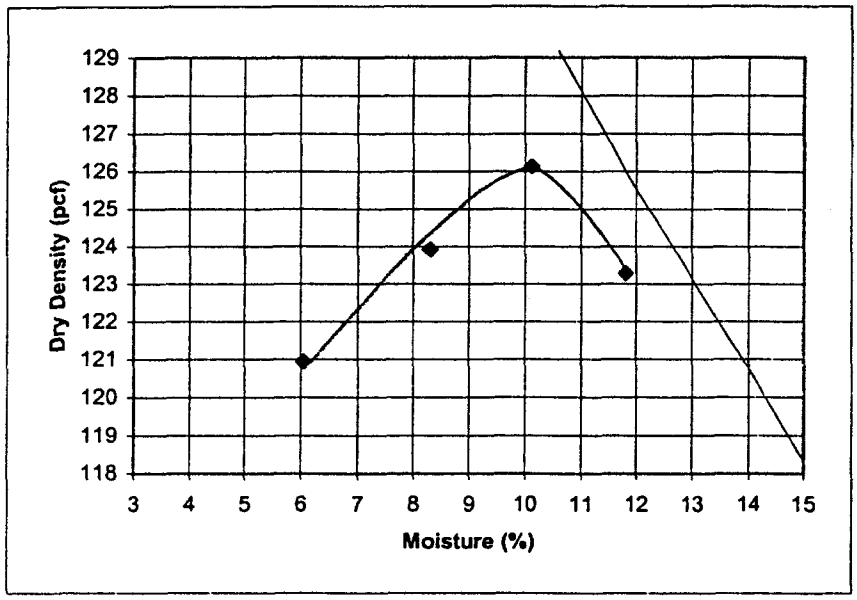
ENGINEERING GLOBAL SOLUTIONS

AGRA Earth & Environmental, Inc.

PROJECT:	GOLDEN EAGLE PARK DAM	**JOB NO:**	0-119-000113
LOCATION:	PALISADES & FOUNTAIN HILLS H.S.	**WORK ORDER NO:**	12
MATERIAL:	IMPORT- PERVIOUS FILL	**LAB NO:**	15
SAMPLE SOURCE:	SHEA & PALISADES	**SAMPLE DATE:**	6/19/00

LABORATORY COMPACTION CHARACTERISTICS OF SOILS USING STANDARD EFFORTS (12,400ft-lb-ft/cu.ft) (ASTMD698A)
SIEVE ANALYSIS OF FINE AND COARSE AGGREGATES (ASTM C136/C117)
LIQUID LIMIT, PLASTIC LIMIT, AND PLASTICITY INDEX OF SOILS (ASTM D4318)

CURVE:	L
MAXIMUM DRY DENSITY (pcf):	126.2
OPTIMUM MOISTURE (%):	10.0



SIEVE SIZE	PERCENT PASSING	SPECS.**
12"	100	100
6"	100	
4"	95	
3"	90	
2"	90	
1 1/2"	89	
1 1/4"	88	
1"	87	
3/4"	86	
1/2"	82	
3/8"	79	
1/4"	73	
#4	67	25-75
#8	47	
#10	42	
#16	30	
#30	20	
#40	16	
#50	13	
#100	9	
#200	5.6	0-20
LL:	25	
PL:	18	
PI:	7	<10
USCS:		

NOTE: THE ZERO AIR VOIDS CURVE REPRESENTS A SPECIFIC GRAVITY OF: 2.651 ASSUMED.

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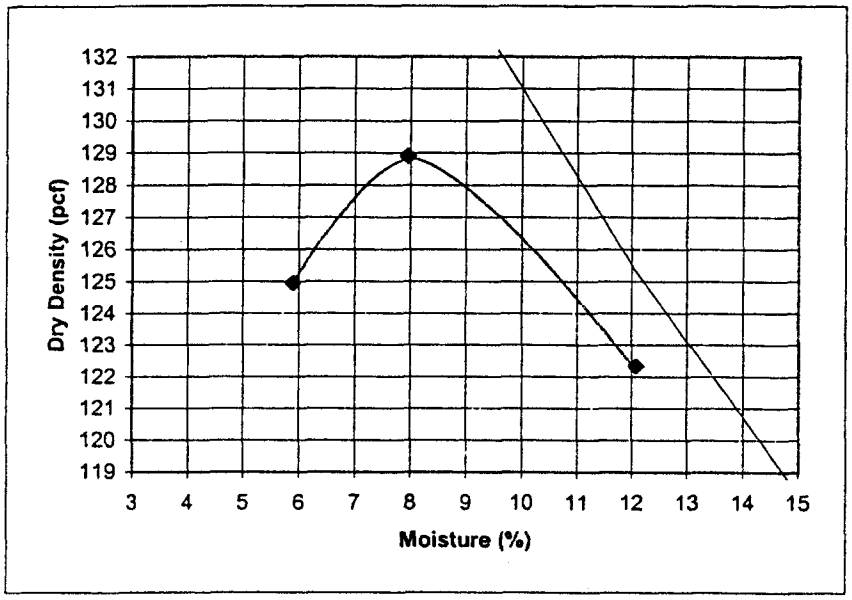
ENGINEERING GLOBAL SOLUTIONS

AGRA Earth & Environmental, Inc.

PROJECT:	Golden Eagle Park Dam	**JOB NO:**	0-119-000113
LOCATION:	Palisades & Fountain Hills H.S.	**WORK ORDER NO:**	16
MATERIAL:	Pervious Fill Sample E	**LAB NO:**	19
SAMPLE SOURCE:	on-site	**SAMPLE DATE:**	6/27/00

LABORATORY COMPACTION CHARACTERISTICS OF SOILS USING STANDARD EFFORTS (12,400ft-lb-ft/cu.ft) (ASTMD698A)
SIEVE ANALYSIS OF FINE AND COARSE AGGREGATES (ASTM C136/C117)
LIQUID LIMIT, PLASTIC LIMIT, AND PLASTICITY INDEX OF SOILS (ASTM D4318)

CURVE:	O
MAXIMUM DRY DENSITY (pcf):	128.9
OPTIMUM MOISTURE (%):	7.9



SIEVE SIZE	PERCENT PASSING	SPECS.**
12"	100	100
6"	100	
4"	100	
3"	89	
2"	79	
1 1/2"	73	
1 1/4"	72	
1"	70	
3/4"	67	
1/2"	64	
3/8"	61	
1/4"	58	
#4	55	25-75
#8	44	
#10	41	
#16	33	
#30	26	
#40	22	
#50	20	
#100	16	
#200	12	0-20
LL:	20	
PL:	15	
PI:	5	<10
USCS:	GC-GM	

NOTE: THE ZERO AIR VOIDS CURVE REPRESENTS A SPECIFIC GRAVITY OF: 2.651 ASSUMED.

THIS IS A SUMMARIZED REPORT OF THE REFERENCED PROCEDURES AND DOES NOT INCLUDE ALL REPORTING REQUIREMENTS. ADDITIONAL DATA CAN BE PROVIDED AT CLIENT'S REQUEST.

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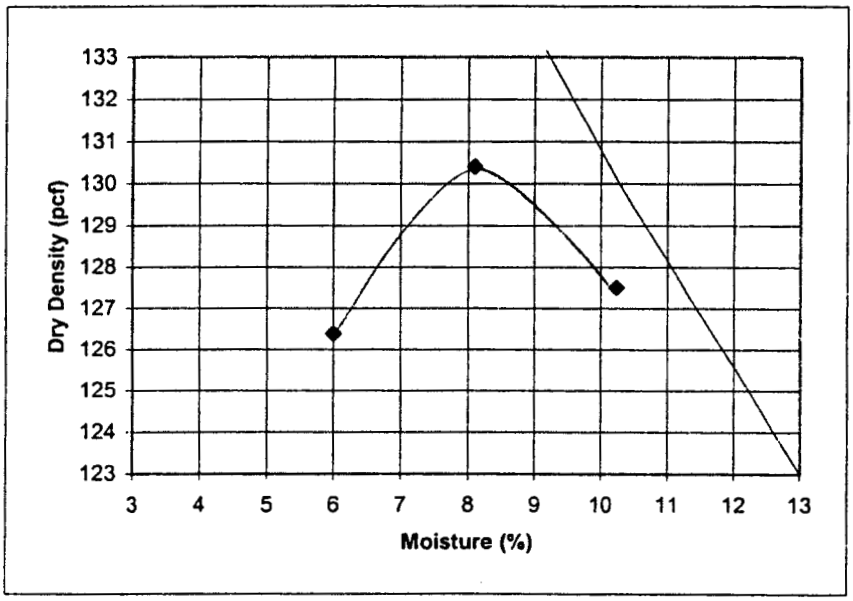
ENGINEERING GLOBAL SOLUTIONS

AGRA Earth & Environmental, Inc.

PROJECT:	Golden Eagle Park Dam	**JOB NO:**	0-119-000113
LOCATION:	Palisades & Fountain Hills H.S.	**WORK ORDER NO:**	16
MATERIAL:	Pervious Fill Sample F	**LAB NO:**	20
SAMPLE SOURCE:	on-site	**SAMPLE DATE:**	6/27/00

LABORATORY COMPACTION CHARACTERISTICS OF SOILS USING STANDARD EFFORTS (12,400ft-lb-ft/cu.ft) (ASTMD698A)
SIEVE ANALYSIS OF FINE AND COARSE AGGREGATES (ASTM C136/C117)
LIQUID LIMIT, PLASTIC LIMIT, AND PLASTICITY INDEX OF SOILS (ASTM D4318)

	P
CURVE:	
MAXIMUM DRY DENSITY (pcf):	130.3
OPTIMUM MOISTURE (%):	8.1



SIEVE SIZE	PERCENT PASSING	SPECS.**
12"	100	100
6"	100	
4"	100	
3"	86	
2"	70	
1 1/2"	66	
1 1/4"	66	
1"	65	
3/4"	63	
1/2"	60	
3/8"	58	
1/4"	55	
#4	52	25-75
#8	41	
#10	38	
#16	30	
#30	23	
#40	20	
#50	17	
#100	14	
#200	11	0-20
LL:	18	
PL:	14	
PI:	4	<10
USCS:		

NOTE: THE ZERO AIR VOIDS CURVE REPRESENTS A SPECIFIC GRAVITY OF: 2.651 ASSUMED.

THIS IS A SUMMARIZED REPORT OF THE REFERENCED PROCEDURES AND DOES NOT INCLUDE ALL REPORTING REQUIREMENTS. ADDITIONAL DATA CAN BE PROVIDED AT CLIENT'S REQUEST.

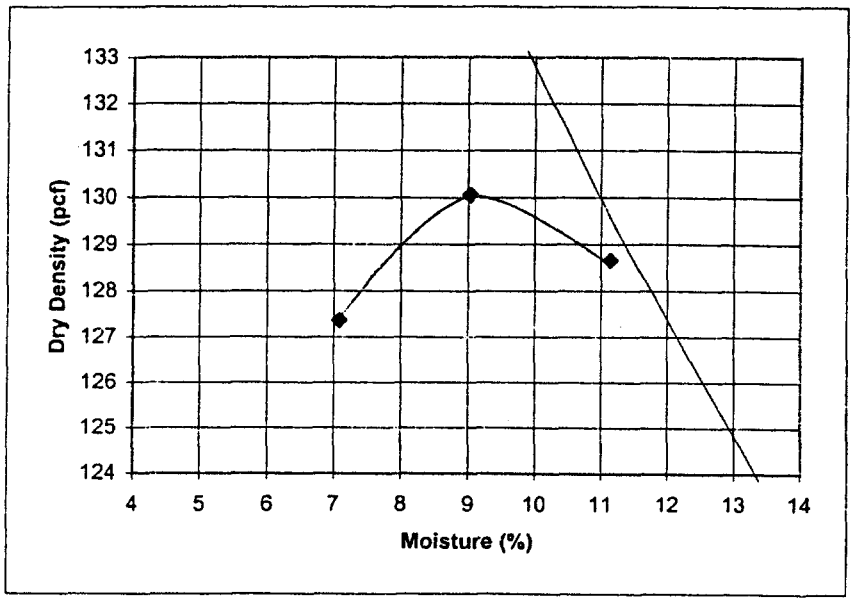
AGRA
ENGINEERING GLOBAL SOLUTIONS

AGRA Earth & Environmental, Inc.

PROJECT:	Golden Eagle Park Dam	**JOB NO:**	0-119-000113
LOCATION:	Palisades & Fountain Hills H.S.	**WORK ORDER NO:**	16
MATERIAL:	Pervious Fill Sample G	**LAB NO:**	21
SAMPLE SOURCE:	on-site	**SAMPLE DATE:**	6/27/00

LABORATORY COMPACTION CHARACTERISTICS OF SOILS USING STANDARD EFFORTS (12,400ft-lb-ft/cu.ft) (ASTMD698A)
SIEVE ANALYSIS OF FINE AND COARSE AGGREGATES (ASTM C136/C117)
LIQUID LIMIT, PLASTIC LIMIT, AND PLASTICITY INDEX OF SOILS (ASTM D4318)

CURVE:	Q
MAXIMUM DRY DENSITY (pcf):	130.0
OPTIMUM MOISTURE (%):	9.0



SIEVE SIZE	PERCENT PASSING	SPECS.**
12"	100	100
6"	100	
4"	70	
3"	70	
2"	63	
1 1/2"	58	
1 1/4"	58	
1"	57	
3/4"	55	
1/2"	53	
3/8"	51	
1/4"	48	
#4	45	25-75
#8	37	
#10	35	
#16	28	
#30	22	
#40	19	
#50	17	
#100	13	
#200	10	0-20
LL:	20	
PL:	15	
PI:	5	<10
USCS:		

NOTE: THE ZERO AIR VOIDS CURVE REPRESENTS A SPECIFIC GRAVITY OF: 2.701 ASSUMED.

THIS IS A SUMMARIZED REPORT OF THE REFERENCED PROCEDURES AND DOES NOT INCLUDE ALL REPORTING REQUIREMENTS. ADDITIONAL DATA CAN BE PROVIDED AT CLIENT'S REQUEST.

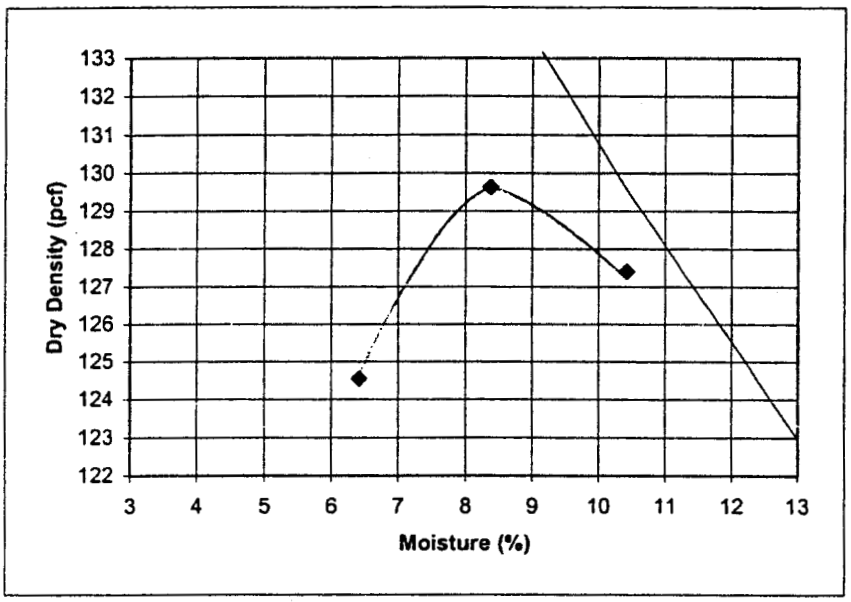
AGRA
ENGINEERING GLOBAL SOLUTIONS

AGRA Earth & Environmental, Inc.

PROJECT:	Golden Eagle Park Dam	**JOB NO:**	0-119-000113
LOCATION:	Palisades & Fountain Hills H.S.	**WORK ORDER NO:**	16
MATERIAL:	Pervious Fill Sample H	**LAB NO:**	22
SAMPLE SOURCE:	on-site	**SAMPLE DATE:**	6/27/00

LABORATORY COMPACTION CHARACTERISTICS OF SOILS USING STANDARD EFFORTS (12,400ft-lb-ft/cu.ft) (ASTMD698A)
SIEVE ANALYSIS OF FINE AND COARSE AGGREGATES (ASTM C136/C117)
LIQUID LIMIT, PLASTIC LIMIT, AND PLASTICITY INDEX OF SOILS (ASTM D4318)

CURVE:	R
MAXIMUM DRY DENSITY (pcf):	129.6
OPTIMUM MOISTURE (%):	8.3



SIEVE SIZE	PERCENT PASSING	SPECS.**
12"	100	100
6"	100	
4"	100	
3"	96	
2"	82	
1 1/2"	78	
1 1/4"	76	
1"	75	
3/4"	72	
1/2"	69	
3/8"	67	
1/4"	63	
#4	59	25-75
#8	49	
#10	45	
#16	37	
#30	29	
#40	26	
#50	23	
#100	19	
#200	15	0-20
LL:	22	
PL:	14	
PI:	8	<10
USCS:	SC	

NOTE: THE ZERO AIR VOIDS CURVE REPRESENTS A SPECIFIC GRAVITY OF: 2.65 ASSUMED.

THIS IS A SUMMARIZED REPORT OF THE REFERENCED PROCEDURES AND DOES NOT INCLUDE ALL REPORTING REQUIREMENTS. ADDITIONAL DATA CAN BE PROVIDED AT CLIENT'S REQUEST.

AGRA
ENGINEERING GLOBAL SOLUTIONS

CONTRACTOR PERVIOUS MATERIAL TESTS

Ricker Atkinson McBee & Assoc., Inc.
2105 S. Hardy Drive, Suite 13
empe, AZ 85282-1924

Geotechnical Engineering
Construction Materials Testing
Phone (480) 921-8100
Fax (480) 921-4081

LABORATORY TEST RESULTS

Client: Hunter Contracting
Attn: Bob Carlson
701 N. Cooper Road
Gilbert, AZ 85234

Project No.: T05354
Report Date: 13-Jun-00
Lab No.: 4628

Project: **Golden Eagle Park Dam Modifications**
Location: Golden Eagle Blvd. North of Palisades Blvd., Ftn. Hills

Sampled By: RAM/Horacek
Date Sampled: 7-Jun-00
Submitted By: RAM/Horacek
Date Submitted: 7-Jun-00

Sample Source: Composite: Inward Side of Dam, Sta. 4+00,50' Right, Sta. 5+00,30' Right, Sta. 6+50,70' Right, Sta. 8+00,75' Right
Material: Embankment Fill Supplier:

Test Method(s): Sieve Analysis and Plasticity Index (ASTM C117, C136, AASHTO T89, T90)

Results:

Sieve Size	Percent Passing	Minimum	Maximum
6"	100		
4"	100		
3"	100		
2"	98		
1-1/2"	96		
1"	92		
3/4"	89		
1/2"	84		
3/8"	82		
1/4"	75		
#4	69		
#8	54		
#10	50		
#16	39		
#30	29		
#40	25		
#50	22		
#100	17		
#200	13		

Liquid Limit: 21

Plastic Limit: 19

PLASTICITY INDEX: 2

PASS - PERVIOUS

IMP - FAIL # 200

Remarks:

ibution: Addressee (2)

Respectfully submitted,

Shawn C. Morman, E.I.T.
Technical Services Director

Ricker Atkinson McBee & Assoc., Inc.
2105 S. Hardy Drive, Suite 13
Tempe, AZ 85282-1924

Geotechnical Engineering
Construction Materials Testing
Phone (480) 921-8100
Fax (480) 921-4081

LABORATORY TEST RESULTS

Client: Hunter Contracting
Attn: Bob Carlson
701 N. Cooper Road
Gilbert, AZ 85234

Project No.: T05354
Report Date: 8-Jun-00
Lab No.: 4628

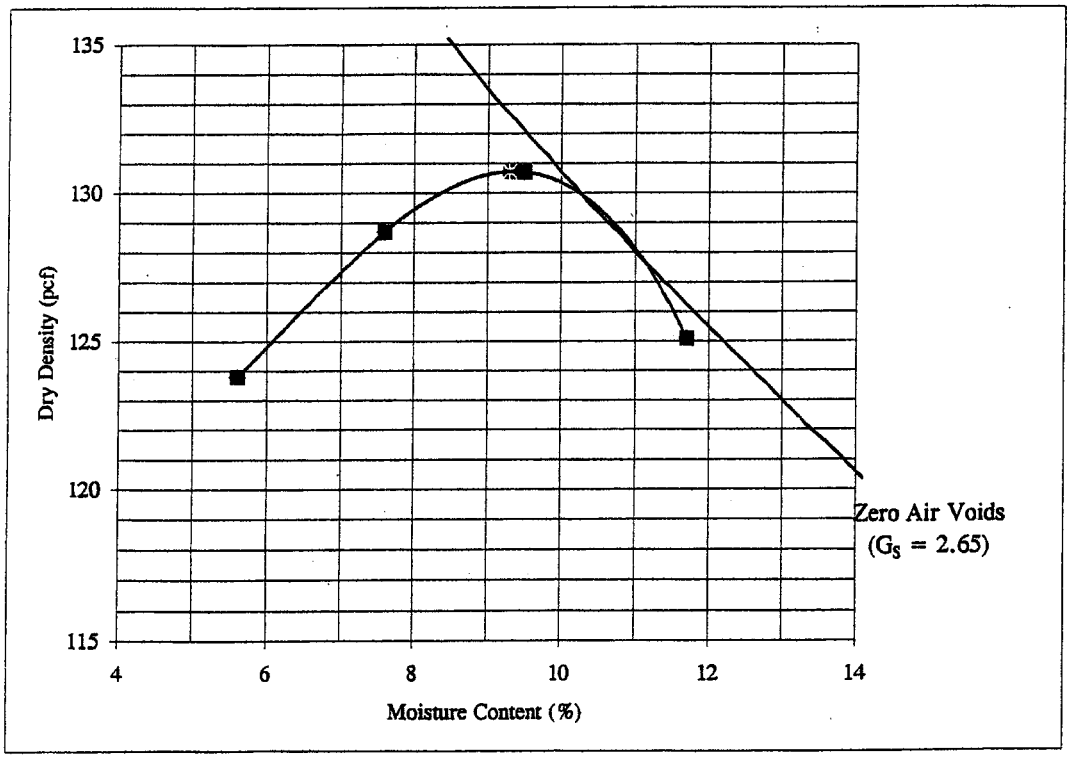
Project: **Golden Eagle Park Dam Modifications**
Location: Golden Eagle Blvd. North of Palisades Blvd., Ftn. Hills
Sample Source: Composite: Inward Side of Dam, Sta. 4+00,50' Right, Sta. 5+00,30' Right, Sta. 6+50,70' Right, Sta. 8+00,75' Right
Material: Embankment Fill

Sampled By: RAM/Horacek
Date Sampled: 7-Jun-00
Submitted By: RAM/Horacek
Date Submitted: 7-Jun-00
Supplier:

Test Method(s): Maximum Density-Optimum Moisture Determination (ASTM D698 Method A)

Results:

Maximum Density (pcf) = 130.7 Optimum Moisture (%) = 9.3



Distribution: Addressee (2)

Respectfully submitted,

Shawn C. Morman, E.I.T.
Technical Services Director

UNIFORM PERVIOUS MATERIAL TESTS

AGRA Earth & Environmental, Inc.

PROJECT:	Golden Eagle Park Dam	**JOB NO:**	0-119-000113
LOCATION:	Palisades & Fountain Hills H.S.	**WORK ORDER NO:**	19
MATERIAL:	1/4" Chips	**LAB NO:**	29
SAMPLE SOURCE:	SRS & R-Hunter	**DATE SAMPLED:**	7-31-00

SIEVE ANALYSIS OF FINE AND COARSE AGGREGATES (ASTM C136/C117)
LIQUID LIMIT, PLASTIC LIMIT, AND PLASTICITY INDEX OF SOILS (ASTM D4318)

MECHANICAL ANALYSIS

SIEVE SIZE	% PASSING	SPECS
12in.	100	100
6in.	100	
4in.	100	
3in.	100	
2in.	100	
1 1/2in.	100	
1 1/4in.	100	
1in.	100	
3/4in.	100	
1/2in.	100	
3/8in.	100	
1/4in.	75	
#4	35	25-75
#8	5	
#10	3	
#16	2	
#30	1	
#40	1	
#50	1	
#100	1	
#200	0.4	0-20

ATTERBERG LIMITS

LL:	NV
PL:	
PI:	NP
USCS:	GW

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FILTER SAND TESTS

D4253-93(1996) Standard Test Methods for Maximum Index Density and Unit Weight of Soils Using a Vibratory Table

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1. Scope

1.1 These test methods cover the determination of the maximum index density/unit weight of cohesionless, free-draining soils using a vertically vibrating table.

1.2 Systems of Units:

1.2.1 The testing apparatus described in this standard has been developed and manufactured using values in the gravimetric or inch-pound system. Therefore, test apparatus dimensions and mass given in inch-pound units are regarded as the standard.

1.2.2 It is common practice in the engineering profession to concurrently use pounds to represent both a unit of mass (lbm) and a unit of force (lbf). This implicitly combines two separate systems of units; that is, the absolute system and the gravitational system. It is scientifically undesirable to combine the use of two separate sets of inch-pound units within a single standard. This standard has been written using the gravitational system of units when dealing with the inch-pound system. In this system the pound (lbf) represents a unit of force (weight). However, balances or scales measure mass; and weight must be calculated. In the inch-pound system, it is common to assume that 1 lbf is equal to 1 lbm. While reporting density is not regarded as nonconformance with this standard, unit weights should be calculated and reported since the results may be used to determine force or stress.

1.2.3 The terms density and unit weight are often used interchangeably. Density is mass per unit volume whereas unit weight is force per unit volume. In this standard density shall be given only in SI units. After the density has been determined, calculation for determining unit weights shall be given.

1.3 Four alternative procedures are provided to determine the maximum index density/unit weight, as follows:

1.3.1 Test Method 1A -Using oven-dried soil and an electromagnetic, vertically vibrating table.

1.3.2 Test Method 1B -Using wet soil and an electromagnetic, vertically vibrating table.

1.3.3 Test Method 2A -Using oven-dried soil and an eccentric or cam-driven, vertically vibrating table.

1.3.4 Test Method 2B -Using wet soil and an eccentric or cam-driven vertically vibrating table.

1.4 The test method to be used should be specified by the individual assigning the test.

1.4.1 The type of table to be used (Method 1 or 2) is likely to be decided based upon available equipment.

Note 1-There is considerable evidence to show that electromagnetic tables yield slightly higher values of maximum index density/unit weight.

1.4.2 It is recommended that both the dry and wet methods (Test Methods 1A and 1B or 2A and 2B) be performed when beginning a new job or encountering a change in soil types, as the wet method can yield significantly higher values of maximum index density/unit weight for some soils. Such a higher maximum index density, when considered along with the minimum index density/unit weight, Test Methods D4254, will be found to significantly affect the value of the relative density (5.7) calculated for a soil encountered in the field. While the dry method is often preferred because results can usually be obtained more quickly, as a general rule the wet method should be used if it is established that it produces maximum index densities/unit weights that would significantly affect the use/application of the value of relative density.

1.5 These test methods are applicable to soils that may contain up to 15%, by dry mass, of soil particles passing a No. 200 (74-[mu]m) sieve, provided they still have cohesionless, free-draining characteristics (nominal sieve dimensions are in accordance with Specification E11). Further, these test methods are applicable to soils in which 100%, by dry mass, of soil particles pass a 3 in. (75 mm) sieve (see Table 1).

1.5.1 Soils, for the purpose of these test methods, shall be regarded as naturally occurring cohesionless soils, processed particles, or composites or mixtures of natural soils, or mixtures of natural and processed particles, provided they are free draining.

1.6 These test methods will typically produce a higher maximum dry density/unit weight for cohesionless, free-draining soils than that obtained by impact compaction in which a well-defined moisture-density relationship is not apparent. However, for some soils containing between 5 and 15% fines, the use impact compaction (Test Methods D698 or D1557) may be useful in evaluating what is an appropriate maximum index density/unit weight.

1.7 For many types of free-draining, cohesionless soils, these methods cause a moderate amount of degradation (particle breakdown) of the soil. When degradation occurs, typically

there is an increase in the maximum index density/ unit weight obtained, and comparable test results may not be obtained when different size molds are used to test a given soil.

1.8 This standard does not purport to address all of the safety problems, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.

Adopted by: DOD Approved ANSI Adopted
Developed by ASTM Subcommittee: D18.03

Ordering Information

Price: $ 30.00 Printed Pages: 13

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Subject Index

Compaction measurement-soils; Density-soil/rock/related materials; Soil-cohesionless; Vibration test; maximum index density (of cohesionless, free-draining soils), using a; vibratory table, test

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Support Desk

D4254-91(1996) Standard Test Method for Minimum Index Density and Unit Weight of Soils and Calculation of Relative Density

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1. Scope

1.1 These test methods cover the determination of the minimum index density/unit weight of cohesionless, free-draining soils.

1.2 System of units:

1.2.1 The testing apparatus described in this test method has been developed and manufactured using values in the gravimetric or inch-pound system. Therefore, test apparatus dimensions and mass given in inch-pound units are regarded as the standard.

1.2.2 It is common practice in the engineering profession to concurrently use pounds to represent both a unit of mass (lbm) and a unit of force (lbf). This implicitly combines two separate systems of units; that is, the absolute system and the gravitational system. It is scientifically undesirable to combine the use of two separate sets of inch-pound units within a single standard. This test method has been written using the gravitational system of units when dealing with the inch-pound system. In this system the pound (lbf) represents a unit of force (weight). However, balances or scales measure mass; and weight must be calculated. In the inch-pound system, it is common to assume that 1 lbf is equal to 1 lbm. While reporting density is not regarded as nonconformance with this test method, unit weights should be calculated and reported since the results may be used to determine force or stress.

1.2.3 The terms density and unit weight are often used interchangeably. Density is mass per unit volume, whereas unit weight is force per unit volume. In this test method density shall be given only in SI units. After the density has been determined, calculations for determining unit weights shall be given.

1.3 Three alternative procedures are provided to determine the minimum index density/unit weight, as follows:

1.3.1 Test Method A-Using a funnel pouring device or a hand scoop to place material in mold.

1.3.2 Test Method B-Depositing material into a mold by extracting a soil filled tube.

1.3.3 Test Method C-Depositing material by inverting a graduated cylinder.

1.4 The test method to be used should be specified by the individual assigning the test. If no test method is specified, the provisions of Test Method A shall govern. Test Method A is the preferred procedure for determining minimum index density/unit weight as used in conjunction with the procedures of Test Methods D4253. Test Methods B and C are provided for guidance of testing used in conjunction with special studies, especially where there is not enough material available to use a 0.100 ft (2830 cm) or 0.500 ft (14200 cm) mold as required by Test Method A.

1.5 These test methods are applicable to soils that may contain up to 15%, by dry mass, of soil particles passing a No. 200 (75-[mu]m) sieve, provided they still have cohesionless, free-draining characteristics (nominal sieve dimensions are in accordance with Specification E11).

1.5.1 Test Method A is applicable to soils which 100%, by dry mass, of soil particles pass a 3-in. (75-mm) sieve and which may contain up to 30%, by dry mass, of soil particles retained on a 1- 1/2-inch (37.5-mm) sieve.

1.5.2 Test Method B is applicable to soils in which 100%, by dry mass, of soil particles pass a 3/4-inch (19.0-mm) sieve.

1.5.3 Test Method C is applicable only to fine and medium sands in which 100%, by dry mass, of soil particles pass a 3/8-in. (9.5-mm) sieve and which may contain up to 10%, by dry mass, of soil particles retained on a No. 10 (2.00-mm) sieve.

1.5.4 Soils, for the purposes of these test methods, shall be regarded as naturally occurring cohesionless soils, processed particles, or composites or mixtures of natural soils, or mixtures of natural and processed particles, provided they are free-draining.

1.6 This standard does not purport to address all of the safety problems, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.

Adopted by: DOD Approved Building Codes ANSI Adopted
Developed by ASTM Subcommittee: D18.03

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Mail Delivery - International: $ 33.00

Subject Index

Compaction measurement-soils; Density-soil/rock/related materials; Soil-cohesionless; minimum index density (of cohesionless, free-draining soils), and; calculation of relative density, test

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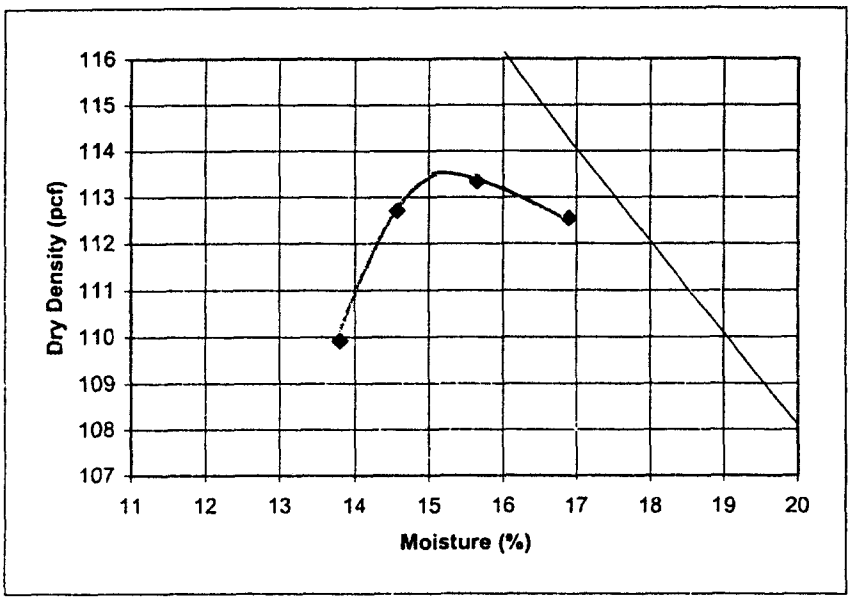
Support Desk

AGRA Earth & Environmental, Inc.

PROJECT:	GOLDEN EAGLE PARK DAM-FCD1999C071	**JOB NO:**	0-119-000113
LOCATION:	PALISADES & FOUNTAIN HILLS H.S.	**WORK ORDER NO:**	1
MATERIAL:	FILTER SAND	**LAB NO:**	1
SAMPLE SOURCE:	SALT RIVER SAND & ROCK	**SAMPLE DATE:**	6/9/00

LABORATORY COMPACTION CHARACTERISTICS OF SOILS USING STANDARD EFFORTS (12,400ft-lb-ft/cu.ft) (ASTMD698A)
SIEVE ANALYSIS OF FINE AND COARSE AGGREGATES (ASTM C136/C117)

	A
CURVE:	
MAXIMUM DRY DENSITY (pcf):	113.6
OPTIMUM MOISTURE (%):	15.0



SIEVE SIZE	PERCENT PASSING	SPECS.**	
6"	100		
4"	100		
3"	100	100	
2"	100		
1 1/2"	100		
1 1/4"	100		
1"	100		
3/4"	100	90-100	
1/2"	100	82-100	
3/8"	100		
1/4"	100		
#4	99	52-100	
#8	87		
#10	82	27-64	*
#16	65	14-57	*
#30	41		
#40	28	5-28	
#50	18		
#100	7	0-10	
#200	4.0	0-5	

NOTE: THE ZERO AIR VOIDS CURVE REPRESENTS A SPECIFIC GRAVITY OF: 2.651 ASSUMED.

THIS IS A SUMMARIZED REPORT OF THE REFERENCED PROCEDURES AND DOES NOT INCLUDE ALL REPORTING REQUIREMENTS. ADDITIONAL DATA CAN BE PROVIDED AT CLIENT'S REQUEST.

* MATERIAL DID NOT FALL WITHIN SPECIFIED TOLERANCES.

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ENGINEERING GLOBAL SOLUTIONS

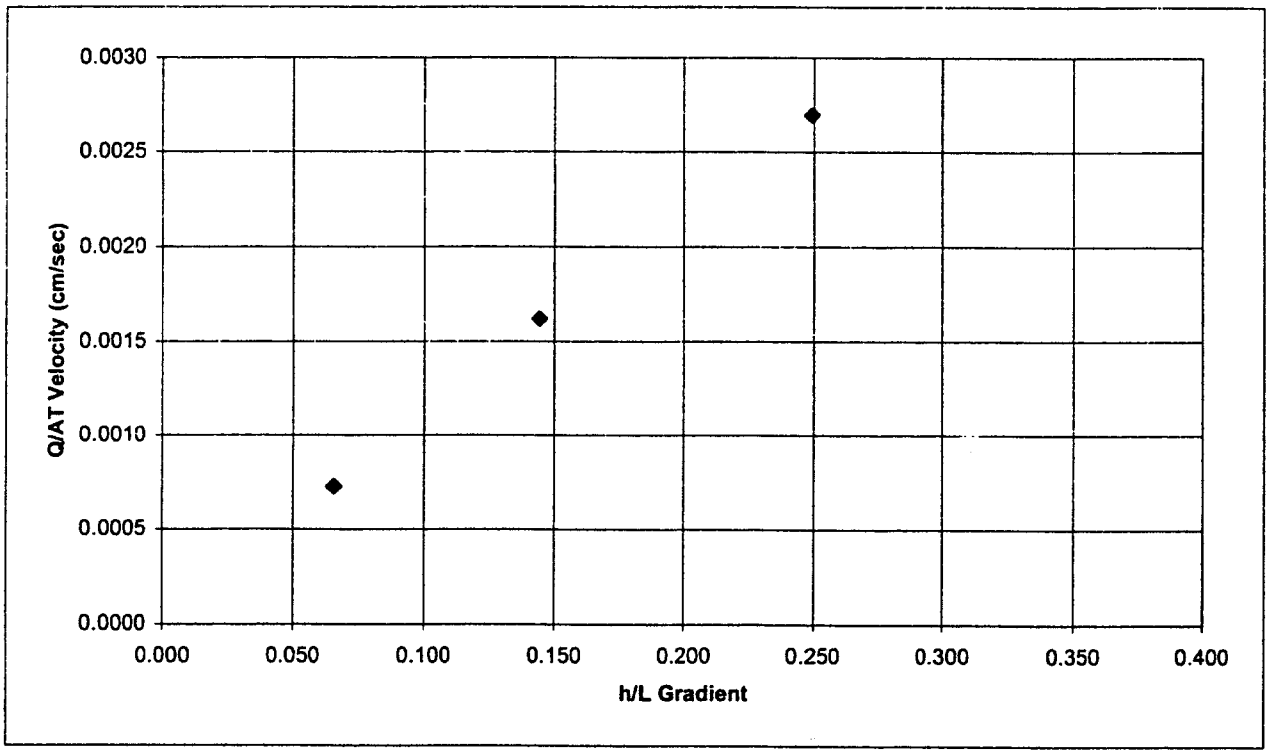
AGRA Earth & Environmental, Inc.

PROJECT:	GOLDEN EAGLE PARK DAM-FCD 1999 CO71	**JOB NO:**	0-119-000113
LOCATION:	PALESIDES & FOUNTAIN HILLS H.S.	**WORK ORDER NO:**	1
MATERIAL:	FILTER SAND	**LAB NO:**	1
SAMPLE SOURCE:	SALT RIVER SAND & ROCK	**DATE SAMPLED:**	06/09/00
SAMPLE PREP:			

PREMEABILITY OF GRANULAR SOILS (CONSTANT HEAD) (ASTM D2434)

AVERAGE PERMEABILITY (CM/SEC):	1.1E-02
DRY UNIT WEIGHT OF SAMPLE (PCF):	108.2
VOID RATIO:	0.53

Head (cm)	Q (cu.cm)	Time (sec)	Q/AT Velocity (cm/sec)	h/L Gradient	k (cm/sec)
1.9	20	166	0.0027	0.2493	0.0108
0.5	6	184.9	0.0007	0.0656	0.0111
1.1	10	138.1	0.0016	0.1444	0.0112



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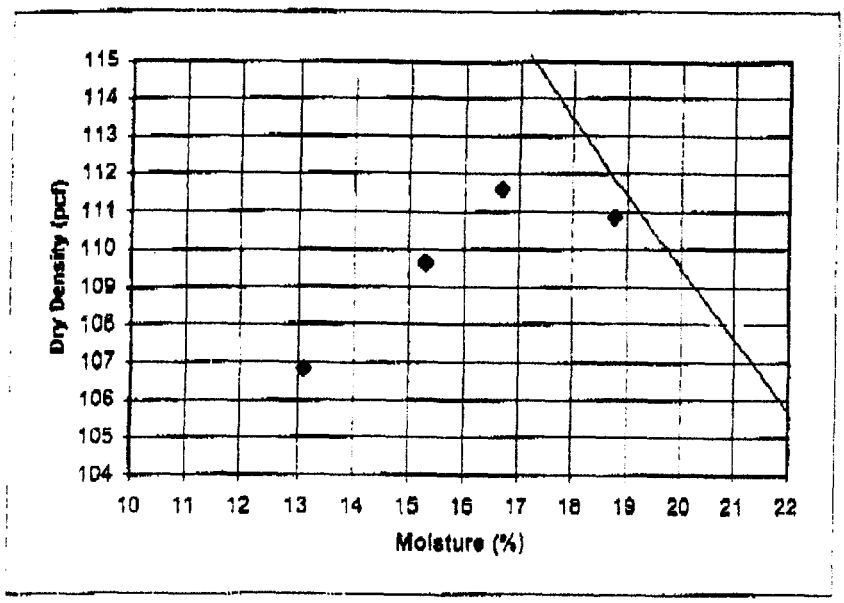
AGRA Earth & Environmental, Inc.

PROJECT:	GOLDEN EAGLE PARK DAM	JOB NO:	0-119-000113
LOCATION:	PALISADES & FOUNTAIN HILLS H.S.	WORK ORDER NO:	10
MATERIAL:	FILTER SAND	LAB NO:	13
SAMPLE SOURCE:	SALT RIVER SAND & ROCK	SAMPLE DATE:	6/19/00

LABORATORY COMPACTION CHARACTERISTICS OF SOILS USING STANDARD EFFORTS (12,400ft-lb-ft/cu.ft) (ASTMD698A)
SIEVE ANALYSIS OF FINE AND COARSE AGGREGATES (ASTM C136/C117)
LIQUID LIMIT, PLASTIC LIMIT, AND PLASTICITY INDEX OF SOILS (ASTM D4318)

CURVE:	J
MAXIMUM DRY DENSITY (pcf):	111.6
OPTIMUM MOISTURE (%):	16.7



SIEVE SIZE	PERCENT PASSING
6"	100
4"	100
3"	100
2"	100
1 1/2"	100
1 1/4"	100
1"	100
3/4"	100
1/2"	100
3/8"	100
1/4"	100
#4	99
#8	87
#10	81
#16	62
#30	37
#40	23
#50	14
#100	4
#200	1.3

LL:	NV
PL:	
PI:	NP
USCS:	SP

NOTE: THE ZERO AIR VOIDS CURVE REPRESENTS A SPECIFIC GRAVITY OF: 2.701 ASSUMED.

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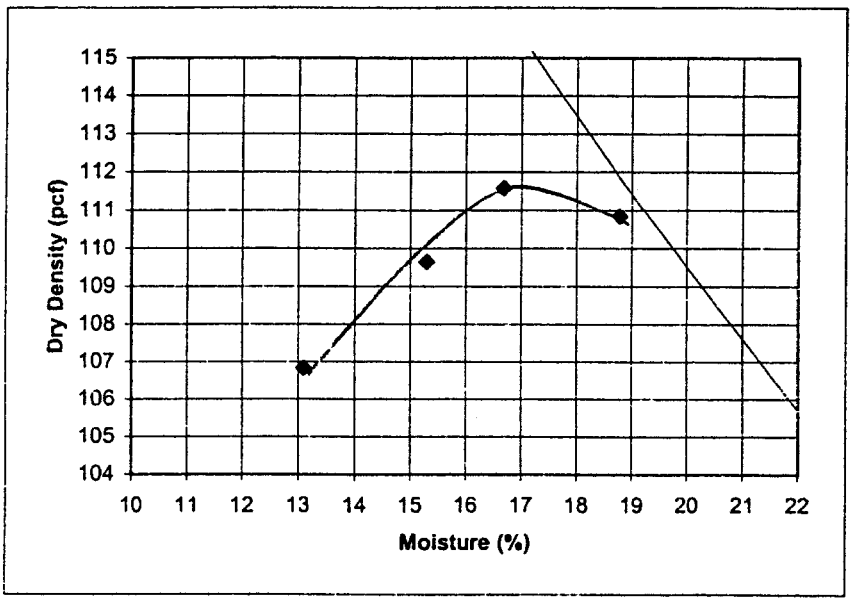
AGRA Earth & Environmental, Inc.

PROJECT:	GOLDEN EAGLE PARK DAM	**JOB NO:**	0-119-000113
LOCATION:	PALISADES & FOUNTAIN HILLS H.S.	**WORK ORDER NO:**	10
MATERIAL:	FILTER SAND	**LAB NO:**	13
SAMPLE SOURCE:	SALT RIVER SAND & ROCK	**SAMPLE DATE:**	6/19/00

LABORATORY COMPACTION CHARACTERISTICS OF SOILS USING STANDARD EFFORTS (12,400ft-lb-ft/cu.ft) (ASTMD698A)
SIEVE ANALYSIS OF FINE AND COARSE AGGREGATES (ASTM C136/C117)
LIQUID LIMIT, PLASTIC LIMIT, AND PLASTICITY INDEX OF SOILS (ASTM D4318)

CURVE:	J
MAXIMUM DRY DENSITY (pcf):	111.6
OPTIMUM MOISTURE (%):	16.7



SIEVE SIZE	PERCENT PASSING	SPECS.**	
6"	100		
4"	100		
3"	100	100	
2"	100		
1 1/2"	100		
1 1/4"	100		
1"	100		
3/4"	100	90-100	
1/2"	100	82-100	
3/8"	100		
1/4"	100		
#4	99	52-100	
#8	87		
#10	81	27-64	*
#16	62	14-57	*
#30	37		
#40	23	5-28	
#50	14		
#100	4	0-10	
#200	1.3	0-5	

LL:	NV
PL:	
PI:	NP
USCS:	SP

NOTE: THE ZERO AIR VOIDS CURVE REPRESENTS A SPECIFIC GRAVITY OF: 2.701 ASSUMED.

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* MATERIAL DID NOT FALL WITHIN SPECIFIED TOLERANCES.

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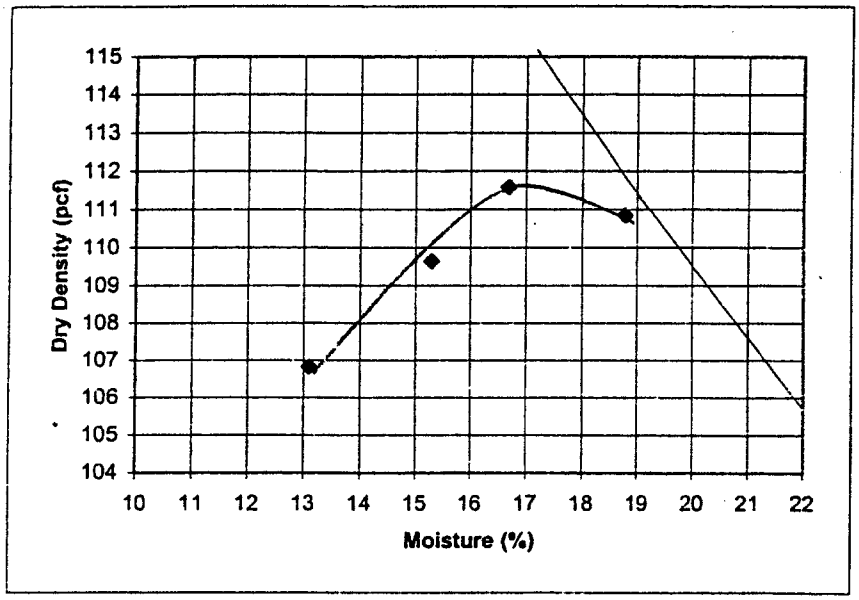
AGRA Earth & Environmental, Inc.

PROJECT:	GOLDEN EAGLE PARK DAM	**JOB NO:**	0-119-000113
LOCATION:	PALISADES & FOUNTAIN HILLS H.S.	**WORK ORDER NO:**	10
MATERIAL:	FILTER SAND	**LAB NO:**	13
SAMPLE SOURCE:	SALT RIVER SAND & ROCK	**SAMPLE DATE:**	6/19/00

LABORATORY COMPACTION CHARACTERISTICS OF SOILS USING STANDARD EFFORTS (12,400ft-lb-ft/cu.ft) (ASTMD698A)
SIEVE ANALYSIS OF FINE AND COARSE AGGREGATES (ASTM C136/C117)
LIQUID LIMIT, PLASTIC LIMIT, AND PLASTICITY INDEX OF SOILS (ASTM D4318)

CURVE:	J
MAXIMUM DRY DENSITY (pcf):	111.6
OPTIMUM MOISTURE (%):	16.7



SIEVE SIZE	PERCENT PASSING	SPECS.**
6"	100	
4"	100	
3"	100	100
2"	100	
1 1/2"	100	
1 1/4"	100	
1"	100	
3/4"	100	90-100
1/2"	100	82-100
3/8"	100	
1/4"	100	
#4	99	52-100
#8	87	
#10	81	27-64 *
#16	62	14-57 *
#30	37	
#40	23	5-28
#50	14	
#100	4	0-10
#200	1.3	0-5

LL:	NV
PL:	
PI:	NP
USCS:	SP

WRONG SPEC

OK

NOTE: THE ZERO AIR VOIDS CURVE REPRESENTS A SPECIFIC GRAVITY OF: 2.701 ASSUMED.

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* MATERIAL DID NOT FALL WITHIN SPECIFIED TOLERANCES.

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AGRA Earth & Environmental, Inc.

PROJECT:	GOLDEN EAGLE PARK DAM	**JOB NO:**	0-119-000113
LOCATION:	PALISADES & FOUNTAIN HILLS H.S.	**WORK ORDER NO:**	17
MATERIAL:	FILTER SAND-SAMPLE C @ 0'	**LAB NO:**	23
SAMPLE SOURCE:	DIAPHRAGM-SRS & R	**DATE SAMPLED:**	6/19/00

SIEVE ANALYSIS OF FINE AND COARSE AGGREGATES (ASTM C136/C117)
LIQUID LIMIT, PLASTIC LIMIT, AND PLASTICITY INDEX OF SOILS (ASTM D4318)

MECHANICAL ANALYSIS

SIEVE SIZE	% PASSING	SPECS**		ATTERBERG LIMITS	
6in.	100			LL:	NV
4in.	100			PL:	
3in.	100	100			
2in.	100			PI:	NP
1 1/2in.	100				
1 1/4in.	100				
1in.	100			USCS:	SP
3/4in.	100	90-100			
1/2in.	100	82-100			
3/8in.	100				
1/4in.	100				
#4	99	52-100			
#8	87				
#10	81	27-64	*		
#16	62	14-57	*		
#30	37				
#40	23	5-28			
#50	14				
#100	4	0-10			
#200	1.5	0-5			

* MATERIAL DID NOT FALL WITHIN SPECIFIED TOLERANCES.

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AGRA Earth & Environmental, Inc.

PROJECT:	GOLDEN EAGLE PARK DAM	**JOB NO:**	0-119-000113
LOCATION:	PALISADES & FOUNTAIN HILLS H.S.	**WORK ORDER NO:**	17
MATERIAL:	FILTER SAND-SAMPLE D @ 2'	**LAB NO:**	24
SAMPLE SOURCE:	DIAPHRAGM-SRS & R	**DATE SAMPLED:**	6/19/00

SIEVE ANALYSIS OF FINE AND COARSE AGGREGATES (ASTM C136/C117)
LIQUID LIMIT, PLASTIC LIMIT, AND PLASTICITY INDEX OF SOILS (ASTM D4318)

MECHANICAL ANALYSIS

SIEVE SIZE	% PASSING	SPECS**		ATTERBERG LIMITS	
6in.	100			LL:	NV
4in.	100			PL:	
3in.	100	100			
2in.	100			PI:	NP
1 1/2in.	100				
1 1/4in.	100				
1in.	100			USCS:	SP
3/4in.	100	90-100			
1/2in.	100	82-100			
3/8in.	100				
1/4in.	100				
#4	99	52-100			
#8	86				
#10	81	27-64	*		
#16	62	14-57	*		
#30	37				
#40	24	5-28			
#50	14				
#100	4	0-10			
#200	1.8	0-5			

* MATERIAL DID NOT FALL WITHIN SPECIFIED TOLERANCES.

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AGRA Earth & Environmental, Inc.

PROJECT:	GOLDEN EAGLE PARK DAM	**JOB NO:**	0-119-000113
LOCATION:	PALISADES & FOUNTAIN HILLS H.S.	**WORK ORDER NO:**	17
MATERIAL:	FILTER SAND-SAMPLE E @ 4'	**LAB NO:**	25
SAMPLE SOURCE:	DIAPHRAGM-SRS & R	**DATE SAMPLED:**	6/19/00

SIEVE ANALYSIS OF FINE AND COARSE AGGREGATES (ASTM C136/C117)
LIQUID LIMIT, PLASTIC LIMIT, AND PLASTICITY INDEX OF SOILS (ASTM D4318)

MECHANICAL ANALYSIS

SIEVE SIZE	% PASSING	SPECS**		ATTERBERG LIMITS	
6in.	100			LL:	NV
4in.	100			PL:	
3in.	100	100			
2in.	100			PI:	NP
1 1/2in.	100				
1 1/4in.	100				
1in.	100			USCS:	SP
3/4in.	100	90-100			
1/2in.	100	82-100			
3/8in.	100				
1/4in.	100				
#4	99	52-100			
#8	88				
#10	82	27-64	*		
#16	63	14-57	*		
#30	37				
#40	24	5-28			
#50	14				
#100	3	0-10			
#200	0.9	0-5			

* MATERIAL DID NOT FALL WITHIN SPECIFIED TOLERANCES.

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FLOOD CONTROL DISTRICT
OF MARICOPA COUNTY

2801 W. Durango, Phoenix, Arizona 85009
Fax: (602) 506-8561
Office: (602) 506-8945

E-mail: _____

Date: 6-19-00

COVER SHEET

To: Chuck Coppersmith Fax No.

_____ Fax No. _____

From: Shawa Shunawany

Number of pages being sent including Cover Sheet: 2

SUBJECT: _____

Comments:

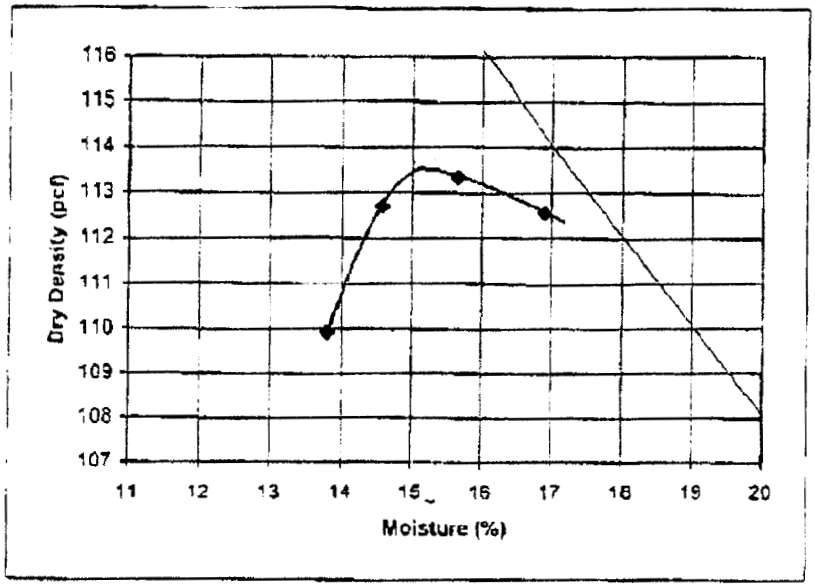
Meets gradation - but not hyd. conductivity

AGRA Earth & Environmental, Inc.

PROJECT:	GOLDEN EAGLE PARK DAM-FCD1999C071	**JOB NO:**	0-119-000113
LOCATION:	PALISADES & FOUNTAIN HILLS H.S.	**WORK ORDER NO:**	1
MATERIAL:	FILTER SAND	**LAB NO:**	1
SAMPLE SOURCE:	SALT RIVER SAND & ROCK	**SAMPLE DATE:**	6/9/00

LABORATORY COMPACTION CHARACTERISTICS OF SOILS USING STANDARD EFFORTS (12,400ft-lb-ft/cu.ft) (ASTMD698A)
SIEVE ANALYSIS OF FINE AND COARSE AGGREGATES (ASTM C136/C117)

CURVE:	A
MAXIMUM DRY DENSITY (pcf):	113.6
OPTIMUM MOISTURE (%):	15.0



SIEVE SIZE	PERCENT PASSING
6"	100
4"	100
3"	100
2"	100
1 1/2"	100
1 1/4"	100
1"	100
3/4"	100
1/2"	100
3/8"	100
1/4"	100
#4	99
#8	87
#10	82
#16	65
#30	41
#40	28
#50	18
#100	7
#200	4.0

NOTE: THE ZERO AIR VOIDS CURVE REPRESENTS A SPECIFIC GRAVITY OF: 2.651 ASSUMED.

THIS IS A SUMMARIZED REPORT OF THE REFERENCED PROCEDURES AND DOES NOT INCLUDE ALL REPORTING REQUIREMENTS. ADDITIONAL DATA CAN BE PROVIDED AT CLIENT'S REQUEST.

FROM

SHEWA

TO

CHUCK - STANTEC

G.E.P. DAM.

Hydraulic Conductivity Test Numbers on Filter Sand for your review —

Thanks —

Shewa

June 20, 00

DOESNT MEET SPECS

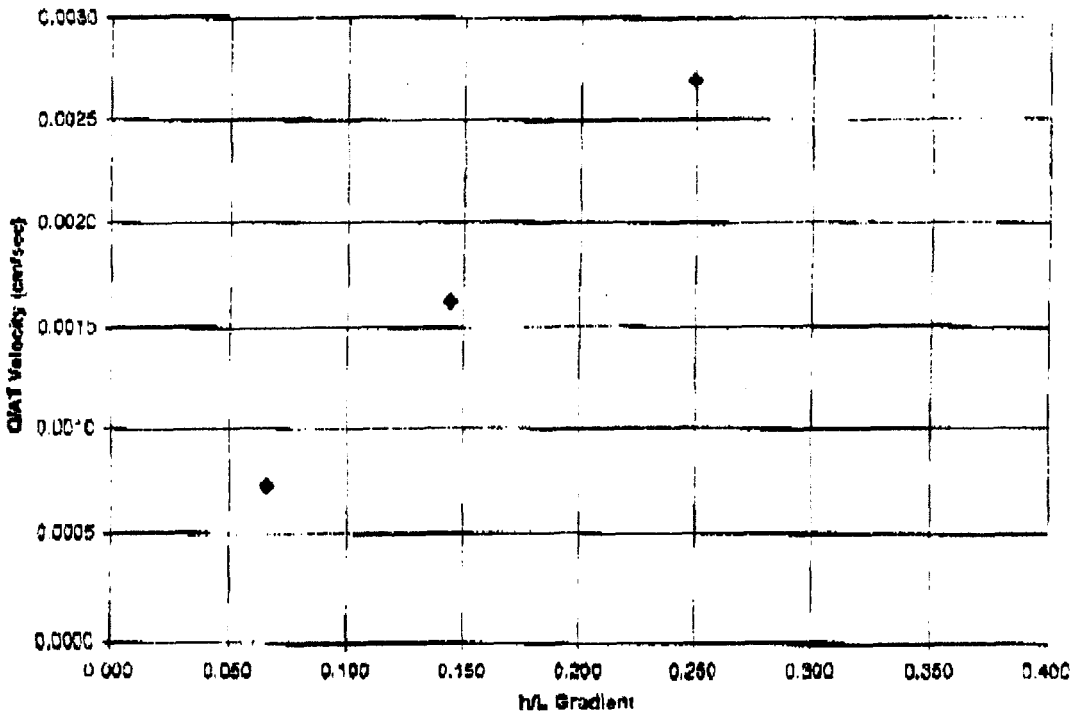
AGRA Earth & Environmental, Inc.

PROJECT:	GOLDEN EAGLE PARK DAM-FCD 1999 C07	JOB NO.	0 119 0001 3
LOCATION:	PALESIDES & FOUNTAIN HILLS H.S	WORK ORDER NO.	1
MATERIAL:	FILTER SAND	LAB NO:	1
SAMPLE SOURCE:	SALT RIVER SAND & ROCK	DATE SAMPLED:	06/09/00
SAMPLE PREP:			

PREMEABILITY OF GRANULAR SOILS (CONSTANT HEAD) (ASTM D2434)

AVERAGE PERMEABILITY (CM/SEC): 1.1E-02
DRY UNIT WEIGHT OF SAMPLE (PCF): 108.2
VOID RATIO: 0.53

Head (cm)	Q (cu.cm)	Time (sec)	Q/AT Velocity (cm/sec)	h/L Gradient	k (cm/sec)
1.9	20	166	0.0027	0.2499	0.0108
0.5	6	154.9	0.0007	0.0656	0.0111
1.[illegible]	10	138.1	0.0016	0.1444	0.0112



Fax Transmittal

Stantec Consulting Inc.
8211 South 48th Street
Phoenix, AZ 85044-5355

Stantec

To: Sheva Shivaswami
Attention: FCD MC
Fax No: 506 8561
Date: 6/21/00
File: 82000157

Sender: Chuck Gopperton
Tel. No: 438-2200
Fax No: 431-9562
4 page(s) total includes cover sheet
Original will **NOT** follow by mail.

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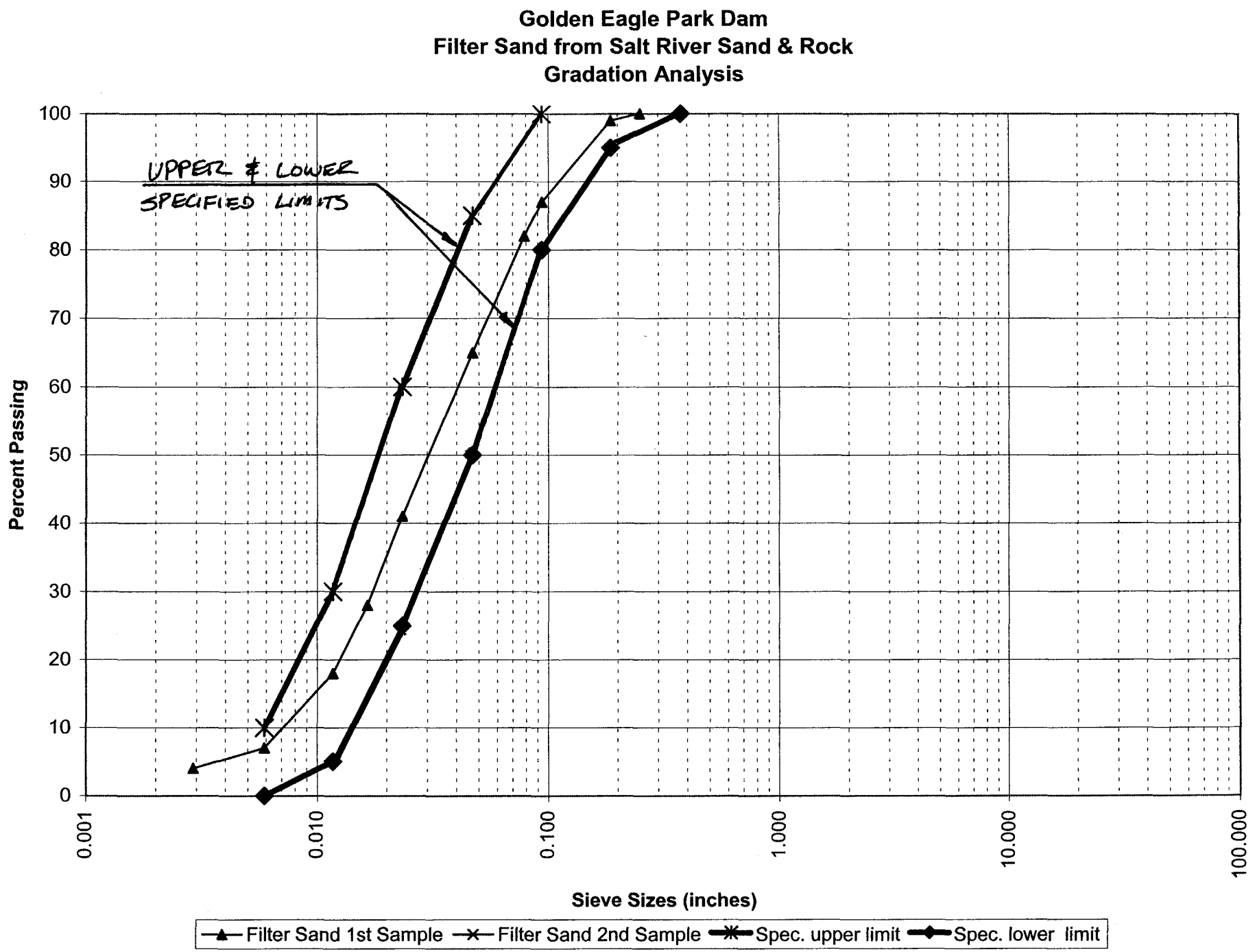
Reference: Golden Eagle Park Dam

Attachments: gradation Analysis for send

Message: gradation is fine — AGRA was not using the approved spec! Make sure that MATT gets a copy of the addendum and reads it.

Chuck


Golden Eagle Park Dam
Filter Sand from Salt River Sand & Rock
Gradation Analysis
UPPER & LOWER
SPECIFIED LIMITS
Percent Passing
100
90
80
70
60
50
40
30
20
10
0
0.001
0.010
0.100
1.000
10.000
100.000
Sieve Sizes (inches)
Filter Sand 1st Sample
Filter Sand 2nd Sample
Spec. upper limit
Spec. lower limit

82000157

Golden Eagle Park Dam Construction AGRA Job No. D-119-000113

Gradation Analysis

			Sieve Sizes		% finer																	
			#200	#100	#50	#40	#30	#16	#10	#8	#4	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	3	4	6	12
		mm																					
Location	USCS	inch	0.00290	0.00590	0.01170	0.01650	0.02340	0.04690	0.07870	0.09370	0.18700	0.25	0.375	0.5	0.75	1	1.25	1.5	2	3	4	6	12
Filter Sand 1st Sample			4	7	18	28	41	65	82	87	99	100											
Filter Sand 2nd Sample																							
Spec. upper limit				10	30		60	85		100													
Spec. lower limit				0	5		25	50		80	95		100										

AGRA Earth & Environmental, Inc.

PROJECT:	GOLDEN EAGLE PARK DAM-FCD1999C071	**JOB NO:**	0-119-000113
LOCATION:	PALISADES & FOUNTAIN HILLS H.S.	**WORK ORDER NO:**	1
MATERIAL:	FILTER SAND	**LAB NO:**	1
SAMPLE SOURCE:	SALT RIVER SAND & ROCK	**DATE SAMPLED:**	6/9/00

SIEVE ANALYSIS OF FINE AND COARSE AGGREGATES (ASTM C136/C117)

MECHANICAL ANALYSIS

SIEVE SIZE	% PASSING	
6in.	100	
4in.	100	
3in.	100	100
2in.	100	
1 1/2in.	100	
1 1/4in.	100	
1in.	100	
3/4in.	100	90-100
1/2in.	100	82-100
3/8in.	100	
1/4in.	100	
#4	99	52-100
#8	87	
#10	82	27-64 ☆
#16	65	14-57 ☆
#30	41	
#40	28	5-28
#50	18	
#100	7	0-10
#200	4	0-5

Wrong

Was changed by Addendum No. 1 & 2

☆ OUT OF SPEC.

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AGRA Earth & Environmental, Inc.
3232 West Virginia Avenue
Phoenix, Arizona 85009
Tel (602) 272-6848
Fax (602) 272-7239

FAX Transmission

To: Mr. Gopperton

Fax: 602-431-9562

From: Cliff Metz

Fax Operator: FR

Subject:

Date: 6/23/00

File No: 0-119-000113

Charge No:

Total Pages: 2 (incl. cover sheet)

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cc:

Revised Permeability test for Filter Sand - passes

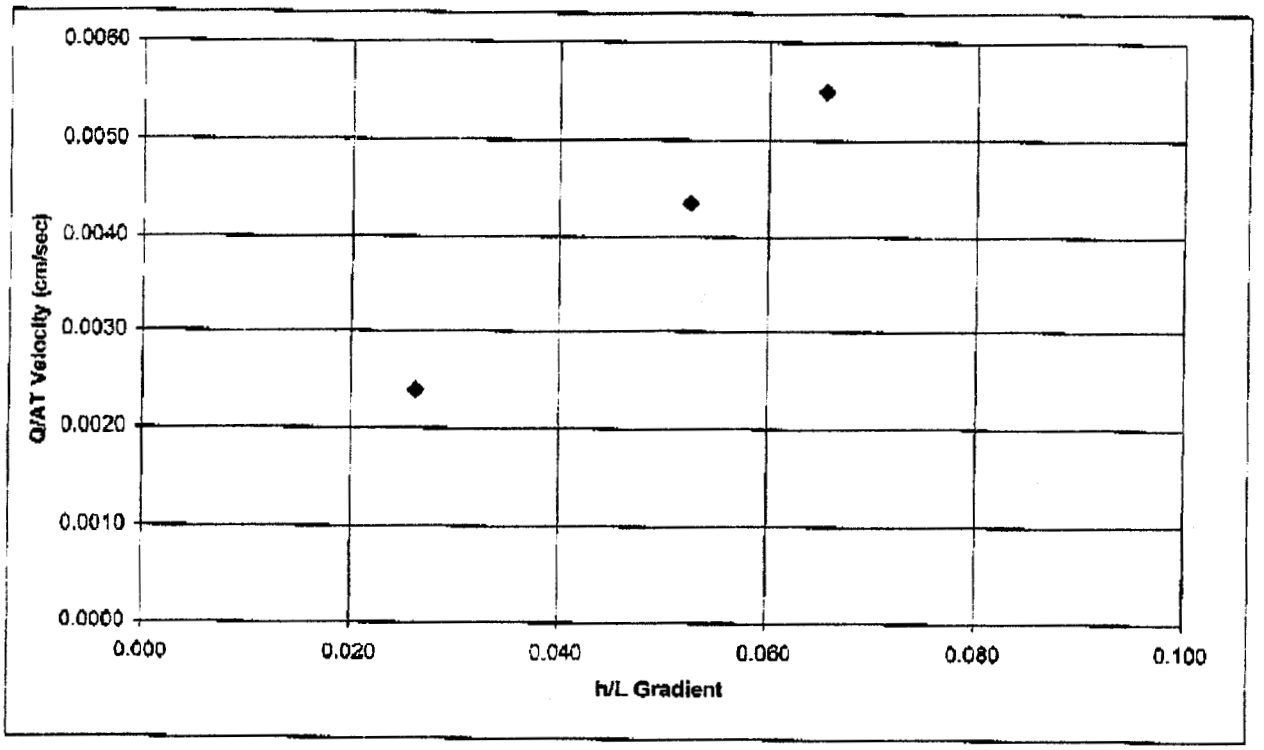
AGRA Earth & Environmental, Inc.

PROJECT:	GOLDEN EAGLE PARK DAM-FCD 1999 CO71	**JOB NO:**	0-119-000113
LOCATION:	PALESIDES & FOUNTAIN HILLS H.S.	**WORK ORDER NO:**	10
MATERIAL:	FILTER SAND	**LAB NO:**	13
SAMPLE SOURCE:	SALT RIVER SAND & ROCK	**DATE SAMPLED:**	
SAMPLE PREP:			

PREMEABILITY OF GRANULAR SOILS (CONSTANT HEAD) (ASTM D2434)

AVERAGE PERMEABILITY (CM/SEC): 8.6E-02
DRY UNIT WEIGHT OF SAMPLE (PCF): 102.3
VOID RATIO: 0.62

Head (cm)	Q (cu.cm)	Time (sec)	Q/AT Velocity (cm/sec)	h/L Gradient	k (cm/sec)
0.2	10	93.8	0.0024	0.0262	0.0909
0.4	10	51.4	0.0044	0.0525	0.0829
0.5	20	81.5	0.0055	0.0656	0.0837

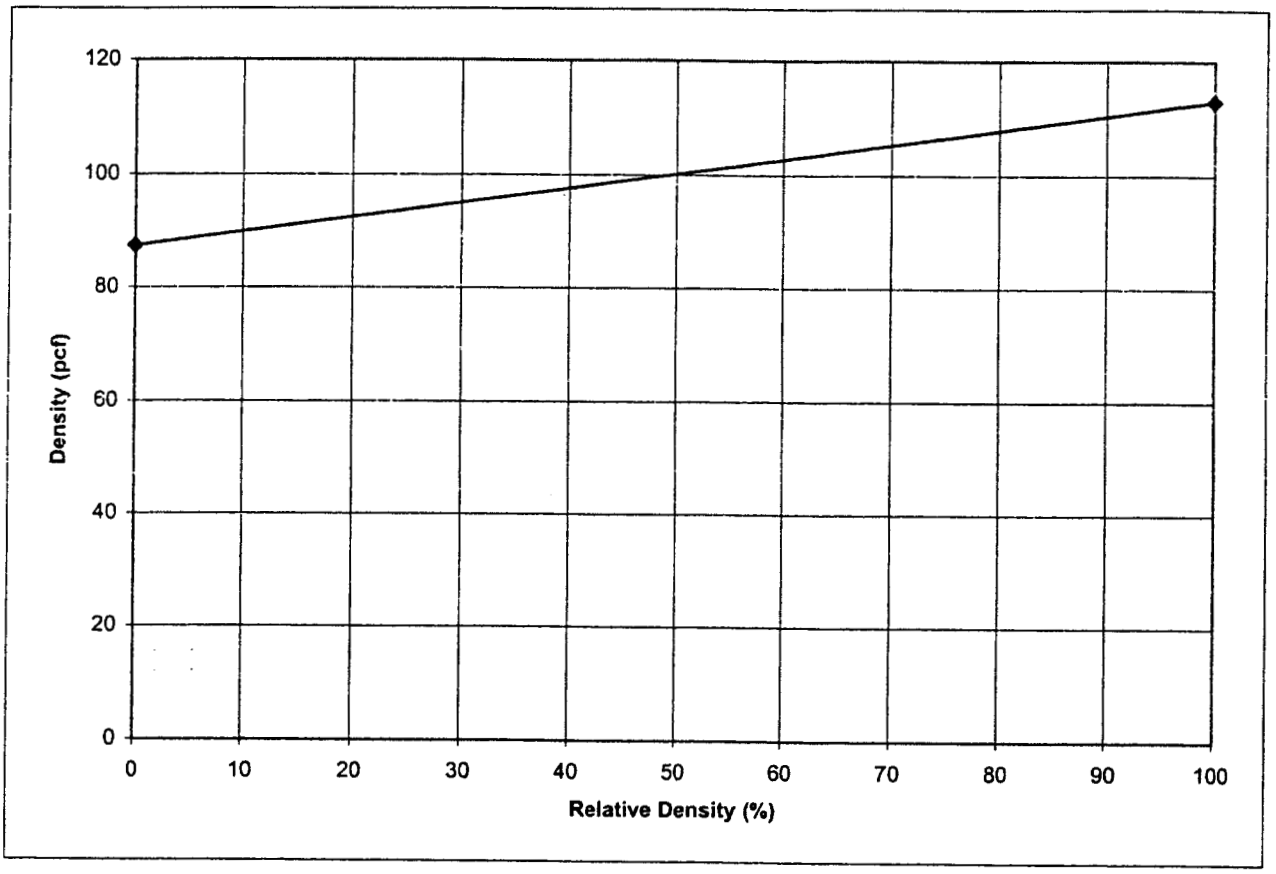


AGRA Earth & Environmental, Inc.

PROJECT:	Golden Eagle Park Dam	**JOB NO:**	0-119-000113
LOCATION:	Palisades & Fountain Hills H.S.	**WORK ORDER NO**	14
MATERIAL:	Filter Sand	**LAB NO:**	17
SAMPLE SOURCE:	SRS & R	**SAMPLE DATE:**	06/23/00

MAXIMUM INDEX DENSITY AND UNIT WEIGHT OF SOILS USING A VIBRATORY TABLE(ASTM D4253)
MINIMUM INDEX DENSITY AND UNIT WEIGHT OF SOILS AND CALCULATION OF RELATIVE DENSITY(ASTM D4254)

			MAX (D-4253)	MIN (D-4254)
MINIMUM DRY DENSITY	87.4 PCF	METHOD USED	1B	A
MAXIMUM DRY DENSITY	113.0 PCF	PREP. METHOD	Wet	DRY



RelDen017.xls

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AGRA Earth & Environmental, Inc.
3232 West Virginia Avenue
Phoenix, Arizona 85009-1502
Tel (602) 272-6848
Fax (602) 272-7239
Toll Free 1-800-248-AGRA

FAX Transmission

To: Chuck Gopperton
Stantec Consulting
Fax: 431-9562
From: Tony Freeman
Fax Operator:
Subject: Golden Eagle Park Dam
Filter Analysis Core / Sand Diaphragm

Date: 6/27/00
File No: 0-119-000113
Charge No:
Total Pages: 5 (incl. cover sheet)

cc:

Our analysis reveals that seperation criteria is achieved for Sample E of the existing core against the Sand Diaphragm material.

The gradation of the existing core crosses the sand at the fine side. This is not significant since we are not counting on the core zone to convey seepage away from the sand diaphragm.

We recommend that the placement of the sand be allowed in the core trench.

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Sand Gradation

Sieve	% Passing
3/8-inch	100
No. 4	95-100
No. 8	80-100
No. 16	50-85
No. 30	25-60
No. 50	5-30
No. 10	0-10

Existing Core - Sample E

Sieve	% Passing	Specs % Passing
3-inch	100	100
2-inch	99	
1 1/2-inch	98	
1 1/4-inch	98	
1-inch	97	
3/4-inch	96	
1/2-inch	94	
3/8-inch	92	
1/4-inch	87	
No. 4	46	60-100
No. 8	37	
No. 10	34	
No. 16	28	
No. 30	23	
No. 40	20	
No. 50	19	
No. 100	15	
No. 200	12	15-60

* Check Fine Side of Sand Filter Zone Against "Sample E" *

Step 2 - Fine Side of Sand contains 100% passing No. 4 Sieve, therefore no re-grading is required.

Step 4 - Sand has 10% maximum passing No. 100 Sieve
two test results have 4 & 1 % passing No. 200 Sieve

Use 10% passing No. 200 Sieve,

So... Base category is (4)

Step 5 - Maximum Allowable D_{15} size for filter

$$D_{15max} \leq 4\, d_{85}$$
$$\leq 4\,(1.18\,mm)$$
$$\leq 4.72\,mm$$

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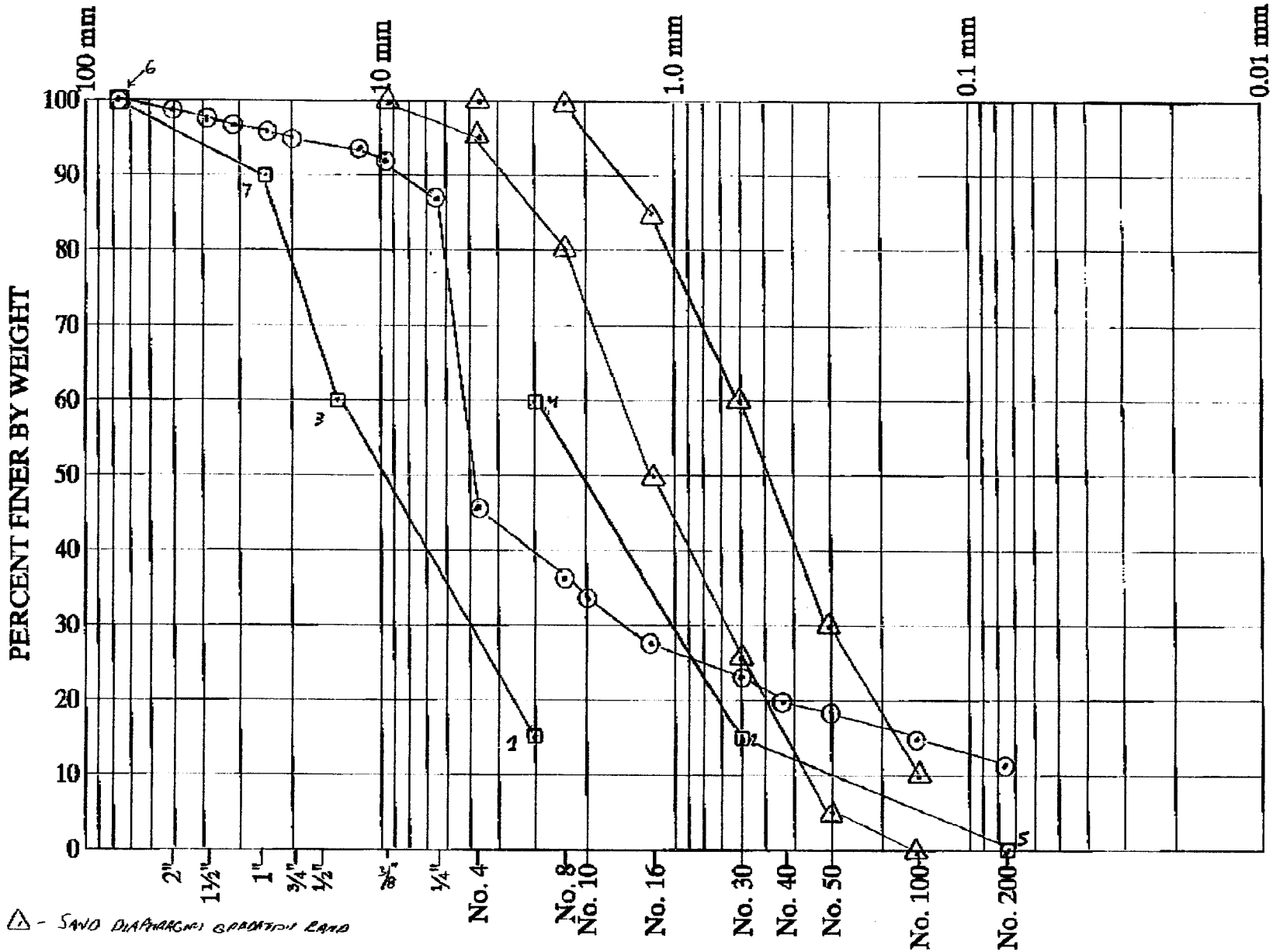
PHOENIX, AZ, U.S.A. 85009-1502

JOB NO. 0-119-000113
DESIGN TJ
CHECK
DATE 6/27/00
PAGE 2

GOLDEN EAGLE PARK DAM
CORE ZONE / SAND DIAPHRAGM
FILTER ANALYSIS



△ - SAND DIAPHRAGM GRADATION BAND

⊙ - SAMPLE - E EXISTING CORE

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PHOENIX, AZ, U.S.A. 85009-1502

JOB NO.	O-119-000113
DESIGN	TJF
DRAWN	TJF
CHECKED	
DATE	6/27/00

GOLDEN EAGLE PARK DAM
CORE ZONE / SAND DIAPHRAGM
FILTER ANALYSIS

STEP 6 - Minimum Allowable D_{15}

$D_{15min} \geq 4 d_{15}$ but not less than 0.1 mm

$d_{15} \approx$ No. 100 Sieve
≈ 0.150 mm

$D_{15\,min} \geq 4(0.150)$
≥ 0.6 mm (2) CONTROL POINT

STEP 7 - WIDTH OF GRADATION BAND

(a) $\frac{D_{15max}}{D_{15min}} < 5$ $D_{15\,min} = \frac{4.72}{5} = 0.94$ mm

(b) $D_{15max} = 5(0.6)$
$= 3$ mm (1) CONTROL POINT

Use this criteria since purpose of envelope is to determine separation criteria.

STEP 8 - UNIFORMITY GRADATION REQUIREMENT

$D_{10max} = \frac{D_{15max}}{1.2} = \frac{3\,mm}{1.2} = 2.50$ mm

$C_u = \frac{D_{60}}{D_{10}} \leq 6$ $D_{60max} = D_{15max}(6) = 15$ mm (3) CONTROL POINT

$D_{60\,min} = \frac{D_{60max}}{5} = \frac{15}{5} = 3$ mm (4) CONTROL POINT

STEP 9 - $D_{5\,min}$ & $D_{100\,max}$ Requirements

$D_{5\,min}$ = No. 200 Sieve = 0.075 mm (5) CONTROL POINT

$D_{100\,max} = 75$ mm (6) CONTROL POINT

AGRA Earth & Environmental 3232 WEST VIRGINIA AVENUE PHOENIX, AZ. U.S.A. 85009-1502	JOB NO. 0-119-000113 DESIGN TJF CHECK DATE 6/27/00 PAGE 3	GOLDEN EAGLE PARK DAM CORE ZONE / SAND DIAPHRAGM FILTER ANALYSIS

STEP 10 – D_{90max} / D_{90} Segregation Evaluation

$$D_{90} = \frac{D_{15max}}{1.2} = \frac{0.6}{1.2} = 0.5\,mm$$

$$D_{90max} = 25\,mm \quad \text{(7) coarse part}$$

Conclusions

Sample "E" meets seperation criteria above No. 16 sieve but does not meet permeability criteria at fine end. Sample E was obtained from bottom of sand diaphragm trench. Primary concern is that piping from placed sand diaphragm material into existing materials does not occur.

Our recommendation is to allow placement of C33 sand diaphragm against the existing core zone material.

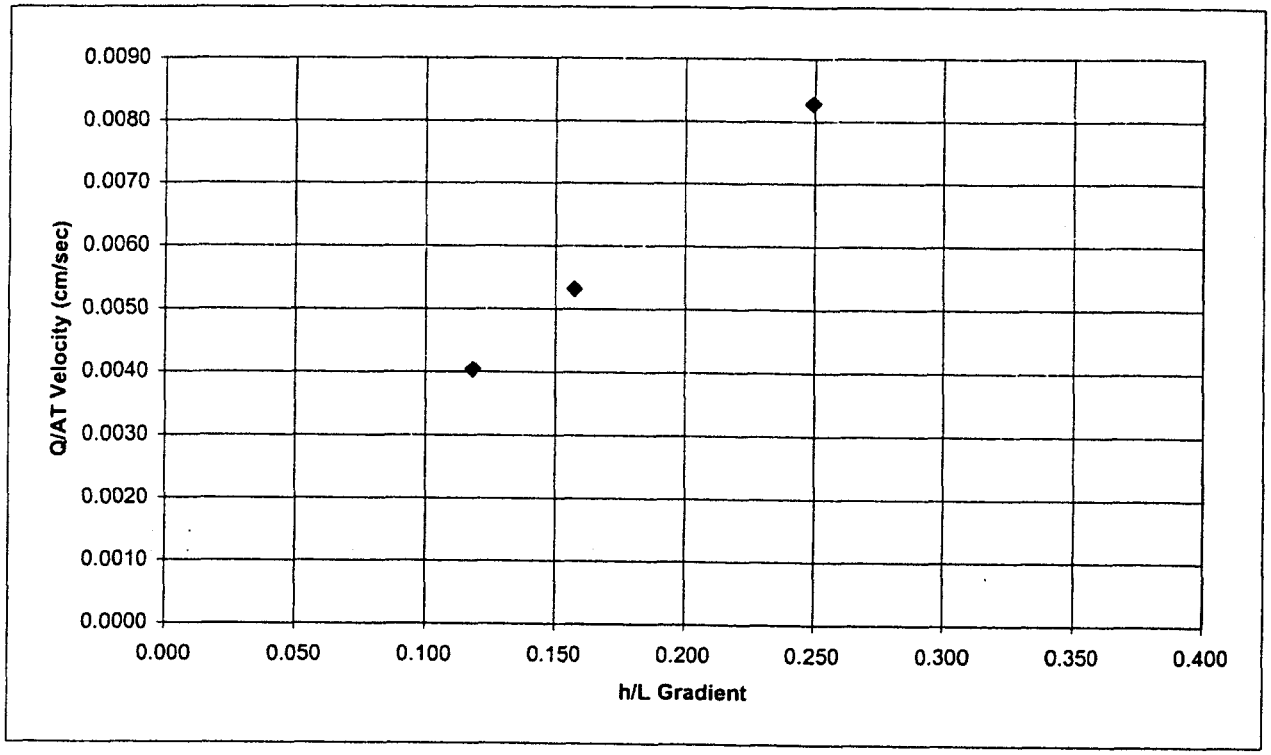
AGRA Earth & Environmental, Inc.

PROJECT:	Golden Eagle Park Dam	**JOB NO:**	0-119-000113
LOCATION:	Palisades & Fountain Hills H.S.	**WORK ORDER NO:**	17
MATERIAL:	Filter Sand-Sample C @ 0	**LAB NO:**	23
SAMPLE SOURCE:	Diaphragm-SRS & R	**DATE SAMPLED:**	06/29/00
SAMPLE PREP:			

PERMEABILITY OF GRANULAR SOILS (CONSTANT HEAD) (ASTM D2434)

AVERAGE PERMEABILITY (CM/SEC):	3.4E-02
DRY UNIT WEIGHT OF SAMPLE (PCF):	108.2
VOID RATIO:	0.53

Head (cm)	Q (cu.cm)	Time (sec)	Q/AT Velocity (cm/sec)	h/L Gradient	k (cm/sec)
0.9	10	55.4	0.0040	0.1181	0.0342
1.9	10	27	0.0083	0.2493	0.0332
1.2	10	42.1	0.0053	0.1575	0.0337



Note: Granular Perm done in lieu of flex wall Perm due to fast flow rates.

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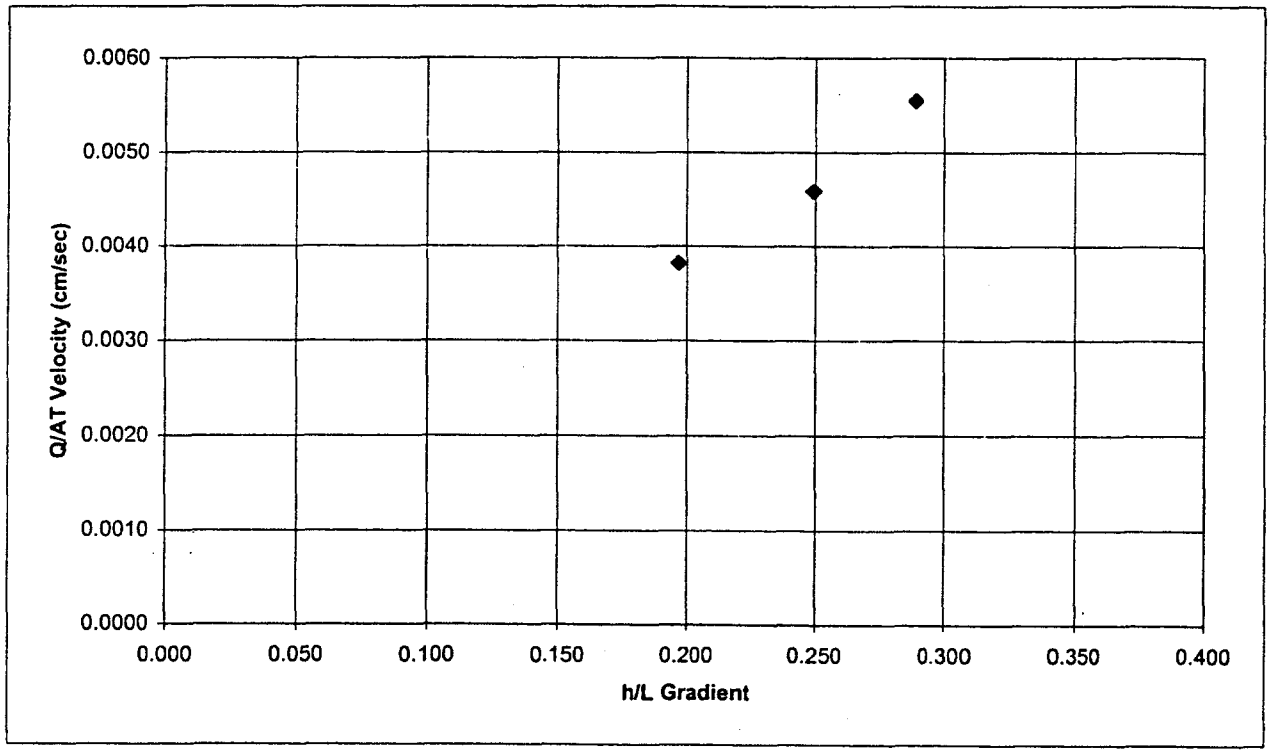
PROJECT:	Golden Eagle Park Dam	**JOB NO:**	0-119-000113
LOCATION:	Palisades & Fountain Hills H.S.	**WORK ORDER NO:**	17
MATERIAL:	Filter Sand-Sample D @ 2'	**LAB NO:**	24
SAMPLE SOURCE:	Diaphragm-SRS & R	**DATE SAMPLED:**	06/29/00
SAMPLE PREP:			

PERMEABILITY OF GRANULAR SOILS (CONSTANT HEAD) (ASTM D2434)

AVERAGE PERMEABILITY (CM/SEC): 1.9E-02
DRY UNIT WEIGHT OF SAMPLE (PCF): 108.2
VOID RATIO: 0.53

Head (cm)	Q (cu.cm)	Time (sec)	Q/AT Velocity (cm/sec)	h/L Gradient	k (cm/sec)
1.5	10	58.6	0.0038	0.1969	0.0194
1.9	10	48.8	0.0046	0.2493	0.0184
2.2	10	40.3	0.0056	0.2887	0.0192



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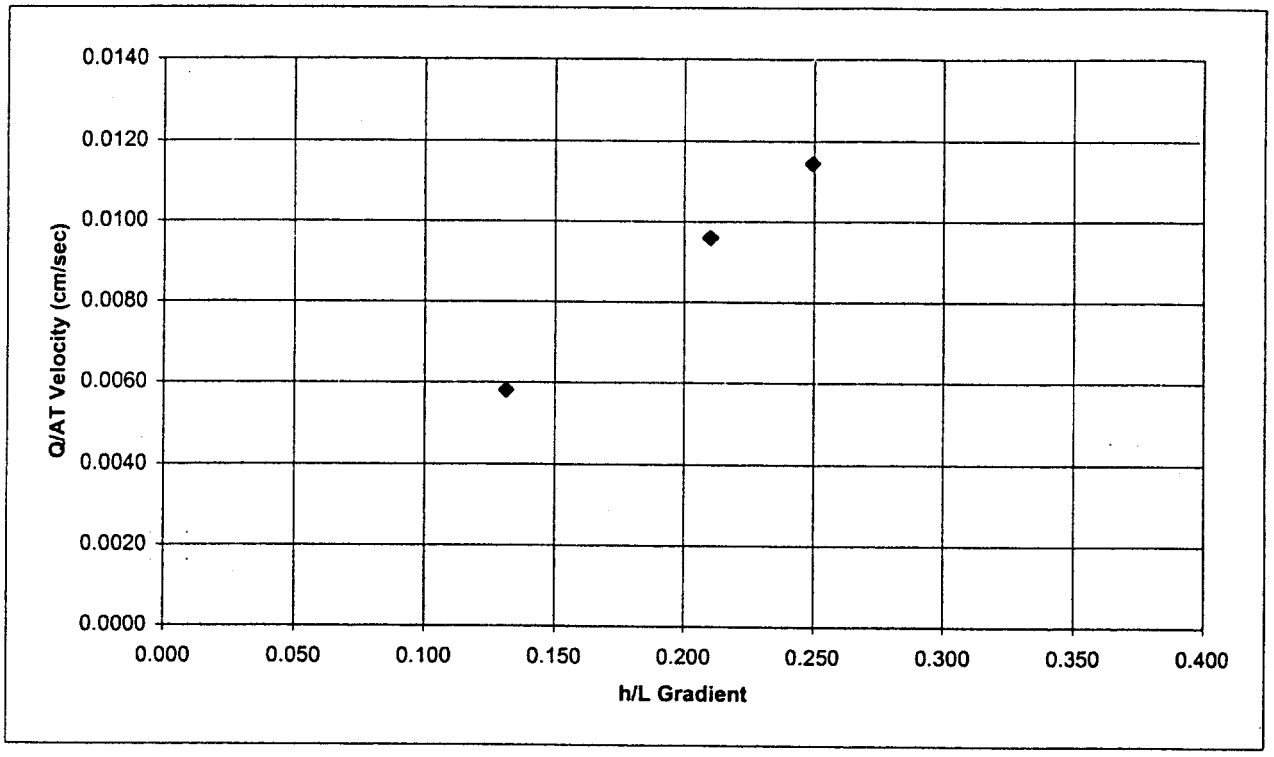
PROJECT:	Golden Eagle Park Dam	**JOB NO:**	0-119-000113
LOCATION:	Palisades & Fountain Hills H.S.	**WORK ORDER NO:**	17
MATERIAL:	Filter Sand-Sample E @ 4'	**LAB NO:**	25
SAMPLE SOURCE:	Diaphragm-SRS & R	**DATE SAMPLED:**	06/29/00
SAMPLE PREP:			

PERMEABILITY OF GRANULAR SOILS (CONSTANT HEAD) (ASTM D2434)

AVERAGE PERMEABILITY (CM/SEC):	4.5E-02
DRY UNIT WEIGHT OF SAMPLE (PCF):	108.2
VOID RATIO:	0.53

Head (cm)	Q (cu.cm)	Time (sec)	Q/AT Velocity (cm/sec)	h/L Gradient	k (cm/sec)
1	20	77.2	0.0058	0.1312	0.0442
1.6	20	46.6	0.0096	0.2100	0.0457
1.9	20	39.1	0.0114	0.2493	0.0459



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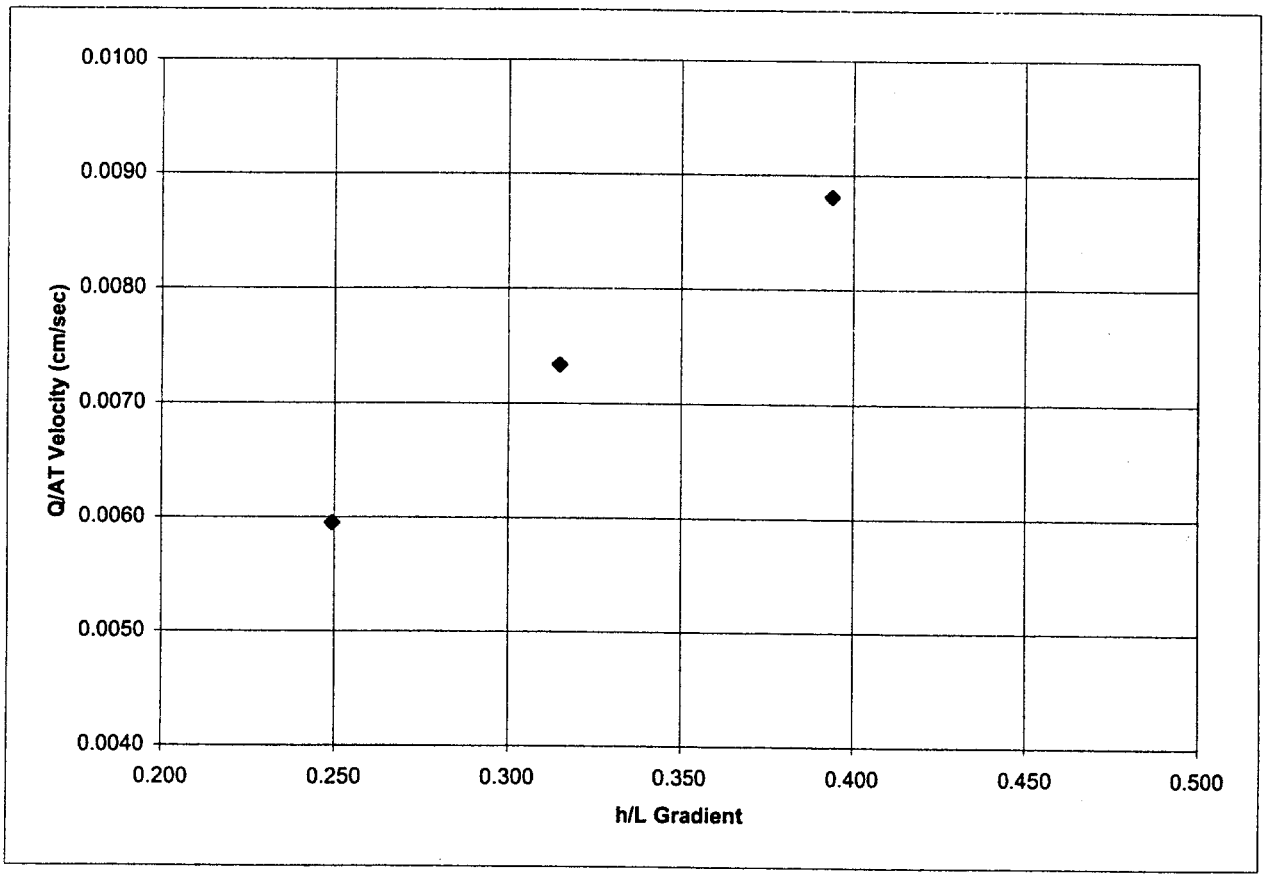
PROJECT:	Golden Eagle Park Dam	**JOB NO:**	0-119-000113
LOCATION:		**WORK ORDER NO:**	21
MATERIAL:	Filter Sand - S. Side @ 4'	**LAB NO:**	33
SAMPLE SOURCE:	SRS&R/Hunter	**DATE SAMPLED:**	08/03/00
SAMPLE PREP:			

PREMEABILITY OF GRANULAR SOILS (CONSTANT HEAD) (ASTM D2434)

AVERAGE PERMEABILITY (CM/SEC):	2.3E-02
DRY UNIT WEIGHT OF SAMPLE (PCF):	108.2
VOID RATIO:	0.53

Head (cm)	Q (cu.cm)	Time (sec)	Q/AT Velocity (cm/sec)	h/L Gradient	k (cm/sec)
1.9	20	75.2	0.0060	0.2493	0.0239
2.4	20	61	0.0073	0.3150	0.0233
3	20	50.8	0.0088	0.3937	0.0224



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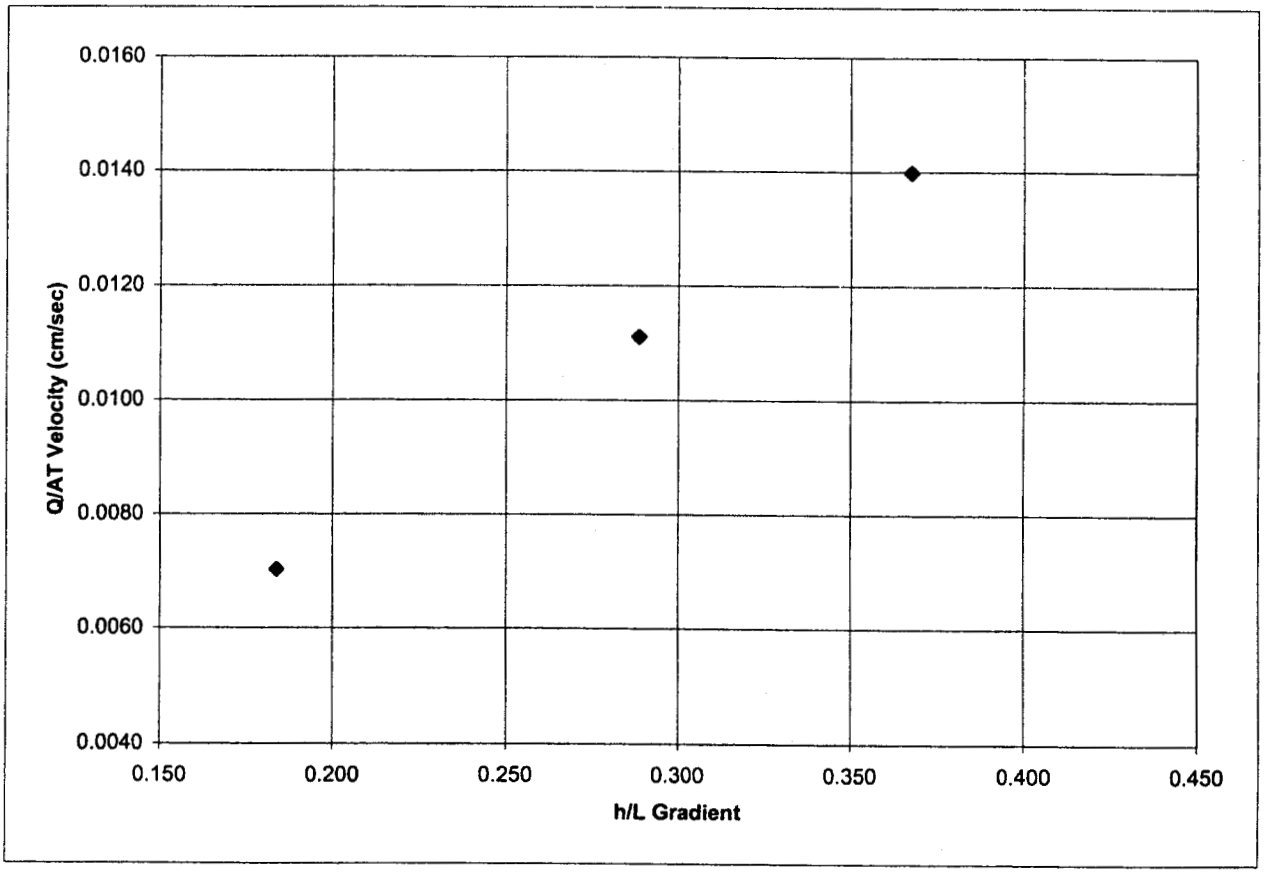
AGRA Earth & Environmental, Inc.

PROJECT:	Golden Eagle Park Dam	**JOB NO:**	0-119-000113
LOCATION:		**WORK ORDER NO:**	21
MATERIAL:	Filter Sand - S. Side @ 2'	**LAB NO:**	34
SAMPLE SOURCE:	SRS&R/Hunter	**DATE SAMPLED:**	08/03/00
SAMPLE PREP:			

PREMEABILITY OF GRANULAR SOILS (CONSTANT HEAD) (ASTM D2434)

AVERAGE PERMEABILITY (CM/SEC):	3.8E-02
DRY UNIT WEIGHT OF SAMPLE (PCF):	108.2
VOID RATIO:	0.53

Head (cm)	Q (cu.cm)	Time (sec)	Q/AT Velocity (cm/sec)	h/L Gradient	k (cm/sec)
1.4	20	63.7	0.0070	0.1837	0.0382
2.2	20	40.3	0.0111	0.2887	0.0385
2.8	20	32	0.0140	0.3675	0.0381



AGRA
ENGINEERING GLOBAL SOLUTIONS

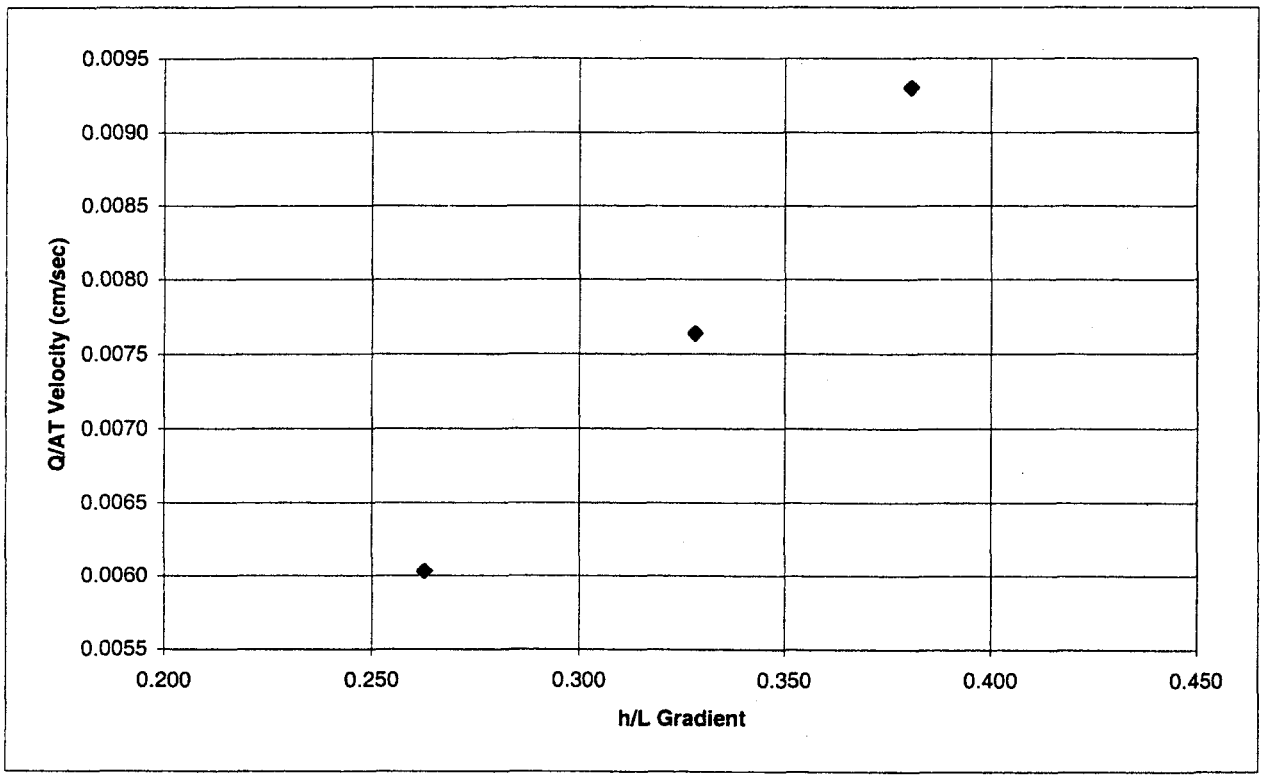
AGRA Earth & Environmental, Inc.

PROJECT:	Golden Eagle Park Dam	**JOB NO:**	0-119-000113
LOCATION:		**WORK ORDER NO:**	21
MATERIAL:	Filter Sand - S. Side @ 1'	**LAB NO:**	35
SAMPLE SOURCE:	SRS&R/Hunter	**DATE SAMPLED:**	08/03/00
SAMPLE PREP:			

PREMEABILITY OF GRANULAR SOILS (CONSTANT HEAD) (ASTM D2434)

AVERAGE PERMEABILITY (CM/SEC):	2.4E-02
DRY UNIT WEIGHT OF SAMPLE (PCF):	108.2
VOID RATIO:	0.53

Head (cm)	Q (cu.cm)	Time (sec)	Q/AT Velocity (cm/sec)	h/L Gradient	k (cm/sec)
2	20	74.2	0.0060	0.2625	0.0230
2.5	20	58.6	0.0076	0.3281	0.0233
2.9	20	48.1	0.0093	0.3806	0.0244



AGRA
ENGINEERING GLOBAL SOLUTIONS

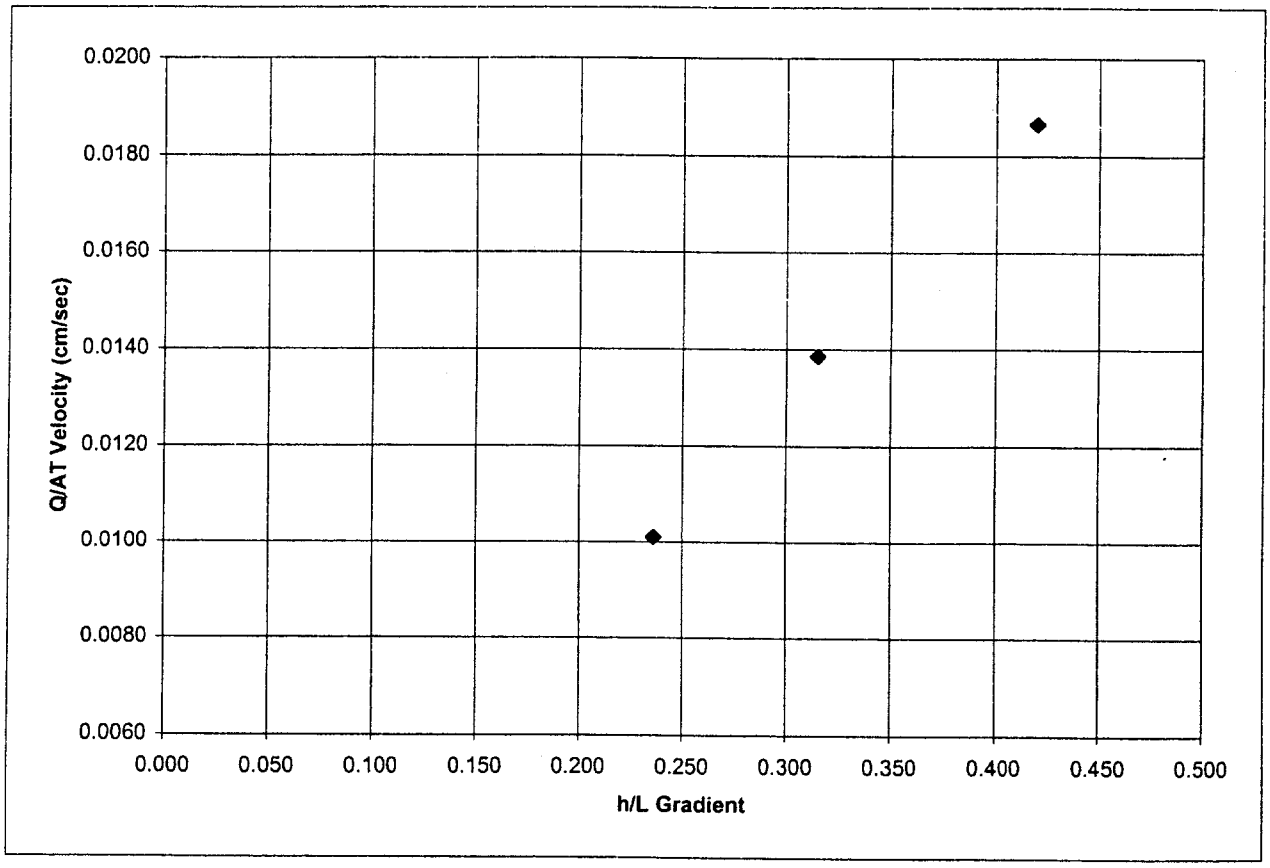
AGRA Earth & Environmental, Inc.

PROJECT:	Golden Eagle Park Dam	**JOB NO:**	0-119-000113
LOCATION:		**WORK ORDER NO:**	20
MATERIAL:	Filter Sand - North Side @ 0'	**LAB NO:**	30
SAMPLE SOURCE:	SRS&R/Hunter	**DATE SAMPLED:**	08/04/00
SAMPLE PREP:			

PREMEABILITY OF GRANULAR SOILS (CONSTANT HEAD) (ASTM D2434)

AVERAGE PERMEABILITY (CM/SEC):	4.4E-02
DRY UNIT WEIGHT OF SAMPLE (PCF):	108.2
VOID RATIO:	0.53

Head (cm)	Q (cu.cm)	Time (sec)	Q/AT Velocity (cm/sec)	h/L Gradient	k (cm/sec)
1.8	20	44.3	0.0101	0.2362	0.0428
2.4	20	32.3	0.0139	0.3150	0.0440
3.2	20	24	0.0186	0.4199	0.0444



AGRA
ENGINEERING GLOBAL SOLUTIONS

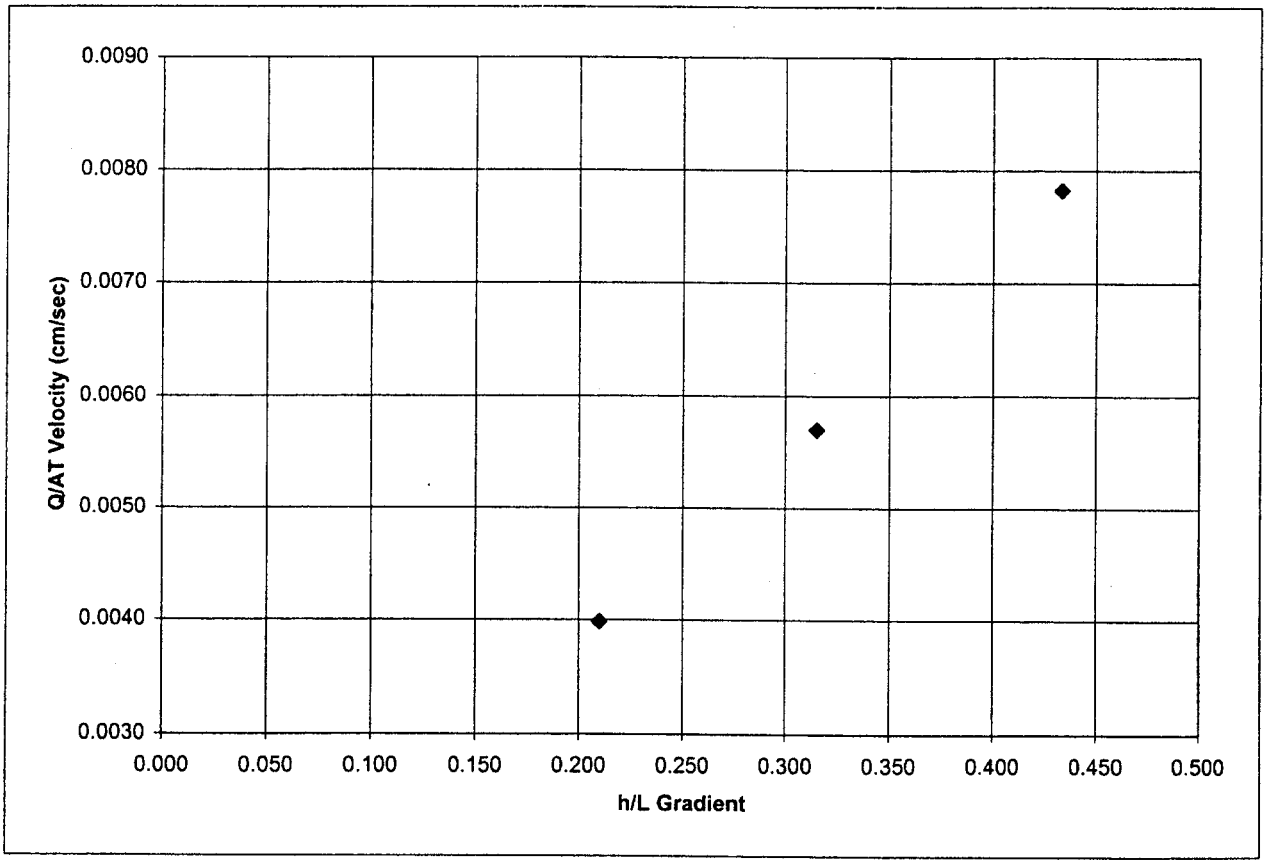
AGRA Earth & Environmental, Inc.

PROJECT:	Golden Eagle Park Dam	**JOB NO:**	0-119-000113
LOCATION:		**WORK ORDER NO:**	20
MATERIAL:	Filter Sand - North Side @ 0'-5'	**LAB NO:**	31
SAMPLE SOURCE:	SRS&R/Hunter	**DATE SAMPLED:**	08/04/00
SAMPLE PREP:			

PREMEABILITY OF GRANULAR SOILS (CONSTANT HEAD) (ASTM D2434)

AVERAGE PERMEABILITY (CM/SEC):	1.8E-02
DRY UNIT WEIGHT OF SAMPLE (PCF):	108.2
VOID RATIO:	0.53

Head (cm)	Q (cu.cm)	Time (sec)	Q/AT Velocity (cm/sec)	h/L Gradient	k (cm/sec)
1.6	20	112.4	0.0040	0.2100	0.0190
2.4	20	78.5	0.0057	0.3150	0.0181
3.3	20	57.2	0.0078	0.4331	0.0181



AGRA
ENGINEERING GLOBAL SOLUTIONS

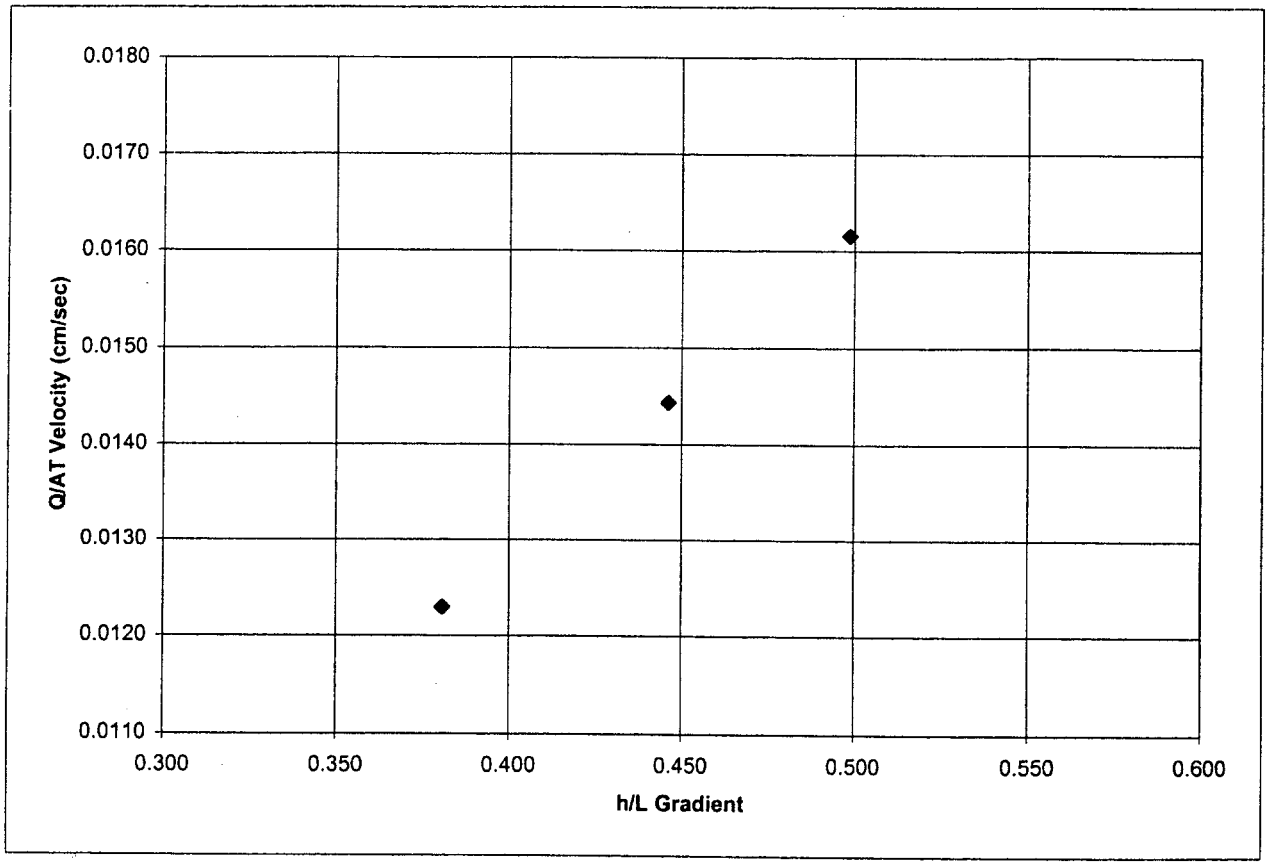
AGRA Earth & Environmental, Inc.

PROJECT:	Golden Eagle Park Dam	**JOB NO:**	0-119-000113
LOCATION:		**WORK ORDER NO:**	20
MATERIAL:	Filter Sand - North Side @ 0'-3'	**LAB NO:**	32
SAMPLE SOURCE:	SRS&R/Hunter	**DATE SAMPLED:**	08/04/00
SAMPLE PREP:			

PREMEABILITY OF GRANULAR SOILS (CONSTANT HEAD) (ASTM D2434)

AVERAGE PERMEABILITY (CM/SEC):	3.2E-02
DRY UNIT WEIGHT OF SAMPLE (PCF):	108.2
VOID RATIO:	0.53

Head (cm)	Q (cu.cm)	Time (sec)	Q/AT Velocity (cm/sec)	h/L Gradient	k (cm/sec)
2.9	20	36.4	0.0123	0.3806	0.0323
3.4	20	31	0.0144	0.4462	0.0323
3.8	20	27.7	0.0162	0.4987	0.0324



AGRA
ENGINEERING GLOBAL SOLUTIONS

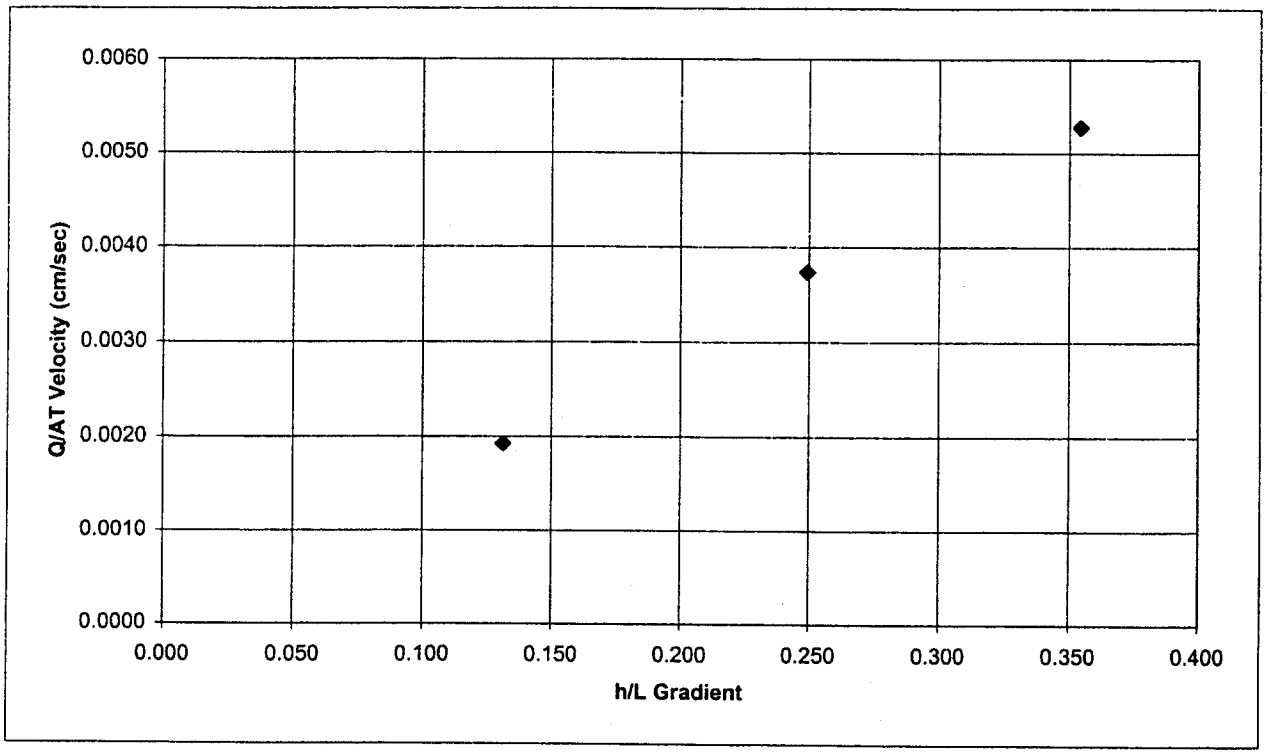
AGRA Earth & Environmental, Inc.

PROJECT:	Golden Eagle Park Dam	**JOB NO:**	0-119-000113
LOCATION:	Palisades Blvd. & Fountain Hills H.S.	**WORK ORDER NO:**	22
MATERIAL:	Filter Sand	**LAB NO:**	36
SAMPLE SOURCE:	Salt River Sand & Rock	**DATE SAMPLED:**	08/16/00
SAMPLE PREP:			

PERMEABILITY OF GRANULAR SOILS (CONSTANT HEAD) (ASTM D2434)

AVERAGE PERMEABILITY (CM/SEC): 1.5E-02
DRY UNIT WEIGHT OF SAMPLE (PCF): 108.2
VOID RATIO: 0.53

Head (cm)	Q (cu.cm)	Time (sec)	Q/AT Velocity (cm/sec)	h/L Gradient	k (cm/sec)
1	10	116.1	0.0019	0.1312	0.0147
1.9	10	59.9	0.0037	0.2493	0.0150
2.7	10	42.4	0.0053	0.3543	0.0149



AGRA
ENGINEERING GLOBAL SOLUTIONS

Persi.xls

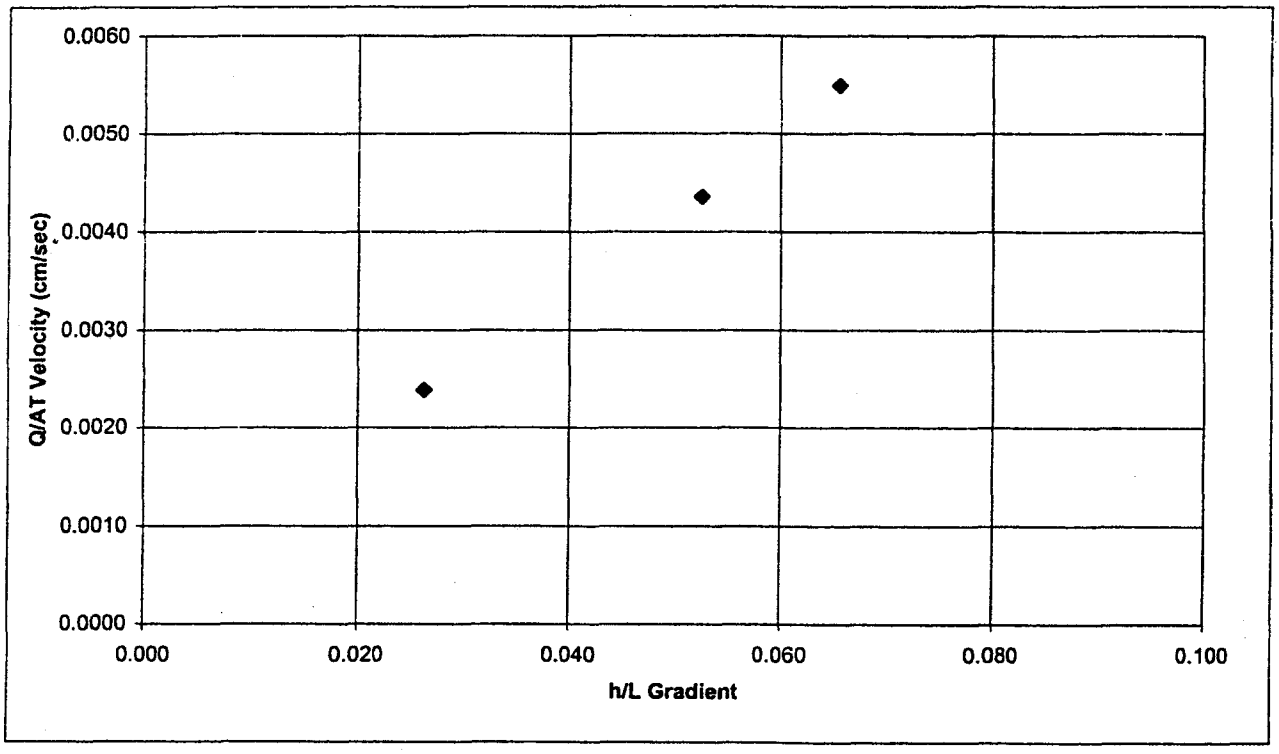
AGRA Earth & Environmental, Inc.

PROJECT:	GOLDEN EAGLE PARK DAM-FCD 1999 CO71	**JOB NO:**	0-119-000113
LOCATION:	PALESIDES & FOUNTAIN HILLS H.S.	**WORK ORDER NO:**	10
MATERIAL:	FILTER SAND	**LAB NO:**	13
SAMPLE SOURCE:	SALT RIVER SAND & ROCK	**DATE SAMPLED:**	
SAMPLE PREP:			

PREMEABILITY OF GRANULAR SOILS (CONSTANT HEAD) (ASTM D2434)

AVERAGE PERMEABILITY (CM/SEC):	8.6E-02
DRY UNIT WEIGHT OF SAMPLE (PCF):	102.3
VOID RATIO:	0.62

Head (cm)	Q (cu.cm)	Time (sec)	Q/AT Velocity (cm/sec)	h/L Gradient	k (cm/sec)
0.2	10	93.8	0.0024	0.0262	0.0909
0.4	10	51.4	0.0044	0.0525	0.0829
0.5	20	81.5	0.0055	0.0656	0.0837



AGRA
ENGINEERING GLOBAL SOLUTIONS

Persi000.xls

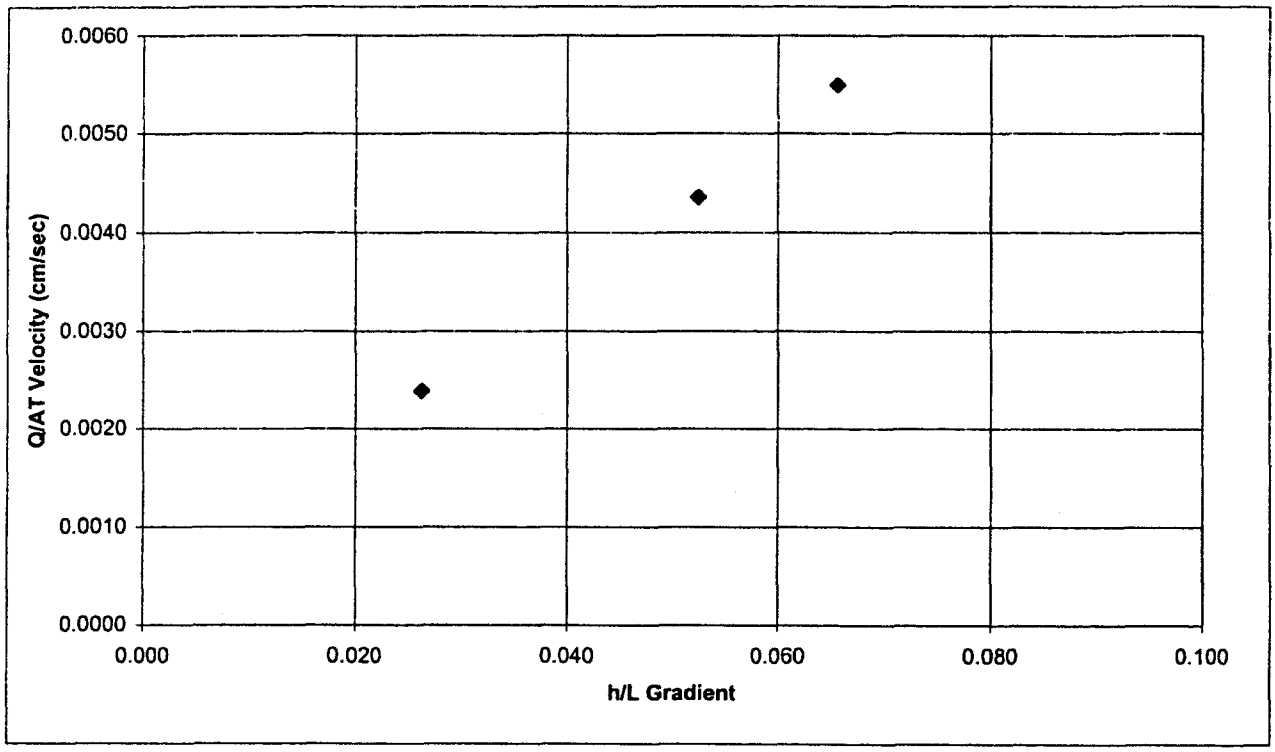
AGRA Earth & Environmental, Inc.

PROJECT:	GOLDEN EAGLE PARK DAM-FCD 1999 CO71	**JOB NO:**	0-119-000113
LOCATION:	PALESIDES & FOUNTAIN HILLS H.S.	**WORK ORDER NO:**	10
MATERIAL:	FILTER SAND	**LAB NO:**	13
SAMPLE SOURCE:	SALT RIVER SAND & ROCK	**DATE SAMPLED:**	
SAMPLE PREP:			

PREMEABILITY OF GRANULAR SOILS (CONSTANT HEAD) (ASTM D2434)

AVERAGE PERMEABILITY (CM/SEC):	8.6E-02
DRY UNIT WEIGHT OF SAMPLE (PCF):	102.3
VOID RATIO:	0.62

Head (cm)	Q (cu.cm)	Time (sec)	Q/AT Velocity (cm/sec)	h/L Gradient	k (cm/sec)
0.2	10	93.8	0.0024	0.0262	0.0909
0.4	10	51.4	0.0044	0.0525	0.0829
0.5	20	81.5	0.0055	0.0656	0.0837



AGRA
ENGINEERING GLOBAL SOLUTIONS

Persi000.xls

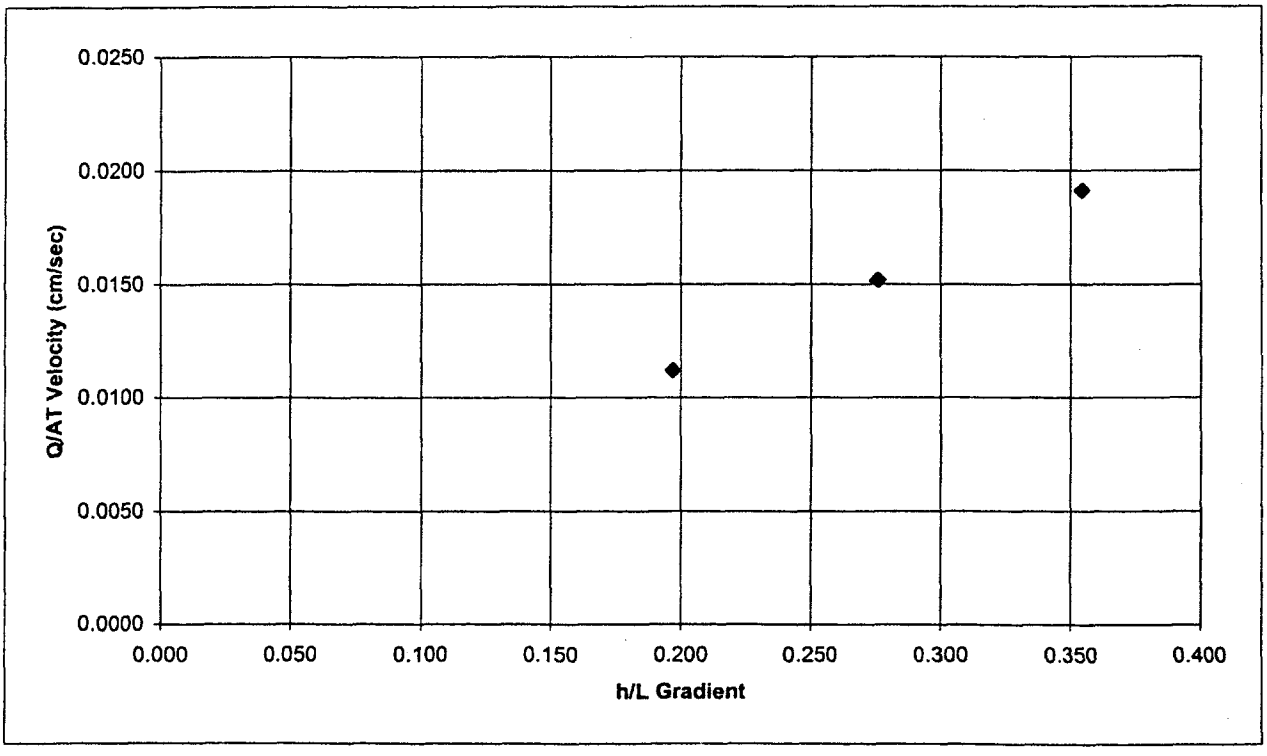
AMEC Earth & Environmental, Inc.

PROJECT:	Golden Eagle Park Dam	**JOB NO:**	0-119-000113
LOCATION:	Palisades Blvd. & Fountain Hills High School	**WORK ORDER NO:**	23
MATERIAL:	Filter Sand-A	**LAB NO:**	27
SAMPLE SOURCE:	Elevation 1709	**DATE SAMPLED:**	08/31/00
SAMPLE PREP:	Remolded @ 95% maximum dry density & -2% of optimum moisture.		

PERMEABILITY OF GRANULAR SOILS (CONSTANT HEAD) (ASTM D2434)

AVERAGE PERMEABILITY (CM/SEC): 5.5E-02
DRY UNIT WEIGHT OF SAMPLE (PCF): 108.2
VOID RATIO: 0.53

Head (cm)	Q (cu.cm)	Time (sec)	Q/AT Velocity (cm/sec)	h/L Gradient	k (cm/sec)
1.5	20	40.0	0.0112	0.1969	0.0568
2.1	20	29.5	0.0152	0.2756	0.0550
2.7	20	23.4	0.0191	0.3543	0.0540



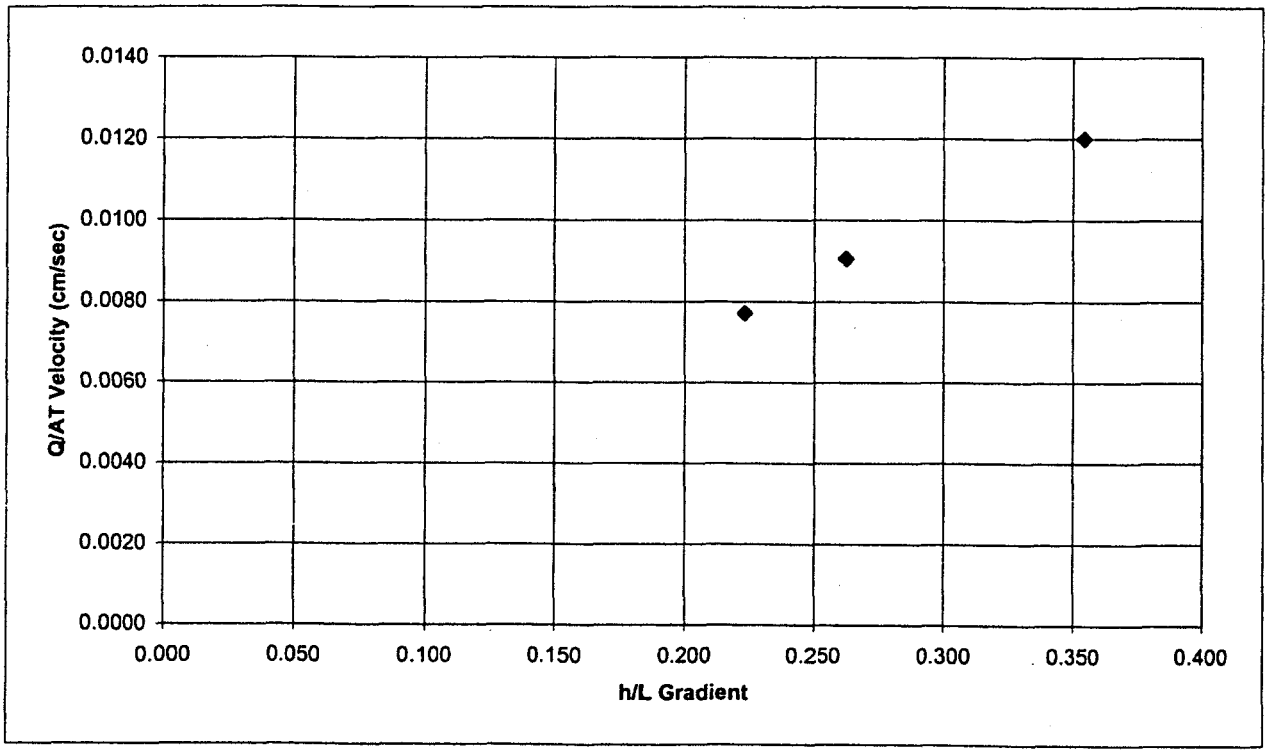
AMEC Earth & Environmental, Inc.

PROJECT:	Golden Eagle Park Dam	**JOB NO:**	0-119-000113
LOCATION:	Palisades Blvd. & Fountain Hills High School	**WORK ORDER NO:**	23
MATERIAL:	Filter Sand-B,	**LAB NO:**	28
SAMPLE SOURCE:	Elevation 1710	**DATE SAMPLED:**	08/31/00
SAMPLE PREP:	Remolded @ 95% maximum dry density & -2% of optimum moisture.		

PERMEABILITY OF GRANULAR SOILS (CONSTANT HEAD) (ASTM D2434)

AVERAGE PERMEABILITY (CM/SEC):	3.4E-02
DRY UNIT WEIGHT OF SAMPLE (PCF):	108.2
VOID RATIO:	0.53

Head (cm)	Q (cu.cm)	Time (sec)	Q/AT Velocity (cm/sec)	h/L Gradient	k (cm/sec)
1.7	10	29.0	0.0077	0.2231	0.0346
2.0	10	24.7	0.0091	0.2625	0.0345
2.7	20	37.3	0.0120	0.3543	0.0339



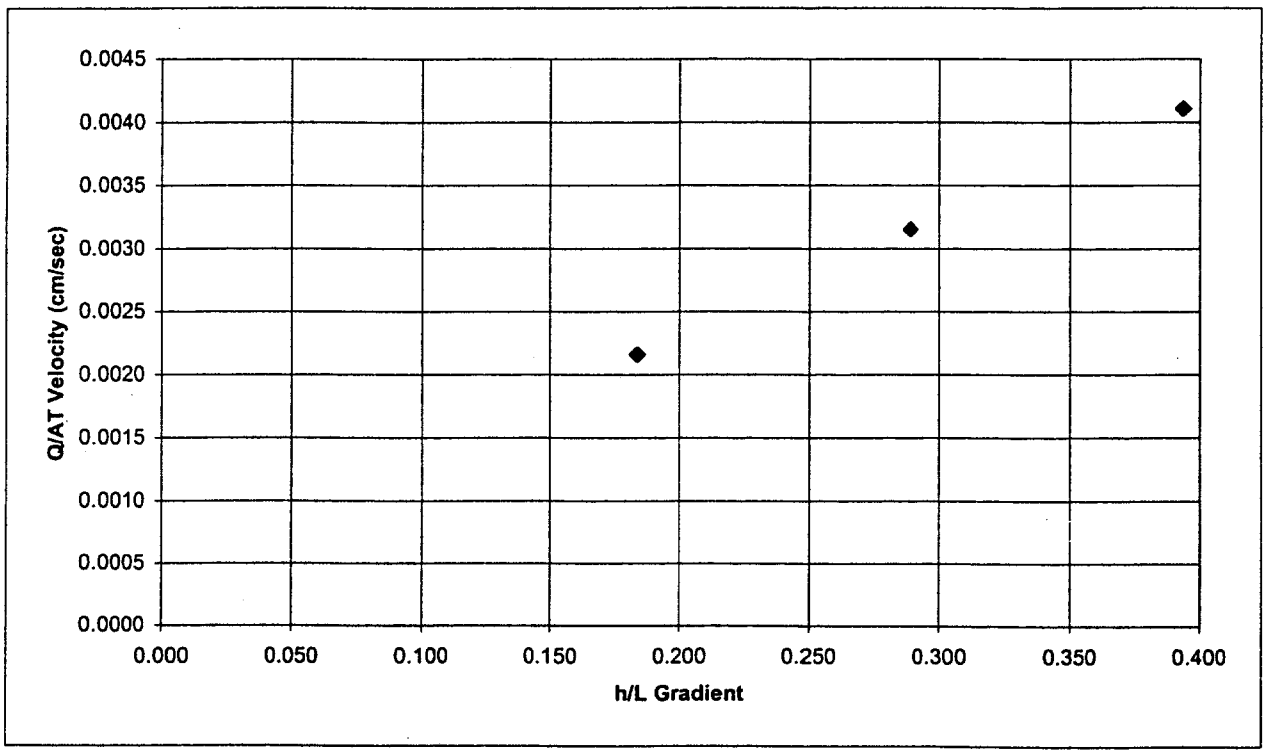
AMEC Earth & Environmental, Inc.

PROJECT:	Golden Eagle Park Dam	**JOB NO:**	0-119-000113
LOCATION:	Palisades Blvd. & Fountain Hills High School	**WORK ORDER NO:**	23
MATERIAL:	Filter Sand-C	**LAB NO:**	29
SAMPLE SOURCE:	Elevation 1711	**DATE SAMPLED:**	08/31/00
SAMPLE PREP:	Remolded @ 95% maximum dry density & -2% of optimum moisture.		

PERMEABILITY OF GRANULAR SOILS (CONSTANT HEAD) (ASTM D2434)

AVERAGE PERMEABILITY (CM/SEC):	1.1E-02
DRY UNIT WEIGHT OF SAMPLE (PCF):	108.2
VOID RATIO:	0.53

Head (cm)	Q (cu.cm)	Time (sec)	Q/AT Velocity (cm/sec)	h/L Gradient	k (cm/sec)
1.4	10	103.7	0.0022	0.1837	0.0117
2.2	10	71.0	0.0032	0.2887	0.0109
3.0	10	54.5	0.0041	0.3937	0.0104



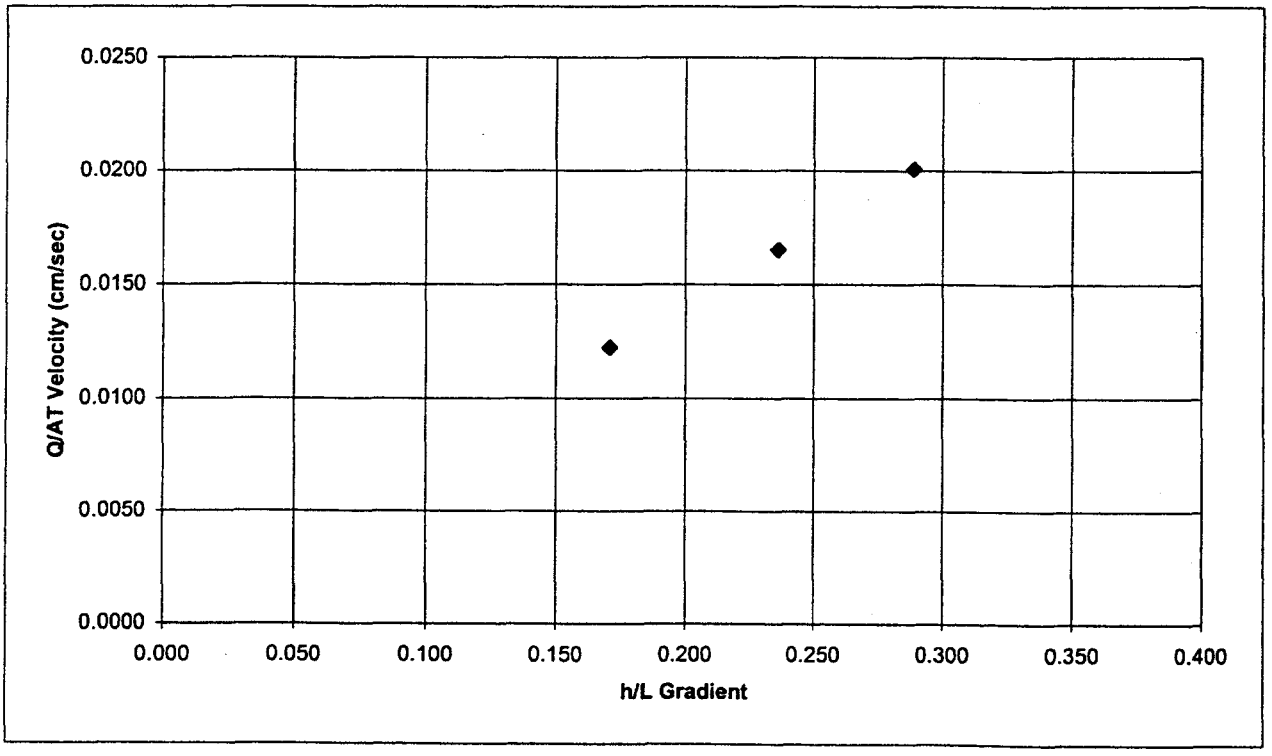
AMEC Earth & Environmental, Inc.

PROJECT:	Golden Eagle Park Dam	**JOB NO:**	0-119-000113
LOCATION:	Palisades Blvd. & Fountain Hills High School	**WORK ORDER NO:**	23
MATERIAL:	Filter Sand-D	**LAB NO:**	30
SAMPLE SOURCE:	Elevation 1712	**DATE SAMPLED:**	08/31/00
SAMPLE PREP:	Remolded @ 95% maximum dry density & -2% of optimum moisture.		

PERMEABILITY OF GRANULAR SOILS (CONSTANT HEAD) (ASTM D2434)

AVERAGE PERMEABILITY (CM/SEC):	7.0E-02
DRY UNIT WEIGHT OF SAMPLE (PCF):	108.2
VOID RATIO:	0.53

Head (cm)	Q (cu.cm)	Time (sec)	Q/AT Velocity (cm/sec)	h/L Gradient	k (cm/sec)
1.3	20	36.6	0.0122	0.1706	0.0717
1.8	20	27.1	0.0165	0.2362	0.0699
2.2	20	22.3	0.0201	0.2887	0.0695



CONTRACTOR FILTER SAND TESTS

Ricker Atkinson McBee & Assoc., Inc.
2105 S. Hardy Drive, Suite 13
Tempe, AZ 85282-1924

Geotechnical Engineering
Construction Materials Testing
Phone (480) 921-8100
Fax (480) 921-4081

LABORATORY TEST RESULTS

Client: Hunter Contracting
Attn: Bob Carlson
701 N. Cooper Road
Gilbert, AZ 85234

Project No.: T05354
Report Date: 20-Jun-00
Lab No.: 4752

Project: **Golden Eagle Park Dam Modifications**
Location: Golden Eagle Blvd. North of Palisades Blvd., Ftn. Hills

Sample Source: Salt River Sand & Rock

Sampled By: Salt River S & R
Date Sampled: 19-Jun-00
Submitted By: RAM/Isaacs
Date Submitted: 19-Jun-00

Material: Proposed Drainage Filter Sand

Supplier: Salt River Sand & Rock

Test Method(s): Sieve Analysis (ASTM C117, C136)

Results:

Sieve Size	Percent Passing	ASTM C33 Specifications	
		Minimum	Maximum
	100		
	100		
3"	100		
2"	100		
1-1/2"	100		
1"	100		
3/4"	100		
1/2"	100		
3/8"	100	100	
1/4"	100		
#4	100	95	100
#8	87	80	100
#10	81		
#16	65	50	85
#30	38	25	60
#40	25		
#50	14	5	30
#100	5	0	10
#200	2.2		

Remarks:

Distribution: Addressee (2)

Respectfully submitted,

Shawn C. Morman, E.I.T.
Technical Services Director

Ricker Atkinson McBee & Assoc., Inc.
2105 S. Hardy Drive, Suite 13
'empe, AZ 85282-1924

Geotechnical Engineering
Construction Materials Testing
Phone (480) 921-8100
Fax (480) 921-4081

LABORATORY TEST RESULTS

Client: Hunter Contracting
Attn: Bob Carlson
701 N. Cooper Road
Gilbert, AZ 85234

Project No.: T05354
Report Date: 26-Jun-00
Lab No.: 4799

Project: **Golden Eagle Park Dam Modifications**
Location: Golden Eagle Blvd. North of Palisades Blvd., Ftn. Hills

Sample Source: Stockpile at Salt River Sand & Rock

Sampled By: RAM/Hemphill
Date Sampled: 23-Jun-00
Submitted By: RAM/Hemphill
Date Submitted: 23-Jun-00

Material: Proposed Drainage Filter Sand
Supplier: Salt River Sand & Rock

Test Method(s): Sieve Analysis (ASTM C117, C136)

Results:

Sieve Size	Percent Passing	ASTM C33 Specifications	
		Minimum	Maximum
	100		
	100		
3"	100		
2"	100		
1-1/2"	100		
1"	100		
3/4"	100		
1/2"	100		
3/8"	100	100	
1/4"	100		
#4	99	95	100
#8	87	80	100
#10	82		
#16	64	50	85
#30	37	25	60
#40	24		
#50	14	5	30
#100	4	0	10
#200	1.8		

Remarks:

tribution: Addressee (2)

Respectfully submitted,

Shawn C. Morman, E.I.T.
Technical Services Director

COMPACTION TESTS

AGRA Earth & Environmental

PROJECT: Golden Eagle Park Dam FCD 1999C071
LOCATION: Maricopa County, Arizona
CLIENT: Flood Control District of Maricopa County

JOB NO: 0-119-000113
DATE: 06-20-00

DENSITY OF SOIL IN PLACE BY THE SAND CONE METHOD (ASTM D1556, AAHSTO T217 & T224)
DENSITY OF SOIL IN PLACE BY THE NUCLEAR METHOD (ASTM D2922 & D3017)

CURVES:

	DESCRIPTION:		DENS. (PCF)	MOIST (%)
A	Filter Sand - SRS&R	6-9-00	113.6	15.0
B	Pervious Fill - Sample A	6-13-00	125.1	11.3
C	Pervious Fill - Sample B	6-13-00	125.8	10.5
D	Impervious Fill - Sample A	6-13-00	129.4	8.9
E	Impervious Fill - Sample B	6-13-00	129.2	9.2
F	Pervious Fill - On site	6-14-00	129.4	8.9
G	Subgrade/ABC -On site	6-19-00	118.8	14.2
H	Impervious Fill - Sample C	6-19-00	129.0	9.3
I	Impervious Fill - Sample D	6-19-00	129.3	8.9
J	Filter Sand - SRS&R	6-19-00	111.6	16.7

SAND CONE TESTS:

TEST NO.	LOCATION:	ELEV. *	% ROCK	DRY DENS. (PCF)	MOIST (%)	COMP. (%)	REQ. COMP. (%)	CURVE

NUCLEAR TESTS:

TEST NO.	LOCATION:	ELEV. *	% ROCK	DRY DENS. (PCF)	MOIST (%)	COMP. (%)	REQ. COMP. (%)	CURVE
1	SB Bottom of Box Culvert at Sta. 2+95	-0'	44	131.2	7.4	96	95	C

DEPTH OF REFERENCE POINT: Subgrade

AGRA
ENGINEERING GLOBAL SOLUTIONS

COPY

FIELD DENSITY TEST DATA

CPN GAUGE

Soil & Asphalt

Project GOLDEN EAGLE PARK DAM Job No. 0-115-00011 3

Material (circle one) Native On-Site Borrow Existing Fill A.C.
Import ABC Select River-Run Pit Run

Standard Counts:
Density: 245 (A)
Moisture 56.9 (B)

Date of Test		6/27				
Test No.		1				
Location of Test		BLOCK WALL FOOTING STA 10+80 30' LT.				
Depth/Elev. Ref. Pt.		GRADE(G)				
Depth/Elev. of Test		-3'				
* Density Count	(C)	1469				
Moisture Count	(D)	88				
* Density Ratio C ÷ A	(E)	—				
Moisture Ratio D ÷ B	(F)	—				
* Wet Density, ~~from table~~	(G)	133.7				
Moisture, ~~PCF from table~~	(H)	4.2				
Dry Density, G-H	(I)	128.8				
Percent Moisture H ÷ I		3.8				
* Percent Compaction, I ÷ J (G ÷ J for A.C.)		95.0				
Curve Used		C				
% Compaction Required		95				
Maximum Density	(J)	135				
Optimum Moisture		6.5				

AEE Representative [signature]

* For A.C. Calculations

COPY

FIELD DENSITY TEST DATA

CPN GAUGE

Soil & Asphalt

Project GOLDEN EAGLE PARK DAM Job No. 0-119-000113

Material (circle one) Native On-Site Borrow Existing Fill A.C.
Import ABC Select River-Run Pit Run

Standard Counts:
Density: 2476 (A)
Moisture 556 (B)

Date of Test		7/12				
Test No.		1				
Location of Test		S.G. BOTT of OUTLET STR. BOX CULVERT STA 2+95				
Depth/Elev. Ref. Pt.		5.6(0)				
Depth/Elev. of Test		(0)				
* Density Count	(C)	1464				
Moisture Count	(D)	65				
* Density Ratio C ÷ A	(E)	—				
Moisture Ratio D ÷ B	(F)	—				
* Wet Density, from table	(G)	135.9				
Moisture, PCF from table	(H)	4.5				
Dry Density, G-H	(I)	131.3				
Percent Moisture H ÷ I		3.5				
* Percent Compaction, I ÷ J (G ÷ J for A.C.)		96.5				
Curve Used		C				
% Compaction Required		95				
Maximum Density	(J)	1360				
Optimum Moisture		6.3				

AEE Representative [signature]

* For A.C. Calculations

COPY

FIELD DENSITY TEST DATA

CPN GAUGE

Soil & Asphalt

Project G.E.P.D. Job No. 0-119-000113

Material (circle one) Native On-Site Borrow Existing Fill A.C. Import ABC Select River-Run Pit Run

Standard Counts: Density: 2467 (A) Moisture 551 (B)

Date of Test		7/18	7/18			
Test No.		1	2			
Location of Test		EMB WEST SIDE OF DAM 57A 7+40	EMB. WEST SIDE OF DAM 57A 6+20			
Depth/Elev. Ref. Pt.		0	0			
Depth/Elev. of Test		+1'	+2'			
* Density Count	(C)	1185	1264			
Moisture Count	(D)	81	97			
* Density Ratio C ÷ A	(E)	—	—			
Moisture Ratio D ÷ B	(F)	—	—			
* Wet Density, from table	(G)	145.2	142.4			
Moisture, PCF from table	(H)	6.1	7.7			
Dry Density, G-H	(I)	139.1	134.4			
Percent Moisture H ÷ I		4.4	6.0			
* Percent Compaction, I ÷ J (G ÷ J for A.C.)		99.1	96.1			
Curve Used		P	P			
% Compaction Required		9	5			
Maximum Density	(J)	139.9	139.9			
Optimum Moisture		4.1	4.1			

AEE Representative Mark Montney

* For A.C. Calculations

AGRA Earth & Environmental

PROJECT: Golden Eagle Park Dam FCD 1999C071
LOCATION: Maricopa County, Arizona
CLIENT: Flood Control District of Maricopa County

JOB NO: 0-119-000113
DATE: 07-18-00

DENSITY OF SOIL IN PLACE BY THE SAND CONE METHOD (ASTM D1556, AAHSTO T217 & T224)
DENSITY OF SOIL IN PLACE BY THE NUCLEAR METHOD (ASTM D2922 & D3017)

CURVES:

	DESCRIPTION:		DENS. (PCF)	MOIST (%)
A	Filter Sand - SRS&R	6-9-00	113.6	15.0
B	Pervious Fill - Sample A	6-13-00	125.1	11.3
C	Pervious Fill - Sample B	6-13-00	125.8	10.5
D	Impervious Fill - Sample A	6-13-00	129.4	8.9
E	Impervious Fill - Sample B	6-13-00	129.2	9.2
F	Pervious Fill - On site	6-14-00	129.4	8.9
G	Subgrade/ABC -On site	6-19-00	118.8	14.2
H	Impervious Fill - Sample C	6-19-00	129.0	9.3
I	Impervious Fill - Sample D	6-19-00	129.3	8.9
P	On Site - Previous Fill - F		130.3	8.1

SAND CONE TESTS:

TEST NO.	LOCATION:	ELEV. *	% ROCK	DRY DENS. (PCF)	MOIST (%)	COMP. (%)	REQ. COMP. (%)	CURVE
1	Embankment W Side of Dam 2nd Lift	+2'	46	136.9	6.0	99	95	P

NUCLEAR TESTS:

TEST NO.	LOCATION:	ELEV. *	% ROCK	DRY DENS. (PCF)	MOIST (%)	COMP. (%)	REQ. COMP. (%)	CURVE
1	Embankment W Side of Dam Sta. 7+40	+1'	51	139.1	4.4	99	95	P
2	Embankment W Side of Dam Sta. 6+20	+2'	51	134.4	6.0	96	95	P

* DEPTH OF REFERENCE POINT:

AGRA
ENGINEERING GLOBAL SOLUTIONS

AGRA Earth & Environmental, Inc.

FIELD DENSITY TEST DATA - SAND CONE METHOD (ASTM D1556, AASHTO T217 & T27

Project G.E.P.D. Date 7/18/00 Job No. 0-119-000113

Material: (Native) On-Site Borrow Existing Fill Import ABC Select River-Run Pit Run Other

Test No.		1				
Location of Test		EMB. WS DAM 2ND LIFT	CORRECTED #2 ~ 7/18 NWLE			
Depth/Elevation of Reference Point		0				
Depth/Elevation of Test		+12"				
(A) Initial Weight of Apparatus + Sand (lbs)		15.05				
(B) Final Weight of Apparatus + Sand (lbs)		7.71				
(C) Sand Used (lbs)	A-B	7.34				
(D) Sand in Funnel & Plate (lbs)		3.32				
(E) Sand to Fill Hole (lbs)	C-D	4.02				
(F) Density of Sand (pcf)		86.6				
(G) Volume of Hole (cu. ft)	E ÷ F	.0464				
Wet Soil + Tare (lbs)	(H) Wet Soil (lbs)	8.54 / 6.57				
(I) Wet Density (pcf)	H ÷ G	142.0				
Specific Moisture	(J) Moisture (%)	6.8 / 6.0				
(K) * Corrected Moisture Content (%)	$\frac{(J \times M) + L}{100}$	3.7				
(N) Dry Density (pcf)	$\frac{I}{1 + ((J \text{ or } K) \div 100)}$	136.9				
(O) Percent Compaction (%)	N ÷ P or N ÷ P'	98.6				
Percent Compaction Required (%)		95				
Curve Used		P				
(P) Maximum Density (pcf)		130.3				
(P') *Corrected Maximum Density (pcf)	$\frac{(P \times M) + (62.4 \times .9 \times Sp.Gr. \times L)}{100}$	138.8				
Optimum Moisture (%)	* Corrected Optimum	8.1 / 4.8				
Rock + Tare (lbs)	(Q) Rock (lbs)	4.98 / 3.03				
(L) % of Rock	(Q ÷ H) x 100	46.0				
(M) % of Sand & Fines	100-L	54.0				

FIELD DENSITY TEST DATA

CPN GAUGE
Soil & Asphalt

Project G.C.P.D Job No. 0-119-00011 3

Material (circle one) Native On-Site Borrow Existing Fill A.C.
Import ABC Select River-Run Pit Run

Standard Counts:
Density: 2461 (A)
Moisture: 551 (B)

Date of Test		7/31	7/31	7/31	7/31	7/31
Test No.		1	2	3	4	5
Location of Test		BOX CULVERT WEST END SOUTH SIDE STA 2+55	BOX CULVERT WEST END SOUTH SIDE STA 2+55	BOX CULVERT WEST END NORTH SIDE STA. 2+55	BOX CULVERT WEST END NORTH SIDE STA. 2+55	BOX CULVERT WEST END SOUTH SIDE STA. 2+55
Depth/Elev. Ref. Pt.		TOP BOX (0)	→	→	→	→
Depth/Elev. of Test		-3'	-2'	-3'	-2'	-1'
* Density Count	(C)	1338	1340	1265	1359	1347
Moisture Count	(D)	93	78	98	97	112
* Density Ratio C ÷ A	(E)	—	—	—	—	—
Moisture Ratio D ÷ B	(F)	—	—	—	—	—
* Wet Density, from table	(G)	139.5	138.6	142.0	137.8	135.1
Moisture, PCF from table	(H)	7.3	5.8	7.8	7.2	7.1
Dry Density, G-H *	(I)	132.2	132.4	134.2	131.3	132.4
Percent Moisture H ÷ I		5.5	4.6	5.8	5.1	5.1
* Percent Compaction, I ÷ J (G÷J for A.C.)		95.3	95.5	96.8	94.7	95.5
Curve Used		C	C	C	C	C
% Compaction Required		95	95	95	95	95
Maximum Density	(J)	138.7	138.7	138.7	138.7	138.7
Optimum Moisture		5.2	5.2	5.2	5.2	5.2

AEE Representative Mark T. Montoya

* For A.C. Calculations

FIELD DENSITY TEST DATA

CPN GAUGE

Soil & Asphalt

Project G.E.P.D. Job No. 0-119-000113

Material (circle one) Native On-Site Borrow Existing Fill A.C.
Import ABC Select River-Run Pit Run

Standard Counts: Density 2461 (A) Moisture 557 (B)

Date of Test		7/31				
Test No.		6				
Location of Test		BOX CULVERT WEST END NORTH SIDE STA. 8+55				
Depth/Elev. Ref. Pt.		TOP ACC (0)				
Depth/Elev. of Test		-1'				
Density Count	(C)	1275				
Moisture Count	(D)	100				
* Density Ratio C ÷ A	(E)	—				
Moisture Ratio D ÷ B	(F)	—				
* Wet Density, from table	(G)	140.5				
Moisture, PCF from table	(H)	7.8				
Dry Density, G-H	(I)	132.7				
Percent Moisture H ÷ I		5.9				
* Percent Compaction, I ÷ J (G ÷ J for A.C.)		95.7				
Curve Used		C				
% Compaction Required		95				
Maximum Density	(J)	138.7				
Optimum Moisture		5.2				

AEE Representative [signature]

* For A.C. Calculations

AGRA Earth & Environmental

PROJECT: Golden Eagle Park Dam FCD 1999C071
LOCATION: Maricopa County, Arizona
CLIENT: Flood Control District of Maricopa County

JOB NO: 0-119-000113
DATE: 07-31-00

DENSITY OF SOIL IN PLACE BY THE SAND CONE METHOD (ASTM D1556, AAHSTO T217 & T224)
DENSITY OF SOIL IN PLACE BY THE NUCLEAR METHOD (ASTM D2922 & D3017)

CURVES:

	DESCRIPTION:		DENS. (PCF)	MOIST (%)
A	Filter Sand - SRS&R	6-9-00	113.6	15.0
B	Pervious Fill - Sample A	6-13-00	125.1	11.3
C	Pervious Fill - Sample B	6-13-00	125.8	10.5
D	Impervious Fill - Sample A	6-13-00	129.4	8.9
E	Impervious Fill - Sample B	6-13-00	129.2	9.2
F	Pervious Fill - On site	6-14-00	129.4	8.9
G	Subgrade/ABC -On site	6-19-00	118.8	14.2
H	Impervious Fill - Sample C	6-19-00	129.0	9.3
I	Impervious Fill - Sample D	6-19-00	129.3	8.9
P	On Site - Previous Fill - F		130.3	8.1

SAND CONE TESTS:

TEST NO.	LOCATION:	ELEV. *	% ROCK	DRY DENS. (PCF)	MOIST (%)	COMP. (%)	REQ. COMP. (%)	CURVE

NUCLEAR TESTS:

TEST NO.	LOCATION:	ELEV. *	% ROCK	DRY DENS. (PCF)	MOIST (%)	COMP. (%)	REQ. COMP. (%)	CURVE
1	Box Culvert W End S Side Sta. 2+95	-3'	56	132.2	5.5	95	95	C
2	Box Culvert W End S Side Sta. 2+95	-2'	56	132.4	4.6	95	95	C
3	Box Culvert W End N Side Sta. 2+95	-3'	56	134.2	5.8	97	95	C
4	Box Culvert W End N Side Sta. 2+95	-2'	56	131.3	5.1	95	95	C
5	Box Culvert W End S Side Sta. 2+95	-1'	56	132.4	5.1	95	90	C
6	Box Culvert W End N Side Sta. 2+95	-1'	56	132.7	5.9	96	90	C

* DEPTH OF REFERENCE POINT:

Top Box (0)

AGRA
ENGINEERING GLOBAL SOLUTIONS

CPN GAUGE
Soil & Asphalt

Project G.E.P.D. Job No. 0-119-000113

Material (circle one) Native On-Site Borrow Existing Fill A.C.
Import ABC Select River-Run Pit Run

Standard Counts:
Density: 2480 (A)
Moisture 560 (B)

Date of Test		8/3	→			
Test No.		1	2	3	4	5
Location of Test		FILTER SAND S. SIDE BOX CULVERT STA 2+95				→
Depth/Elev. Ref. Pt.		(0)	→			
Depth/Elev. of Test		-5'	-4'	-3'	-2'	-1'
* Density Count	(C)					
Moisture Count	(D)					
* Density Ratio C ÷ A	(E)					
Moisture Ratio D ÷ B	(F)					
* Wet Density, ~~from table~~	(G)	118.3	116.4	115.9	115.6	119.2
Moisture, PCF ~~from table~~	(H)	9.2	7.0	8.8	9.2	11.8
Dry Density, G-H	(I)	109.1	109.4	107.1	106.4	107.4
Percent Moisture H ÷ I		8.5	6.4	8.3	6.7	11.0
* Percent Compaction, (RELATIVE) ~~[illegible]~~		87.8	88.8	81.2	85.5	82.2
Curve Used		A	→			
% Compaction Required (RELATIVE)		70	70	70	70	70
Maximum Density ~ 70%	(J)	103.9	→			
Optimum Moisture		14.2	→			

AEE Representative [signature]

* For A.C. Calculations

FIELD DENSITY TEST DATA

CPN GAUGE

Soil & Asphalt

Project G.E.P.D Job No. 0-119-000113

Material (circle one) Native On-Site Borrow Existing Fill A.C. Standard Counts: Density 2490 (A)
Import ABC Select River-Run Pit Run Moisture 560 (B)

Date of Test		8/3	8/3			
Test No.		6	7			
Location of Test		FILTER SAND S. SIDE OF BOX CULVERT STA 2+95	→			
Depth/Elev. Ref. Pt.		(0)	→			
Depth/Elev. of Test		0	+1'			
* Density Count	(C)					
Moisture Count	(D)					
* Density Ratio C ÷ A	(E)					
Moisture Ratio D ÷ B	(F)					
* Wet Density, from table	(G)	119.6	116.9			
Moisture, PCF from table	(H)	11.1	8.9			
Dry Density, G-H	(I)	108.1	107.9			
Percent Moisture H ÷ I		10.2	8.3			
* Percent Compaction, ~~[illegible]~~ RELATIVE		84.5	83.9			
Curve Used		A	A			
% Compaction Required (RELATIVE)		70	70			
Maximum Density = 70%	(J)	103.9	103.9			
Optimum Moisture		14.2	14.2			

AEE Representative Mark Martinez

* For A.C. Calculations

AGRA Earth & Environmental

PROJECT: *Golden Eagle Park Dam FCD 1999C071*
LOCATION: Maricopa County, Arizona
CLIENT: Flood Control District of Maricopa County

JOB NO: 0-119-000113
DATE: 08-03-00

DENSITY OF SOIL IN PLACE BY THE SAND CONE METHOD (ASTM D1556, AAHSTO T217 & T224)
DENSITY OF SOIL IN PLACE BY THE NUCLEAR METHOD (ASTM D2922 & D3017)

CURVES:

	DESCRIPTION:		DENS. (PCF)	MOIST (%)
A	Filter Sand - SRS&R	6-9-00	113.6	15.0
B	Pervious Fill - Sample A	6-13-00	125.1	11.3
C	Pervious Fill - Sample B	6-13-00	125.8	10.5
D	Impervious Fill - Sample A	6-13-00	129.4	8.9
E	Impervious Fill - Sample B	6-13-00	129.2	9.2
F	Pervious Fill - On site	6-14-00	129.4	8.9
G	Subgrade/ABC -On site	6-19-00	118.8	14.2
H	Impervious Fill - Sample C	6-19-00	129.0	9.3
I	Impervious Fill - Sample D	6-19-00	129.3	8.9
Lab 17	70% of Relative Density		105.3	N/A

SAND CONE TESTS:

TEST NO.	LOCATION:	ELEV. *	% ROCK	DRY DENS. (PCF)	MOIST (%)	COMP. (%)	REQ. COMP. (%)	CURVE

NUCLEAR TESTS:

TEST NO.	LOCATION:	ELEV. *	% ROCK	DRY DENS. (PCF)	MOIST (%)	COMP. (%)	REQ. COMP. (%)	CURVE
1	Filter Sand S Side Box Culvert Sta. 2+95	-5'	0	109.1	8.5	100+	100	Lab 17
2	Filter Sand S Side Box Culvert Sta. 2+95	-4'	0	109.4	6.4	100+	100	Lab 17
3	Filter Sand S Side Box Culvert Sta. 2+95	-3'	0	107.1	8.3	100+	100	Lab 17
4	Filter Sand S Side Box Culvert Sta. 2+95	-2'	0	108.4	6.7	100+	100	Lab 17
5	Filter Sand S Side Box Culvert Sta. 2+95	-1'	0	107.4	11.0	100+	100	Lab 17
6	Filter Sand S Side Box Culvert Sta. 2+95	0	0	108.1	10.2	100+	100	Lab 17
7	Filter Sand S Side Box Culvert Sta. 2+95	+1'	0	107.9	8.3	100+	100	Lab 17

* DEPTH OF REFERENCE POINT:

Top Box (0)

AGRA
ENGINEERING GLOBAL SOLUTIONS

FIELD DENSITY TEST DATA

CPN GAUGE

Soil & Asphalt

Project G.E.P.D. Job No. 0-119-000113

Material (circle one) Native On-Site Borrow Existing Fill A.C.
Import ABC Select River-Run Pit Run

Standard Counts:
Density: 2453 (A)
Moisture 562 (B)

Date of Test	8/4	→			
Test No.	1	2	3	4	5
Location of Test	N. SIDE OF BOX CULVERT STA 2+45	→			
Depth/Elev. Ref. Pt.	(0)	→			
Depth/Elev. of Test	-5'	-4'	-3'	-2'	-1'
* Density Count (C)					
Moisture Count (D)					
* Density Ratio C ÷ A (E)					
Moisture Ratio D ÷ B (F)					
* Wet Density, from table (G)	112.9	115.1	114.7	117.7	113.8
Moisture, PCF from table (H)	8.7	6.6	6.7	12.2	8.4
Dry Density, G-H (I)	104.5	108.4	107.9	105.5	105.4
Percent Moisture H ÷ I	8.0	6.1	6.3	11.6	8.0
* Percent Compaction, ~~I ÷ J (G ÷ J for A.C.)~~ RELATIVE	72.2	85.5	83.9	75.7	75.4
Curve Used	A	→			
% Compaction Required RELATIVE	70	→			
Maximum Density @ 70% (J)	103.9	→			
Optimum Moisture	14.2	→			

AEE Representative [signature]

* For A.C. Calculations

FIELD DENSITY TEST DATA

CPN GAUGE

Soil & Asphalt

Project G. E. P. D. Job No. 0-119-000113

Material (circle one) Native On-Site Borrow Existing Fill A.C.
Import ABC Select River-Run Pit Run

Standard Counts: Density 2453 (A) Moisture 562 (B)

Date of Test		8/4	8/4			
Test No.		6	7			
Location of Test		N. SIDE OF BOX CULVERT STA 2+55	→			
Depth/Elev. Ref. Pt.		(0)	(0)			
Depth/Elev. of Test		0	+1'			
* Density Count	(C)					
Moisture Count	(D)					
* Density Ratio C ÷ A	(E)					
Moisture Ratio D ÷ B	(F)					
* Wet Density, from table	(G)	114.4	116.2			
Moisture, PCF from table	(H)	4.8	8.5			
Dry Density, G-H	(I)	109.6	108.6			
Percent Moisture H ÷ I		4.4	7.7			
* Percent Compaction, ~~[illegible]~~ RELATIVE		89.4	86.2			
Curve Used		A	A			
% Compaction Required RELATIVE		70	70			
Maximum Density @ 70%	(J)	103.9	103.9			
Optimum Moisture		14.2	14.2			

AEE Representative Matt Montney

* For A.C. Calculations

AGRA Earth & Environmental

PROJECT: Golden Eagle Park Dam FCD 1999C071
LOCATION: Maricopa County, Arizona
CLIENT: Flood Control District of Maricopa County

JOB NO: 0-119-000113
DATE: 08-04-00

DENSITY OF SOIL IN PLACE BY THE SAND CONE METHOD (ASTM D1556, AAHSTO T217 & T224)
DENSITY OF SOIL IN PLACE BY THE NUCLEAR METHOD (ASTM D2922 & D3017)

CURVES:

	DESCRIPTION:		DENS. (PCF)	MOIST (%)
A	Filter Sand - SRS&R	6-9-00	113.6	15.0
B	Pervious Fill - Sample A	6-13-00	125.1	11.3
C	Pervious Fill - Sample B	6-13-00	125.8	10.5
D	Impervious Fill - Sample A	6-13-00	129.4	8.9
E	Impervious Fill - Sample B	6-13-00	129.2	9.2
F	Pervious Fill - On site	6-14-00	129.4	8.9
G	Subgrade/ABC -On site	6-19-00	118.8	14.2
H	Impervious Fill - Sample C	6-19-00	129.0	9.3
I	Impervious Fill - Sample D	6-19-00	129.3	8.9
Lab 17	70% of Relative Density		105.3	N/A

SAND CONE TESTS:

TEST NO.	LOCATION:	ELEV. *	% ROCK	DRY DENS. (PCF)	MOIST (%)	COMP. (%)	REQ. COMP. (%)	CURVE

NUCLEAR TESTS:

TEST NO.	LOCATION:	ELEV. *	% ROCK	DRY DENS. (PCF)	MOIST (%)	COMP. (%)	REQ. COMP. (%)	CURVE
1	N Side of Box Culvert Sta. 2+95	-5'	0	104.5	8.0	99	100	Lab 17
2	N Side of Box Culvert Sta. 2+95	-4'	0	108.4	6.1	100+	100	Lab 17
3	N Side of Box Culvert Sta. 2+95	-3'	0	107.9	6.3	100+	100	Lab 17
4	N Side of Box Culvert Sta. 2+95	-2'	0	105.5	11.6	100+	100	Lab 17
5	N Side of Box Culvert Sta. 2+95	-1'	0	105.4	8.0	100+	100	Lab 17
6	N Side of Box Culvert Sta. 2+95	0	0	109.6	4.4	100+	100	Lab 17
7	N Side of Box culvert Sta. 2+95	+1'	0	108.6	7.7	100+	100	Lab 17

* DEPTH OF REFERENCE POINT:

Top Box (0)

AGRA
ENGINEERING GLOBAL SOLUTIONS

AGRA Earth & Environmental

PROJECT: Golden Eagle Park Dam FCD 1999C071
LOCATION: Maricopa County, Arizona
C[illegible]: Flood Control District of Maricopa County

JOB NO: 0-119-000113
DATE: 08-11-00

DENSITY OF SOIL IN PLACE BY THE SAND CONE METHOD (ASTM D1556, AAHSTO T217 & T224)
DENSITY OF SOIL IN PLACE BY THE NUCLEAR METHOD (ASTM D2922 & D3017)

CURVES:

	DESCRIPTION:		DENS. (PCF)	MOIST (%)
A	Filter Sand - SRS&R	6-9-00	113.6	15.0
B	Pervious Fill - Sample A	6-13-00	125.1	11.3
C	Pervious Fill - Sample B	6-13-00	125.8	10.5
D	Impervious Fill - Sample A	6-13-00	129.4	8.9
E	Impervious Fill - Sample B	6-13-00	129.2	9.2
F	Pervious Fill - On site	6-14-00	129.4	8.9
G	Subgrade/ABC -On site	6-19-00	118.8	14.2
H	Impervious Fill - Sample C	6-19-00	129.0	9.3
I	Impervious Fill - Sample D	6-19-00	129.3	8.9
Lab 17	70% of Relative Density		105.3	N/A

SAND CONE TESTS:

TEST NO.	LOCATION:	ELEV. *	% ROCK	DRY DENS. (PCF)	MOIST (%)	COMP. (%)	REQ. COMP. (%)	CURVE

NUCLEAR TESTS:

TEST NO.	LOCATION:	ELEV. *	% ROCK	DRY DENS. (PCF)	MOIST (%)	COMP. (%)	REQ. COMP. (%)	CURVE
1	Impervious Backfill for Dam	+6'	35	129.2	4.4	95	95	E
2	Pervious Backfill for Dam	+6'	56	133.5	3.5	96	95	C
3	Pervious fill for Water Line	+4'	46	129.3	5.1	95	95	B

* DEPTH OF REFERENCE POINT:

AGRA
ENGINEERING GLOBAL SOLUTIONS

AGRA Earth & Environmental

PROJECT: Golden Eagle Park Dam FCD 1999C071
LOCATION: Maricopa County, Arizona
C[illegible]: Flood Control District of Maricopa County

JOB NO: 0-119-000113
DATE: 08-14-00

DENSITY OF SOIL IN PLACE BY THE SAND CONE METHOD (ASTM D1556, AAHSTO T217 & T224)
DENSITY OF SOIL IN PLACE BY THE NUCLEAR METHOD (ASTM D2922 & D3017)

CURVES:

	DESCRIPTION:		DENS. (PCF)	MOIST (%)
A	Filter Sand - SRS&R	6-9-00	113.6	15.0
B	Pervious Fill - Sample A	6-13-00	125.1	11.3
C	Pervious Fill - Sample B	6-13-00	125.8	10.5
D	Impervious Fill - Sample A	6-13-00	129.4	8.9
E	Impervious Fill - Sample B	6-13-00	129.2	9.2
F	Pervious Fill - On site	6-14-00	129.4	8.9
G	Subgrade/ABC -On site	6-19-00	118.8	14.2
H	Impervious Fill - Sample C	6-19-00	129.0	9.3
I	Impervious Fill - Sample D	6-19-00	129.3	8.9
Lab 17	70% of Relative Density		105.3	N/A

SAND CONE TESTS:

TEST NO.	LOCATION:	ELEV. *	% ROCK	DRY DENS. (PCF)	MOIST (%)	COMP. (%)	REQ. COMP. (%)	CURVE

NUCLEAR TESTS:

TEST NO.	LOCATION:	ELEV. *	% ROCK	DRY DENS. (PCF)	MOIST (%)	COMP. (%)	REQ. COMP. (%)	CURVE
1	Toe of Dam Up Stream Sta. 6+00	+3'	56	132.2	6.6	95	95	C
2	Toe of Dam Up Stream Sta. 4+50	+4'	45	129.3	6.5	95	95	B
3	Sand Filter Diagram Sta. 2+95	+3'	18	108.3	8.8	96	95	Lab 17

* DEPTH OF REFERENCE POINT:

AGRA
ENGINEERING GLOBAL SOLUTIONS

AGRA Earth & Environmental

PROJECT: Golden Eagle Park Dam FCD 1999C071
LOCATION: Maricopa County, Arizona
C[illegible]: Flood Control District of Maricopa County

JOB NO: 0-119-000113
DATE: 08-15-00

DENSITY OF SOIL IN PLACE BY THE SAND CONE METHOD (ASTM D1556, AAHSTO T217 & T224)
DENSITY OF SOIL IN PLACE BY THE NUCLEAR METHOD (ASTM D2922 & D3017)

CURVES:

	DESCRIPTION:		DENS. (PCF)	MOIST (%)
A	Filter Sand - SRS&R	6-9-00	113.6	15.0
B	Pervious Fill - Sample A	6-13-00	125.1	11.3
C	Pervious Fill - Sample B	6-13-00	125.8	10.5
D	Impervious Fill - Sample A	6-13-00	129.4	8.9
E	Impervious Fill - Sample B	6-13-00	129.2	9.2
F	Pervious Fill - On site	6-14-00	129.4	8.9
G	Subgrade/ABC -On site	6-19-00	118.8	14.2
H	Impervious Fill - Sample C	6-19-00	129.0	9.3
I	Impervious Fill - Sample D	6-19-00	129.3	8.9
N	On-Site Impervious		124.8	9.5

SAND CONE TESTS:

TEST NO.	LOCATION:	ELEV. *	% ROCK	DRY DENS. (PCF)	MOIST (%)	COMP. (%)	REQ. COMP. (%)	CURVE

NUCLEAR TESTS:

TEST NO.	LOCATION:	ELEV. *	% ROCK	DRY DENS. (PCF)	MOIST (%)	COMP. (%)	REQ. COMP. (%)	CURVE
1	Core Material Top of Sand Filter and Gravel	+2'	35	129.6	6.2	95	95	E

* DEPTH OF REFERENCE POINT:

AGRA
ENGINEERING GLOBAL SOLUTIONS

AGRA Earth & Environmental

PROJECT: Golden Eagle Park Dam FCD 1999C071
LOCATION: Maricopa County, Arizona
CLIENT: Flood Control District of Maricopa County

JOB NO: 0-119-000113
DATE: 08-16-00

DENSITY OF SOIL IN PLACE BY THE SAND CONE METHOD (ASTM D1556, AAHSTO T217 & T224)
DENSITY OF SOIL IN PLACE BY THE NUCLEAR METHOD (ASTM D2922 & D3017)

CURVES:

	DESCRIPTION:		DENS. (PCF)	MOIST (%)
A	Filter Sand - SRS&R	6-9-00	113.6	15.0
B	Pervious Fill - Sample A	6-13-00	125.1	11.3
C	Pervious Fill - Sample B	6-13-00	125.8	10.5
D	Impervious Fill - Sample A	6-13-00	129.4	8.9
E	Impervious Fill - Sample B	6-13-00	129.2	9.2
F	Pervious Fill - On site	6-14-00	129.4	8.9
G	Subgrade/ABC -On site	6-19-00	118.8	14.2
H	Impervious Fill - Sample C	6-19-00	129.0	9.3
N	On - Site - Impervious		124.8	9.5
Lab 17	70% of Relative Density		105.3	NA

SAND CONE TESTS:

TEST NO.	LOCATION:	ELEV. *	% ROCK	DRY DENS. (PCF)	MOIST (%)	COMP. (%)	REQ. COMP. (%)	CURVE

NUCLEAR TESTS:

TEST NO.	LOCATION:	ELEV. *	% ROCK	DRY DENS. (PCF)	MOIST (%)	COMP. (%)	REQ. COMP. (%)	CURVE
1	Water Line Relocation TOFH Sta. 5+00	+2'	22	124.8	4.9	96	95	N
2	Sand Filter Diaphragm Sta. 2+55 And Dam	+6'	18	105.8	5.7	94	70	Lab 17

* DEPTH OF REFERENCE POINT:

AGRA
ENGINEERING GLOBAL SOLUTIONS

AGRA Earth & Environmental

PROJECT: Golden Eagle Park Dam FCD 1999C071
LOCATION: Maricopa County, Arizona
C[illegible]: Flood Control District of Maricopa County

JOB NO: 0-119-000113
DATE: 08-18-00

DENSITY OF SOIL IN PLACE BY THE SAND CONE METHOD (ASTM D1556, AAHSTO T217 & T224)
DENSITY OF SOIL IN PLACE BY THE NUCLEAR METHOD (ASTM D2922 & D3017)

CURVES:

	DESCRIPTION:		DENS. (PCF)	MOIST (%)
A	Filter Sand - SRS&R	6-9-00	113.6	15.0
B	Pervious Fill - Sample A	6-13-00	125.1	11.3
C	Pervious Fill - Sample B	6-13-00	125.8	10.5
D	Impervious Fill - Sample A	6-13-00	129.4	8.9
E	Impervious Fill - Sample B	6-13-00	129.2	9.2
F	Pervious Fill - On site	6-14-00	129.4	8.9
G	Subgrade/ABC -On site	6-19-00	118.8	14.2
H	Impervious Fill - Sample C	6-19-00	129.0	9.3
I	Impervious Fill - Sample D	6-19-00	129.3	8.9
N	On-Site Impervious		124.8	9.5

SAND CONE TESTS:

TEST NO.	LOCATION:	ELEV. *	% ROCK	DRY DENS. (PCF)	MOIST (%)	COMP. (%)	REQ. COMP. (%)	CURVE

NUCLEAR TESTS:

TEST NO.	LOCATION:	ELEV. *	% ROCK	DRY DENS. (PCF)	MOIST (%)	COMP. (%)	REQ. COMP. (%)	CURVE
1	Toe of Dam Up Stream Side	+5'	46	130.3	6.1	96	95	B

* DEPTH OF REFERENCE POINT:

AGRA
ENGINEERING GLOBAL SOLUTIONS

AGRA Earth & Environmental

amec

PROJECT: Golden Eagle Park Dam FCD 1999C071
LOCATION: Maricopa County, Arizona
CLIENT: Flood Control District of Maricopa County

JOB NO: 0-119-000113
DATE: 08-21-00

DENSITY OF SOIL IN PLACE BY THE SAND CONE METHOD (ASTM D1556, AAHSTO T217 & T224)
DENSITY OF SOIL IN PLACE BY THE NUCLEAR METHOD (ASTM D2922 & D3017)

CURVES:

	DESCRIPTION:		DENS. (PCF)	MOIST (%)
A	Filter Sand - SRS&R	6-9-00	113.6	15.0
B	Pervious Fill - Sample A	6-13-00	125.1	11.3
C	Pervious Fill - Sample B	6-13-00	125.8	10.5
D	Impervious Fill - Sample A	6-13-00	129.4	8.9
E	Impervious Fill - Sample B	6-13-00	129.2	9.2
F	Pervious Fill - On site	6-14-00	129.4	8.9
G	Subgrade/ABC -On site	6-19-00	118.8	14.2
H	Impervious Fill - Sample C	6-19-00	129.0	9.3
I	Impervious Fill - Sample D	6-19-00	129.3	8.9
N	On-Site Impervious		124.8	9.5

SAND CONE TESTS:

TEST NO.	LOCATION:	ELEV. *	% ROCK	DRY DENS. (PCF)	MOIST (%)	COMP. (%)	REQ. COMP. (%)	CURVE

NUCLEAR TESTS:

TEST NO.	LOCATION:	ELEV. *	% ROCK	DRY DENS. (PCF)	MOIST (%)	COMP. (%)	REQ. COMP. (%)	CURVE
1	Pervious Fill Upstream Side of Dam Sta. 7+100	+6'	46	129.0	4.8	95	95	B
2	Pervious Fill Upstream Side of Dam Sta. 6+100	+7'	46	130.9	4.0	96	95	B
3	Pervious Fill Upstream Side of Dam Sta. 5+100	+8'	46	129.7	4.1	95	95	B
4	Pervious Fill Upstream Side of Dam Sta. 4+100	+9'	46	130.4	4.4	96	95	B

* DEPTH OF REFERENCE POINT:

AGRA Earth & Environmental

amec

PROJECT: Golden Eagle Park Dam FCD 1999C071
LOCATION: Maricopa County, Arizona
CLIENT: Flood Control District of Maricopa County

JOB NO: 0-119-000113
DATE: 08-22-00

DENSITY OF SOIL IN PLACE BY THE SAND CONE METHOD (ASTM D1556, AAHSTO T217 & T224)
DENSITY OF SOIL IN PLACE BY THE NUCLEAR METHOD (ASTM D2922 & D3017)

CURVES:

	DESCRIPTION:		DENS. (PCF)	MOIST (%)
A	Filter Sand - SRS&R	6-9-00	113.6	15.0
B	Pervious Fill - Sample A	6-13-00	125.1	11.3
C	Pervious Fill - Sample B	6-13-00	125.8	10.5
D	Impervious Fill - Sample A	6-13-00	129.4	8.9
E	Impervious Fill - Sample B	6-13-00	129.2	9.2
F	Pervious Fill - On site	6-14-00	129.4	8.9
G	Subgrade/ABC -On site	6-19-00	118.8	14.2
H	Impervious Fill - Sample C	6-19-00	129.0	9.3
I	Impervious Fill - Sample D	6-19-00	129.3	8.9
N	On-Site Impervious		124.8	9.5

SAND CONE TESTS:

TEST NO.	LOCATION:	ELEV. *	% ROCK	DRY DENS. (PCF)	MOIST (%)	COMP. (%)	REQ. COMP. (%)	CURVE

NUCLEAR TESTS:

TEST NO.	LOCATION:	ELEV. *	% ROCK	DRY DENS. (PCF)	MOIST (%)	COMP. (%)	REQ. COMP. (%)	CURVE
1	Elev. 1714 Upstream Side of Dam Pervious Fill Sta. 6+50	+10'	46	131.6	4.4	97	95	B
2	Elev. 1714 Upstream Side of Dam Pervious Fill Sta. 7+50	+10'	56	138.2	2.2	100	95	C
3	Elev. 1714 Upstream Side of Dam Impervious Fill Sta. 5+25	+2'	22	126.9	5.7	98	95	N
4	Elev. 1714 Upstream Side of Dam Impervious Fill Sta. 56+00	+1'	22	125.8	5.9	97	95	N

* DEPTH OF REFERENCE POINT:

AGRA Earth & Environmental

amec

PROJECT: Golden Eagle Park Dam FCD 1999C071
LOCATION: Maricopa County, Arizona
CLIENT: Flood Control District of Maricopa County

JOB NO: 0-119-000113
DATE: 08-23-00

DENSITY OF SOIL IN PLACE BY THE SAND CONE METHOD (ASTM D1556, AAHSTO T217 & T224)
DENSITY OF SOIL IN PLACE BY THE NUCLEAR METHOD (ASTM D2922 & D3017)

CURVES:

	DESCRIPTION:		DENS. (PCF)	MOIST (%)
A	Filter Sand - SRS&R	6-9-00	113.6	15.0
B	Pervious Fill - Sample A	6-13-00	125.1	11.3
C	Pervious Fill - Sample B	6-13-00	125.8	10.5
D	Impervious Fill - Sample A	6-13-00	129.4	8.9
E	Impervious Fill - Sample B	6-13-00	129.2	9.2
F	Pervious Fill - On site	6-14-00	129.4	8.9
G	Subgrade/ABC -On site	6-19-00	118.8	14.2
H	Impervious Fill - Sample C	6-19-00	129.0	9.3
I	Impervious Fill - Sample D	6-19-00	129.3	8.9
P	On-Site Pervious Fill-F	6-27-00	130.3	8.1

SAND CONE TESTS:

TEST NO.	LOCATION:	ELEV. *	% ROCK	DRY DENS. (PCF)	MOIST (%)	COMP. (%)	REQ. COMP. (%)	CURVE

NUCLEAR TESTS:

TEST NO.	LOCATION:	ELEV. *	% ROCK	DRY DENS. (PCF)	MOIST (%)	COMP. (%)	REQ. COMP. (%)	CURVE
1	Upstream Side of Dam Bet. Box & 60" Pipe Sta. 2+50	+21'	51	136.6	5.2	98	95	P

* DEPTH OF REFERENCE POINT:

AGRA Earth & Environmental

amec

PROJECT: Golden Eagle Park Dam FCD 1999C071
LOCATION: Maricopa County, Arizona
CLIENT: Flood Control District of Maricopa County

JOB NO: 0-119-000113
DATE: 08-24-00

DENSITY OF SOIL IN PLACE BY THE SAND CONE METHOD (ASTM D1556, AAHSTO T217 & T224)
DENSITY OF SOIL IN PLACE BY THE NUCLEAR METHOD (ASTM D2922 & D3017)

CURVES:

	DESCRIPTION:		DENS. (PCF)	MOIST (%)
A	Filter Sand - SRS&R	6-9-00	113.6	15.0
B	Pervious Fill - Sample A	6-13-00	125.1	11.3
C	Pervious Fill - Sample B	6-13-00	125.8	10.5
D	Impervious Fill - Sample A	6-13-00	129.4	8.9
E	Impervious Fill - Sample B	6-13-00	129.2	9.2
F	Pervious Fill - On site	6-14-00	129.4	8.9
G	Subgrade/ABC -On site	6-19-00	118.8	14.2
H	Impervious Fill - Sample C	6-19-00	129.0	9.3
I	Impervious Fill - Sample D	6-19-00	129.3	8.9
P	On-Site Pervious Fill-F	6-27-00	130.3	8.1

SAND CONE TESTS:

TEST NO.	LOCATION:	ELEV. *	% ROCK	DRY DENS. (PCF)	MOIST (%)	COMP. (%)	REQ. COMP. (%)	CURVE

NUCLEAR TESTS:

TEST NO.	LOCATION:	ELEV. *	% ROCK	DRY DENS. (PCF)	MOIST (%)	COMP. (%)	REQ. COMP. (%)	CURVE
1	Between Box Culvert & 60" Inlet Structure Sta. 2+50 Pervious Fill	+3'	46	130.0	6.2	96	95	B
2	Between Box Culvert & 60" Inlet Structure Sta. 2+50 Pervious Fill	+4'	46	130.3	6.5	96	95	B

* DEPTH OF REFERENCE POINT:

AGRA Earth & Environmental

amec

PROJECT: Golden Eagle Park Dam FCD 1999C071
LOCATION: Maricopa County, Arizona
CLIENT: Flood Control District of Maricopa County

JOB NO: 0-119-000113
DATE: 08-25-00

DENSITY OF SOIL IN PLACE BY THE SAND CONE METHOD (ASTM D1556, AAHSTO T217 & T224)
DENSITY OF SOIL IN PLACE BY THE NUCLEAR METHOD (ASTM D2922 & D3017)

CURVES:

	DESCRIPTION:		DENS. (PCF)	MOIST (%)
A	Filter Sand - SRS&R	6-9-00	113.6	15.0
B	Pervious Fill - Sample A	6-13-00	125.1	11.3
C	Pervious Fill - Sample B	6-13-00	125.8	10.5
D	Impervious Fill - Sample A	6-13-00	129.4	8.9
E	Impervious Fill - Sample B	6-13-00	129.2	9.2
F	Pervious Fill - On site	6-14-00	129.4	8.9
G	Subgrade/ABC -On site	6-19-00	118.8	14.2
H	Impervious Fill - Sample C	6-19-00	129.0	9.3
I	Impervious Fill - Sample D	6-19-00	129.3	8.9
P	On-Site Pervious Fill-F	6-27-00	130.3	8.1

SAND CONE TESTS:

TEST NO.	LOCATION:	ELEV. *	% ROCK	DRY DENS. (PCF)	MOIST (%)	COMP. (%)	REQ. COMP. (%)	CURVE

NUCLEAR TESTS:

TEST NO.	LOCATION:	ELEV. *	% ROCK	DRY DENS. (PCF)	MOIST (%)	COMP. (%)	REQ. COMP. (%)	CURVE
1	Between Box Culvert & 60" Inlet Stru. Sta. 2+50 & 2+25 Pervious F	+5'	46	128.6	4.7	95	95	B
2	Between Box Culvert & 60" Inlet Stru. Sta. 2+50 & 2+25 Pervious F	+6'	46	129.3	4.6	95	95	B

* DEPTH OF REFERENCE POINT:

AGRA Earth & Environmental

amec

PROJECT: Golden Eagle Park Dam FCD 1999C071
LOCATION: Maricopa County, Arizona
CLIENT: Flood Control District of Maricopa County

JOB NO: 0-119-000113
DATE: 08-28-00

DENSITY OF SOIL IN PLACE BY THE SAND CONE METHOD (ASTM D1556, AAHSTO T217 & T224)
DENSITY OF SOIL IN PLACE BY THE NUCLEAR METHOD (ASTM D2922 & D3017)

CURVES:

	DESCRIPTION:		DENS. (PCF)	MOIST (%)
A	Filter Sand - SRS&R	6-9-00	113.6	15.0
B	Pervious Fill - Sample A	6-13-00	125.1	11.3
C	Pervious Fill - Sample B	6-13-00	125.8	10.5
D	Impervious Fill - Sample A	6-13-00	129.4	8.9
E	Impervious Fill - Sample B	6-13-00	129.2	9.2
F	Pervious Fill - On site	6-14-00	129.4	8.9
G	Subgrade/ABC -On site	6-19-00	118.8	14.2
H	Impervious Fill - Sample C	6-19-00	129.0	9.3
I	Impervious Fill - Sample D	6-19-00	129.3	8.9
P	On-Site Pervious Fill-F	6-27-00	130.3	8.1

SAND CONE TESTS:

TEST NO.	LOCATION:	ELEV. *	% ROCK	DRY DENS. (PCF)	MOIST (%)	COMP. (%)	REQ. COMP. (%)	CURVE

NUCLEAR TESTS:

TEST NO.	LOCATION:	ELEV. *	% ROCK	DRY DENS. (PCF)	MOIST (%)	COMP. (%)	REQ. COMP. (%)	CURVE
1	Upstream Side of Dam Embank Sta. 2+80 Pervious Fill	+7'	51	133.3	5.4	95	95	P
2	Upstream Side of Dam Embank. Sta. 2+70 Pervious Fill	+8'	51	134.0	5.2	96	95	P
3	Upstream Side of Dam Embank. Sta. 2+50 Pervious Fill	+9'	51	144.5	3.7	100+	95	P
4	Upstream Side of Dam Embank. Sta. 2+25 Pervious Fill	+10'	51	135.8	5.3	97	95	P
5	Upstream Side of Dam Embank. Sta. 2+75 Pervious Fill	+11'	51	137.7	5.4	98	95	P

* DEPTH OF REFERENCE POINT:

AGRA Earth & Environmental

amec

PROJECT: Golden Eagle Park Dam FCD 1999C071
LOCATION: Maricopa County, Arizona
CLIENT: Flood Control District of Maricopa County

JOB NO: 0-119-000113
DATE: 08-29-00

DENSITY OF SOIL IN PLACE BY THE SAND CONE METHOD (ASTM D1556, AAHSTO T217 & T224)
DENSITY OF SOIL IN PLACE BY THE NUCLEAR METHOD (ASTM D2922 & D3017)

CURVES:

	DESCRIPTION:		DENS. (PCF)	MOIST (%)
A	Filter Sand - SRS&R	6-9-00	113.6	15.0
B	Pervious Fill - Sample A	6-13-00	125.1	11.3
C	Pervious Fill - Sample B	6-13-00	125.8	10.5
D	Impervious Fill - Sample A	6-13-00	129.4	8.9
E	Impervious Fill - Sample B	6-13-00	129.2	9.2
F	Pervious Fill - On site	6-14-00	129.4	8.9
G	Subgrade/ABC -On site	6-19-00	118.8	14.2
H	Impervious Fill - Sample C	6-19-00	129.0	9.3
I	Impervious Fill - Sample D	6-19-00	129.3	8.9
P	On-Site Pervious Fill-F	6-27-00	130.3	8.1

SAND CONE TESTS:

TEST NO.	LOCATION:	ELEV. *	% ROCK	DRY DENS. (PCF)	MOIST (%)	COMP. (%)	REQ. COMP. (%)	CURVE

NUCLEAR TESTS:

TEST NO.	LOCATION:	ELEV. *	% ROCK	DRY DENS. (PCF)	MOIST (%)	COMP. (%)	REQ. COMP. (%)	CURVE
1	Pervious/Impervious Fill of Dam Sta. 2+95	+10'	35	129.2	4.6	95	95	E
2	Perviou/Impervious Fill of Dam Sta. 2+75	+11'	35	131.1	4.9	96	95	E
3	Pervioius/Impervoius Fill of Dam Sta. 2+50	+12'	51	135.4	4.7	97	95	P
4	Perviou/Impervious Fill of Dam Sta. 2+25	+14'	51	136.4	4.5	98	95	P
5	Pervious/Impervious Fill of Dam Sta. 2+85	+12'	35	129.6	5.0	95	95	E

* DEPTH OF REFERENCE POINT: Elevation 1700

AGRA Earth & Environmental

amec

PROJECT: Golden Eagle Park Dam FCD 1999C071
LOCATION: Maricopa County, Arizona
CLIENT: Flood Control District of Maricopa County

JOB NO: 0-119-000113
DATE: 08-30-00

DENSITY OF SOIL IN PLACE BY THE SAND CONE METHOD (ASTM D1556, AAHSTO T217 & T224)
DENSITY OF SOIL IN PLACE BY THE NUCLEAR METHOD (ASTM D2922 & D3017)

CURVES:

	DESCRIPTION:		DENS. (PCF)	MOIST (%)
A	Filter Sand - SRS&R	6-9-00	113.6	15.0
B	Pervious Fill - Sample A	6-13-00	125.1	11.3
C	Pervious Fill - Sample B	6-13-00	125.8	10.5
D	Impervious Fill - Sample A	6-13-00	129.4	8.9
E	Impervious Fill - Sample B	6-13-00	129.2	9.2
F	Pervious Fill - On site	6-14-00	129.4	8.9
G	Subgrade/ABC -On site	6-19-00	118.8	14.2
H	Impervious Fill - Sample C	6-19-00	129.0	9.3
I	Impervious Fill - Sample D	6-19-00	129.3	8.9
P	On-Site Pervious Fill-F	6-27-00	130.3	8.1

SAND CONE TESTS:

TEST NO.	LOCATION:	ELEV. *	% ROCK	DRY DENS. (PCF)	MOIST (%)	COMP. (%)	REQ. COMP. (%)	CURVE
1	Embankment Upstream Side of Dam Impervious Sta. 3+50	+15'	33	134.7	7.4	99	95	E
2	Embankment Upstream Side of Dam Pervious Sta. 2+50	+16	48	136.7	7.2	98	95	P

NUCLEAR TESTS:

TEST NO.	LOCATION:	ELEV. *	% ROCK	DRY DENS. (PCF)	MOIST (%)	COMP. (%)	REQ. COMP. (%)	CURVE
1	Embank. Upstream Side of Dam Impervious Fill Sta. 3+50	+15'	35	133.7	5.4	98	95	E
2	Embank. Upstream Side of Dam Pervious Fill Sta. 2+50	+16	51	134.8	5.7	96	95	P

* DEPTH OF REFERENCE POINT: Elevation 1700

AGRA Earth & Environmental

amec

PROJECT: Golden Eagle Park Dam FCD 1999C071
LOCATION: Maricopa County, Arizona
CLIENT: Flood Control District of Maricopa County

JOB NO: 0-119-000113
DATE: 08-31-00

DENSITY OF SOIL IN PLACE BY THE SAND CONE METHOD (ASTM D1556, AAHSTO T217 & T224)
DENSITY OF SOIL IN PLACE BY THE NUCLEAR METHOD (ASTM D2922 & D3017)

CURVES:

	DESCRIPTION:		DENS. (PCF)	MOIST (%)
A	Filter Sand - SRS&R	6-9-00	113.6	15.0
B	Pervious Fill - Sample A	6-13-00	125.1	11.3
C	Pervious Fill - Sample B	6-13-00	125.8	10.5
D	Impervious Fill - Sample A	6-13-00	129.4	8.9
E	Impervious Fill - Sample B	6-13-00	129.2	9.2
F	Pervious Fill - On site	6-14-00	129.4	8.9
G	Subgrade/ABC -On site	6-19-00	118.8	14.2
H	Impervious Fill - Sample C	6-19-00	129.0	9.3
I	Impervious Fill - Sample D	6-19-00	129.3	8.9
Lab 17	70% of Relative Density		105.3	N/A

SAND CONE TESTS:

TEST NO.	LOCATION:	ELEV. *	% ROCK	DRY DENS. (PCF)	MOIST (%)	COMP. (%)	REQ. COMP. (%)	CURVE

NUCLEAR TESTS:

TEST NO.	LOCATION:	ELEV. *	% ROCK	DRY DENS. (PCF)	MOIST (%)	COMP. (%)	REQ. COMP. (%)	CURVE
1	Sand Filter Diaphragm	+9'	0	109.0	9.6	100+	100	Lab 17
2	Sand Filter Diaphragm	+10'	0	108.4	11.0	100+	100	Lab 17
3	Sand Filter Diaphragm	+11'	0	108.0	8.7	100+	100	Lab 17
4	Sand Filter Diaphragm	+12'	0	110.5	9.2	100+	100	Lab 17
5	Core Area Impervious Sta. 2+95	+13'	35	133.1	4.8	98	95	E

* DEPTH OF REFERENCE POINT: Elevation 1700

amec

PROJECT: Golden Eagle Park Dam FCD 1999C071
LOCATION: Maricopa County, Arizona
CLIENT: Flood Control District of Maricopa County

JOB NO: 0-119-000113
DATE: 09-25-00

DENSITY OF SOIL IN PLACE BY THE SAND CONE METHOD (ASTM D1556, AAHSTO T217 & T224)
DENSITY OF SOIL IN PLACE BY THE NUCLEAR METHOD (ASTM D2922 & D3017)

CURVES:

	DESCRIPTION:		DENS. (PCF)	MOIST (%)
A	Filter Sand - SRS&R	6-9-00	113.6	15.0
B	Pervious Fill - Sample A	6-13-00	125.1	11.3
C	Pervious Fill - Sample B	6-13-00	125.8	10.5
D	Impervious Fill - Sample A	6-13-00	129.4	8.9
E	Impervious Fill - Sample B	6-13-00	129.2	9.2
F	Pervious Fill - On site	6-14-00	129.4	8.9
G	Subgrade/ABC -On site	6-19-00	118.8	14.2
H	Impervious Fill - Sample C	6-19-00	129.0	9.3
I	Impervious Fill - Sample D	6-19-00	129.3	8.9
S	Impervious Fill	9-13-00	128.4	8.5

SAND CONE TESTS:

TEST NO.	LOCATION:	ELEV. *	% ROCK	DRY DENS. (PCF)	MOIST (%)	COMP. (%)	REQ. COMP. (%)	CURVE

NUCLEAR TESTS:

TEST NO.	LOCATION:	ELEV. *	% ROCK	DRY DENS. (PCF)	MOIST (%)	COMP. (%)	REQ. COMP. (%)	CURVE
1	Upstream Side of Dam Impervious Fill Sta. 4+00	+14'	0	124.1	5.1	97	95	S
2	Upstream Side of Dam Impervious Fill Sta. 5+00	+15'	0	124.4	5.3	97	95	S
3	Upstream Side of Dam Impervious Fill Sta. 6+00	+16'	0	126.1	6.1	98	95	S

* DEPTH OF REFERENCE POINT: Elevation 1700

amec

PROJECT: Golden Eagle Park Dam FCD 1999C071
LOCATION: Maricopa County, Arizona
CLIENT: Flood Control District of Maricopa County

JOB NO: 0-119-000113
DATE: 09-26-00

DENSITY OF SOIL IN PLACE BY THE SAND CONE METHOD (ASTM D1556, AAHSTO T217 & T224)
DENSITY OF SOIL IN PLACE BY THE NUCLEAR METHOD (ASTM D2922 & D3017)

CURVES:

	DESCRIPTION:		DENS. (PCF)	MOIST (%)
A	Filter Sand - SRS&R	6-9-00	113.6	15.0
B	Pervious Fill - Sample A	6-13-00	125.1	11.3
C	Pervious Fill - Sample B	6-13-00	125.8	10.5
D	Impervious Fill - Sample A	6-13-00	129.4	8.9
E	Impervious Fill - Sample B	6-13-00	129.2	9.2
F	Pervious Fill - On site	6-14-00	129.4	8.9
G	Subgrade/ABC -On site	6-19-00	118.8	14.2
H	Impervious Fill - Sample C	6-19-00	129.0	9.3
I	Impervious Fill - Sample D	6-19-00	129.3	8.9
S	Impervious Fill	9-13-00	128.4	8.5

SAND CONE TESTS:

TEST NO.	LOCATION:	ELEV. *	% ROCK	DRY DENS. (PCF)	MOIST (%)	COMP. (%)	REQ. COMP. (%)	CURVE

NUCLEAR TESTS:

TEST NO.	LOCATION:	ELEV. *	% ROCK	DRY DENS. (PCF)	MOIST (%)	COMP. (%)	REQ. COMP. (%)	CURVE
1	Impervious Fill Above Core of Dam Sta. 3+00	+17	0	130.7	3.6	100+	95	S

* DEPTH OF REFERENCE POINT: Elevation 1700

amec

PROJECT: Golden Eagle Park Dam FCD 1999C071
LOCATION: Maricopa County, Arizona
CLIENT: Flood Control District of Maricopa County

JOB NO: 0-119-000113
DATE: 09-27-00

DENSITY OF SOIL IN PLACE BY THE SAND CONE METHOD (ASTM D1556, AAHSTO T217 & T224)
DENSITY OF SOIL IN PLACE BY THE NUCLEAR METHOD (ASTM D2922 & D3017)

CURVES:

	DESCRIPTION:		DENS. (PCF)	MOIST (%)
A	Filter Sand - SRS&R	6-9-00	113.6	15.0
B	Pervious Fill - Sample A	6-13-00	125.1	11.3
C	Pervious Fill - Sample B	6-13-00	125.8	10.5
D	Impervious Fill - Sample A	6-13-00	129.4	8.9
E	Impervious Fill - Sample B	6-13-00	129.2	9.2
F	Pervious Fill - On site	6-14-00	129.4	8.9
G	Subgrade/ABC -On site	6-19-00	118.8	14.2
H	Impervious Fill - Sample C	6-19-00	129.0	9.3
I	Impervious Fill - Sample D	6-19-00	129.3	8.9
O	On - Site Pervious - E		128.9	7.9

SAND CONE TESTS:

TEST NO.	LOCATION:	ELEV. *	% ROCK	DRY DENS. (PCF)	MOIST (%)	COMP. (%)	REQ. COMP. (%)	CURVE

NUCLEAR TESTS:

TEST NO.	LOCATION:	ELEV. *	% ROCK	DRY DENS. (PCF)	MOIST (%)	COMP. (%)	REQ. COMP. (%)	CURVE
1	Structural Backfill of Concrete Floodwall North Side Sta. 40+05	-1'	0	128.0	5.3	99	95	O

* DEPTH OF REFERENCE POINT:

amec

PROJECT: Golden Eagle Park Dam FCD 1999C071
LOCATION: Maricopa County, Arizona
CLIENT: Flood Control District of Maricopa County

JOB NO: 0-119-000113
DATE: 09-28-00

DENSITY OF SOIL IN PLACE BY THE SAND CONE METHOD (ASTM D1556, AAHSTO T217 & T224)
DENSITY OF SOIL IN PLACE BY THE NUCLEAR METHOD (ASTM D2922 & D3017)

CURVES:

	DESCRIPTION:		DENS. (PCF)	MOIST (%)
A	Filter Sand - SRS&R	6-9-00	113.6	15.0
B	Pervious Fill - Sample A	6-13-00	125.1	11.3
C	Pervious Fill - Sample B	6-13-00	125.8	10.5
D	Impervious Fill - Sample A	6-13-00	129.4	8.9
E	Impervious Fill - Sample B	6-13-00	129.2	9.2
F	Pervious Fill - On site	6-14-00	129.4	8.9
G	Subgrade/ABC -On site	6-19-00	118.8	14.2
H	Impervious Fill - Sample C	6-19-00	129.0	9.3
I	Impervious Fill - Sample D	6-19-00	129.3	8.9
N	On - Site Impervious	6-27-00	124.8	9.5

SAND CONE TESTS:

TEST NO.	LOCATION:	ELEV. *	% ROCK	DRY DENS. (PCF)	MOIST (%)	COMP. (%)	REQ. COMP. (%)	CURVE

NUCLEAR TESTS:

TEST NO.	LOCATION:	ELEV. *	% ROCK	DRY DENS. (PCF)	MOIST (%)	COMP. (%)	REQ. COMP. (%)	CURVE
1	Concrete Floodwall Sta. 40+20 Original Ground Level S Side	0	0	124.3	5.3	100	95	N
2	Concrete Floodwall Sta. 40+20 Original Ground Level N Side	0	0	124.7	5.2	100	95	N
3	Concrete Floodwall Sta. 40+95 Original Ground Level S Side	0	0	122.0	5.2	98	95	N
4	Concrete Floodwall Sta. 41+50	-2'	0	129.0	5.5	100	100	D

* DEPTH OF REFERENCE POINT:

amec

PROJECT: Golden Eagle Park Dam FCD 1999C071
LOCATION: Maricopa County, Arizona
CLIENT: Flood Control District of Maricopa County

JOB NO: 0-119-000113
DATE: 10-27-00

DENSITY OF SOIL IN PLACE BY THE SAND CONE METHOD (ASTM D1556, AAHSTO T217 & T224)
DENSITY OF SOIL IN PLACE BY THE NUCLEAR METHOD (ASTM D2922 & D3017)

CURVES:

	DESCRIPTION:		DENS. (PCF)	MOIST (%)
A	Filter Sand - SRS&R	6-9-00	113.6	15.0
B	Pervious Fill - Sample A	6-13-00	125.1	11.3
C	Pervious Fill - Sample B	6-13-00	125.8	10.5
D	Impervious Fill - Sample A	6-13-00	129.4	8.9
E	Impervious Fill - Sample B	6-13-00	129.2	9.2
F	Pervious Fill - On site	6-14-00	129.4	8.9
G	Subgrade/ABC -On site	6-19-00	118.8	14.2
H	Impervious Fill - Sample C	6-19-00	129.0	9.3
I	Impervious Fill - Sample D	6-19-00	129.3	8.9
U	Import - Silt-Ft. McDowell S&G	10-20-00	114.0	14.6

SAND CONE TESTS:

TEST NO.	LOCATION:	ELEV. *	% ROCK	DRY DENS. (PCF)	MOIST (%)	COMP. (%)	REQ. COMP. (%)	CURVE

NUCLEAR TESTS:

TEST NO.	LOCATION:	ELEV. *	% ROCK	DRY DENS. (PCF)	MOIST (%)	COMP. (%)	REQ. COMP. (%)	CURVE
1	Upstream side of dam embankment Sta.4+50	-0'	0	115.3	12.0	100+	95	U
2	Upstream side of dam embankment Sta. 7+20	-0'	0	117.4	12.8	100+	95	U

* DEPTH OF REFERENCE POINT:

amec

PROJECT: Golden Eagle Park Dam FCD 1999C071
LOCATION: Maricopa County, Arizona
CLIENT: Flood Control District of Maricopa County

JOB NO: 0-119-000113
DATE: 11-09-00

DENSITY OF SOIL IN PLACE BY THE SAND CONE METHOD (ASTM D1556, AAHSTO T217 & T224)
DENSITY OF SOIL IN PLACE BY THE NUCLEAR METHOD (ASTM D2922 & D3017)

CURVES:

	DESCRIPTION:		DENS. (PCF)	MOIST (%)
A	Filter Sand - SRS&R	6-9-00	113.6	15.0
B	Pervious Fill - Sample A	6-13-00	125.1	11.3
C	Pervious Fill - Sample B	6-13-00	125.8	10.5
D	Impervious Fill - Sample A	6-13-00	129.4	8.9
E	Impervious Fill - Sample B	6-13-00	129.2	9.2
F	Pervious Fill - On site	6-14-00	129.4	8.9
G	Subgrade/ABC -On site	6-19-00	118.8	14.2
H	Impervious Fill - Sample C	6-19-00	129.0	9.3
I	Impervious Fill - Sample D	6-19-00	129.3	8.9
U	Import - Silt-Ft. McDowell S&G	10-20-00	114.0	14.6

SAND CONE TESTS:

TEST NO.	LOCATION:	ELEV. *	% ROCK	DRY DENS. (PCF)	MOIST (%)	COMP. (%)	REQ. COMP. (%)	CURVE

NUCLEAR TESTS:

TEST NO.	LOCATION:	ELEV. *	% ROCK	DRY DENS. (PCF)	MOIST (%)	COMP. (%)	REQ. COMP. (%)	CURVE
1	Upstream side of dam emb. Station 7+40	-0'	0	117.4	13.4	100+	95	U
2	Upstream side of dam emb. Station 3+25	-0'	0	116.5	13.2	100+	95	U
3	Upstream side of dam emb Station 4+00	-0'	0	119.5	11.9	100+	95	U
4	Upstream side of dam emb. Station 5+50	-0'	0	115.6	13.0	100+	95	U
5	Upstream side of dam emb. Station 6+15	-0'	0	114.3	13.8	100+	95	U
6	Upstream side of dam emb. Station 2+25	-0'	0	116.0	13.4	100+	95	U

* DEPTH OF REFERENCE POINT:

amec

PROJECT: Golden Eagle Park Dam FCD 1999C071
LOCATION: Maricopa County, Arizona
CLIENT: Flood Control District of Maricopa County

JOB NO: 0-119-000113
DATE: 11-10-00

DENSITY OF SOIL IN PLACE BY THE SAND CONE METHOD (ASTM D1556, AAHSTO T217 & T224)
DENSITY OF SOIL IN PLACE BY THE NUCLEAR METHOD (ASTM D2922 & D3017)

CURVES:

	DESCRIPTION:		DENS. (PCF)	MOIST (%)
A	Filter Sand - SRS&R	6-9-00	113.6	15.0
B	Pervious Fill - Sample A	6-13-00	125.1	11.3
C	Pervious Fill - Sample B	6-13-00	125.8	10.5
D	Impervious Fill - Sample A	6-13-00	129.4	8.9
E	Impervious Fill - Sample B	6-13-00	129.2	9.2
F	Pervious Fill - On site	6-14-00	129.4	8.9
G	Subgrade/ABC -On site	6-19-00	118.8	14.2
H	Impervious Fill - Sample C	6-19-00	129.0	9.3
I	Impervious Fill - Sample D	6-19-00	129.3	8.9
U	Import - Silt-Ft. McDowell S&G	10-20-00	114.0	14.6

SAND CONE TESTS:

TEST NO.	LOCATION:	ELEV. *	% ROCK	DRY DENS. (PCF)	MOIST (%)	COMP. (%)	REQ. COMP. (%)	CURVE
1	Upstream side of dam emb. Sta. 6+00	+20	0	115.0	13.0	100+	95	U
2	Upstream side of dam emb. Sta. 2+75	+22	0	116.3	11.6	100+	95	U

NUCLEAR TESTS:

TEST NO.	LOCATION:	ELEV. *	% ROCK	DRY DENS. (PCF)	MOIST (%)	COMP. (%)	REQ. COMP. (%)	CURVE
1	Upstream side of dam emb. Station 6+00	-0'	0	116.5	11.7	100+	95	U
2	Upstream side of dam emb. Station 4+00	-0'	0	116.2	13.0	100+	95	U
3	Upstream side of dam emb Station 6+95	-0'	0	114.5	11.8	100+	95	U
4	Upstream side of dam emb. Station 2+10	-0'	0	115.1	12.0	100+	95	U
5	Upstream side of dam emb. Station 2+75	-0'	0	114.3	10.6	100+	95	U
6	Upstream side of dam emb. Station 5+15	-0'	0	113.6	10.5	100	95	U

* DEPTH OF REFERENCE POINT:

amec

PROJECT: Golden Eagle Park Dam FCD 1999C071
LOCATION: Maricopa County, Arizona
CLIENT: Flood Control District of Maricopa County

JOB NO: 0-119-000113
DATE: 11-13-00

DENSITY OF SOIL IN PLACE BY THE SAND CONE METHOD (ASTM D1556, AAHSTO T217 & T224)
DENSITY OF SOIL IN PLACE BY THE NUCLEAR METHOD (ASTM D2922 & D3017)

CURVES:

	DESCRIPTION:		DENS. (PCF)	MOIST (%)
A	Filter Sand - SRS&R	6-9-00	113.6	15.0
B	Pervious Fill - Sample A	6-13-00	125.1	11.3
C	Pervious Fill - Sample B	6-13-00	125.8	10.5
D	Impervious Fill - Sample A	6-13-00	129.4	8.9
E	Impervious Fill - Sample B	6-13-00	129.2	9.2
F	Pervious Fill - On site	6-14-00	129.4	8.9
G	Subgrade/ABC -On site	6-19-00	118.8	14.2
H	Impervious Fill - Sample C	6-19-00	129.0	9.3
I	Impervious Fill - Sample D	6-19-00	129.3	8.9
U	Import - Silt-Ft. McDowell S&G	10-20-00	114.0	14.6

SAND CONE TESTS:

TEST NO.	LOCATION:	ELEV. *	% ROCK	DRY DENS. (PCF)	MOIST (%)	COMP. (%)	REQ. COMP. (%)	CURVE
1	Upstream side of dam emb. Sta. 6+00	+20	0	115.0	13.0	100+	95	U
2	Upstream side of dam emb. Sta. 2+75	+22	0	116.3	11.6	100+	95	U

NUCLEAR TESTS:

TEST NO.	LOCATION:	ELEV. *	% ROCK	DRY DENS. (PCF)	MOIST (%)	COMP. (%)	REQ. COMP. (%)	CURVE
1	Upstream and top of dam emb. Sta. 5+75	-0'	0	115.6	12.9	100+	95	U
2	Upstream and top of dam emb. Sta. 3+00	-0'	0	115.0	13.6	100+	95	U
3	Upstream and top of dam emb. Sta. 2+00	-0'	0	107.9	18.3	95	95	U
4	Upstream and top of dam emb. Sta. 4+00	-0'	0	109.0	18.0	96	95	U

* DEPTH OF REFERENCE POINT:

amec

PROJECT: Golden Eagle Park Dam FCD 1999C071
LOCATION: Maricopa County, Arizona
CLIENT: Flood Control District of Maricopa County

JOB NO: 0-119-000113
DATE: 11-14-00

DENSITY OF SOIL IN PLACE BY THE SAND CONE METHOD (ASTM D1556, AAHSTO T217 & T224)
DENSITY OF SOIL IN PLACE BY THE NUCLEAR METHOD (ASTM D2922 & D3017)

CURVES:

	DESCRIPTION:		DENS. (PCF)	MOIST (%)
A	Filter Sand - SRS&R	6-9-00	113.6	15.0
B	Pervious Fill - Sample A	6-13-00	125.1	11.3
C	Pervious Fill - Sample B	6-13-00	125.8	10.5
D	Impervious Fill - Sample A	6-13-00	129.4	8.9
E	Impervious Fill - Sample B	6-13-00	129.2	9.2
F	Pervious Fill - On site	6-14-00	129.4	8.9
G	Subgrade/ABC -On site	6-19-00	118.8	14.2
H	Impervious Fill - Sample C	6-19-00	129.0	9.3
I	Impervious Fill - Sample D	6-19-00	129.3	8.9
U	Import - Silt-Ft. McDowell S&G	10-20-00	114.0	14.6

SAND CONE TESTS:

TEST NO.	LOCATION:	ELEV. *	% ROCK	DRY DENS. (PCF)	MOIST (%)	COMP. (%)	REQ. COMP. (%)	CURVE
1	Upstream side of dam emb. Sta. 6+00	+20	0	115.0	13.0	100+	95	U
2	Upstream side of dam emb. Sta. 2+75	+22	0	116.3	11.6	100+	95	U

NUCLEAR TESTS:

TEST NO.	LOCATION:	ELEV. *	% ROCK	DRY DENS. (PCF)	MOIST (%)	COMP. (%)	REQ. COMP. (%)	CURVE
1	Embankment of dam Sta. 6+25	-0'	0	113.5	14.5	100	95	U
2	Embankment of dam Sta. 2+50	-0'	0	113.5	14.2	100	95	U

* DEPTH OF REFERENCE POINT:

amec

PROJECT: Golden Eagle Park Dam FCD 1999C071
LOCATION: Maricopa County, Arizona
CLIENT: Flood Control District of Maricopa County

JOB NO: 0-119-000113
DATE: 11-16-00

DENSITY OF SOIL IN PLACE BY THE SAND CONE METHOD (ASTM D1556, AAHSTO T217 & T224)
DENSITY OF SOIL IN PLACE BY THE NUCLEAR METHOD (ASTM D2922 & D3017)

CURVES:

	DESCRIPTION:		DENS. (PCF)	MOIST (%)
A	Filter Sand - SRS&R	6-9-00	113.6	15.0
B	Pervious Fill - Sample A	6-13-00	125.1	11.3
C	Pervious Fill - Sample B	6-13-00	125.8	10.5
D	Impervious Fill - Sample A	6-13-00	129.4	8.9
E	Impervious Fill - Sample B	6-13-00	129.2	9.2
F	Pervious Fill - On site	6-14-00	129.4	8.9
G	Subgrade/ABC -On site	6-19-00	118.8	14.2
H	Impervious Fill - Sample C	6-19-00	129.0	9.3
I	Impervious Fill - Sample D	6-19-00	129.3	8.9
U	Import - Silt-Ft. McDowell S&G	10-20-00	114.0	14.6

SAND CONE TESTS:

TEST NO.	LOCATION:	ELEV. *	% ROCK	DRY DENS. (PCF)	MOIST (%)	COMP. (%)	REQ. COMP. (%)	CURVE
1	Upstream side of dam emb. Sta. 6+00	+20	0	115.0	13.0	100+	95	U
2	Upstream side of dam emb. Sta. 2+75	+22	0	116.3	11.6	100+	95	U

NUCLEAR TESTS:

TEST NO.	LOCATION:	ELEV. *	% ROCK	DRY DENS. (PCF)	MOIST (%)	COMP. (%)	REQ. COMP. (%)	CURVE
1	Embankment of dam Sta. 2+00	-0'	0	110.8	14.6	97	95	U
2	Embankment of dam Sta. 3+00	-0'	0	109.7	15.4	96	95	U

* DEPTH OF REFERENCE POINT:

amec

PROJECT: Golden Eagle Park Dam FCD 1999C071
LOCATION: Maricopa County, Arizona
CLIENT: Flood Control District of Maricopa County

JOB NO: 0-119-000113
DATE: 11-21-00

DENSITY OF SOIL IN PLACE BY THE SAND CONE METHOD (ASTM D1556, AAHSTO T217 & T224)
DENSITY OF SOIL IN PLACE BY THE NUCLEAR METHOD (ASTM D2922 & D3017)

CURVES:

	DESCRIPTION:		DENS. (PCF)	MOIST (%)
A	Filter Sand - SRS&R	6-9-00	113.6	15.0
B	Pervious Fill - Sample A	6-13-00	125.1	11.3
C	Pervious Fill - Sample B	6-13-00	125.8	10.5
D	Impervious Fill - Sample A	6-13-00	129.4	8.9
E	Impervious Fill - Sample B	6-13-00	129.2	9.2
F	Pervious Fill - On site	6-14-00	129.4	8.9
G	Subgrade/ABC -On site	6-19-00	118.8	14.2
H	Impervious Fill - Sample C	6-19-00	129.0	9.3
I	Impervious Fill - Sample D	6-19-00	129.3	8.9
U	Import - Silt-Ft. McDowell S&G	10-20-00	114.0	14.6

SAND CONE TESTS:

TEST NO.	LOCATION:	ELEV. *	% ROCK	DRY DENS. (PCF)	MOIST (%)	COMP. (%)	REQ. COMP. (%)	CURVE
1	Upstream side of dam emb. Sta. 6+00	+20	0	115.0	13.0	100+	95	U
2	Upstream side of dam emb. Sta. 2+75	+22	0	116.3	11.6	100+	95	U

NUCLEAR TESTS:

TEST NO.	LOCATION:	ELEV. *	% ROCK	DRY DENS. (PCF)	MOIST (%)	COMP. (%)	REQ. COMP. (%)	CURVE
1	Dam embankment Station 5+00	-0'	0	114.7	14.0	100+	95	U
2	Dam embankment Station 7+00	-0'	0	110.5	8.7	97	95	U

* DEPTH OF REFERENCE POINT:

CONCRETE TESTS

Dan Peters & Associates

Quality Control, Quality Assurance, Inspection
Materials Testing & Specialty Testing

COMPRESSIVE STRENGTH OF CYLINDRICAL CONCRETE SPECIMENS

Client: Maricopa Ready Mix

DPA Project No. 2218
DPA Lab No. 00C-562
Report Date: 6/20/00
Reviewed By:

Project Name: Misc. Concrete Testing
Sampled By: D. Youngkin
Project Location: Alma School Rd & Loop 202
Sample Date: 6/16/00
Contractor:
Authorized By:
Location of Sample: Batch Plant
Concrete Supplier: Maricopa Ready Mix
Measured Slump: 3 Inches
Ticket Number: 18912
Measured Air Content: 4.6 %
Batch Size (cu. yds.): 5.0
Concrete Temp.: 88 F
Mix Identification: 340145
Air Temp.: 85 F
Design Strength (28 days): 4000 psi
Plastic Ut. Wt.: 6.43 pcf
Max. Aggregate Size (Inches):
No. of Specimens Molded 6
Water Added on Job (gal.):
Mold Size (4x8)

Test Procedure: ASTM C39, ASTM C143, ASTM C138, ASTM C231, ASTM C1064

Remarks: Set #1

Average Weight / cylinder: 6.43 lbs

Specimen Number	Date Tested	Age in Days	Area Inches	Comp. Strength Max. Load Pounds Force	Comp. Strength Max. Load PSI / MPa	Diameter in Inches	Type of Fracture	Tested By
00C-562	19-Jun	3	12.57	59446	4730	4.0	S	JBL
00C-562	23-Jun	7						
00C-562	30-Jun	14						
00C-562	14-Jul	28						
00C-562	14-Jul	28						
00C-562	11-Aug	56						

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COMPRESSIVE STRENGTH OF CYLINDRICAL CONCRETE SPECIMENS

Client: Maricopa Ready Mix

DPA Project No. 2218
DPA Lab No. 00C-564
Report Date: 6/20/00
Reviewed By:

Project Name: Misc. Concrete Testing
Sampled By: D. Youngkin
Project Location: Alma School Rd & Loop 202
Sample Date: 6/16/00
Contractor:
Authorized By:
Location of Sample: Batch Plant
Concrete Supplier: Maricopa Ready Mix
Measured Slump: 4 inches
Ticket Number: 18993
Measured Air Content: 4.5 %
Batch Size (cu. yds.): 5.0
Concrete Temp.: 89 F
Mix Identification: 340145
Air Temp.: 108 F
Design Strength (28 days): 4000 psi
Plastic Ut. Wt.: 8.37 pcf
Max. Aggregate Size (inches):
No. of Specimens Molded 6
Water Added on Job (gal.):
Mold Size (4x8)

Test Procedure: ASTM C39, ASTM C143, ASTM C138, ASTM C231, ASTM C1064

Remarks: Set #3

Average Weight / cylinder: 8.37 lbs

Specimen Number	Date Tested	Age in Days	Area Inches	Comp. Strength Max. Load Pounds Force	Comp. Strength Max. Load PSI / MPa	Diameter in Inches	Type of Fracture	Tested By
00C-564	19-Jun	3	12.57	56879	4520	4.0		JBL
00C-564	23-Jun	7						
00C-564	30-Jun	14						
00C-564	14-Jul	28						
00C-564	14-Jul	28						
00C-564	11-Aug	56						

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Dan Peters & Associates

Quality Control, Quality Assurance, Inspection
Materials Testing & Specialty Testing

COMPRESSIVE STRENGTH OF CYLINDRICAL CONCRETE SPECIMENS

Client: Maricopa Ready Mix

DPA Project No. 2218
DPA Lab No. 00C-563
Report Date: 6/20/00
Reviewed By:

Project Name: Misc. Concrete Testing
Sampled By: D. Youngkin
Project Location: Alma School Rd & Loop 202
Sample Date: 6/16/00
Contractor:
Authorized By:
Location of Sample: Batch Plant
Concrete Supplier: Maricopa Ready Mix
Measured Slump: 3 inches
Ticket Number: 18944
Measured Air Content: 5.0 %
Batch Size (cu. yds.): 5.0
Concrete Temp.: 87 F
Mix Identification: 340145
Air Temp.: 105 F
Design Strength (28 days): 4000 psi
Plastic Ut. Wt.: 8.5 pcf
Max. Aggregate Size (inches):
No. of Specimens Molded 6
Water Added on Job (gal.):
Mold Size (4x8)

Test Procedure: ASTM C39, ASTM C143, ASTM C138, ASTM C231, ASTM C1064

Remarks: Set #2

Average Weight / cylinder: 8.50 lbs

Specimen Number	Date Tested	Age in Days	Area Inches	Comp. Strength Max. Load Pounds Force	Comp. Strength Max. Load PSI / MPa	Diameter in Inches	Type of Fracture	Tested By
00C-563	19-Jun	3	12.57	53947	4290	4.0	S	JBL
00C-563	23-Jun	7						
00C-563	30-Jun	14						
00C-563	14-Jul	28						
00C-563	14-Jul	28						
00C-563	11-Aug	56						

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Dan Peters & Associates

Quality Control, Quality Assurance, Inspection
Materials Testing & Specialty Testing

COMPRESSIVE STRENGTH OF CYLINDRICAL CONCRETE SPECIMENS

Client: Maricopa Ready Mix

DPA Project No. 2218
DPA Lab No. 00C-559
Report Date: 6/20/00
Reviewed By:

Project Name: Misc. Concrete Testing
Sampled By: D. Youngkin
Project Location: Alma School Rd & Loop 202
Sample Date: 6/15/00
Contractor:
Authorized By:
Location of Sample: Batch Plant Truck #109
Concrete Supplier: Maricopa Ready Mix
Measured Slump: 5.5 inches
Ticket Number: 18639
Measured Air Content: 7.0 %
Batch Size (cu. yds.): 5.0
Concrete Temp.: 86 F
Mix Identification: 340145
Air Temp.: 92 F
Design Strength (28 days): 4000 psi
Plastic Ut. Wt.: 8.36 pcf
Max. Aggregate Size (inches):
No. of Specimens Molded 6
Water Added on Job (gal.):
Mold Size (4x8)

Test Procedure: ASTM C39, ASTM C143, ASTM C138, ASTM C231, ASTM C1064

Remarks: Set #1

Average Weight / cylinder: 8.36 lbs

Specimen Number	Date Tested	Age in Days	Area Inches	Comp. Strength Max. Load Pounds Force	Comp. Strength Max. Load PSI / MPa	Diameter in Inches	Type of Fracture	Tested By
00C-559	19-Jun	4	12.57	41747	3320	4.0	C	AY
00C-559	22-Jun	7						
00C-559	29-Jun	14						
00C-559	13-Jul	28						
00C-559	13-Jul	28						
00C-559	10-Aug	56						

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Materials Testing & Specialty Testing

COMPRESSIVE STRENGTH OF CYLINDRICAL CONCRETE SPECIMENS

Client: Maricopa Ready Mix

DPA Project No. 2218
DPA Lab No. 00C-560
Report Date: 6/20/00
Reviewed By:

Project Name: Misc. Concrete Testing
Sampled By: D. Youngkin
Project Location: Alma School Rd & Loop 202
Sample Date: 6/15/00
Contractor:
Authorized By:
Location of Sample: Batch Plant
Concrete Supplier: Maricopa Ready Mix
Measured Slump: 3.25 inches
Ticket Number: 18682
Measured Air Content: 4.6 %
Batch Size (cu. yds.): 5.0
Concrete Temp.: 88 F
Mix Identification: 340145
Air Temp.: 95 F
Design Strength (28 days): 4000 psi
Plastic Ut. Wt.: 8.4 pcf
Max. Aggregate Size (inches):
No. of Specimens Molded 8
Water Added on Job (gal.):
Mold Size (4x8)

Test Procedure: ASTM C39, ASTM C143, ASTM C138, ASTM C231, ASTM C1064

Remarks: Set #2

Average Weight / cylinder: 8.40 lbs

Specimen Number	Date Tested	Age in Days	Area Inches	Comp. Strength Max. Load Pounds Force	Comp. Strength Max. Load PSI / MPa	Diameter in Inches	Type of Fracture	Tested By
00C-560	19-Jun	4	12.57	61779	4910	4.0	C	AY
00C-560	22-Jun	7						
00C-560	29-Jun	14						
00C-560	13-Jul	28						
00C-560	13-Jul	28						
00C-560	10-Aug	58						

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Materials Testing & Specialty Testing

COMPRESSIVE STRENGTH OF CYLINDRICAL CONCRETE SPECIMENS

Client: Maricopa Ready Mix

DPA Project No. 2218
DPA Lab No. 00C-561
Report Date: 6/20/00
Reviewed By:

Project Name: Misc. Concrete Testing
Sampled By: D. Youngkin
Project Location: Alma School Rd & Loop 202
Sample Date: 6/15/00
Contractor:
Authorized By:
Location of Sample: Batch Plant
Concrete Supplier: Maricopa Ready Mix
Measured Slump: 3.75 inches
Ticket Number: 18707
Measured Air Content: 4.7 %
Batch Size (cu. yds.): 5.0
Concrete Temp.: 89 F
Mix Identification: 340145
Air Temp.: 100 F
Design Strength (28 days): 4000 psi
Plastic Ut. Wt.: 8.35 pcf
Max. Aggregate Size (inches):
No. of Specimens Molded 6
Water Added on Job (gal.):
Mold Size (4x8)

Test Procedure: ASTM C39, ASTM C143, ASTM C138, ASTM C231, ASTM C1064

Remarks: Set #3

Average Weight / cylinder: 8.35 lbs

Specimen Number	Date Tested	Age in Days	Area Inches	Comp. Strength Max. Load Pounds Force	Comp. Strength Max. Load PSI / MPa	Diameter in Inches	Type of Fracture	Tested By
00C-561	19-Jun	4	12.57	57453	4570	4.0	C	AY
00C-561	22-Jun	7						
00C-561	29-Jun	14						
00C-561	13-Jul	28						
00C-561	13-Jul	28						
00C-561	10-Aug	56						

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3232 West Virginia Avenue
Phoenix, Arizona 85009
Tel (602) 272-6848
Fax (602) 272-7239
Toll Free 1-800-248-AGRA

Report of Compression Test Results

Client: Flood Control District of Maricopa County
2801 W Durango St
Phoenix, AZ 85009

Attn: Fred Fuller

Report Date: July 31, 2000
Project #: 0-119-000113
Project Name: Golden Eagle Park Dam (FCD1999C
Project Address: Maricopa County
, AZ

Project Mgr: Alf Wold
Architect:
Engineer:
PO Number:

Specimen Type: *CONCRETE* *ASTM-C39*

Mix and Field Data

Cast Date: 06/29/2000
Contractor:

Placement: Footing for block wall, Sta.10+80.

Strength (f'c): Required: 3000 psi @ 28 Days
Technician: M. Manthey

Mix ID: 230400
Supplier: Maricopa Ready Mix
Load #: 1 of 2
Truck #: 162
Ticket #: 21219
Plant #:
Batch Size: 9
Water:
Admixture:

	Actual	Specs.
Slump (inches) ASTM C-143:	3.75	4 max
Air Content (%) ASTM C-231:		
Unit Weight (pcf) ASTM C-138:		
Concrete Temp. (°F):	80	<90
Ambient Temp. (°F):	92	
Weather:	Cloudy & mild	

Time

Batch Time: 6:19
Sample Time: 7:38
Finish Time: 7:45

Test Result

ID #	Spec ID	Date Rec'd	Test Date	Age (days)	Nominal Specimen Size	Actual Area (sq in)	*Compressive (lbs)*	*Strength (psi)*	Brk. Type/ Cure	% of Req'd
989884	A	06/30/2000	07/06/2000	7	4x8	12.56	35150	2800	CN	93%
	B	06/30/2000	07/06/2000	7	4x8	12.56	34660	2760	CN	92%
	C	06/30/2000	07/27/2000	28	4x8	12.56	54760	4360	CN	145%
	D	06/30/2000	07/27/2000	28	4x8	12.56	56710	4520	CN	151%
						Average of 28 Day Breaks:		**4438**		

Break Types -- (Cn) Cone, (CSp) Cone Split, (CSh) Cone Shear, (Sh) Shear, (Co) Columnar

Reviewed By Mark D. Vey

Distribution: **Client:** Yes **File:** Yes **Producer:** Yes **Others:**

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Phoenix, Arizona 85009
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Toll Free 1-800-248-AGRA

Report of Compression Test Results

Client: Flood Control District of Maricopa County
2801 W Durango St
Phoenix, AZ 85009

Attn: Fred Fuller

Report Date: July 17, 2000
Project #: 0-119-000113
Project Name: Golden Eagle Park Dam (FCD1999C
Project Address: Maricopa County
, AZ

Project Mgr: Alf Wold
Architect:
Engineer:
PO Number:

Specimen Type: *CONCRETE* *ASTM-C39*

Mix and Field Data

Cast Date: 07/07/2000
Contractor:

Placement: Box Culvert Base sections 1&3.

Strength (f'c): Required : 4000 psi @ 28 Days
Technician: M. Manthey

Mix ID: 340145
Supplier: Maricopa Ready Mix
Load #: 2 of 6
Truck #: 117
Ticket #: 22272
Plant #:
Batch Size: 10.5
Water:
Admixture:

	Actual	Specs.
Slump (inches) ASTM C-143:	3.00	4 max
Air Content (%) ASTM C-231:	5.25	3-6
Unit Weight (pcf) ASTM C-138:		
Concrete Temp. (°F):	85	<90
Ambient Temp. (°F):	93	
Weather:	Sunny & mild	

Time

Batch Time: 5:35
Sample Time: 6:15
Finish Time: 6:50

Test Result

ID #	Spec ID	Date Rec'd	Test Date	Age (days)	Nominal Specimen Size	Actual Area (sq in)	*Compressive (lbs)*	*Strength (psi)*	Brk. Type/ Cure	% of Req'd
989940	A	07/08/2000	07/14/2000	7	6x12	28.27	117110	4140	CSH	104%
	B	07/08/2000	07/14/2000	7	6x12	28.27	109610	3880	CN	97%
	C	07/08/2000	08/04/2000	28	6x12	28.27				
	D	07/08/2000	08/04/2000	28	6x12	28.27				

Average of 28 Day Breaks:

Break Types -- (Cn) Cone, (CSp) Cone Split, (CSh) Cone Shear, (Sh) Shear, (Co) Columnar

Reviewed By Marty A. Vega

Distribution: **Client:** Yes **File:** Yes **Producer:** Yes **Others:**

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Report of Compression Test Results

Client: Flood Control District of Maricopa County
2801 W Durango St
Phoenix, AZ 85009

Attn: Fred Fuller

Report Date: August 24, 2000
Project #: 0-119-000113
Project Name: Golden Eagle Park Dam (FCD1999C
Project Address: Maricopa County
, AZ

Project Mgr: Alf Wold
Architect:
Engineer:
PO Number:

Specimen Type: ***CONCRETE*** ***ASTM-C39***

Mix and Field Data

Cast Date: 07/07/2000 **Contractor:**

Placement: Box Culvert Base sections 1&3.

Strength (f'c): Required : 4000 psi @ 28 Days **Technician:** M. Manthey

Mix ID: 340145
Supplier: Maricopa Ready Mix
Load #: 2 of 6
Truck #: 117
Ticket #: 22272
Plant #:
Batch Size: 10.5
Water:
Admixture:

	Actual	Specs.
Slump (inches) ASTM C-143:	3.00	4 max
Air Content (%) ASTM C-231:	5.25	3-6
Unit Weight (pcf) ASTM C-138:		
Concrete Temp. (°F):	85	<90
Ambient Temp. (°F):	93	
Weather:	Sunny & mild	

Time

Batch Time: 5:35
Sample Time: 6:15
Finish Time: 6:50

Test Result

ID #	Spec ID	Date Rec'd	Test Date	Age (days)	Nominal Specimen Size	Actual Area (sq in)	*Compressive (lbs)*	*Strength (psi)*	Brk. Type/ Cure	% of Req'd
989940	A	07/08/2000	07/14/2000	7	6x12	28.27	117110	4140	CSH	104%
	B	07/08/2000	07/14/2000	7	6x12	28.27	109610	3880	CN	97%
	C	07/08/2000	08/04/2000	28	6x12	28.27	123120	4360	CN	109%
	D	07/08/2000	08/04/2000	28	6x12	28.27	122260	4320	CSH	108%
						Average of 28 Day Breaks:		**4340**		

Break Types -- (Cn) Cone, (CSp) Cone Split, (CSh) Cone Shear, (Sh) Shear, (Co) Columnar

Reviewed By _____

Distribution: **Client:** Yes **File:** Yes **Producer:** Yes **Others:**

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Report of Compression Test Results

Client: Flood Control District of Maricopa County
2801 W Durango St
Phoenix, AZ 85009

Attn: Fred Fuller

Report Date: July 17, 2000
Project #: 0-119-000113
Project Name: Golden Eagle Park Dam (FCD1999C
Project Address: Maricopa County
, AZ

Project Mgr: Alf Wold
Architect:
Engineer:
PO Number:

Specimen Type: *CONCRETE* *ASTM-C39*

Mix and Field Data

Cast Date: 07/10/2000
Contractor:

Placement: Box Culvert Base, Eastside pour. Sta. 2+95

Strength (f'c): Required : 4000 psi @ 28 Days
Technician: M. Manthey

Mix ID: 340145
Supplier: Maricopa Ready Mix
Load #: 3 of 5
Truck #: 101
Ticket #: 73561
Plant #:
Batch Size: 10
Water:
Admixture:

	Actual	Specs.
Slump (inches) ASTM C-143:	4.00	4 max
Air Content (%) ASTM C-231:	6.00	3-6
Unit Weight (pcf) ASTM C-138:		
Concrete Temp. (°F):	90	<90
Ambient Temp. (°F):	103	
Weather:	Sunny/mild	

Time

Batch Time: 11:56
Sample Time: 13:00
Finish Time: 13:11

Test Result

ID #	Spec ID	Date Rec'd	Test Date	Age (days)	Nominal Specimen Size	Actual Area (sq in)	*Compressive (lbs)*	*Strength (psi)*	Brk. Type/ Cure	% of Req'd
989967	A	07/11/2000	07/17/2000	7	6x12	28.27	89780	3180	CSH	79%
	B	07/11/2000	07/17/2000	7	6x12	28.27	88690	3140	CSH	78%
	C	07/11/2000	08/07/2000	28	6x12	28.27				
	D	07/11/2000	08/07/2000	28	6x12	28.27				
	E	07/11/2000	08/07/2000	28	6x12	28.27				
	F	07/11/2000	08/07/2000	28	6x12	28.27			HOLD	
						Average of 28 Day Breaks:				

Break Types -- (Cn) Cone, (CSp) Cone Split, (CSh) Cone Shear, (Sh) Shear, (Co) Columnar

Reviewed By Matt D. Vey

Distribution: **Client:** Yes **File:** Yes **Producer:** Yes **Others:**

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Report of Compression Test Results

Client: Flood Control District of Maricopa County
2801 W Durango St
Phoenix, AZ 85009

Attn: Fred Fuller

Report Date: August 17, 2000
Project #: 0-119-000113
Project Name: Golden Eagle Park Dam (FCD1999C
Project Address: Maricopa County
, AZ

Project Mgr: Alf Wold
Architect:
Engineer:
PO Number:

Specimen Type: *CONCRETE* *ASTM-C39*

Mix and Field Data

Cast Date: 07/10/2000
Contractor:

Placement: Box Culvert Base, Eastside pour. Sta. 2+95

Strength (f'c): Required: 4000 psi @ 28 Days
Technician: M. Manthey

Mix ID: 340145
Supplier: Maricopa Ready Mix
Load #: 3 of 5
Truck #: 101
Ticket #: 73561
Plant #:
Batch Size: 10
Water:
Admixture:

	Actual	Specs.
Slump (inches) ASTM C-143:	4.00	4 max
Air Content (%) ASTM C-231:	6.00	3-6
Unit Weight (pcf) ASTM C-138:		
Concrete Temp. (°F):	90	<90
Ambient Temp. (°F):	103	
Weather:	Sunny/mild	

Time

Batch Time: 11:56
Sample Time: 13:00
Finish Time: 13:11

Test Result

ID #	Spec ID	Date Rec'd	Test Date	Age (days)	Nominal Specimen Size	Actual Area (sq in)	*Compressive (lbs)*	*Strength (psi)*	Brk. Type/ Cure	% of Req'd
989967	A	07/11/2000	07/17/2000	7	6x12	28.27	89780	3180	CSH	79%
	B	07/11/2000	07/17/2000	7	6x12	28.27	88690	3140	CSH	78%
	C	07/11/2000	08/07/2000	28	6x12	28.27	116520	4120	CN	103%
	D	07/11/2000	08/07/2000	28	6x12	28.27	122600	4340	CN	108%
	E	07/11/2000	08/07/2000	28	6x12	28.27	121100	4280	CN	107%
	F	07/11/2000	08/07/2000	28	6x12	28.27	125510	4440	CN	111%
						Average of 28 Day Breaks:		**4295**		

Break Types -- (Cn) Cone, (CSp) Cone Split, (CSh) Cone Shear, (Sh) Shear, (Co) Columnar

Reviewed By _____

Distribution: **Client:** Yes **File:** Yes **Producer:** Yes **Others:**

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Report of Compression Test Results

Client: Flood Control District of Maricopa County
2801 W Durango St
Phoenix, AZ 85009

Attn: Fred Fuller

Report Date: August 17, 2000
Project #: 0-119-000113
Project Name: Golden Eagle Park Dam (FCD1999C
Project Address: Maricopa County
, AZ

Project Mgr: Alf Wold
Architect:
Engineer:
PO Number:

Specimen Type: *CONCRETE* *ASTM-C39*

Mix and Field Data

Cast Date: 07/14/2000
Contractor:

Placement: Outlet structure slab, sta. 2+95.

Strength (f'c): Required: 4000 psi @ 28 Days
Technician: M. Manthey

Mix ID: 340145
Supplier: Maricopa Ready Mix
Load #: 1 of 8
Truck #: 163
Ticket #: 73925
Plant #:
Batch Size: 10.5
Water:
Admixture:

	Actual	Specs.
Slump (inches) ASTM C-143:	3.50	4 max
Air Content (%) ASTM C-231:		
Unit Weight (pcf) ASTM C-138:		
Concrete Temp. (°F):	84	<90
Ambient Temp. (°F):	80	
Weather:	Sunny & mild	

Time

Batch Time: 4:06
Sample Time: 4:35
Finish Time: 4:45

Test Result

ID #	Spec ID	Date Rec'd	Test Date	Age (days)	Nominal Specimen Size	Actual Area (sq in)	*Compressive (lbs)*	*Strength (psi)*	Brk. Type/ Cure	% of Req'd
990013	A	07/15/2000	07/21/2000	7	6x12	28.27	105280	3720	CN	93%
	B	07/15/2000	07/21/2000	7	6x12	28.27	106230	3760	CN	94%
	C	07/15/2000	08/11/2000	28	6x12	28.27	119470	4230	CN	106%
	D	07/15/2000	08/11/2000	28	6x12	28.27	133730	4730	CN	118%
						Average of 28 Day Breaks:		**4478**		

Break Types – (Cn) Cone, (CSp) Cone _Split, (CSh) Cone Shear, (Sh) Shear, (Co) Columnar

Reviewed By _____

Distribution: **Client:** Yes **File:** Yes **Producer:** Yes **Others:**

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Report of Compression Test Results

Client: Flood Control District of Maricopa County
2801 W Durango St
Phoenix, AZ 85009

Attn: Fred Fuller

Report Date: August 17, 2000
Project #: 0-119-000113
Project Name: Golden Eagle Park Dam (FCD1999C
Project Address: Maricopa County
, AZ

Project Mgr: Alf Wold
Architect:
Engineer:
PO Number:

Specimen Type: *CONCRETE* *ASTM-C39*

Mix and Field Data

Cast Date: 07/14/2000 **Contractor:**

Placement: Box Culvert Base, sta. 2+95.

Strength (f'c): Required: 4000 psi @ 28 Days **Technician:** M. Manthey

Mix ID: 340145
Supplier: Maricopa Ready Mix
Load #: 4 of 8
Truck #: 107
Ticket #: 73955
Plant #:
Batch Size: 10.5
Water:
Admixture:

	Actual	Specs.
Slump (inches) ASTM C-143:	3.75	4 max
Air Content (%) ASTM C-231:	6.00	3-6
Unit Weight (pcf) ASTM C-138:		
Concrete Temp. (°F):	86	<90
Ambient Temp. (°F):	85	
Weather:	Sunny & mild	

Time

Batch Time: 6:23
Sample Time: 6:55
Finish Time: 7:00

Test Result

ID #	Spec ID	Date Rec'd	Test Date	Age (days)	Nominal Specimen Size	Actual Area (sq in)	*Compressive (lbs)*	*Strength (psi)*	Brk. Type/ Cure	% of Req'd
990014	A	07/15/2000	07/21/2000	7	6x12	28.27	94530	3340	CN	84%
	B	07/15/2000	07/21/2000	7	6x12	28.27	97300	3440	CN	86%
	C	07/15/2000	08/11/2000	28	6x12	28.27	133730	4730	CN	118%
	D	07/15/2000	08/11/2000	28	6x12	28.27	128450	4540	CN	114%
						Average of 28 Day Breaks:		4637		

Break Types -- (Cn) Cone, (CSp) Cone Split, (CSh) Cone Shear, (Sh) Shear, (Co) Columnar

Reviewed By Matt D. Vu

Distribution: **Client:** Yes **File:** Yes **Producer:** Yes **Others:**

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Report of Compression Test Results

Client: Flood Control District of Maricopa County
2801 W Durango St
Phoenix, AZ 85009

Attn: Fred Fuller

Report Date: July 31, 2000
Project #: 0-119-000113
Project Name: Golden Eagle Park Dam (FCD1999C
Project Address: Maricopa County
, AZ

Project Mgr: Alf Wold
Architect:
Engineer:
PO Number:

Specimen Type: *CONCRETE* *ASTM-C39*

Mix and Field Data

Cast Date: 07/21/2000
Contractor:

Placement: Box colvert deck & walls.

Strength (f'c): Required : 4000 psi @ 28 Days
Technician: M. Manthey

Mix ID: 340145
Supplier: Maricopa Ready Mix
Load #: 1 of 8
Truck #: 141
Ticket #: 74508
Plant #:
Batch Size: 10.5
Water:
Admixture: Ice

	Actual	Specs.
Slump (inches) ASTM C-143:	3.00	4 max
Air Content (%) ASTM C-231:		
Unit Weight (pcf) ASTM C-138:		
Concrete Temp. (°F):	84	<90
Ambient Temp. (°F):	85	
Weather:	*Sunny & mild*	

Time

Batch Time: 5:04
Sample Time: 5:40
Finish Time: 5:55

Test Result

ID #	Spec ID	Date Rec'd	Test Date	Age (days)	Nominal Specimen Size	Actual Area (sq in)	*Compressive (lbs)*	*Strength (psi)*	Brk. Type/ Cure	% of Req'd
990079	A	07/22/2000	07/28/2000	7	6x12	28.27	99520	3520	CN	88%
	B	07/22/2000	07/28/2000	7	6x12	28.27	102940	3640	CN	91%
	C	07/22/2000	08/18/2000	28	6x12	28.27				
	D	07/22/2000	08/18/2000	28	6x12	28.27				

Average of 28 Day Breaks:

Break Types -- (Cn) Cone, (CSp) Cone Split, (CSh) Cone Shear, (Sh) Shear, (Co) Columnar

Reviewed By _____

Distribution: **Client:** Yes **File:** Yes **Producer:** Yes **Others:**

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Report of Compression Test Results

Client: Flood Control District of Maricopa County
2801 W Durango St
Phoenix, AZ 85009

Attn: Fred Fuller

Report Date: August 21, 2000
Project #: 0-119-000113
Project Name: Golden Eagle Park Dam (FCD1999C
Project Address: Maricopa County
, AZ

Project Mgr: Alf Wold
Architect:
Engineer:
PO Number:

Specimen Type: *CONCRETE* *ASTM-C39*

Mix and Field Data

Cast Date: 07/21/2000
Contractor:

Placement: Box Culvert Deck & Walls.

Strength (f'c): Required: 4000 psi @ 28 Days
Technician: M. Manthey

Mix ID: 340145
Supplier: Maricopa Ready Mix
Load #: 1 of 8
Truck #: 141
Ticket #: 74508
Plant #:
Batch Size: 10.5
Water:
Admixture:

	Actual	Specs.
Slump (inches) ASTM C-143:	3.00	4 max
Air Content (%) ASTM C-231:		
Unit Weight (pcf) ASTM C-138:		
Concrete Temp. (°F):	84	<90
Ambient Temp. (°F):	85	
Weather:	Sunny & mild	

Time

Batch Time: 5:04
Sample Time: 5:40
Finish Time: 5:55

Test Result

ID #	Spec ID	Date Rec'd	Test Date	Age (days)	Nominal Specimen Size	Actual Area (sq in)	*Compressive (lbs)*	*Strength (psi)*	Brk. Type/ Cure	% of Req'd
990079	A	07/22/2000	07/28/2000	7	6x12	28.27	99520	3520	CN	88%
	B	07/22/2000	07/28/2000	7	6x12	28.27	102940	3640	CN	91%
	C	07/22/2000	08/18/2000	28	6x12	28.27	131380	4650	CN	116%
	D	07/22/2000	08/18/2000	28	6x12	28.27	129440	4580	CN	114%
						Average of 28 Day Breaks:		**4613**		

Break Types – (Cn) Cone, (CSp) Cone Split, (CSh) Cone Shear, (Sh) Shear, (Co) Columnar

Reviewed By _____

Distribution: **Client:** Yes **File:** Yes **Producer:** Yes **Others:**

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Report of Compression Test Results

Client: Flood Control District of Maricopa County
2801 W Durango St
Phoenix, AZ 85009

Attn: Fred Fuller

Report Date: July 31, 2000
Project #: 0-119-000113
Project Name: Golden Eagle Park Dam (FCD1999C
Project Address: Maricopa County
, AZ

Project Mgr: Alf Wold
Architect:
Engineer:
PO Number:

Specimen Type: *CONCRETE* *ASTM-C39*

Mix and Field Data

Cast Date: 07/21/2000
Contractor:

Placement: Box culvert deck & walls.

Strength (f'c): Required: 4000 psi @ 28 Days
Technician: M. Manthey

Mix ID: 340145
Supplier: Maricopa Ready Mix
Load #: 5 of 8
Truck #: 102
Ticket #: 74529
Plant #:
Batch Size: 10.5
Water:
Admixture: Ice

	Actual	Specs.
Slump (inches) ASTM C-143:	2.75	4 max
Air Content (%) ASTM C-231:		
Unit Weight (pcf) ASTM C-138:		
Concrete Temp. (°F):	84	<90
Ambient Temp. (°F):	88	
Weather:	Sunny & mild	

Time

Batch Time: 6:40
Sample Time: 7:20
Finish Time: 7:35

Test Result

ID #	Spec ID	Date Rec'd	Test Date	Age (days)	Nominal Specimen Size	Actual Area (sq in)	Compressive (lbs)	Strength (psi)	Brk. Type/ Cure	% of Req'd
990080	A	07/22/2000	07/28/2000	7	6x12	28.27	99920	3530	CN	88%
	B	07/22/2000	07/28/2000	7	6x12	28.27	94100	3330	CN	83%
	C	07/22/2000	08/18/2000	28	6x12	28.27				
	D	07/22/2000	08/18/2000	28	6x12	28.27				

Average of 28 Day Breaks:

Break Types -- (Cn) Cone, (CSp) Cone Split, (CSh) Cone Shear, (Sh) Shear, (Co) Columnar

Reviewed By Mark D. Vay

Distribution: **Client:** Yes **File:** Yes **Producer:** Yes **Others:**

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Report of Compression Test Results

Client: Flood Control District of Maricopa County
2801 W Durango St
Phoenix, AZ 85009

Attn: Fred Fuller

Report Date: August 21, 2000
Project #: 0-119-000113
Project Name: Golden Eagle Park Dam (FCD1999C
Project Address: Maricopa County
, AZ

Project Mgr: Alf Wold
Architect:
Engineer:
PO Number:

Specimen Type: *CONCRETE* *ASTM-C39*

Mix and Field Data

Cast Date: 07/21/2000
Contractor:

Placement: Box Culvert Deck & Walls.

Strength (f'c): Required : 4000 psi @ 28 Days
Technician: M. Manthey

Mix ID: 340145
Supplier: Maricopa Ready Mix
Load #: 5 of 8
Truck #: 102
Ticket #: 74529
Plant #:
Batch Size: 10.5
Water:
Admixture:

	Actual	Specs.
Slump (inches) ASTM C-143:	2.75	4 max
Air Content (%) ASTM C-231:		
Unit Weight (pcf) ASTM C-138:		
Concrete Temp. (°F):	84	<90
Ambient Temp. (°F):	88	
Weather:	Sunny & mild.	

Time

Batch Time: 6:40
Sample Time: 7:20
Finish Time: 7:35

Test Result

ID #	Spec ID	Date Rec'd	Test Date	Age (days)	Nominal Specimen Size	Actual Area (sq in)	*Compressive (lbs)*	*Strength (psi)*	Brk. Type/ Cure	% of Req'd
990080	A	07/22/2000	07/28/2000	7	6x12	28.27	99920	3530	CN	88%
	B	07/22/2000	07/28/2000	7	6x12	28.27	99100	3510	CN	88%
	C	07/22/2000	08/18/2000	28	6x12	28.27	131550	4650	CN	116%
	D	07/22/2000	08/18/2000	28	6x12	28.27	115260	4080	CN	102%
							Average of 28 Day Breaks:	**4365**		

Break Types – (Cn) Cone, (CSp) Cone Split, (CSh) Cone Shear, (Sh) Shear, (Co) Columnar

Reviewed By _____

Distribution: **Client:** Yes **File:** Yes **Producer:** Yes **Others:**

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Report of Compression Test Results

Client: Flood Control District of Maricopa County
2801 W Durango St
Phoenix, AZ 85009

Attn: Fred Fuller

Report Date: August 17, 2000
Project #: 0-119-000113
Project Name: Golden Eagle Park Dam (FCD1999C
Project Address: Maricopa County
, AZ

Project Mgr: Alf Wold
Architect:
Engineer:
PO Number:

Specimen Type: *CONCRETE* *ASTM-C39*

Mix and Field Data

Cast Date: 07/28/2000
Contractor:

Placement: Wing Walls for outlet structure, Sta. 2+95.

Strength (f'c): Required: 4000 psi @ 28 Days
Technician: M. Manthey

Mix ID: 340145
Supplier: Maricopa Ready Mix
Load #: 7 of 12
Truck #: 139
Ticket #: 75086
Plant #:
Batch Size: 10.5
Water:
Admixture:

	Actual	Specs.
Slump (inches) ASTM C-143:	2.25	4 max
Air Content (%) ASTM C-231:	4.00	3-6
Unit Weight (pcf) ASTM C-138:		
Concrete Temp. (°F):	88	<90
Ambient Temp. (°F):	93	
Weather:	Sunny & mild	

Time

Batch Time: 6:45
Sample Time: 7:35
Finish Time: 7:55

Remarks: Temp control-ice.

Test Result

ID #	Spec ID	Date Rec'd	Test Date	Age (days)	Nominal Specimen Size	Actual Area (sq in)	*Compressive (lbs)*	*Strength (psi)*	Brk. Type/ Cure	% of Req'd
990140	A	07/29/2000	08/04/2000	7	6x12	28.27	115230	4080	CN	102%
	B	07/29/2000	08/04/2000	7	6x12	28.27	119480	4230	CN	106%
	C	07/29/2000	08/25/2000	28	6x12	28.27				
	D	07/29/2000	08/25/2000	28	6x12	28.27				

Average of 28 Day Breaks:

Break Types -- (Cn) Cone, (CSp) Cone Split, (CSh) Cone Shear, (Sh) Shear, (Co) Columnar

Reviewed By Matt D. Vey

Distribution: **Client:** Yes **File:** Yes **Producer:** Yes **Others:**

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Report of Compression Test Results

Client: Flood Control District of Maricopa County
2801 W Durango St
Phoenix, AZ 85009

Attn: Fred Fuller

Report Date: August 28, 2000
Project #: 0-119-000113
Project Name: Golden Eagle Park Dam (FCD1999C
Project Address: Maricopa County
, AZ

Project Mgr: Alf Wold
Architect:
Engineer:
PO Number:

Specimen Type: *CONCRETE* *ASTM-C39*

Mix and Field Data

Cast Date: 07/28/2000 **Contractor:**

Placement: Wing Walls for outlet structure, Sta. 2+95.

Strength (f'c): Required : 4000 psi @ 28 Days **Technician:** M. Manthey

Mix ID: 340145
Supplier: Maricopa Ready Mix
Load #: 7 of 12
Truck #: 139
Ticket #: 75086
Plant #:
Batch Size: 10.5
Water:
Admixture:

	Actual	Specs.
Slump (inches) ASTM C-143:	2.25	4 max
Air Content (%) ASTM C-231:	4.00	3-6
Unit Weight (pcf) ASTM C-138:		
Concrete Temp. (°F):	88	<90
Ambient Temp. (°F):	93	
Weather:	Sunny & mild	

Time

Batch Time: 6:45
Sample Time: 7:35
Finish Time: 7:55

Remarks: Temp control-ice.

Test Result

ID #	Spec ID	Date Rec'd	Test Date	Age (days)	Nominal Specimen Size	Actual Area (sq in)	*Compressive (lbs)*	*Strength (psi)*	Brk. Type/ Cure	% of Req'd
990140	A	07/29/2000	08/04/2000	7	6x12	28.27	115230	4080	CN	102%
	B	07/29/2000	08/04/2000	7	6x12	28.27	119480	4230	CN	106%
	C	07/29/2000	08/25/2000	28	6x12	28.27	130960	4630	CN	116%
	D	07/29/2000	08/25/2000	28	6x12	28.27	133470	4720	CN	118%
						Average of 28 Day Breaks:		**4677**		

Break Types -- (Cn) Cone, (CSp) Cone Split, (CSh) Cone Shear, (Sh) Shear, (Co) Columnar

Reviewed By Mitch R. Vy

Distribution: **Client:** Yes **File:** Yes **Producer:** Yes **Others:**

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Report of Compression Test Results

Client: Flood Control District of Maricopa County
2801 W Durango St
Phoenix, AZ 85009

Attn: Fred Fuller

Report Date: August 17, 2000
Project #: 0-119-000113
Project Name: Golden Eagle Park Dam (FCD1999C
Project Address: Maricopa County
, AZ

Project Mgr: Alf Wold
Architect:
Engineer:
PO Number:

Specimen Type: *CONCRETE* *ASTM-C39*

Mix and Field Data

Cast Date: 07/28/2000
Contractor:

Placement: Box culvert, center section, deck & walls, Sta. 9+95.

Strength (f'c): Required: 4000 psi @ 28 Days
Technician: M. Manthey

Mix ID: 340145
Supplier: Maricopa Ready Mix
Load #: 3 of 8
Truck #: 138
Ticket #: 75065
Plant #:
Batch Size: 10.5
Water:
Admixture:

	Actual	Specs.
Slump (inches) ASTM C-143:	3.75	4 max
Air Content (%) ASTM C-231:	6.00	3-6
Unit Weight (pcf) ASTM C-138:		
Concrete Temp. (°F):	84	<90
Ambient Temp. (°F):	90	
Weather:	Sunny & mild	

Time

Batch Time: 4:56
Sample Time: 5:30
Finish Time: 5:45

Remarks: Temp control-ice.

Test Result

ID #	Spec ID	Date Rec'd	Test Date	Age (days)	Nominal Specimen Size	Actual Area (sq in)	*Compressive (lbs)*	*Strength (psi)*	Brk. Type/ Cure	% of Req'd
990141	A	07/29/2000	08/04/2000	7	6x12	28.27	100930	3570	CN	89%
	B	07/29/2000	08/04/2000	7	6x12	28.27	96800	3420	CN	86%
	C	07/29/2000	08/25/2000	28	6x12	28.27				
	D	07/29/2000	08/25/2000	28	6x12	28.27				

Average of 28 Day Breaks:

Break Types – (Cn) Cone, (CSp) Cone Split, (CSh) Cone Shear, (Sh) Shear, (Co) Columnar

Reviewed By Mark D. Vu

Distribution: **Client:** Yes **File:** Yes **Producer:** Yes **Others:**

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Report of Compression Test Results

Client: Flood Control District of Maricopa County
2801 W Durango St
Phoenix, AZ 85009

Attn: Fred Fuller

Report Date: August 28, 2000
Project #: 0-119-000113
Project Name: Golden Eagle Park Dam (FCD1999C
Project Address: Maricopa County
, AZ

Project Mgr: Alf Wold
Architect:
Engineer:
PO Number:

Specimen Type: *CONCRETE* *ASTM-C39*

Mix and Field Data

Cast Date: 07/28/2000 **Contractor:**

Placement: Box culvert, center section, deck & walls, Sta. 9+95.

Strength (f'c): Required : 4000 psi @ 28 Days **Technician:** M. Manthey

Mix ID: 340145
Supplier: Maricopa Ready Mix
Load #: 3 of 8
Truck #: 138
Ticket #: 75065
Plant #:
Batch Size: 10.5
Water:
Admixture:

	Actual	Specs.
Slump (inches) ASTM C-143:	3.75	4 max
Air Content (%) ASTM C-231:	6.00	3-6
Unit Weight (pcf) ASTM C-138:		
Concrete Temp. (°F):	84	<90
Ambient Temp. (°F):	90	
Weather:	Sunny & mild	

Time

Batch Time: 4:56
Sample Time: 5:30
Finish Time: 5:45

Remarks: Temp control-ice.

Test Result

ID #	Spec ID	Date Rec'd	Test Date	Age (days)	Nominal Specimen Size	Actual Area (sq in)	*Compressive (lbs)*	*Strength (psi)*	Brk. Type/ Cure	% of Req'd
990141	A	07/29/2000	08/04/2000	7	6x12	28.27	100930	3570	CN	89%
	B	07/29/2000	08/04/2000	7	6x12	28.27	96800	3420	CN	86%
	C	07/29/2000	08/25/2000	28	6x12	28.27	123140	4360	CSH	109%
	D	07/29/2000	08/25/2000	28	6x12	28.27	120700	4270	CN	107%
						Average of 28 Day Breaks:		**4313**		

Break Types -- (Cn) Cone, (CSp) Cone Split, (CSh) Cone Shear, (Sh) Shear, (Co) Columnar

Reviewed By Matt R. Vu

Distribution: **Client:** Yes **File:** Yes **Producer:** Yes **Others:**

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Report of Compression Test Results

Client: Flood Control District of Maricopa County
2801 W Durango St
Phoenix, AZ 85009

Attn: Fred Fuller

Report Date: August 17, 2000
Project #: 0-119-000113
Project Name: Golden Eagle Park Dam (FCD1999C
Project Address: Maricopa County
, AZ

Project Mgr: Alf Wold
Architect:
Engineer:
PO Number:

Specimen Type: *CONCRETE* *ASTM-C39*

Mix and Field Data

Cast Date: 08/02/2000
Contractor: Hunter

Placement: Inlet structure, floor.

Strength (f'c): Required: 4000 psi @ 28 Days
Technician: M. Manthey

Mix ID: 340145
Supplier: Maricopa Ready Mix
Load #: 1
Truck #: 162
Ticket #: 75432
Plant #:
Batch Size: 8
Water: 0
Admixture:

	Actual	Specs.
Slump (inches) ASTM C-143:	3.00	4 max
Air Content (%) ASTM C-231:	5.00	3-6
Unit Weight (pcf) ASTM C-138:		
Concrete Temp. (°F):	86	<90
Ambient Temp. (°F):	92	
Weather:	sunny-hot	

Time

Batch Time: 6:53
Sample Time: 7:40
Finish Time: 7:55

Test Result

ID #	Spec ID	Date Rec'd	Test Date	Age (days)	Nominal Specimen Size	Actual Area (sq in)	*Compressive (lbs)*	*Strength (psi)*	Brk. Type/ Cure	% of Req'd
990210	A	08/03/2000	08/09/2000	7	6x12	28.27	110600	3910	CN	98%
	B	08/03/2000	08/09/2000	7	6x12	28.27	107640	3810	CN	95%
	C	08/03/2000	08/30/2000	28	6x12	28.27				
	D	08/03/2000	08/30/2000	28	6x12	28.27				
	E	08/03/2000			6x12	28.27				
						Average of 28 Day Breaks:				

Break Types -- (Cn) Cone, (CSp) Cone Split, (CSh) Cone Shear, (Sh) Shear, (Co) Columnar

Reviewed By Matt D. Vy

Distribution: **Client:** Yes **File:** Yes **Producer:** Yes **Others:**

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Report of Compression Test Results

Client: Flood Control District of Maricopa County
2801 W Durango St
Phoenix, AZ 85009

Attn: Fred Fuller

Report Date: September 1, 2000
Project #: 0-119-000113
Project Name: Golden Eagle Park Dam (FCD1999C
Project Address: Maricopa County
, AZ

Project Mgr: Alf Wold
Architect:
Engineer:
PO Number:

Specimen Type: *CONCRETE* *ASTM-C39*

Mix and Field Data

Cast Date: 08/02/2000
Contractor: Hunter

Placement: Inlet structure, floor.

Strength (f'c): Required : 4000 psi @ 28 Days
Technician: M. Manthey

Mix ID: 340145
Supplier: Maricopa Ready Mix
Load #: 1
Truck #: 162
Ticket #: 75432
Plant #:
Batch Size: 8
Water: 0
Admixture:

	Actual	Specs.
Slump (inches) ASTM C-143:	3.00	4 max
Air Content (%) ASTM C-231:	5.00	3-6
Unit Weight (pcf) ASTM C-138:		
Concrete Temp. (°F):	86	<90
Ambient Temp. (°F):	92	
Weather:	sunny-hot	

Time

Batch Time: 6:53
Sample Time: 7:40
Finish Time: 7:55

Test Result

ID #	Spec ID	Date Rec'd	Test Date	Age (days)	Nominal Specimen Size	Actual Area (sq in)	Compressive (lbs)	Strength (psi)	Brk. Type/ Cure	% of Req'd
990210	A	08/03/2000	08/09/2000	7	6x12	28.27	110600	3910	CN	98%
	B	08/03/2000	08/09/2000	7	6x12	28.27	107640	3810	CN	95%
	C	08/03/2000	08/30/2000	28	6x12	28.27	125840	4450	CN	111%
	D	08/03/2000	08/30/2000	28	6x12	28.27	134050	4740	CN	119%
	E	08/03/2000			6x12	28.27				
						Average of 28 Day Breaks:		4597		

Break Types -- (Cn) Cone, (CSp) Cone Split, (CSh) Cone Shear, (Sh) Shear, (Co) Columnar

Reviewed By _____

Distribution: **Client:** Yes **File:** Yes **Producer:** Yes **Others:**

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Report of Compression Test Results

Client: Flood Control District of Maricopa County
2801 W Durango St
Phoenix, AZ 85009

Attn: Fred Fuller

Report Date: August 17, 2000
Project #: 0-119-000113
Project Name: Golden Eagle Park Dam (FCD1999C
Project Address: Maricopa County
, AZ

Project Mgr: Alf Wold
Architect:
Engineer:
PO Number:

Specimen Type: *CONCRETE* *ASTM-C39*

Mix and Field Data

Cast Date: 08/07/2000 **Contractor:**

Placement: Inlet Structure, sta. 2+95.

Strength (f'c): Required: 4000 psi @ 28 Days **Technician:** M. Manthey

Mix ID: 340145
Supplier: Maricopa Ready Mix
Load #: 1
Truck #: 139
Ticket #: 96584
Plant #:
Batch Size: 10.5
Water:
Admixture:

	Actual	Specs.
Slump (inches) ASTM C-143:	2.80	4 max
Air Content (%) ASTM C-231:	5.00	3-6
Unit Weight (pcf) ASTM C-138:		
Concrete Temp. (°F):	92	<90
Ambient Temp. (°F):	87	
Weather:	Sunny & mild	

Time

Batch Time: 6:56
Sample Time: 7:45
Finish Time: 8:30

Test Result

ID #	Spec ID	Date Rec'd	Test Date	Age (days)	Nominal Specimen Size	Actual Area (sq in)	*Compressive (lbs)*	*Strength (psi)*	Brk. Type/ Cure	% of Req'd
990274	A	08/08/2000	08/14/2000	7	6x12	28.27	96390	3410	CN	85%
	B	08/08/2000	08/14/2000	7	6x12	28.27	92420	3270	CN	82%
	C	08/08/2000	09/04/2000	28	6x12	28.27				
	D	08/08/2000	09/04/2000	28	6x12	28.27				

Average of 28 Day Breaks:

Break Types -- (Cn) Cone, (CSp) Cone Split, (CSh) Cone Shear, (Sh) Shear, (Co) Columnar

Reviewed By _____

Distribution: **Client:** Yes **File:** Yes **Producer:** Yes **Others:**

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Report of Compression Test Results

Client: Flood Control District of Maricopa County
2801 W Durango St
Phoenix, AZ 85009

Attn: Fred Fuller

Report Date: September 5, 2000
Project #: 0-119-000113
Project Name: Golden Eagle Park Dam (FCD1999C
Project Address: Maricopa County
, AZ

Project Mgr: Alf Wold
Architect:
Engineer:
PO Number:

Specimen Type: *CONCRETE* *ASTM-C39*

Mix and Field Data

Cast Date: 08/07/2000
Contractor:

Placement: Inlet Structure, sta. 2+95.

Strength (f'c): Required : 4000 psi @ 28 Days
Technician: M. Manthey

Mix ID: 340145
Supplier: Maricopa Ready Mix
Load #: 1
Truck #: 139
Ticket #: 96584
Plant #:
Batch Size: 10.5
Water:
Admixture:

	Actual	Specs.
Slump (inches) ASTM C-143:	2.80	4 max
Air Content (%) ASTM C-231:	5.00	3-6
Unit Weight (pcf) ASTM C-138:		
Concrete Temp. (°F):	92	<90
Ambient Temp. (°F):	87	
Weather:	Sunny & mild	

Time

Batch Time: 6:56
Sample Time: 7:45
Finish Time: 8:30

Test Result

ID #	Spec ID	Date Rec'd	Test Date	Age (days)	Nominal Specimen Size	Actual Area (sq in)	*Compressive (lbs)*	*Strength (psi)*	Brk. Type/ Cure	% of Req'd
990274	A	08/08/2000	08/14/2000	7	6x12	28.27	96390	3410	CN	85%
	B	08/08/2000	08/14/2000	7	6x12	28.27	92420	3270	CN	82%
	C	08/08/2000	09/04/2000	28	6x12	28.27	114120	4040	CSH	101%
	D	08/08/2000	09/04/2000	28	6x12	28.27	117200	4150	CSH	104%
						Average of 28 Day Breaks:		**4091**		

Break Types -- (Cn) Cone, (CSp) Cone Split, (CSh) Cone Shear, (Sh) Shear, (Co) Columnar

Reviewed By Matt R. Vy

Distribution: **Client:** Yes **File:** Yes **Producer:** Yes **Others:**

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Toll Free 1-800-248-AGRA

Report of Compression Test Results

Client: Flood Control District of Maricopa County
2801 W Durango St
Phoenix, AZ 85009

Attn: Fred Fuller

Report Date: August 21, 2000
Project #: 0-119-000113
Project Name: Golden Eagle Park Dam (FCD1999C
Project Address: Maricopa County
, AZ

Project Mgr: Alf Wold
Architect:
Engineer:
PO Number:

Specimen Type: *CONCRETE* *ASTM-C39*

Mix and Field Data

Cast Date: 08/11/2000
Contractor:

Placement: Inlet Structure for 60" RCP, floor structure.

Strength (f'c): Required : 4000 psi @ 28 Days
Technician: M. Manthey

Mix ID: 340145
Supplier: Maricopa Ready Mix
Load #: 1 of 2
Truck #: 135
Ticket #: 97044
Plant #:
Batch Size: 9
Water:
Admixture:

	Actual	Specs.
Slump (inches) ASTM C-143:	0.08	4 max
Air Content (%) ASTM C-231:		
Unit Weight (pcf) ASTM C-138:		
Concrete Temp. (°F):	88	<90
Ambient Temp. (°F):	90	
Weather:	Partly cloudy/mild	

Time

Batch Time: 5:29
Sample Time: 6:30
Finish Time: 6:50

Test Result

ID #	Spec ID	Date Rec'd	Test Date	Age (days)	Nominal Specimen Size	Actual Area (sq in)	*Compressive (lbs)*	*Strength (psi)*	Brk. Type/ Cure	% of Req'd
990278	A	08/12/2000	08/18/2000	7	6x12	28.27	117190	4150	CN	104%
	B	08/12/2000	08/18/2000	7	6x12	28.27	122440	4330	CN	108%
	C	08/12/2000	09/08/2000	28	6x12	28.27				
	D	08/12/2000	09/08/2000	28	6x12	28.27				

Average of 28 Day Breaks:

Break Types -- (Cn) Cone, (CSp) Cone Split, (CSh) Cone Shear, (Sh) Shear, (Co) Columnar

Reviewed By _____

Distribution: **Client:** Yes **File:** Yes **Producer:** Yes **Others:**

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Report of Compression Test Results

Client: Flood Control District of Maricopa County
2801 W Durango St
Phoenix, AZ 85009

Attn: Fred Fuller

Report Date: September 11, 2000
Project #: 0-119-000113
Project Name: Golden Eagle Park Dam (FCD1999C
Project Address: Maricopa County
, AZ

Project Mgr: Alf Wold
Architect:
Engineer:
PO Number:

Specimen Type: *CONCRETE* *ASTM-C39*

Mix and Field Data

Cast Date: 08/11/2000
Contractor:

Placement: Inlet Structure for 60" RCP, floor structure.

Strength (f'c): Required : 4000 psi @ 28 Days
Technician: M. Manthey

Mix ID: 340145
Supplier: Maricopa Ready Mix
Load #: 1 of 2
Truck #: 135
Ticket #: 97044
Plant #:
Batch Size: 9
Water:
Admixture:

	Actual	Specs.
Slump (inches) ASTM C-143:	0.08	4 max
Air Content (%) ASTM C-231:		
Unit Weight (pcf) ASTM C-138:		
Concrete Temp. (°F):	88	<90
Ambient Temp. (°F):	90	
Weather:	Partly cloudy/mild	

Time

Batch Time: 5:29
Sample Time: 6:30
Finish Time: 6:50

Test Result

ID #	Spec ID	Date Rec'd	Test Date	Age (days)	Nominal Specimen Size	Actual Area (sq in)	*Compressive (lbs)*	*Strength (psi)*	Brk. Type/ Cure	% of Req'd
990278	A	08/12/2000	08/18/2000	7	6x12	28.27	117190	4150	CN	104%
	B	08/12/2000	08/18/2000	7	6x12	28.27	122440	4330	CN	108%
	C	08/12/2000	09/08/2000	28	6x12	28.27	142310	5030	CN	126%
	D	08/12/2000	09/08/2000	28	6x12	28.27	142810	5050	CN	126%
						Average of 28 Day Breaks:		**5043**		

Break Types -- (Cn) Cone, (CSp) Cone Split, (CSh) Cone Shear, (Sh) Shear, (Co) Columnar

Reviewed By Matt R. Vy

Distribution: **Client:** Yes **File:** Yes **Producer:** Yes **Others:**

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Report of Compression Test Results

Client: Flood Control District of Maricopa County
2801 W Durango St
Phoenix, AZ 85009

Attn: Fred Fuller

Report Date: August 28, 2000
Project #: 0-119-000113
Project Name: Golden Eagle Park Dam (FCD1999C
Project Address: Maricopa County
, AZ

Project Mgr: Alf Wold
Architect:
Engineer:
PO Number:

Specimen Type: *CONCRETE* *ASTM-C39*

Mix and Field Data

Cast Date: 08/15/2000
Contractor:

Placement: 60" Inlet Structure, 2nd half of floor.

Strength (f'c): Required : 4000 psi @ 28 Days
Technician: Matt Manthey

Mix ID: 340145
Supplier: Maricopa Ready Mix
Load #: 1
Truck #: 138
Ticket #: 97268
Plant #:
Batch Size: 10.5
Water:
Admixture:

	Actual	Specs.
Slump (inches) ASTM C-143:	1.75	4 max
Air Content (%) ASTM C-231:	4.50	3-6
Unit Weight (pcf) ASTM C-138:		
Concrete Temp. (°F):	88	<90
Ambient Temp. (°F):	93	
Weather:	Sunny & mild	

Time

Batch Time: 5:04
Sample Time: 5:45
Finish Time: 6:15

Test Result

ID #	Spec ID	Date Rec'd	Test Date	Age (days)	Nominal Specimen Size	Actual Area (sq in)	*Compressive (lbs)*	*Strength (psi)*	Brk. Type/ Cure	% of Req'd
990345	A	08/16/2000	08/22/2000	7	6x12	28.27	105700	3740	CN	93%
	B	08/16/2000	08/22/2000	7	6x12	28.27	105800	3740	CSH	94%
	C	08/16/2000	09/12/2000	28	6x12	28.27				
	D	08/16/2000	09/12/2000	28	6x12	28.27				

Average of 28 Day Breaks:

Break Types -- (Cn) Cone, (CSp) Cone Split, (CSh) Cone Shear, (Sh) Shear, (Co) Columnar

Reviewed By Matt D. Vay

Distribution: **Client:** Yes **File:** Yes **Producer:** Yes **Others:**

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Report of Compression Test Results

Client: Flood Control District of Maricopa County
2801 W Durango St
Phoenix, AZ 85009

Attn: Fred Fuller

Report Date: September 18, 2000
Project #: 0-119-000113
Project Name: Golden Eagle Park Dam (FCD1999C
Project Address: Maricopa County
, AZ

Project Mgr: Alf Wold
Architect:
Engineer:
PO Number:

Specimen Type: *CONCRETE* *ASTM-C39*

Mix and Field Data

Cast Date: 08/15/2000 **Contractor:**

Placement: 60" Inlet Structure, 2nd half of floor.

Strength (f'c): Required : 4000 psi @ 28 Days **Technician:** Matt Manthey

Mix ID: 340145
Supplier: Maricopa Ready Mix
Load #: 1
Truck #: 138
Ticket #: 97268
Plant #:
Batch Size: 10.5
Water:
Admixture:

	Actual	Specs.
Slump (inches) ASTM C-143:	1.75	4 max
Air Content (%) ASTM C-231:	4.50	3-6
Unit Weight (pcf) ASTM C-138:		
Concrete Temp. (°F):	88	<90
Ambient Temp. (°F):	93	
Weather:	Sunny & mild	

Time

Batch Time: 5:04
Sample Time: 5:45
Finish Time: 6:15

Test Result

ID #	Spec ID	Date Rec'd	Test Date	Age (days)	Nominal Specimen Size	Actual Area (sq in)	*Compressive (lbs)*	*Strength (psi)*	Brk. Type/ Cure	% of Req'd
990345	A	08/16/2000	08/22/2000	7	6x12	28.27	105700	3740	CN	93%
	B	08/16/2000	08/22/2000	7	6x12	28.27	105800	3740	CSH	94%
	C	08/16/2000	09/12/2000	28	6x12	28.27	126320	4470	CN	112%
	D	08/16/2000	09/12/2000	28	6x12	28.27	126020	4460	CN	111%
						Average of 28 Day Breaks:		4463		

Break Types -- (Cn) Cone, (CSp) Cone Split, (CSh) Cone Shear, (Sh) Shear, (Co) Columnar

Reviewed By Mark De Vega

Distribution: **Client:** Yes **File:** Yes **Producer:** Yes **Others:**

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Report of Compression Test Results

Client: Flood Control District of Maricopa County
2801 W Durango St
Phoenix, AZ 85009

Attn: Fred Fuller

Report Date: August 29, 2000
Project #: 0-119-000113
Project Name: Golden Eagle Park Dam (FCD1999C
Project Address: Maricopa County
, AZ

Project Mgr: Alf Wold
Architect:
Engineer:
PO Number:

Specimen Type: *CONCRETE* *ASTM-C39*

Mix and Field Data

Cast Date: 08/21/2000 **Contractor:**

Placement: 60' Inlet Structure, inlet walls & pipe collar.

Strength (f'c): Required : 4000 psi @ 28 Days **Technician:** Matt Manthey

Mix ID: 340145
Supplier: Maricopa Ready Mix
Load #: 1 of 3
Truck #: 105
Ticket #: 97775
Plant #:
Batch Size: 6
Water:
Admixture:

	Actual	Specs.
Slump (inches) ASTM C-143:	4.00	4 max
Air Content (%) ASTM C-231:	5.00	3-6
Unit Weight (pcf) ASTM C-138:		
Concrete Temp. (°F):	84	<90
Ambient Temp. (°F):	84	
Weather:	Partly cloudy	

Time

Batch Time: 6:43
Sample Time: 7:30
Finish Time: 7:45

Test Result

ID #	Spec ID	Date Rec'd	Test Date	Age (days)	Nominal Specimen Size	Actual Area (sq in)	*Compressive (lbs)*	*Strength (psi)*	Brk. Type/ Cure	% of Req'd
990380	A	08/22/2000	08/28/2000	7	6x12	28.27	89260	3160	CN	79%
	B	08/22/2000	08/28/2000	7	6x12	28.27	96670	3420	CN	85%
	C	08/22/2000	09/18/2000	28	6x12	28.27				
	D	08/22/2000	09/18/2000	28	6x12	28.27			HOLD	

Average of 28 Day Breaks:

Break Types -- (Cn) Cone, (CSp) Cone Split, (CSh) Cone Shear, (Sh) Shear, (Co) Columnar

Reviewed By Matt De Vaney

Distribution: **Client:** Yes **File:** Yes **Producer:** Yes **Others:**

SEP 2 1 2000

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Report of Compression Test Results

Client: Flood Control District of Maricopa County
2801 W Durango St
Phoenix, AZ 85009

Attn: Fred Fuller

Report Date: September 19, 2000
Project #: 0-119-000113
Project Name: Golden Eagle Park Dam (FCD1999C
Project Address: Maricopa County
, AZ

Project Mgr: Alf Wold
Architect:
Engineer:
PO Number:

Specimen Type: *CONCRETE* *ASTM-C39*

Mix and Field Data

Cast Date: 08/21/2000
Contractor:

Placement: 60' Inlet Structure, inlet walls & pipe collar.

Strength (f'c): Required : 4000 psi @ 28 Days
Technician: Matt Manthey

Mix ID: 340145
Supplier: Maricopa Ready Mix
Load #: 1 of 3
Truck #: 105
Ticket #: 97775
Plant #:
Batch Size: 6
Water:
Admixture:

	Actual	Specs.
Slump (inches) ASTM C-143:	4.00	4 max
Air Content (%) ASTM C-231:	5.00	3-6
Unit Weight (pcf) ASTM C-138:		
Concrete Temp. (°F):	84	<90
Ambient Temp. (°F):	84	
Weather:	Partly cloudy	

Time

Batch Time: 6:43
Sample Time: 7:30
Finish Time: 7:45

Test Result

ID #	Spec ID	Date Rec'd	Test Date	Age (days)	Nominal Specimen Size	Actual Area (sq in)	*Compressive (lbs)*	*Strength (psi)*	Brk. Type/ Cure	% of Req'd
990380	A	08/22/2000	08/28/2000	7	6x12	28.27	89260	3160	CN	79%
	B	08/22/2000	08/28/2000	7	6x12	28.27	96670	3420	CN	85%
	C	08/22/2000	09/18/2000	28	6x12	28.27	115270	4080	CN	102%
	D	08/22/2000	09/18/2000	28	6x12	28.27	119350	4220	CN	106%
						Average of 28 Day Breaks:		4150		

Break Types -- (Cn) Cone, (CSp) Cone Split, (CSh) Cone Shear, (Sh) Shear, (Co) Columnar

Reviewed By Matt D. Vu

Distribution: **Client:** Yes **File:** Yes **Producer:** Yes **Others:**

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Report of Compression Test Results

Client: Flood Control District of Maricopa County
2801 W Durango St
Phoenix, AZ 85009

Attn: Fred Fuller

Report Date: August 29, 2000
Project #: 0-119-000113
Project Name: Golden Eagle Park Dam (FCD1999C
Project Address: Maricopa County
, AZ

Project Mgr: Alf Wold
Architect:
Engineer:
PO Number:

Specimen Type: ***CONCRETE*** ***ASTM-C39***

Mix and Field Data

Cast Date: 08/22/2000
Contractor:

Placement: Flood Wall Footings, sta. 41+112.

Strength (f'c): Required : 4000 psi @ 28 Days
Technician: Matt Manthey

Mix ID: 340145
Supplier: Maricopa Ready Mix
Load #: 2 of 4
Truck #: 165
Ticket #: 97872
Plant #:
Batch Size: 10.5
Water:
Admixture:

	Actual	Specs.
Slump (inches) ASTM C-143:	3.00	4 max
Air Content (%) ASTM C-231:	5.40	3-5
Unit Weight (pcf) ASTM C-138:		
Concrete Temp. (°F):	84	<90
Ambient Temp. (°F):	85	
Weather:	Cloudy/humid	

Time

Batch Time: 5:29
Sample Time: 6:25
Finish Time: 6:45

Test Result

ID #	Spec ID	Date Rec'd	Test Date	Age (days)	Nominal Specimen Size	Actual Area (sq in)	*Compressive (lbs)*	*Strength (psi)*	Brk. Type/ Cure	% of Req'd
990381	A	08/23/2000	08/29/2000	7	6x12	28.27	112550	3980	CN	100%
	B	08/23/2000	08/29/2000	7	6x12	28.27	115740	4090	CN	102%
	C	08/23/2000	09/19/2000	28	6x12	28.27				
	D	08/23/2000	09/19/2000	28	6x12	28.27				

Average of 28 Day Breaks:

Break Types -- (Cn) Cone, (CSp) Cone Split, (CSh) Cone Shear, (Sh) Shear, (Co) Columnar

Reviewed By Matt R. Vega

Distribution: **Client:** Yes **File:** Yes **Producer:** Yes **Others:**

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Report of Compression Test Results

Client: Flood Control District of Maricopa County
2801 W Durango St
Phoenix, AZ 85009

Attn: Fred Fuller

Report Date: September 19, 2000
Project #: 0-119-000113
Project Name: Golden Eagle Park Dam (FCD1999C
Project Address: Maricopa County
, AZ

Project Mgr: Alf Wold
Architect:
Engineer:
PO Number:

Specimen Type: *CONCRETE* *ASTM-C39*

Mix and Field Data

Cast Date: 08/22/2000
Contractor:

Placement: Flood Wall Footings, sta. 41+112.

Strength (f'c): Required : 4000 psi @ 28 Days
Technician: Matt Manthey

Mix ID: 340145
Supplier: Maricopa Ready Mix
Load #: 2 of 4
Truck #: 165
Ticket #: 97872
Plant #:
Batch Size: 10.5
Water:
Admixture:

	Actual	Specs.
Slump (inches) ASTM C-143:	3.00	4 max
Air Content (%) ASTM C-231:	5.40	3-5
Unit Weight (pcf) ASTM C-138:		
Concrete Temp. (°F):	84	<90
Ambient Temp. (°F):	85	
Weather:	Cloudy/humid	

Time

Batch Time: 5:29
Sample Time: 6:25
Finish Time: 6:45

Test Result

ID #	Spec ID	Date Rec'd	Test Date	Age (days)	Nominal Specimen Size	Actual Area (sq in)	*Compressive (lbs)*	*Strength (psi)*	Brk. Type/ Cure	% of Req'd
990381	A	08/23/2000	08/29/2000	7	6x12	28.27	112550	3980	CN	100%
	B	08/23/2000	08/29/2000	7	6x12	28.27	115740	4090	CN	102%
	C	08/23/2000	09/19/2000	28	6x12	28.27	137130	4850	CN	121%
	D	08/23/2000	09/19/2000	28	6x12	28.27	144690	5120	CN	128%
						Average of 28 Day Breaks:		**4984**		

Break Types -- (Cn) Cone, (CSp) Cone Split, (CSh) Cone Shear, (Sh) Shear, (Co) Columnar

Reviewed By Matt D. Vy

Distribution: **Client:** Yes **File:** Yes **Producer:** Yes **Others:**

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Report of Compression Test Results

Client: Flood Control District of Maricopa County
2801 W Durango St
Phoenix, AZ 85009

Attn: Fred Fuller

Report Date: September 5, 2000
Project #: 0-119-000113
Project Name: Golden Eagle Park Dam (FCD1999C
Project Address: Maricopa County
, AZ

Project Mgr: Alf Wold
Architect:
Engineer:
PO Number:

Specimen Type: *CONCRETE* *ASTM-C39*

Mix and Field Data

Cast Date: 08/25/2000
Contractor:

Placement: 17' Wide Floodwall Footing, Sta. 40+75.

Strength (f'c): Required : 4000 psi @ 28 Days
Technician: Matt Manthey

Mix ID: 340145
Supplier: Maricopa Ready Mix
Load #: 4 of 10
Truck #: 101
Ticket #: 99045
Plant #:
Batch Size: 10.5
Water:
Admixture:

	Actual	Specs.
Slump (inches) ASTM C-143:	1.75	4 max
Air Content (%) ASTM C-231:	6.00	3-6
Unit Weight (pcf) ASTM C-138:		
Concrete Temp. (°F):	87	<90
Ambient Temp. (°F):	85	
Weather:	Clear/mild	

Time

Batch Time: 5:13
Sample Time: 6:15
Finish Time: 6:30

Test Result

ID #	Spec ID	Date Rec'd	Test Date	Age (days)	Nominal Specimen Size	Actual Area (sq in)	*Compressive (lbs)*	*Strength (psi)*	Brk. Type/ Cure	% of Req'd
990450	A	08/26/2000	09/01/2000	7	6x12	28.27	100410	3550	CN	89%
	B	08/26/2000	09/01/2000	7	6x12	28.27	110910	3920	CN	98%
	C	08/26/2000	09/22/2000	28	6x12	28.27				
	D	08/26/2000	09/22/2000	28	6x12	28.27			HOLD	

Average of 28 Day Breaks:

Break Types -- (Cn) Cone, (CSp) Cone Split, (CSh) Cone Shear, (Sh) Shear, (Co) Columnar

Reviewed By Matt R. Vey

Distribution: **Client:** Yes **File:** Yes **Producer:** Yes **Others:**

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Report of Compression Test Results

OCT 5 2000

Client: Flood Control District of Maricopa County
2801 W Durango St
Phoenix, AZ 85009

Attn: Fred Fuller

Report Date: September 28, 2000
Project #: 0-119-000113
Project Name: Golden Eagle Park Dam (FCD1999C
Project Address: Maricopa County
, AZ

Project Mgr: Alf Wold
Architect:
Engineer:
PO Number:

Specimen Type: *CONCRETE* *ASTM-C39*

Mix and Field Data

Cast Date: 08/25/2000

Contractor:

Placement: 17' Wide Floodwall Footing, Sta. 40+75.

Strength (f'c): Required : 4000 psi @ 28 Days

Technician: Matt Manthey

Mix ID: 340145
Supplier: Maricopa Ready Mix
Load #: 4 of 10
Truck #: 101
Ticket #: 99045
Plant #:
Batch Size: 10.5
Water:
Admixture:

	Actual	Specs.
Slump (inches) ASTM C-143:	1.75	4 max
Air Content (%) ASTM C-231:	6.00	3-6
Unit Weight (pcf) ASTM C-138:		
Concrete Temp. (°F):	87	<90
Ambient Temp. (°F):	85	
Weather:	Clear/mild	

Time

Batch Time: 5:13
Sample Time: 6:15
Finish Time: 6:30

Test Result

ID #	Spec ID	Date Rec'd	Test Date	Age (days)	Nominal Specimen Size	Actual Area (sq in)	*Compressive (lbs)*	*Strength (psi)*	Brk. Type/ Cure	% of Req'd
990450	A	08/26/2000	09/01/2000	7	6x12	28.27	100410	3550	CN	89%
	B	08/26/2000	09/01/2000	7	6x12	28.27	110910	3920	CN	98%
	C	08/26/2000	09/22/2000	28	6x12	28.27	119940	4240	CN	106%
	D	08/26/2000	09/22/2000	28	6x12	28.27	134730	4770	CN	119%
						Average of 28 Day Breaks:		4504		

Break Types -- (Cn) Cone, (CSp) Cone Split, (CSh) Cone Shear, (Sh) Shear, (Co) Columnar

Reviewed By Matt M. Vey

Distribution: **Client:** Yes **File:** Yes **Producer:** Yes **Others:**

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Report of Compression Test Results

Client: Flood Control District of Maricopa County
2801 W Durango St
Phoenix, AZ 85009

Attn: Fred Fuller

Report Date: September 5, 2000
Project #: 0-119-000113
Project Name: Golden Eagle Park Dam (FCD1999C
Project Address: Maricopa County
, AZ

Project Mgr: Alf Wold
Architect:
Engineer:
PO Number:

Specimen Type: *CONCRETE* *ASTM-C39*

Mix and Field Data

Cast Date: 08/25/2000
Contractor:

Placement: 17' Wide Floodwall Footing, Sta. 40+10.

Strength (f'c): Required : 4000 psi @ 28 Days
Technician: Matt Manthey

Mix ID: 340145
Supplier: Maricopa Ready Mix
Load #: 9 of 10
Truck #: 132
Ticket #: 99070
Plant #:
Batch Size: 10.5
Water:
Admixture:

	Actual	Specs.
Slump (inches) ASTM C-143:	4.25	4 max
Air Content (%) ASTM C-231:	6.00	3-6
Unit Weight (pcf) ASTM C-138:		
Concrete Temp. (°F):	85	<90
Ambient Temp. (°F):	92	
Weather:	Clear/mild	

Time

Batch Time: 7:02
Sample Time: 7:45
Finish Time: 8:15

Test Result

ID #	Spec ID	Date Rec'd	Test Date	Age (days)	Nominal Specimen Size	Actual Area (sq in)	Compressive (lbs)	Strength (psi)	Brk. Type/ Cure	% of Req'd
990451	A	08/26/2000	09/01/2000	7	6x12	28.27	111100	3930	CN	98%
	B	08/26/2000	09/01/2000	7	6x12	28.27	116280	4110	CN	103%
	C	08/26/2000	09/22/2000	28	6x12	28.27				
	D	08/26/2000	09/22/2000	28	6x12	28.27			HOLD	

Average of 28 Day Breaks:

Break Types -- (Cn) Cone, (CSp) Cone Split, (CSh) Cone Shear, (Sh) Shear, (Co) Columnar

Reviewed By Matt D. Vy

Distribution: **Client:** Yes **File:** Yes **Producer:** Yes **Others:**

amec

Report of Compression Test Results

Client: Flood Control District of Maricopa County
2801 W Durango St
Phoenix, AZ 85009

Attn: Fred Fuller

Report Date: September 28, 2000
Project #: 0-119-000113
Project Name: Golden Eagle Park Dam (FCD1999C
Project Address: Maricopa County
, AZ

Project Mgr: Alf Wold
Architect:
Engineer:
PO Number:

Specimen Type: *CONCRETE* *ASTM-C39*

Mix and Field Data

Cast Date: 08/25/2000
Contractor:

Placement: 17' Wide Floodwall Footing, Sta. 40+10.

Strength (f'c): Required : 4000 psi @ 28 Days
Technician: Matt Manthey

Mix ID: 340145
Supplier: Maricopa Ready Mix
Load #: 9 of 10
Truck #: 132
Ticket #: 99070
Plant #:
Batch Size: 10.5
Water:
Admixture:

	Actual	Specs.
Slump (inches) ASTM C-143:	4.25	4 max
Air Content (%) ASTM C-231:	6.00	3-6
Unit Weight (pcf) ASTM C-138:		
Concrete Temp. (°F):	85	<90
Ambient Temp. (°F):	92	
Weather:	Clear/mild	

Time

Batch Time: 7:02
Sample Time: 7:45
Finish Time: 8:15

Test Result

ID #	Spec ID	Date Rec'd	Test Date	Age (days)	Nominal Specimen Size	Actual Area (sq in)	*Compressive (lbs)*	*Strength (psi)*	Brk. Type/ Cure	% of Req'd
990451	A	08/26/2000	09/01/2000	7	6x12	28.27	111100	3930	CN	98%
	B	08/26/2000	09/01/2000	7	6x12	28.27	116280	4110	CN	103%
	C	08/26/2000	09/22/2000	28	6x12	28.27	114710	4060	CN	101%
	D	08/26/2000	09/22/2000	28	6x12	28.27	133850	4730	CN	118%
						Average of 28 Day Breaks:		4396		

Break Types -- (Cn) Cone, (CSp) Cone Split, (CSh) Cone Shear, (Sh) Shear, (Co) Columnar

Reviewed By _____

Distribution: **Client:** Yes **File:** Yes **Producer:** Yes **Others:**

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Report of Compression Test Results

Client: Flood Control District of Maricopa County
2801 W Durango St
Phoenix, AZ 85009

Attn: Fred Fuller

Report Date: September 6, 2000
Project #: 0-119-000113
Project Name: Golden Eagle Park Dam (FCD1999C
Project Address: Maricopa County
, AZ

Project Mgr: Alf Wold
Architect:
Engineer:
PO Number:

Specimen Type: *CONCRETE* *ASTM-C39*

Mix and Field Data

Cast Date: 08/30/2000
Contractor:

Placement: Wall of concrete floodwall. Sta. 41+14 - 40+84.

Strength (f'c): Required : 4000 psi @ 28 Days
Technician: Matt Manthey

Mix ID: 340145
Supplier: Maricopa Ready Mix
Load #: 1 of 2
Truck #: 112
Ticket #: 99430
Plant #:
Batch Size: 8.5
Water:
Admixture:

	Actual	Specs.
Slump (inches) ASTM C-143:	2.25	4 max
Air Content (%) ASTM C-231:	5.20	3-6
Unit Weight (pcf) ASTM C-138:		
Concrete Temp. (°F):	85	<90
Ambient Temp. (°F):	83	
Weather:	Clear/sunny/mild	

Time

Batch Time: 7:00
Sample Time: 7:45
Finish Time: 8:15

Test Result

ID #	Spec ID	Date Rec'd	Test Date	Age (days)	Nominal Specimen Size	Actual Area (sq in)	*Compressive (lbs)*	*Strength (psi)*	Brk. Type/ Cure	% of Req'd
990461	A	08/31/2000	09/06/2000	7	6x12	28.27	110760	3920	CN	98%
	B	08/31/2000	09/06/2000	7	6x12	28.27	112940	4000	CN	100%
	C	08/31/2000	09/27/2000	28	6x12	28.27				
	D	08/31/2000	09/27/2000	28	6x12	28.27			HOLD	

Average of 28 Day Breaks:

Break Types -- (Cn) Cone, (CSp) Cone Split, (CSh) Cone Shear, (Sh) Shear, (Co) Columnar

Reviewed By Matt R. Vey

Distribution: **Client:** Yes **File:** Yes **Producer:** Yes **Others:**

Report of Compression Test Results

Client: Flood Control District of Maricopa County
2801 W Durango St
Phoenix, AZ 85009

Attn: Fred Fuller

Report Date: October 4, 2000
Project #: 0-119-000113
Project Name: Golden Eagle Park Dam (FCD1999C
Project Address: Maricopa County
, AZ

Project Mgr: Alf Wold
Architect:
Engineer:
PO Number:

Specimen Type: *CONCRETE* *ASTM-C39*

Mix and Field Data

Cast Date: 08/30/2000 **Contractor:**

Placement: Wall, Concrete Floodwall. Sta. 41+14 - 40+84.

Strength (f'c): Required : 4000 psi @ 28 Days **Technician:** Matt Manthey

Mix ID: 340145
Supplier: Maricopa Ready Mix
Load #: 1 of 2
Truck #: 112
Ticket #: 99430
Plant #:
Batch Size: 8.5
Water:
Admixture:

	Actual	Specs.
Slump (inches) ASTM C-143:	2.25	4 max
Air Content (%) ASTM C-231:	5.20	3-6
Unit Weight (pcf) ASTM C-138:		
Concrete Temp. (°F):	85	<90
Ambient Temp. (°F):	83	
Weather:	Clear/sunny/mild	

Time

Batch Time: 7:00
Sample Time: 7:45
Finish Time: 8:15

Test Result

ID #	Spec ID	Date Rec'd	Test Date	Age (days)	Nominal Specimen Size	Actual Area (sq in)	*Compressive (lbs)*	*Strength (psi)*	Brk. Type/ Cure	% of Req'd
990461	A	08/31/2000	09/06/2000	7	6x12	28.27	110760	3920	CN	98%
	B	08/31/2000	09/06/2000	7	6x12	28.27	112940	4000	CN	100%
	C	08/31/2000	09/27/2000	28	6x12	28.27	131910	4670	CN	117%
	D	08/31/2000	09/27/2000	28	6x12	28.27	127130	4500	CN	112%
						Average of 28 Day Breaks:		4582		

Break Types -- (Cn) Cone, (CSp) Cone Split, (CSh) Cone Shear, (Sh) Shear, (Co) Columnar

Reviewed By Matt D. Vy

Distribution: **Client:** Yes **File:** Yes **Producer:** Yes **Others:**

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Fax (602) 272-7239
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Report of Compression Test Results

Client: Flood Control District of Maricopa County
2801 W Durango St
Phoenix, AZ 85009

Attn: Fred Fuller

Report Date: September 7, 2000
Project #: 0-119-000113
Project Name: Golden Eagle Park Dam (FCD1999C
Project Address: Maricopa County
, AZ

Project Mgr: Alf Wold
Architect:
Engineer:
PO Number:

Specimen Type: *CONCRETE* *ASTM-C39*

Mix and Field Data

Cast Date: 08/31/2000
Contractor:

Placement: Flood wall, sta. 40+60 - 40+30.

Strength (f'c): Required : 4000 psi @ 28 Days
Technician: Matt Manthey

Mix ID: 340145
Supplier: Maricopa Ready Mix
Load #: 1 of 2
Truck #: 135
Ticket #: 99566
Plant #:
Batch Size: 5
Water:
Admixture:

	Actual	Specs.
Slump (inches) ASTM C-143:	3.00	4 max
Air Content (%) ASTM C-231:	5.00	3-6
Unit Weight (pcf) ASTM C-138:		
Concrete Temp. (°F):	83	<90
Ambient Temp. (°F):	82	
Weather:	Sunny/cool	

Time

Batch Time: 7:11
Sample Time: 7:55
Finish Time: 8:20

Test Result

ID #	Spec ID	Date Rec'd	Test Date	Age (days)	Nominal Specimen Size	Actual Area (sq in)	*Compressive (lbs)*	*Strength (psi)*	Brk. Type/ Cure	% of Req'd
990460	A	09/01/2000	09/07/2000	7	6x12	28.27	103310	3650	CN	91%
	B	09/01/2000	09/07/2000	7	6x12	28.27	94040	3330	CN	83%
	C	09/01/2000	09/28/2000	28	6x12	28.27				
	D	09/01/2000	09/28/2000	28	6x12	28.27			HOLD	
						Average of 28 Day Breaks:				

Break Types -- (Cn) Cone, (CSp) Cone Split, (CSh) Cone Shear, (Sh) Shear, (Co) Columnar

Reviewed By _____

Distribution: **Client:** Yes **File:** Yes **Producer:** Yes **Others:**

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Report of Compression Test Results

Client: Flood Control District of Maricopa County
2801 W Durango St
Phoenix, AZ 85009

Attn: Fred Fuller

Report Date: September 28, 2000
Project #: 0-119-000113
Project Name: Golden Eagle Park Dam (FCD1999C
Project Address: Maricopa County
, AZ

Project Mgr: Alf Wold
Architect:
Engineer:
PO Number:

Specimen Type: *CONCRETE* *ASTM-C39*

Mix and Field Data

Cast Date: 08/31/2000 **Contractor:**

Placement: Flood wall, sta. 40+60 - 40+30.

Strength (f'c): Required : 4000 psi @ 28 Days **Technician:** Matt Manthey

Mix ID: 340145
Supplier: Maricopa Ready Mix
Load #: 1 of 2
Truck #: 135
Ticket #: 99566
Plant #:
Batch Size: 5
Water:
Admixture:

	Actual	Specs.
Slump (inches) ASTM C-143:	3.00	4 max
Air Content (%) ASTM C-231:	5.00	3-6
Unit Weight (pcf) ASTM C-138:		
Concrete Temp. (°F):	83	<90
Ambient Temp. (°F):	82	
Weather:	Sunny/cool	

Time

Batch Time: 7:11
Sample Time: 7:55
Finish Time: 8:20

Test Result

ID #	Spec ID	Date Rec'd	Test Date	Age (days)	Nominal Specimen Size	Actual Area (sq in)	*Compressive (lbs)*	*Strength (psi)*	Brk. Type/ Cure	% of Req'd
990460	A	09/01/2000	09/07/2000	7	6x12	28.27	103310	3650	CN	91%
	B	09/01/2000	09/07/2000	7	6x12	28.27	94040	3330	CN	83%
	C	09/01/2000	09/28/2000	28	6x12	28.27	114360	4050	CN	101%
	D	09/01/2000	09/28/2000	28	6x12	28.27	110000	3890	CN	97%
						Average of 28 Day Breaks:		3968		

Break Types -- (Cn) Cone, (CSp) Cone Split, (CSh) Cone Shear, (Sh) Shear, (Co) Columnar

Reviewed By Matt R. Vey

Distribution: **Client:** Yes **File:** Yes **Producer:** Yes **Others:**

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Report of Compression Test Results

Client: Flood Control District of Maricopa County
2801 W Durango St
Phoenix, AZ 85009

Attn: Fred Fuller

Report Date: September 18, 2000
Project #: 0-119-000113
Project Name: Golden Eagle Park Dam (FCD1999C
Project Address: Maricopa County
, AZ

Project Mgr: Alf Wold
Architect:
Engineer:
PO Number:

Specimen Type: *CONCRETE* *ASTM-C39*

Mix and Field Data

Cast Date: 09/05/2000 **Contractor:**

Placement: Concrete Flood Wall-Wall Section. Sta. 40+84 - 40+63 (21ft.).

Strength (f'c): Required : 4000 psi @ 28 Days **Technician:** Matt Manthey

Mix ID: 340145
Supplier: Maricopa Ready Mix
Load #: 1 of 2
Truck #:
Ticket #:
Plant #:
Batch Size: 4
Water:
Admixture:

	Actual	Specs.
Slump (inches) ASTM C-143:		
Air Content (%) ASTM C-231:	5.10	3-6
Unit Weight (pcf) ASTM C-138:		
Concrete Temp. (°F):		
Ambient Temp. (°F):		
Weather:		

Time

Batch Time:
Sample Time:
Finish Time:

Test Result

ID #	Spec ID	Date Rec'd	Test Date	Age (days)	Nominal Specimen Size	Actual Area (sq in)	*Compressive (lbs)*	*Strength (psi)*	Brk. Type/ Cure	% of Req'd
990492	A	09/06/2000	09/12/2000	7	6x12	28.27	108130	3820	CN	96%
	B	09/06/2000	09/12/2000	7	6x12	28.27	105180	3720	CN	93%
	C	09/06/2000	10/03/2000	28	6x12	28.27				
	D	09/06/2000	10/03/2000	28	6x12	28.27				

Average of 28 Day Breaks:

Break Types -- (Cn) Cone, (CSp) Cone Split, (CSh) Cone Shear, (Sh) Shear, (Co) Columnar

Reviewed By Matt D. Vy

Distribution: **Client:** Yes **File:** Yes **Producer:** Yes **Others:**

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Report of Compression Test Results

Client: Flood Control District of Maricopa County
2801 W Durango St
Phoenix, AZ 85009

Attn: Fred Fuller

Report Date: October 4, 2000
Project #: 0-119-000113
Project Name: Golden Eagle Park Dam (FCD1999C
Project Address: Maricopa County
, AZ

Project Mgr: Alf Wold
Architect:
Engineer:
PO Number:

Specimen Type: *CONCRETE* *ASTM-C39*

Mix and Field Data

Cast Date: 09/05/2000 **Contractor:**

Placement: Concrete Flood Wall-Wall Section. Sta. 40+84 - 40+63 (21ft.).

Strength (f'c): Required : 4000 psi @ 28 Days **Technician:** Matt Manthey

Mix ID: 340145
Supplier: Maricopa Ready Mix
Load #: 1 of 2
Truck #:
Ticket #:
Plant #:
Batch Size: 4
Water:
Admixture:

	Actual	Specs.
Slump (inches) ASTM C-143:		
Air Content (%) ASTM C-231:	5.10	3-6
Unit Weight (pcf) ASTM C-138:		
Concrete Temp. (°F):		
Ambient Temp. (°F):		
Weather:		

Time

Batch Time:
Sample Time:
Finish Time:

Test Result

ID #	Spec ID	Date Rec'd	Test Date	Age (days)	Nominal Specimen Size	Actual Area (sq in)	*Compressive (lbs)*	*Strength (psi)*	Brk. Type/ Cure	% of Req'd
990492	A	09/06/2000	09/12/2000	7	6x12	28.27	108130	3820	CN	96%
	B	09/06/2000	09/12/2000	7	6x12	28.27	105180	3720	CN	93%
	C	09/06/2000	10/03/2000	28	6x12	28.27	130750	4630	CN	116%
	D	09/06/2000	10/03/2000	28	6x12	28.27	130420	4610	CN	115%
						Average of 28 Day Breaks:		**4619**		

Break Types -- (Cn) Cone, (CSp) Cone Split, (CSh) Cone Shear, (Sh) Shear, (Co) Columnar

Reviewed By Matt D. Va

Distribution: **Client:** Yes **File:** Yes **Producer:** Yes **Others:**

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Report of Compression Test Results

Client: Flood Control District of Maricopa County
2801 W Durango St
Phoenix, AZ 85009

Attn: Fred Fuller

Report Date: September 18, 2000
Project #: 0-119-000113
Project Name: Golden Eagle Park Dam (FCD1999C
Project Address: Maricopa County
, AZ

Project Mgr: Alf Wold
Architect:
Engineer:
PO Number:

Specimen Type: *CONCRETE* *ASTM-C39*

Mix and Field Data

Cast Date: 09/08/2000

Contractor:

Placement: Concrete Floodwall, sta. 40+33, 40+12.

Strength (f'c): Required : 4000 psi @ 28 Days

Technician: Matt Manthey

Mix ID: 340145
Supplier: Maricopa Ready Mix
Load #: 1 of 2
Truck #: 165
Ticket #: 98648
Plant #:
Batch Size: 4
Water:
Admixture:

	Actual	Specs.
Slump (inches) ASTM C-143:	2.00	4 max
Air Content (%) ASTM C-231:	5.00	3-6
Unit Weight (pcf) ASTM C-138:		
Concrete Temp. (°F):	83	<90
Ambient Temp. (°F):	85	
Weather:	Partly cloudy/mild	

Time

Batch Time: 7:01
Sample Time: 8:05
Finish Time: 8:20

Test Result

ID #	Spec ID	Date Rec'd	Test Date	Age (days)	Nominal Specimen Size	Actual Area (sq in)	*Compressive (lbs)*	*Strength (psi)*	Brk. Type/ Cure	% of Req'd
990545	A	09/09/2000	09/15/2000	7	6x12	28.27	95650	3380	CN	85%
	B	09/09/2000	09/15/2000	7	6x12	28.27	96900	3430	CN	86%
	C	09/09/2000	10/06/2000	28	6x12	28.27				
	D	09/09/2000	10/06/2000	28	6x12	28.27				

Average of 28 Day Breaks:

Break Types -- (Cn) Cone, (CSp) Cone Split, (CSh) Cone Shear, (Sh) Shear, (Co) Columnar

Reviewed By _____

Distribution: **Client:** Yes **File:** Yes **Producer:** Yes **Others:**

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Report of Compression Test Results

Client: Flood Control District of Maricopa County
2801 W Durango St
Phoenix, AZ 85009

OCT 5 2000

Attn: Fred Fuller

Report Date: October 9, 2000
Project #: 0-119-000113
Project Name: Golden Eagle Park Dam (FCD1999C
Project Address: Maricopa County
, AZ

Project Mgr: Alf Wold
Architect:
Engineer:
PO Number:

Specimen Type: *CONCRETE* *ASTM-C39*

Mix and Field Data

Cast Date: 09/08/2000
Contractor:

Placement: Concrete Floodwall, sta. 40+33, 40+12.

Strength (f'c): Required : 4000 psi @ 28 Days
Technician: Matt Manthey

Mix ID: 340145
Supplier: Maricopa Ready Mix
Load #: 1 of 2
Truck #: 165
Ticket #: 98648
Plant #:
Batch Size: 4
Water:
Admixture:

	Actual	Specs.
Slump (inches) ASTM C-143:	2.00	4 max
Air Content (%) ASTM C-231:	5.00	3-6
Unit Weight (pcf) ASTM C-138:		
Concrete Temp. (°F):	83	<90
Ambient Temp. (°F):	85	
Weather:	Partly cloudy/mild	

Time

Batch Time: 7:01
Sample Time: 8:05
Finish Time: 8:20

Test Result

ID #	Spec ID	Date Rec'd	Test Date	Age (days)	Nominal Specimen Size	Actual Area (sq in)	*Compressive (lbs)*	*Strength (psi)*	Brk. Type/ Cure	% of Req'd
990545	A	09/09/2000	09/15/2000	7	6x12	28.27	95650	3380	CN	85%
	B	09/09/2000	09/15/2000	7	6x12	28.27	96900	3430	CN	86%
	C	09/09/2000	10/06/2000	28	6x12	28.27	120370	4260	CN	106%
	D	09/09/2000	10/06/2000	28	6x12	28.27	126400	4470	CN	112%
						Average of 28 Day Breaks:		4365		

Break Types -- (Cn) Cone, (CSp) Cone Split, (CSh) Cone Shear, (Sh) Shear, (Co) Columnar

Reviewed By Matt Vaz

Distribution: **Client:** Yes **File:** Yes **Producer:** Yes **Others:**

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Report of Compression Test Results

Client: Flood Control District of Maricopa County
2801 W Durango St
Phoenix, AZ 85009

Attn: Fred Fuller

Report Date: September 21, 2000
Project #: 0-119-000113
Project Name: Golden Eagle Park Dam (FCD1999C
Project Address: Maricopa County
, AZ

Project Mgr: Alf Wold
Architect:
Engineer:
PO Number:

Specimen Type: *CONCRETE* *ASTM-C39*

Mix and Field Data

Cast Date: 09/14/2000 **Contractor:**

Placement: Concrete Flood Wall, Wall Section. Sta. 40+30 - 40+00.

Strength (f'c): Required : 4000 psi @ 28 Days **Technician:** Matt Manthey

Mix ID: 340145
Supplier: Maricopa Ready Mix
Load #: 1 of 2
Truck #: 107
Ticket #: 104778
Plant #:
Batch Size: 10
Water:
Admixture:

	Actual	Specs.
Slump (inches) ASTM C-143:	3.50	4 max
Air Content (%) ASTM C-231:	5.50	3-6
Unit Weight (pcf) ASTM C-138:		
Concrete Temp. (°F):	89	<90
Ambient Temp. (°F):	101	
Weather:	Sunny & hot	

Time

Batch Time: 9:25
Sample Time: 10:15
Finish Time: 10:50

Test Result

ID #	Spec ID	Date Rec'd	Test Date	Age (days)	Nominal Specimen Size	Actual Area (sq in)	*Compressive (lbs)*	*Strength (psi)*	Brk. Type/ Cure	% of Req'd
990583	A	09/15/2000	09/21/2000	7	6x12	28.27	93830	3320	CN	83%
	B	09/15/2000	09/21/2000	7	6x12	28.27	103810	3670	CN	92%
	C	09/15/2000	10/12/2000	28	6x12	28.27				
	D	09/15/2000	10/12/2000	28	6x12	28.27				

Average of 28 Day Breaks:

Break Types -- (Cn) Cone, (CSp) Cone Split, (CSh) Cone Shear, (Sh) Shear, (Co) Columnar

Reviewed By Matt D. Vey

Distribution: **Client:** Yes **File:** Yes **Producer:** Yes **Others:**

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Report of Compression Test Results

Client: Flood Control District of Maricopa County
2801 W Durango St
Phoenix, AZ 85009

2000

Attn: Fred Fuller

Report Date: October 12, 2000
Project #: 0-119-000113
Project Name: Golden Eagle Park Dam (FCD1999C
Project Address: Maricopa County
, AZ

Project Mgr: Alf Wold
Architect:
Engineer:
PO Number:

Specimen Type: *CONCRETE* *ASTM-C39*

Mix and Field Data

Cast Date: 09/14/2000 **Contractor:**

Placement: Concrete Flood Wall, Wall Section. Sta. 40+30 - 40+00.

Strength (f'c): Required : 4000 psi @ 28 Days **Technician:** Matt Manthey

Mix ID: 340145
Supplier: Maricopa Ready Mix
Load #: 1 of 2
Truck #: 107
Ticket #: 104778
Plant #:
Batch Size: 10
Water:
Admixture:

	Actual	Specs.
Slump (inches) ASTM C-143:	3.50	4 max
Air Content (%) ASTM C-231:	5.50	3-6
Unit Weight (pcf) ASTM C-138:		
Concrete Temp. (°F):	89	<90
Ambient Temp. (°F):	101	
Weather:	Sunny & hot	

Time

Batch Time: 9:25
Sample Time: 10:15
Finish Time: 10:50

Test Result

ID #	Spec ID	Date Rec'd	Test Date	Age (days)	Nominal Specimen Size	Actual Area (sq in)	*Compressive (lbs)*	*Strength (psi)*	Brk. Type/ Cure	% of Req'd
990583	A	09/15/2000	09/21/2000	7	6x12	28.27	93830	3320	CN	83%
	B	09/15/2000	09/21/2000	7	6x12	28.27	103810	3670	CN	92%
	C	09/15/2000	10/12/2000	28	6x12	28.27	114110	4040	CN	101%
	D	09/15/2000	10/12/2000	28	6x12	28.27	113780	4020	CN	101%
						Average of 28 Day Breaks:		4031		

Break Types -- (Cn) Cone, (CSp) Cone Split, (CSh) Cone Shear, (Sh) Shear, (Co) Columnar

Reviewed By Matt D. Vy

Distribution: **Client:** Yes **File:** Yes **Producer:** Yes **Others:**

AMEC Earth Environmental, Inc.
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Report of Compression Test Results

Client: Flood Control District of Maricopa County
2801 W Durango St
Phoenix, AZ 85009

Attn: Fred Fuller

Report Date: September 28, 2000
Project #: 0-119-000113
Project Name: Golden Eagle Park Dam (FCD1999C
Project Address: Maricopa County
, AZ

Project Mgr: Alf Wold
Architect:
Engineer:
PO Number:

Specimen Type: *CONCRETE* *ASTM-C39*

Mix and Field Data

Cast Date: 09/15/2000 **Contractor:**

Placement: Concrete Flood Wall Section. Sta. 40+57 - 40+84.

Strength (f'c): Required : 4000 psi @ 28 Days **Technician:** Matt Manthey

Mix ID: 340145
Supplier: Maricopa Ready Mix
Load #: 1 of 2
Truck #: 152
Ticket #: 104906
Plant #:
Batch Size: 10
Water:
Admixture:

	Actual	Specs.
Slump (inches) ASTM C-143:	2.75	4 max
Air Content (%) ASTM C-231:	4.60	3-6
Unit Weight (pcf) ASTM C-138:		
Concrete Temp. (°F):	86	<90
Ambient Temp. (°F):	97	
Weather:	Sunny & hot	

Time

Batch Time: 9:20
Sample Time: 10:25
Finish Time: 10:45

Test Result

ID #	Spec ID	Date Rec'd	Test Date	Age (days)	Nominal Specimen Size	Actual Area (sq in)	*Compressive (lbs)*	*Strength (psi)*	Brk. Type/ Cure	% of Req'd
990584	A	09/16/2000	09/22/2000	7	6x12	28.27	108300	3830	CN	96%
	B	09/16/2000	09/22/2000	7	6x12	28.27	104530	3700	CN	92%
	C	09/16/2000	10/13/2000	28	6x12	28.27				
	D	09/16/2000	10/13/2000	28	6x12	28.27				

Average of 28 Day Breaks:

Break Types -- (Cn) Cone, (CSp) Cone Split, (CSh) Cone Shear, (Sh) Shear, (Co) Columnar

Reviewed By Matt R. Vy

Distribution: **Client:** Yes **File:** Yes **Producer:** Yes **Others:**

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Report of Compression Test Results

Client: Flood Control District of Maricopa County
2801 W Durango St
Phoenix, AZ 85009

Attn: Fred Fuller

Report Date: October 13, 2000
Project #: 0-119-000113
Project Name: Golden Eagle Park Dam (FCD1999C
Project Address: Maricopa County
, AZ

Project Mgr: Alf Wold
Architect:
Engineer:
PO Number:

Specimen Type: *CONCRETE* *ASTM-C39*

Mix and Field Data

Cast Date: 09/15/2000 **Contractor:**

Placement: Concrete Flood Wall Section. Sta. 40+57 - 40+84.

Strength (f'c): Required : 4000 psi @ 28 Days **Technician:** Matt Manthey

Mix ID: 340145
Supplier: Maricopa Ready Mix
Load #: 1 of 2
Truck #: 152
Ticket #: 104906
Plant #:
Batch Size: 10
Water:
Admixture:

	Actual	Specs.
Slump (inches) ASTM C-143:	2.75	4 max
Air Content (%) ASTM C-231:	4.60	3-6
Unit Weight (pcf) ASTM C-138:		
Concrete Temp. (°F):	86	<90
Ambient Temp. (°F):	97	
Weather:	Sunny & hot	

Time

Batch Time: 9:20
Sample Time: 10:25
Finish Time: 10:45

Test Result

ID #	Spec ID	Date Rec'd	Test Date	Age (days)	Nominal Specimen Size	Actual Area (sq in)	*Compressive (lbs)*	*Strength (psi)*	Brk. Type/ Cure	% of Req'd
990584	A	09/16/2000	09/22/2000	7	6x12	28.27	108300	3830	CN	96%
	B	09/16/2000	09/22/2000	7	6x12	28.27	104530	3700	CN	92%
	C	09/16/2000	10/13/2000	28	6x12	28.27	116670	4130	CN	103%
	D	09/16/2000	10/13/2000	28	6x12	28.27	134370	4750	SH	119%
						Average of 28 Day Breaks:		**4440**		

Break Types -- (Cn) Cone, (CSp) Cone Split, (CSh) Cone Shear, (Sh) Shear, (Co) Columnar

Reviewed By _____

Distribution: **Client:** Yes **File:** Yes **Producer:** Yes **Others:**

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Report of Compression Test Results

Client: Flood Control District of Maricopa County
2801 W Durango St
Phoenix, AZ 85009

Attn: Fred Fuller

Report Date: September 28, 2000
Project #: 0-119-000113
Project Name: Golden Eagle Park Dam (FCD1999C
Project Address: Maricopa County
, AZ

Project Mgr: Alf Wold
Architect:
Engineer:
PO Number:

Specimen Type: *CONCRETE* *ASTM-C39*

Mix and Field Data

Cast Date: 09/19/2000

Contractor:

Placement: Flood Wall sta. 41+11 - 40+87 & 40+57 - 40+30.

Strength (f'c): Required : 4000 psi @ 28 Days

Technician: Matt Manthey

Mix ID: 340145
Supplier: Maricopa Ready Mix
Load #: 1 of 3
Truck #: 108
Ticket #: 105172
Plant #:
Batch Size: 9
Water:
Admixture:

	Actual	Specs.
Slump (inches) ASTM C-143:	2.75	4 max
Air Content (%) ASTM C-231:	5.20	3-6
Unit Weight (pcf) ASTM C-138:		
Concrete Temp. (°F):	88	<90
Ambient Temp. (°F):	96	
Weather:	Sunny & hot	

Time

Batch Time: 9:16
Sample Time: 10:15
Finish Time: 10:30

Test Result

ID #	Spec ID	Date Rec'd	Test Date	Age (days)	Nominal Specimen Size	Actual Area (sq in)	*Compressive (lbs)*	*Strength (psi)*	Brk. Type/ Cure	% of Req'd
990585	A	09/20/2000	09/26/2000	7	6x12	28.27	106640	3770	CN	94%
	B	09/20/2000	09/26/2000	7	6x12	28.27	110880	3920	CN	98%
	C	09/20/2000	10/17/2000	28	6x12	28.27				
	D	09/20/2000	10/17/2000	28	6x12	28.27				

Average of 28 Day Breaks:

Break Types -- (Cn) Cone, (CSp) Cone Split, (CSh) Cone Shear, (Sh) Shear, (Co) Columnar

Reviewed By Matt D. Vey

Distribution: **Client:** Yes **File:** Yes **Producer:** Yes **Others:**

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Report of Compression Test Results

Client: Flood Control District of Maricopa County
2801 W Durango St
Phoenix, AZ 85009

Attn: Fred Fuller

Report Date: October 27, 2000
Project #: 0-119-000113
Project Name: Golden Eagle Park Dam (FCD1999C
Project Address: Maricopa County
, AZ

Project Mgr: Alf Wold
Architect:
Engineer:
PO Number:

Specimen Type: *CONCRETE* *ASTM-C39*

Mix and Field Data

Cast Date: 09/19/2000
Contractor:

Placement: Flood Wall sta. 41+11 - 40+87 & 40+57 - 40+30.

Strength (f'c): Required : 4000 psi @ 28 Days
Technician: Matt Manthey

Mix ID: 340145
Supplier: Maricopa Ready Mix
Load #: 1 of 3
Truck #: 108
Ticket #: 105172
Plant #:
Batch Size: 9
Water:
Admixture:

	Actual	Specs.
Slump (inches) ASTM C-143:	2.75	4 max
Air Content (%) ASTM C-231:	5.20	3-6
Unit Weight (pcf) ASTM C-138:		
Concrete Temp. (°F):	88	<90
Ambient Temp. (°F):	96	
Weather:	Sunny & hot	

Time

Batch Time: 9:16
Sample Time: 10:15
Finish Time: 10:30

Test Result

ID #	Spec ID	Date Rec'd	Test Date	Age (days)	Nominal Specimen Size	Actual Area (sq in)	*Compressive (lbs)*	*Strength (psi)*	Brk. Type/ Cure	% of Req'd
990585	A	09/20/2000	09/26/2000	7	6x12	28.27	106640	3770	CN	94%
	B	09/20/2000	09/26/2000	7	6x12	28.27	110880	3920	CN	98%
	C	09/20/2000	10/17/2000	28	6x12	28.27	119340	4220	CN	106%
	D	09/20/2000	10/17/2000	28	6x12	28.27	125500	4440	CN	111%

Break Types -- (Cn) Cone, (CSp) Cone Split, (CSh) Cone Shear, (Sh) Shear, (Co) Columnar

Reviewed By _____

Distribution: **Client:** Yes **File:** Yes **Producer:** Yes **Others:**

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Fax +1 (602) 272-7239 www.amec.com

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Report of Compression Test Results

Client: Flood Control District of Maricopa County
2801 W Durango St
Phoenix, AZ 85009

Attn: Fred Fuller

Report Date: September 19, 2000
Project #: 0-119-000113
Project Name: Golden Eagle Park Dam (FCD1999C
Project Address: Maricopa County
, AZ

Project Mgr: Alf Wold
Architect:
Engineer:
PO Number:

Specimen Type: *CONCRETE* *ASTM-C39*

Mix and Field Data

Cast Date: 09/11/2000
Contractor:

Placement: Concrete cut off wall.

Strength (f'c): Required : 4000 psi @ 28 Days
Technician: Matt Manthey

Mix ID: 340145
Supplier: Maricopa Ready Mix
Load #: 1
Truck #: 110
Ticket #: 9847
Plant #:
Batch Size: 6
Water:
Admixture:

	Actual	Specs.
Slump (inches) ASTM C-143:	3.25	4 max
Air Content (%) ASTM C-231:	5.10	3-6
Unit Weight (pcf) ASTM C-138:		
Concrete Temp. (°F):	87	<90
Ambient Temp. (°F):	100	
Weather:	Sunny & hot	

Time

Batch Time: 12:03
Sample Time: 13:00
Finish Time: 13:15

Test Result

ID #	Spec ID	Date Rec'd	Test Date	Age (days)	Nominal Specimen Size	Actual Area (sq in)	*Compressive (lbs)*	*Strength (psi)*	Brk. Type/ Cure	% of Req'd
990546	A	09/12/2000	09/18/2000	7	6x12	28.27	111750	3950	CN	99%
	B	09/12/2000	09/18/2000	7	6x12	28.27	113750	4020	CN	101%
	C	09/12/2000	10/09/2000	28	6x12	28.27				
	D	09/12/2000	10/09/2000	28	6x12	28.27			HOLD	

Average of 28 Day Breaks:

Break Types -- (Cn) Cone, (CSp) Cone Split, (CSh) Cone Shear, (Sh) Shear, (Co) Columnar

Reviewed By Mark D. Vey

Distribution: **Client:** Yes **File:** Yes **Producer:** Yes **Others:**

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Report of Compression Test Results

Client: Flood Control District of Maricopa County
2801 W Durango St
Phoenix, AZ 85009

Attn: Fred Fuller

Report Date: October 9, 2000
Project #: 0-119-000113
Project Name: Golden Eagle Park Dam (FCD1999C
Project Address: Maricopa County
, AZ

Project Mgr: Alf Wold
Architect:
Engineer:
PO Number:

Specimen Type: *CONCRETE* *ASTM-C39*

Mix and Field Data

Cast Date: 09/11/2000

Contractor:

Placement: Concrete cut off wall.

Strength (f'c): Required : 4000 psi @ 28 Days

Technician: Matt Manthey

Mix ID: 340145
Supplier: Maricopa Ready Mix
Load #: 1
Truck #: 110
Ticket #: 9847
Plant #:
Batch Size: 6
Water:
Admixture:

	Actual	Specs.
Slump (inches) ASTM C-143:	3.25	4 max
Air Content (%) ASTM C-231:	5.10	3-6
Unit Weight (pcf) ASTM C-138:		
Concrete Temp. (°F):	87	<90
Ambient Temp. (°F):	100	
Weather:	Sunny & hot	

Time

Batch Time: 12:03
Sample Time: 13:00
Finish Time: 13:15

Test Result

ID #	Spec ID	Date Rec'd	Test Date	Age (days)	Nominal Specimen Size	Actual Area (sq in)	*Compressive (lbs)*	*Strength (psi)*	Brk. Type/ Cure	% of Req'd
990546	A	09/12/2000	09/18/2000	7	6x12	28.27	111750	3950	CN	99%
	B	09/12/2000	09/18/2000	7	6x12	28.27	113750	4020	CN	101%
	C	09/12/2000	10/09/2000	28	6x12	28.27	141260	5000	CN	125%
	D	09/12/2000	10/09/2000	28	6x12	28.27	145950	5160	CN	129%
						Average of 28 Day Breaks:		5080		

Break Types -- (Cn) Cone, (CSp) Cone Split, (CSh) Cone Shear, (Sh) Shear, (Co) Columnar

Reviewed By Marty Di Vay

Distribution: **Client:** Yes **File:** Yes **Producer:** Yes **Others:**

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Maricopa Re[illegible]ix L.L.C. **10/16/00** **Page: 1 of 2**

Hunter Cont. - C[illegible]n Eagle Dam

PERIOD:1/1/00 to 10/16/00; Total Results:71; Specs. Below F'c:0; 28D samples < F'c: 0; Basic SD:270

Slump out of tolerance:"*" = Wet, "#" = Dry

	SLMP	7D STR.	28D STR.	P28D ex7	Air %	Cem.Cont	Fly Ash	CRSE AGG.	SAND CONT	YIELD
MAX	4.25	4260	5450	5250	5.2	646	0	1756	1273	27.91
MIN	1.50	3010	4020	4000	5.2	595	0	1703	1102	26.51
NO.	23	23	20	23	1	71	0	71	71	71
MEAN	3.12	3550	4520	4540	5.2	629	0	1728	1244	27.24
SD	0.82	300	380	300	0.0	7	0	9	19	0.32
COV%	1.04	1220	1230	960	0.0	2	0	1	3	0.03

DATE YY-MM-DD	TICKET	TRUCK NO.	PLANT	TESTER CODE	PROJECT CODE	BATCH TIME	SAMPLE	PRODUCT CODE	SLMP	7D STR.	28D STR.	P28D ex7	Air %	Cem.Cont	Fly Ash	CRSE AGG.	SAND CONT	YIELD
2000-06-27	20766	109	02			08:10		340145	0.00	0	0	0	0.0	595	0	1735	1238	27.48
2000-07-07	22259	132	02			05:02		340145	0.00	0	0	0	0.0	629	0	1720	1240	26.67
2000-07-07	22272	117	02	ELMER	GOLDEN	05:31	26959	340145	3.00	3910	4740	4900	0.0	630	0	1720	1235	27.59
2000-07-07	22279	161	02			05:46		340145	0.00	0	0	0	0.0	624	0	1727	1236	27.61
2000-07-07	22292	163	02	ELMER	GOLDEN	06:03	26958	340145	1.50	3770	5090	4760	0.0	628	0	1716	1244	27.65
2000-07-07	22297	138	02			06:22		340145	0.00	0	0	0	0.0	626	0	1731	1252	27.73
2000-07-07	22325	117	02			07:29		340145	0.00	0	0	0	0.0	627	0	1724	1239	27.62
2000-07-07	22343	161	02			07:57		340145	0.00	0	0	0	0.0	636	0	1731	1237	27.71
2000-07-10	22662	108	02			10:38		340145	0.00	0	0	0	0.0	635	0	1735	1240	27.57
2000-07-10	22667	145	02	ADAIR	GOLDEN	10:54	26990	340145	4.25	3010	4520	4000	0.0	635	0	1723	1241	27.51
2000-07-10	22676	112	02			11:11		340145	0.00	0	0	0	0.0	624	0	1735	1241	27.54
2000-07-10	22692	101	02	ADAIR	GOLDEN	11:49	26989	340145	4.00	3050	4250	4040	0.0	646	0	1735	1242	27.06
2000-07-10	22700	165	02	ADAIR	GOLDEN	12:22	26991	340145	3.50	3140	4250	4130	0.0	631	0	1731	1239	27.28
2000-07-14	23575	163	02	ADAIR	GOLDEN	03:35	27117	340145	3.50	3710	4860	4700	0.0	638	0	1737	1263	27.60
2000-07-14	23586	138	02			03:56		340145	0.00	0	0	0	0.0	631	0	1722	1254	27.42
2000-07-14	23596	153	02			04:25		340145	0.00	0	0	0	0.0	624	0	1734	1253	27.45
2000-07-14	23627	135	02	ADAIR	GOLDEN	05:16	27119	340145	4.00	3470	4400	4460	0.0	628	0	1734	1253	27.24
2000-07-14	23635	132	02			05:31		340145	0.00	0	0	0	0.0	627	0	1730	1255	27.43
2000-07-14	23640	107	02	ADAIR	GOLDEN	05:42	27120	340145	3.75	3680	4950	4670	0.0	631	0	1722	1257	27.41
2000-07-14	23648	163	02	ADAIR	GOLDEN	05:58	27116	340145	2.50	3900	5070	4890	0.0	624	0	1719	1250	27.33
2000-07-14	23658	106	02	ADAIR	GOLDEN	06:29	27118	340145	0.00	4260	5450	5250	0.0	633	0	1722	1251	27.28
2000-07-14	23665	102	02			06:44		340145	0.00	0	0	0	0.0	632	0	1715	1251	27.35
2000-07-14	23672	162	02			06:53		340145	0.00	0	0	0	0.0	625	0	1726	1238	27.00
2000-07-21	24914	101	02			02:57		340145	0.00	0	0	0	0.0	640	0	1731	1254	27.36
2000-07-21	24918	161	02			03:14		340145	0.00	0	0	0	0.0	624	0	1731	1250	27.12
2000-07-21	24924	141	02			03:33		340145	0.00	0	0	0	0.0	624	0	1727	1243	27.01
2000-07-21	24940	141	02			04:30		340145	0.00	0	0	0	0.0	644	0	1735	1243	26.98
2000-07-21	24958	161	02			04:43		340145	0.00	0	0	0	0.0	627	0	1720	1249	26.78
2000-07-21	24976	164	02			05:21		340145	0.00	0	0	0	0.0	626	0	1724	1250	26.51
2000-07-21	24983	135	02			05:41		340145	0.00	0	0	0	0.0	626	0	1742	1246	26.97
2000-07-21	24989	102	02	ADAIR	GOLDEN	06:01	27312	340145	2.75	3370	4200	4360	0.0	624	0	1735	1255	26.94
2000-07-21	24994	152	02			06:23		340145	0.00	0	0	0	0.0	630	0	1716	1251	26.98
2000-07-21	25009	141	02	ADAIR	GOLDEN	06:44	27311	340145	4.00	3520	4450	4510	0.0	626	0	1727	1247	27.02
2000-07-21	25033	162	02			07:42		340145	0.00	0	0	0	0.0	630	0	1756	1273	26.96
2000-08-02	27131	162	02	ADAIR	GOLDEN	06:25	27563	340145	3.00	3680	4390	4670	0.0	625	0	1723	1253	26.90
2000-08-02	27150	108	02			07:01		340145	0.00	0	0	0	0.0	625	0	1718	1246	26.88
2000-08-07	27920	139	02	ADAIR	GOLDEN	06:32	27701	340145	2.50	3410	4030	4400	0.0	629	0	1724	1242	26.85
2000-08-11	28959	135	02			04:59		340145	0.00	0	0	0	0.0	627	0	1729	1249	26.97
2000-08-11	29004	139	02	ADAIR	GOLDEN	06:50	27865	340145	3.50	3450	4470	4440	0.0	630	0	1703	1102	26.76
2000-08-15	29473	138	02	ADAIR	GOLDEN	04:27	27887	340145	1.75	3480	0	4470	0.0	629	0	1735	1237	26.93
2000-08-21	30650	105	02	ADAIR	GOLDEN	06:10	28028	340145	4.00	0	4320	0	0.0	625	0	1716	1235	26.90
2000-08-21	30658	152	02			06:41		340145	0.00	0	0	0	0.0	627	0	1723	1242	26.94
2000-08-21	30672	134	02			07:09		340145	0.00	0	0	0	0.0	637	0	1729	1240	26.96
2000-08-22	30868	152	02			04:51		340145	0.00	0	0	0	0.0	627	0	1731	1244	27.15
2000-08-22	30873	165	02			04:57		340145	0.00	0	0	0	0.0	627	0	1739	1250	27.17
2000-08-22	30885	113	02			05:15		340145	0.00	0	0	0	0.0	639	0	1727	1240	27.18
2000-08-22	30896	164	02			05:47		340145	0.00	0	0	0	0.0	626	0	1731	1242	27.22
2000-08-22	30918	152	02			06:43		340145	0.00	0	0	0	0.0	636	0	1727	1237	27.15
2000-08-25	31722	135	02			03:51		340145	0.00	0	0	0	0.0	629	0	1724	1239	27.58

2000-08-25	3172[illegible]	108	02			04:08		340145	[illegible]00	0	0	0	0.0	631	0	1739	1247	[illegible]91
2000-08-25	31738	132	02			04:32		340145	|0.00	0	0	0	0.0	635	0	1731	1242	27.65
2000-08-25	31745	101	02	ADAIR	GOLDEN	04:46	28262	340145	|1.75	3720	4350	4710	0.0	625	0	1731	1241	27.62
2000-08-25	31754	161	02			04:55		340145	|0.00	0	0	0	0.0	630	0	1720	1244	27.77
2000-08-25	31759	107	02			04:59		340145	|0.00	0	0	0	0.0	629	0	1742	1253	27.86
2000-08-25	31784	135	02			05:56		340145	|0.00	0	0	0	0.0	625	0	1724	1248	27.35
2000-08-25	31790	162	02			06:09		340145	|0.00	0	0	0	0.0	638	0	1727	1240	27.70
2000-08-25	31797	132	02	ADAIR	GOLDEN	06:24	28263	340145	|4.25	3140	4170	4130	0.0	634	0	1739	1240	27.28
2000-08-25	31805	101	02			06:41		340145	|0.00	0	0	0	0.0	628	0	1739	1252	27.05
2000-08-25	31811	113	02			06:54		340145	|0.00	0	0	0	0.0	624	0	1724	1240	26.79
2000-08-30	32610	112	02	JENSEN	GOLDEN	06:28	28402	340145	|2.25	3740	4470	4730	0.0	632	0	1724	1247	27.24
2000-08-30	32642	139	02			07:31		340145	|0.00	0	0	0	0.0	630	0	1725	1238	27.00
2000-08-31	32896	135	02	JENSEN	GOLDEN	06:44	28403	340145	|3.00	3340	4020	4330	0.0	624	0	1735	1254	27.42
2000-08-31	32907	139	02			07:24		340145	|0.00	0	0	0	0.0	626	0	1731	1238	27.18
2000-09-11	34694	110	02			11:32		340145	|0.00	0	0	0	0.0	627	0	1733	1247	26.69
2000-09-14	35459	107	02	ADAIR	GOLDEN	09:02	28714	340145	|3.50	3580	0	4570	0.0	626	0	1716	1243	27.32
2000-09-14	35503	153	02			10:32		340145	|0.00	0	0	0	0.0	627	0	1733	1239	27.38
2000-09-15	35761	152	02	ADAIR	GOLDEN	09:10	28759	340145	|2.75	3750	0	4740	0.0	624	0	1720	1240	27.35
2000-09-15	35793	101	02			10:15		340145	|0.00	0	0	0	0.0	627	0	1747	1263	27.03
2000-09-19	36307	108	02	ADAIR	GOLDEN	08:48	28815	340145	|2.75	3510	0	4500	5.2	626	0	1733	1241	26.98
2000-09-19	36325	135	02			09:23		340145	|0.00	0	0	0	0.0	627	0	1733	1248	27.57
2000-09-19	36355	113	02			10:30		340145	|0.00	0	0	0	0.0	636	0	1728	1242	27.42

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Report of Compression Test Results

Client: Flood Control District of Maricopa County
2801 W. Durango Street
Phoenix, AZ 85009

Attn: Freidrich Huber

Report Date: December 11, 2000
Project #: 0-119-000113
Project Name: Golden Eagle Park Dam (FCD1999C
Project Address: Maricopa County
, AZ

Project Mgr: Alf Wold
Architect:
Engineer:
PO Number:

Specimen Type: *CONCRETE* *ASTM-C39*

Mix and Field Data

Cast Date: 11/21/2000 **Contractor:** Hunter

Placement: CONCRETE CUTTOFF WALL-WEST OF GABIONS

Strength (f'c): Required : 4000 psi @ 28 Days **Technician:** Matt Manthey

Mix ID: 340145
Supplier: Maricopa Ready Mix
Load #: 3 OF 3
Truck #: 115
Ticket #: 116228
Plant #:
Batch Size: 10.5
Water:
Admixture:

	Actual	Specs.
Slump (inches) ASTM C-143:	2.00	4
Air Content (%) ASTM C-231:	5.00	3-6
Unit Weight (pcf) ASTM C-138:		
Concrete Temp. (°F):	77	<90
Ambient Temp. (°F):	72	
Weather:	SUNNY-MILD	

Time

Batch Time: 1:18
Sample Time: 2:15
Finish Time: 2:30

Test Result

ID #	Spec ID	Date Rec'd	Test Date	Age (days)	Nominal Specimen Size	Actual Area (sq in)	*Compressive (lbs)*	*Strength (psi)*	Brk. Type/ Cure	% of Req'd
990928	A	11/22/2000	11/28/2000	7	6x12	28.27	124830	4420	CN	110%
	B	11/22/2000	11/28/2000	7	6x12	28.27	122950	4350	CN	109%
	C	11/22/2000	12/19/2000	28	6x12	28.27				
	D	11/22/2000	12/19/2000	28	6x12	28.27				

Break Types -- (Cn) Cone, (CSp) Cone Split, (CSh) Cone Shear, (Sh) Shear, (Co) Columnar

Reviewed By Matt D. Vy

Distribution: **Client:** Yes **File:** Yes **Producer:** Yes **Others:**

AMEC Earth Environmental, Inc.
3232 West Virginia Ave.
Phoenix, Arizona 85009
Tel +1 (602) 272-6848
Fax +1 (602) 272-7239
www.amec.com

amec

Report of Compression Test Results

Client: Flood Control District of Maricopa County
2801 W. Durango Street
Phoenix, AZ 85009

Attn: Freidrich Huber

Report Date: December 12, 2000
Project #: 0-119-000113
Project Name: Golden Eagle Park Dam (FCD1999C
Project Address: Maricopa County
, AZ

Project Mgr: Alf Wold
Architect:
Engineer:
PO Number:

Specimen Type: *CONCRETE* *ASTM-C39*

Mix and Field Data

Cast Date: 12/04/2000 **Contractor:** Hunter

Placement: CONCRETE SIDEWALK ALONG UPSTREAM SIDE OF DAM

Strength (f'c): Required : 2500 psi @ 28 Days **Technician:** Matt Manthey

Mix ID: 225400
Supplier: Maricopa Ready Mix
Load #: 1 OF 2
Truck #: 138
Ticket #: 116997
Plant #:
Batch Size: 10.5CY
Water:
Admixture:

	Actual	Specs.
Slump (inches) ASTM C-143:	3.25	
Air Content (%) ASTM C-231:		
Unit Weight (pcf) ASTM C-138:		
Concrete Temp. (°F):	70	<90
Ambient Temp. (°F):	63	
Weather:	SUNNY-MILD	

Time

Batch Time: 9:10
Sample Time: 10:05
Finish Time:

Test Result

ID #	Spec ID	Date Rec'd	Test Date	Age (days)	Nominal Specimen Size	Actual Area (sq in)	*Compressive (lbs)*	*Strength (psi)*	Brk. Type/ Cure	% of Req'd
991019	A	12/05/2000	12/11/2000	7	6x12	28.27	74390	2630	CN	105%
	B	12/05/2000	12/11/2000	7	6x12	28.27	70690	2500	CN	100%
	C	12/05/2000	01/01/2001	28	6x12	28.27				
	D	12/05/2000	01/01/2001	28	6x12	28.27				

Average of 28 Day Breaks:

Break Types -- (Cn) Cone, (CSp) Cone Split, (CSh) Cone Shear, (Sh) Shear, (Co) Columnar

Reviewed By Matt R. Vy

Distribution: **Client:** Yes **File:** Yes **Producer:** Yes **Others:**

AMEC Earth Environmental, Inc.
3232 West Virginia Ave.
Phoenix, Arizona 85009
Tel +1 (602) 272-6848
Fax +1 (602) 272-7239 www.amec.com

amec

Report of Compression Test Results

Client: Flood Control District of Maricopa County
2801 W. Durango Street
Phoenix, AZ 85009

Attn: Freidrich Huber

RECEIVED
JAN 16 2001
STANTEC

Report Date: January 11, 2001
Project #: 0-119-000113
Project Name: Golden Eagle Park Dam (FCD1999C
Project Address: Maricopa County
, AZ

Project Mgr: Alf Wold
Architect:
Engineer:
PO Number:

Specimen Type: *CONCRETE* *ASTM-C39*

Mix and Field Data

Cast Date: 12/13/2000

Contractor: Hunter

Placement: SIDEWALK NEAR GABIONS STATION 9+00

Strength (f'c): Required : 2500 psi @ 28 Days

Technician: Matt Manthey

Mix ID: 225400
Supplier: Maricopa Ready Mix
Load #: 1 OF 2
Truck #: 141
Ticket #: 117735
Plant #:
Batch Size: 10CY
Water: NONE
Admixture: NONE

	Actual	Specs.
Slump (inches) ASTM C-143:	4.75	
Air Content (%) ASTM C-231:		
Unit Weight (pcf) ASTM C-138:		
Concrete Temp. (°F):	65	<90
Ambient Temp. (°F):	52	
Weather:	PARTLY CLOUDY/COOL	

Time

Batch Time: 9:19
Sample Time: 10:20
Finish Time: 10:35

Test Result

ID #	Spec ID	Date Rec'd	Test Date	Age (days)	Nominal Specimen Size	Actual Area (sq in)	*Compressive (lbs)*	*Strength (psi)*	Brk. Type/ Cure	% of Req'd
991085	A	12/14/2000	12/20/2000	7	6x12	28.27	73000	2580	CN	103%
	B	12/14/2000	12/20/2000	7	6x12	28.27	73230	2590	CN	104%
	C	12/14/2000	01/10/2001	28	6x12	28.27	101000	3570	CN	143%
	D	12/14/2000	01/10/2001	28	6x12	28.27	112460	3980	CN	159%
						Average of 28 Day Breaks:		3775		

Break Types -- (Cn) Cone, (CSp) Cone Split, (CSh) Cone Shear, (Sh) Shear, (Co) Columnar

Reviewed By Matt Di Vu

Distribution: **Client:** Yes **File:** Yes **Producer:** Yes **Others:**

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Phoenix, Arizona 85009
Tel +1 (602) 272-6848
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www.amec.com

CONTRACTOR CONCRETE TESTS

MARICOPA READY MIX

CUSTOMER: Hunter Contracting **DATE:** 06/19/00

PROJECT: Golden Eagle Dam Modifications
Fountain Hills, Arizona

MIX #: 340145 **DESCRIPTION:** 4000psi Air Entrained

THE FOLLOWING IS OUR PROPOSED CONCRETE MIX DESIGN FOR THE ABOVE NOTED PROJECT. ALL QUANTITIES ARE LISTED FOR ONE CUBIC YARD NET AND AGGREGATE WEIGHTS ARE FOR AGGREGATES IN A SATURATED, SURFACE DRY CONDITION. CORRECTIONS MUST BE MADE FOR AGGREGATES THAT VARY FROM THESE MOISTURE CONDITIONS

MIX PROPORTIONS					VOLUME
Water			34gal	284 lb.	4.55 cu. ft.
Cement			ASTM C - 150 Type I/III	630 lb.	3.21 cu. ft.
Fly Ash			ASTM C - 618	0 lb.	0.00 cu. ft.
Coarse Aggregate		1 inch	ASTM C-33	951 lb.	5.75 cu. ft.
Coarse Aggregate		1/2 inch	ASTM C-33	778 lb.	4.70 cu. ft.
Coarse Aggregate		3/8 inch	ASTM C-33	0 lb.	0.00 cu. ft.
Sand			ASTM C - 33	1252 lb.	7.57 cu. ft.
WRA	WRDA 64		ASTM 394 TYPE A	27.0 oz	
AEA	DARA 1000		ENTRAINED AIR @ 4.5%	7.0 oz.	1.22 cu. ft.
HRWR			ASTM 394 TYPE F	0.0 oz.	
				TOTAL	27.0 cu. ft.

CONCRETE PROPERTIES

Water/Cementicious Ratio (by weight)	0.45
Slump (max)	4.0 inches
Air Content (+/- 1.5%) At Truck Discharge	4.5 %
Unit Weight of Mixed Concrete:	144.3 lb./cubic ft.
Mix Density	3895 lb./cubic yd.

MATERIAL	SOURCE	SPEC. GRAVITY
Cement	Arizona Portland	3.15
Fly Ash (if used)	Material Resources Technologies	2.16
1" Rock	Cemex	2.65
1/2" Rock	Cemex	2.65
Sand	Arizona San Man	2.65
Water Reducer	W.R. Grace	N/A
Air Entrainer	W.R. Grace	N/A

7400 E. McDonald, Suite 120 • Scottsdale, AZ 85250 • (602) 607-3999 • Fax (602) 607-3335

MARICOPA READY MIX

CUSTOMER: Hunter Contracting **DATE:** 05/25/00

PROJECT: Golden Eagle Park Dam Modification
Flood Control Dist. Of Maricopa Co.

MIX #: 230400 **DESCRIPTION:** 3000 PSI - MAG A

THE FOLLOWING IS OUR PROPOSED CONCRETE MIX DESIGN FOR THE ABOVE NOTED PROJECT. ALL QUANTITIES ARE LISTED FOR ONE CUBIC YARD NET AND AGGREGATE WEIGHTS ARE FOR AGGREGATES IN A SATURATED, SURFACE DRY CONDITION. CORRECTIONS MUST BE MADE FOR AGGREGATES THAT VARY FROM THESE MOISTURE CONDITIONS

MIX PROPORTIONS				VOLUME
Water		36gal	300 lb.	4.81 cu. ft.
Cement		ASTM C - 150 Type 2	442 lb.	2.25 cu. ft.
Fly Ash		ASTM C - 618	94 lb.	0.70 cu. ft.
Coarse Aggregate	1 inch	ASTM C-33	981 lb.	5.93 cu. ft.
Coarse Aggregate	1/2 inch	ASTM C-33	803 lb.	4.86 cu. ft.
Coarse Aggregate	3/8 inch	ASTM C-33	0 lb.	0.00 cu. ft.
Sand		ASTM C - 33	1346 lb.	8.14 cu. ft.
WRA	WRDA 64	ASTM 394 TYPE A	22.0 oz	
AEA	0	ENTRAPPED AIR @ 1.2%	0.0 oz.	0.32 cu. ft.
HRWR		ASTM 394 TYPE F	0.0 oz.	
			TOTAL	27.0 cu. ft.

CONCRETE PROPERTIES

Water/Cementicious Ratio (by weight)	0.560
Slump (+/- 1 inch)	4.0 inches
Air Content (+/- 1%)	1.2 %
Unit Weight of Mixed Concrete:	146.9 lb./cubic ft.
Mix Density	3966 lb./cubic yd.

MATERIAL	SOURCE	SPEC. GRAVITY
Cement	Cemex or Arizona Portland	3.15
Fly Ash (if used)	Material Resources Technologies	2.16
1" Rock	Salt River Sand and Rock	2.65
Sand	Salt River Sand and Rock	2.65
Water Reducer	W.R. Grace	N/A
Air Entrainer	W.R. Grace	N/A

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MARICOPA READY MIX

CUSTOMER: Hunter Contracting **DATE:** 05/25/00

PROJECT: Golden Eagle Park Dam Modification
Flood Control Dist. Of Maricopa Co.

MIX #: 225400 **DESCRIPTION:** 2500 PSI - MAG B

THE FOLLOWING IS OUR PROPOSED CONCRETE MIX DESIGN FOR THE ABOVE NOTED PROJECT. ALL QUANTITIES ARE LISTED FOR ONE CUBIC YARD NET AND AGGREGATE WEIGHTS ARE FOR AGGREGATES IN A SATURATED, SURFACE DRY CONDITION. CORRECTIONS MUST BE MADE FOR AGGREGATES THAT VARY FROM THESE MOISTURE CONDITIONS

MIX PROPORTIONS				VOLUME
Water		36gal	300 lb.	4.81 cu. ft.
Cement		ASTM C - 150 Type 2	400 lb.	2.04 cu. ft.
Fly Ash		ASTM C - 618	84 lb.	0.62 cu. ft.
Coarse Aggregate	1 inch	ASTM C-33	997 lb.	6.03 cu. ft.
Coarse Aggregate	1/2 inch	ASTM C-33	815 lb.	4.93 cu. ft.
Coarse Aggregate	3/8 inch	ASTM C-33	0 lb.	0.00 cu. ft.
Sand		ASTM C - 33	1366 lb.	8.26 cu. ft.
WRA	WRDA 64	ASTM 394 TYPE A	19.0 oz	
AEA	0	ENTRAPPED AIR @ 1.2%	0.0 oz.	0.32 cu. ft.
HRWR		ASTM 394 TYPE F	0.0 oz.	
			TOTAL	27.0 cu. ft.

CONCRETE PROPERTIES

Water/Cementicious Ratio (by weight)	0.620
Slump (+/- 1 inch)	4.0 inches
Air Content (+/- 1%)	1.2 %
Unit Weight of Mixed Concrete:	146.7 lb./cubic ft.
Mix Density	3962 lb./cubic yd.

MATERIAL	SOURCE	SPEC. GRAVITY
Cement	Cemex or Arizona Portland	3.15
Fly Ash (if used)	Material Resources Technologies	2.16
1" Rock	Salt River Sand and Rock	2.65
Sand	Salt River Sand and Rock	2.65
Water Reducer	W.R. Grace	N/A
Air Entrainer	W.R. Grace	N/A

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MARICOPA READY MIX

CUSTOMER: Hunter Contracting **DATE:** 05/25/00

PROJECT: Golden Eagle Park Dam Modification
Flood Control Dist. Of Maricopa Co.

MIX #: 220400 **DESCRIPTION:** 2000 PSI - MAG C

THE FOLLOWING IS OUR PROPOSED CONCRETE MIX DESIGN FOR THE ABOVE NOTED PROJECT. ALL QUANTITIES ARE LISTED FOR ONE CUBIC YARD NET AND AGGREGATE WEIGHTS ARE FOR AGGREGATES IN A SATURATED, SURFACE DRY CONDITION. CORRECTIONS MUST BE MADE FOR AGGREGATES THAT VARY FROM THESE MOISTURE CONDITIONS

MIX PROPORTIONS				VOLUME
Water		36gal	300 lb.	4.81 cu. ft.
Cement		ASTM C - 150 Type 2	357 lb.	1.82 cu. ft.
Fly Ash		ASTM C - 618	76 lb.	0.56 cu. ft.
Coarse Aggregate	1 inch	ASTM C-33	975 lb.	5.90 cu. ft.
Coarse Aggregate	1/2 inch	ASTM C-33	797 lb.	4.82 cu. ft.
Coarse Aggregate	3/8 inch	ASTM C-33	0 lb.	0.00 cu. ft.
Sand		ASTM C - 33	1450 lb.	8.77 cu. ft.
WRA	WRDA 64	ASTM 394 TYPE A	17.0 oz	
AEA	0	ENTRAPPED AIR @ 1.2%	0.0 oz.	0.32 cu. ft.
HRWR		ASTM 394 TYPE F	0.0 oz.	
			TOTAL	27.0 cu. ft.

CONCRETE PROPERTIES

Water/Cementicious Ratio (by weight)	0.693
Slump (+/- 1 inch)	4.0 inches
Air Content (+/- 1%)	1.2 %
Unit Weight of Mixed Concrete:	146.5 lb./cubic ft.
Mix Density	3955 lb./cubic yd.

MATERIAL	SOURCE	SPEC. GRAVITY
Cement	Cemex or Arizona Portland	3.15
Fly Ash (if used)	Material Resources Technologies	2.16
1" Rock	Salt River Sand and Rock	2.65
Sand	Salt River Sand and Rock	2.65
Water Reducer	W.R. Grace	N/A
Air Entrainer	W.R. Grace	N/A

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Ricker Atkinson McBee & Assoc., Inc.
2105 S. Hardy Drive, Suite 13
Tempe, AZ 85282-1924

Geotechnical Engineering
Construction Materials Testing
Phone (480) 921-8100
Fax (480) 921-4081

LABORATORY/FIELD CONCRETE TEST RESULTS

(ASTM C31, C39)

Project: **Golden Eagle Park Dam Modifications**
Location: Golden Eagle Blvd., Fountain Hills

Client: Hunter Contracting
Attn: Bob Carlson
701 N. Cooper Road
Gilbert AZ 85234

Sample Source: Footing, Stemwall @ Sta. 10+80

Project No.: T05354
Report/Set No.: 2
Report Date: 07-Jul-00
Lab No.: 26863

Sampled By: RAM/Adair
Date Sampled: 06/29/2000
Submitted By: RAM/Adair
Date Submitted: 06/30/2000

Results:

Supplier: Maricopa Ready Mix #2
Ticket No.: 21240
Truck No.: 107
Batch Size: 7 cy
Mix ID: 230400
Concrete Mix Design Strength: psi @ 14 days; **3000** psi @ 28 days

Slump (ASTM C143): 4.25 inches
Concrete Temp. (ASTM C1064): 80 deg. F
Ambient Temperature: 95 deg. F
Air Content (ASTM C231): N/A %
Unit Weight (ASTM C138): N/A pcf
No. of Samples Prepared: 4
Nominal Sample Size: 4 x 8

Time Batched: 7:10 AM
Time Sampled:

Water Added Before Test: 0 gallons
Water Added After Test: 0 gallons
Time in Mixer: minutes

Lab No.	Date Tested	Age (days)	Cyl. Dia. (in.)	Maximum Load (lbf)	Cross-Sectional Area (sq. in.)	Compressive Strength (psi)	Failure Type	Tested By
26863 A	07/06/2000	7	4.02	38125	12.69	**3000**	Cone	DC

Comments:

Remarks:

Distribution:
(2) Addressee Attn:
(1) Supplier Attn:

Respectfully submitted,

Shawn C. Morman, E.I.T.
Technical Services Director

Ricker Atkinson McBee & Assoc., Inc.
2105 S. Hardy Drive, Suite 13
Tempe, AZ 85282-1924

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LABORATORY/FIELD CONCRETE TEST RESULTS

(ASTM C31, C39)

Project: **Golden Eagle Park Dam Modifications**
Location: Golden Eagle Blvd., Fountain Hills

Client: Hunter Contracting
Attn: Bob Carlson
701 N. Cooper Road
Gilbert AZ 85234

Sample Source: Footing, Stemwall @ Sta. 10+80

Project No.: T05354
Report/Set No.: 2
Report Date: 07-Jul-00
Lab No.: 26863

Sampled By: RAM/ Adair
Date Sampled: 06/29/2000
Submitted By: RAM/ Adair
Date Submitted: 06/30/2000

Results:

Supplier: Maricopa Ready Mix #2
Ticket No.: 21240
Truck No.: 107
Batch Size: 7 cy
Mix ID: 230400
Concrete Mix psi @ 14 days
Design Strength: **3000** psi @ 28 days

Slump (ASTM C143): 4.25 inches
Concrete Temp. (ASTM C1064): 80 deg. F
Ambient Temperature: 95 deg. F
Air Content (ASTM C231): N/A %
Unit Weight (ASTM C138): N/A pcf
No. of Samples Prepared: 4
Nominal Sample Size: 4 x 8

Water Added Before Test: 0 gallons
Water Added After Test: 0 gallons
Time in Mixer: minutes

Time Batched: 7:10 AM
Time Sampled:

Lab No.	Date Tested	Age (days)	Cyl. Dia. (in.)	Maximum Load (lbf)	Cross-Sectional Area (sq. in.)	Compressive Strength (psi)	Failure Type	Tested By
26863 A	07/06/2000	7	4.02	38125	12.69	**3000**	Cone	DC

Comments:

Remarks:

Distribution:
(2) Addressee Attn:
(1) Supplier Attn:

Respectfully submitted,

Shawn C. Morman, E.I.T.
Technical Services Director

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LABORATORY/FIELD CONCRETE TEST RESULTS

(ASTM C31, C39)

Project: **Golden Eagle Park Dam Modifications**
Location: Golden Eagle Blvd., Fountain Hills

Client: Hunter Contracting
Attn: Bob Carlson
701 N. Cooper Road
Gilbert AZ 85234

Sample Source: Stemwall Footing at Line 10+80

Project No.: T05354
Report/Set No.: 1
Report Date: 07-Jul-00
Lab No.: 26865

Sampled By: RAM/ Adair
Date Sampled: 06/29/2000
Submitted By: RAM/ Adair
Date Submitted: 06/30/2000

Results:

Supplier: Maricopa Ready Mix #2
Ticket No.: 21219
Truck No.: 62
Batch Size: 9 cy
Mix ID: 230400
Concrete Mix psi @ 14 days
Design Strength: **3000** psi @ 28 days

Slump (ASTM C143): 4.75 inches
Concrete Temp. (ASTM C1064): 80 deg. F
Ambient Temperature: 95 deg. F
Air Content (ASTM C231): N/A %
Unit Weight (ASTM C138): N/A pcf
No. of Samples Prepared: 4
Nominal Sample Size: 4 x 8

Time Batched: 6:30 AM
Time Sampled: 7:30 AM

Water Added Before Test: 0 gallons
Water Added After Test: 0 gallons
Time in Mixer: 60 minutes

Lab No.	Date Tested	Age (days)	Cyl. Dia. (in.)	Maximum Load (lbf)	Cross-Sectional Area (sq. in.)	Compressive Strength (psi)	Failure Type	Tested By
26865 A	07/06/2000	7	4.01	34715	12.63	**2750**	Cone	DC

Comments:

Remarks:

Distribution:
(2) Addressee Attn:
(1) Supplier Attn:

Respectfully submitted,

Shawn C. Morman, E.I.T.
Technical Services Director

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LABORATORY/FIELD CONCRETE TEST RESULTS

(ASTM C31, C39)

Project: **Golden Eagle Park Dam Modifications**
Location: Golden Eagle Blvd., Fountain Hills

Client: Hunter Contracting
Attn: Bob Carlson
701 N. Cooper Road
Gilbert AZ 85234

Sample Source: Stemwall Footing at Line 10+80

Project No.: T05354
Report/Set No.: 1
Report Date: 28-Jul-00
Lab No.: 26865

Sampled By: RAM/ Adair
Date Sampled: 06/29/2000
Submitted By: RAM/ Adair
Date Submitted: 06/30/2000

Results:

Supplier: Maricopa Ready Mix #2
Ticket No.: 21219
Truck No.: 62
Batch Size: 9 cy
Mix ID: 230400
Concrete Mix psi @ 14 days
Design Strength: **3000** psi @ 28 days

Slump (ASTM C143): 4.75 inches
Concrete Temp. (ASTM C1064): 80 deg. F
Ambient Temperature: 95 deg. F
Air Content (ASTM C231): N/A %
Unit Weight (ASTM C138): N/A pcf
No. of Samples Prepared: 4
Nominal Sample Size: 4 x 8

Water Added Before Test: 0 gallons
Water Added After Test: 0 gallons
Time in Mixer: 60 minutes

Time Batched: 6:30 AM
Time Sampled: 7:30 AM

Lab No.	Date Tested	Age (days)	Cyl. Dia. (in.)	Maximum Load (lbf)	Cross-Sectional Area (sq. in.)	Compressive Strength (psi)	Failure Type	Tested By
26865 A	07/06/2000	7	4.01	34715	12.63	**2750**	Cone	DC
26865 B	07/27/2000	28	3.99	51440	12.50	**4110**	Cone	BW
26865 C	07/27/2000	28	4.00	51970	12.57	**4140**	Cone	BW

Comments:

Remarks:

Material meets the design 28 day compressive strength.

Distribution:
(2) Addressee Attn:
(1) Supplier Attn:

Respectfully submitted,

Shawn C. Morman, E.I.T.
Technical Services Director

Ricker Atkinson McBee & Assoc., Inc.
2105 S. Hardy Drive, Suite 13
Tempe, AZ 85282-1924

Geotechnical Engineering
Construction Materials Testing
Phone (480) 921-8100
Fax (480) 921-4081

LABORATORY/FIELD CONCRETE TEST RESULTS

(ASTM C31, C39)

Project: **Golden Eagle Park Dam Modifications**
Location: Golden Eagle Blvd., Fountain Hills

Client: Hunter Contracting
Attn: Bob Carlson
701 N. Cooper Road
Gilbert AZ 85234

Sample Source: Footing, Stemwall @ Sta. 10+80

Project No.: T05354
Report/Set No.: 2
Report Date: 28-Jul-00
Lab No.: 26863

Sampled By: RAM/ Adair
Date Sampled: 06/29/2000
Submitted By: RAM/ Adair
Date Submitted: 06/30/2000

Results:

Supplier: Maricopa Ready Mix #2
Ticket No.: 21240
Truck No.: 107
Batch Size: 7 cy
Mix ID: 230400
Concrete Mix psi @ 14 days
Design Strength: **3000** psi @ 28 days

Slump (ASTM C143): 4.25 inches
Concrete Temp. (ASTM C1064): 80 deg. F
Ambient Temperature: 95 deg. F
Air Content (ASTM C231): N/A %
Unit Weight (ASTM C138): N/A pcf
No. of Samples Prepared: 4
Nominal Sample Size: 4 x 8

Water Added Before Test: 0 gallons
Water Added After Test: 0 gallons
Time in Mixer: minutes

Time Batched: 7:10 AM
Time Sampled:

Lab No.	Date Tested	Age (days)	Cyl. Dia. (in.)	Maximum Load (lbf)	Cross-Sectional Area (sq. in.)	Compressive Strength (psi)	Failure Type	Tested By
26863 A	07/06/2000	7	4.02	38125	12.69	**3000**	Cone	DC
26863 B	07/27/2000	28	4.00	54990	12.57	**4380**	Cone	DC
26863 C	07/27/2000	28	4.01	53485	12.63	**4230**	Cone	DC

Comments:

Remarks:

Material meets the design 28 day compressive strength.

Distribution:
(2) Addressee Attn:
(1) Supplier Attn:

Respectfully submitted,

Shawn C. Morman, E.I.T.
Technical Services Director

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LABORATORY/FIELD CONCRETE TEST RESULTS

(ASTM C31, C39)

Project: **Golden Eagle Park Dam Modifications**
Location: Golden Eagle Blvd., Fountain Hills

Client: Hunter Contracting
Attn: Bob Carlson
701 N. Cooper Road
Gilbert AZ 85234

Sample Source: Box Cover Base, West Side, Sta. 2+95

Project No.: T05354
Report/Set No.: 3
Report Date: 19-Jul-00
Lab No.: 26959

Sampled By: RAM/Elmer
Date Sampled: 07/07/2000
Submitted By: RAM/Adair
Date Submitted: 07/11/2000

Results:

Supplier: Maricopa Ready Mix #2
Ticket No.: 22272
Truck No.: 117
Batch Size: 10 cy
Mix ID: 340145
Concrete Mix Design Strength: psi @ 14 days; **4000** psi @ 28 days

Slump (ASTM C143): 3 inches
Concrete Temp. (ASTM C1064): 85 deg. F
Ambient Temperature: 93 deg. F
Air Content (ASTM C231): 5.3 %
Unit Weight (ASTM C138): N/A pcf
No. of Samples Prepared: 4
Nominal Sample Size: 6x12

Time Batched: 5:45 AM
Time Sampled: 6:45 AM

Water Added Before Test: 0 gallons
Water Added After Test: 0 gallons
Time in Mixer: 60 minutes

Lab No.	Date Tested	Age (days)	Cyl. Dia. (in.)	Maximum Load (lbf)	Cross-Sectional Area (sq. in.)	Compressive Strength (psi)	Failure Type	Tested By
26959 A	07/14/2000	7	6.00	110430	28.27	**3910**	Cone	CW

Comments:

Remarks:

Distribution:
(2) Addressee Attn:
(1) Supplier Attn:

Respectfully submitted,

Shawn C. Morman, E.I.T.
Technical Services Director

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LABORATORY/FIELD CONCRETE TEST RESULTS

(ASTM C31, C39)

Project: **Golden Eagle Park Dam Modifications**
Location: Golden Eagle Blvd., Fountain Hills

Client: Hunter Contracting
Attn: Bob Carlson
701 N. Cooper Road
Gilbert AZ 85234

Sample Source: Box Cover Base, West Side, Sta. 2+95

Project No.: T05354
Report/Set No.: 3
Report Date: 19-Jul-00
Lab No.: 26959

Sampled By: RAM/Elmer
Date Sampled: 07/07/2000
Submitted By: RAM/Adair
Date Submitted: 07/11/2000

Results:

Supplier: Maricopa Ready Mix #2
Ticket No.: 22272
Truck No.: 117
Batch Size: 10 cy
Mix ID: 340145
Concrete Mix Design Strength: psi @ 14 days
4000 psi @ 28 days

Slump (ASTM C143): 3 inches
Concrete Temp. (ASTM C1064): 85 deg. F
Ambient Temperature: 93 deg. F
Air Content (ASTM C231): 5.3 %
Unit Weight (ASTM C138): N/A pcf
No. of Samples Prepared: 4
Nominal Sample Size: 6x12

Water Added Before Test: 0 gallons
Water Added After Test: 0 gallons
Time in Mixer: 60 minutes

Time Batched: 5:45 AM
Time Sampled: 6:45 AM

Lab No.	Date Tested	Age (days)	Cyl. Dia. (in.)	Maximum Load (lbf)	Cross-Sectional Area (sq. in.)	Compressive Strength (psi)	Failure Type	Tested By
26959 A	07/14/2000	7	6.00	110430	28.27	**3910**	Cone	CW

Comments:

Remarks:

Distribution:
(2) Addressee Attn:
(1) Supplier Attn:

Respectfully submitted,

Shawn C. Morman, E.I.T.
Technical Services Director

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LABORATORY/FIELD CONCRETE TEST RESULTS

(ASTM C31, C39)

Project: **Golden Eagle Park Dam Modifications**
Location: Golden Eagle Blvd., Fountain Hills

Client: Hunter Contracting
Attn: Bob Carlson
701 N. Cooper Road
Gilbert AZ 85234

Sample Source: Box Cover Base, West Side, Sta. 2+95

Project No.: T05354
Report/Set No.: 3
Report Date: 07-Aug-00
Lab No.: 26959

Sampled By: RAM/Elmer
Date Sampled: 07/07/2000
Submitted By: RAM/Adair
Date Submitted: 07/11/2000

Results:

Supplier:	Maricopa Ready Mix #2	Slump (ASTM C143):	3	inches
Ticket No.:	22272	Concrete Temp. (ASTM C1064):	85	deg. F
Truck No.:	117	Ambient Temperature:	93	deg. F
Batch Size:	10 cy	Air Content (ASTM C231):	5.3	%
Mix ID:	340145	Unit Weight (ASTM C138):	N/A	pcf
Concrete Mix	psi @ 14 days	No. of Samples Prepared:	4	
Design Strength:	**4000** psi @ 28 days	Nominal Sample Size:	6x12	
		Water Added Before Test:	0	gallons
Time Batched:	5:45 AM	Water Added After Test:	0	gallons
Time Sampled:	6:45 AM	Time in Mixer:	60	minutes

Lab No.	Date Tested	Age (days)	Cyl. Dia. (in.)	Maximum Load (lbf)	Cross-Sectional Area (sq. in.)	Compressive Strength (psi)	Failure Type	Tested By
26959 A	07/14/2000	7	6.00	110430	28.27	**3910**	Cone	CW
26959 B	08/04/2000	28	6.01	134695	28.37	**4750**	Cone	BW
26959 C	08/04/2000	28	6.01	134035	28.37	**4720**	Cone	BW

Comments:

Remarks:

Material meets the design 28 day compressive strength.

Distribution:
(2) Addressee Attn:
(1) Supplier Attn:

Respectfully submitted,

Shawn C. Morman, E.I.T.
Technical Services Director

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LABORATORY/FIELD CONCRETE TEST RESULTS

(ASTM C31, C39)

Project: **Golden Eagle Park Dam Modifications**
Location: Golden Eagle Blvd., Fountain Hills

Client: Hunter Contracting
Attn: Bob Carlson
701 N. Cooper Road
Gilbert AZ 85234

Sample Source: Center of Box Cover Base

Project No.: T05354
Report/Set No.: 4
Report Date: 19-Jul-00
Lab No.: 26958

Sampled By: RAM/Elmer
Date Sampled: 07/07/2000
Submitted By: RAM/Adair
Date Submitted: 07/11/2000

Results:

Supplier: Maricopa Ready Mix #2
Ticket No.: 22292
Truck No.: 163
Batch Size: 10 cy
Mix ID: 340145
Concrete Mix psi @ 14 days
Design Strength: **4000** psi @ 28 days

Slump (ASTM C143): 1.5 inches
Concrete Temp. (ASTM C1064): 85 deg. F
Ambient Temperature: 98 deg. F
Air Content (ASTM C231): N/A %
Unit Weight (ASTM C138): N/A pcf
No. of Samples Prepared: 4
Nominal Sample Size: 6x12

Time Batched: 6:15 AM
Time Sampled: 7:45 AM

Water Added Before Test: 10 gallons
Water Added After Test: 0 gallons
Time in Mixer: 90 minutes

Lab No.	Date Tested	Age (days)	Cyl. Dia. (in.)	Maximum Load (lbf)	Cross-Sectional Area (sq. in.)	Compressive Strength (psi)	Failure Type	Tested By
26958 A	07/14/2000	7	6.00	106725	28.27	**3770**	Cone	CW

Comments:

Remarks:

Distribution:
(2) Addressee Attn:
(1) Supplier Attn:

Respectfully submitted,

Shawn C. Morman, E.I.T.
Technical Services Director

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LABORATORY/FIELD CONCRETE TEST RESULTS

(ASTM C31, C39)

Project: **Golden Eagle Park Dam Modifications**
Location: Golden Eagle Blvd., Fountain Hills

Client: Hunter Contracting
Attn: Bob Carlson
701 N. Cooper Road
Gilbert AZ 85234

Sample Source: Center of Box Cover Base

Project No.: T05354
Report/Set No.: 4
Report Date: 07-Aug-00
Lab No.: 26958

Sampled By: RAM/Elmer
Date Sampled: 07/07/2000
Submitted By: RAM/Adair
Date Submitted: 07/11/2000

Results:

Supplier: Maricopa Ready Mix #2
Ticket No.: 22292
Truck No.: 163
Batch Size: 10 cy
Mix ID: 340145
Concrete Mix psi @ 14 days
Design Strength: **4000** psi @ 28 days

Slump (ASTM C143): 1.5 inches
Concrete Temp. (ASTM C1064): 85 deg. F
Ambient Temperature: 98 deg. F
Air Content (ASTM C231): N/A %
Unit Weight (ASTM C138): N/A pcf
No. of Samples Prepared: 4
Nominal Sample Size: 6x12

Water Added Before Test: 10 gallons
Water Added After Test: 0 gallons
Time in Mixer: 90 minutes

Time Batched: 6:15 AM
Time Sampled: 7:45 AM

Lab No.	Date Tested	Age (days)	Cyl. Dia. (in.)	Maximum Load (lbf)	Cross-Sectional Area (sq. in.)	Compressive Strength (psi)	Failure Type	Tested By
26958A	07/14/2000	7	6.00	106725	28.27	**3770**	Cone	CW
26958B	08/04/2000	28	6.02	145480	28.46	**5110**	Cone	DC
26958C	08/04/2000	28	6.00	143680	28.27	**5080**	Cone	DC

Comments:

Remarks:

Material meets the design 28 day compressive strength.

Distribution:
(2) Addressee Attn:
(1) Supplier Attn:

Respectfully submitted,

Shawn C. Morman, E.I.T.
Technical Services Director

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LABORATORY/FIELD CONCRETE TEST RESULTS

(ASTM C31, C39)

Project: **Golden Eagle Park Dam Modifications**
Location: Golden Eagle Blvd., Fountain Hills

Client: Hunter Contracting
Attn: Bob Carlson
701 N. Cooper Road
Gilbert AZ 85234

Sample Source: Center of Box Cover Base

Project No.: T05354
Report/Set No.: 4
Report Date: 19-Jul-00
Lab No.: 26958

Sampled By: RAM/Elmer
Date Sampled: 07/07/2000
Submitted By: RAM/Adair
Date Submitted: 07/11/2000

Results:

Supplier: Maricopa Ready Mix #2
Ticket No.: 22292
Truck No.: 163
Batch Size: 10 cy
Mix ID: 340145
Concrete Mix psi @ 14 days
Design Strength: **4000** psi @ 28 days

Slump (ASTM C143): 1.5 inches
Concrete Temp. (ASTM C1064): 85 deg. F
Ambient Temperature: 98 deg. F
Air Content (ASTM C231): N/A %
Unit Weight (ASTM C138): N/A pcf
No. of Samples Prepared: 4
Nominal Sample Size: 6x12

Time Batched: 6:15 AM
Time Sampled: 7:45 AM

Water Added Before Test: 10 gallons
Water Added After Test: 0 gallons
Time in Mixer: 90 minutes

Lab No.	Date Tested	Age (days)	Cyl. Dia. (in.)	Maximum Load (lbf)	Cross-Sectional Area (sq. in.)	Compressive Strength (psi)	Failure Type	Tested By
26958 A	07/14/2000	7	6.00	106725	28.27	**3770**	Cone	CW

Comments:

Remarks:

Distribution:
(2) Addressee Attn:
(1) Supplier Attn:

Respectfully submitted,

Shawn C. Morman, E.I.T.
Technical Services Director

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LABORATORY/FIELD CONCRETE TEST RESULTS

(ASTM C31, C39)

Project: **Golden Eagle Park Dam Modifications**
Location: Golden Eagle Blvd., Fountain Hills

Client: Hunter Contracting
Attn: Bob Carlson
701 N. Cooper Road
Gilbert AZ 85234

Sample Source: Center Dam, Sta. 2+95, 9' East of Station

Project No.: T05354
Report/Set No.: 5
Report Date: 14-Jul-00
Lab No.: 26990

Sampled By: RAM/Adair
Date Sampled: 07/10/2000
Submitted By: RAM/Adair
Date Submitted: 07/13/2000

Results:

Supplier:	Maricopa Ready Mix #2	Slump (ASTM C143):	4.25	inches
Ticket No.:	22667	Concrete Temp. (ASTM C1064):	90	deg. F
Truck No.:	145	Ambient Temperature:	103	deg. F
Batch Size:	10 cy	Air Content (ASTM C231):	N/A	%
Mix ID:	340145	Unit Weight (ASTM C138):	N/A	pcf
Concrete Mix	psi @ 14 days	No. of Samples Prepared:	4	
Design Strength:	**4000** psi @ 28 days	Nominal Sample Size:	6x12	
		Water Added Before Test:	0	gallons
Time Batched:	11:07 AM	Water Added After Test:	0	gallons
Time Sampled:	12:00 PM	Time in Mixer:	53	minutes

Lab No.	Date Tested	Age (days)	Cyl. Dia. (in.)	Maximum Load (lbf)	Cross-Sectional Area (sq. in.)	Compressive Strength (psi)	Failure Type	Tested By
26990 A	07/13/2000	3	6.00	85180	28.27	**3010**	Cone	CW

Comments:

Remarks:

Distribution:
(2) Addressee Attn:
(1) Supplier Attn:

Respectfully submitted,

Shawn C. Morman, E.I.T.
Technical Services Director

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LABORATORY/FIELD CONCRETE TEST RESULTS

(ASTM C31, C39)

Project: **Golden Eagle Park Dam Modifications**
Location: Golden Eagle Blvd., Fountain Hills

Client: Hunter Contracting
Attn: Bob Carlson
701 N. Cooper Road
Gilbert AZ 85234

Sample Source: Center Dam, Sta. 2+95, 9' East of Station

Project No.: T05354
Report/Set No.: 5
Report Date: 07-Aug-00
Lab No.: 26990

Sampled By: RAM/Adair
Date Sampled: 07/10/2000
Submitted By: RAM/Adair
Date Submitted: 07/13/2000

Results:

Supplier: Maricopa Ready Mix #2
Ticket No.: 22667
Truck No.: 145
Batch Size: 10 cy
Mix ID: 340145
Concrete Mix Design Strength: psi @ 14 days; **4000** psi @ 28 days

Slump (ASTM C143): 4.25 inches
Concrete Temp. (ASTM C1064): 90 deg. F
Ambient Temperature: 103 deg. F
Air Content (ASTM C231): N/A %
Unit Weight (ASTM C138): N/A pcf
No. of Samples Prepared: 4
Nominal Sample Size: 6x12

Water Added Before Test: 0 gallons
Water Added After Test: 0 gallons
Time in Mixer: 53 minutes

Time Batched: 11:07 AM
Time Sampled: 12:00 PM

Lab No.	Date Tested	Age (days)	Cyl. Dia. (in.)	Maximum Load (lbf)	Cross-Sectional Area (sq. in.)	Compressive Strength (psi)	Failure Type	Tested By
26990 A	07/13/2000	3	6.00	85180	28.27	**3010**	Cone	CW
26990 B	08/07/2000	28	6.00	126435	28.27	**4470**	Cone	DC
26990 C	08/07/2000	28	6.00	129140	28.27	**4570**	Cone	DC

Comments:

Remarks:

Material meets the design 28 day compressive strength.

Distribution:
(2) Addressee Attn:
(1) Supplier Attn:

Respectfully submitted,

Shawn C. Morman, E.I.T.
Technical Services Director

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LABORATORY/FIELD CONCRETE TEST RESULTS

(ASTM C31, C39)

Project: **Golden Eagle Park Dam Modifications**
Location: Golden Eagle Blvd., Fountain Hills

Client: Hunter Contracting
Attn: Bob Carlson
701 N. Cooper Road
Gilbert AZ 85234

Sample Source: Station 2+95, Center of the Dam

Project No.: T05354
Report/Set No.: 6
Report Date: 07-Aug-00
Lab No.: 26989

Sampled By: RAM/Adair
Date Sampled: 07/10/2000
Submitted By: RAM/Adair
Date Submitted: 07/13/2000

Results:

Supplier: Maricopa Ready Mix #2
Ticket No.: 22692
Truck No.: 101
Batch Size: 10 cy
Mix ID: 340145
Concrete Mix psi @ 14 days
Design Strength: **4000** psi @ 28 days

Slump (ASTM C143): 4 inches
Concrete Temp. (ASTM C1064): 90 deg. F
Ambient Temperature: 103 deg. F
Air Content (ASTM C231): N/A %
Unit Weight (ASTM C138): N/A pcf
No. of Samples Prepared: 4
Nominal Sample Size: 6x12

Water Added Before Test: 0 gallons
Water Added After Test: 0 gallons
Time in Mixer: 59 minutes

Time Batched: 12:11 PM
Time Sampled: 1:10 PM

Lab No.	Date Tested	Age (days)	Cyl. Dia. (in.)	Maximum Load (lbf)	Cross-Sectional Area (sq. in.)	Compressive Strength (psi)	Failure Type	Tested By
26989 A	07/13/2000	3	6.00	86275	28.27	**3050**	Cone	CW
26989 B	08/07/2000	28	6.00	123005	28.27	**4350**	Cone	DC
26989 C	08/07/2000	28	6.01	117685	28.37	**4150**	Cone	DC

Comments:

Remarks:

Material meets the design 28 day compressive strength.

Distribution:
(2) Addressee Attn:
(1) Supplier Attn:

Respectfully submitted,

Shawn C. Morman, E.I.T.
Technical Services Director

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LABORATORY/FIELD CONCRETE TEST RESULTS

(ASTM C31, C39)

Project: **Golden Eagle Park Dam Modifications**
Location: Golden Eagle Blvd., Fountain Hills

Client: Hunter Contracting
Attn: Bob Carlson
701 N. Cooper Road
Gilbert AZ 85234

Sample Source: 5' West of Center of Dam, Sta. 2+95

Project No.: T05354
Report/Set No.: 7
Report Date: 07-Aug-00
Lab No.: 26991

Sampled By: RAM/ Adair
Date Sampled: 07/10/2000
Submitted By: RAM/ Adair
Date Submitted: 07/13/2000

Results:

Supplier: Maricopa Ready Mix #2
Ticket No.: 22700
Truck No.: 165
Batch Size: 10 cy
Mix ID: 340145
Concrete Mix Design Strength: psi @ 14 days; **4000** psi @ 28 days

Slump (ASTM C143): 3.5 inches
Concrete Temp. (ASTM C1064): 90 deg. F
Ambient Temperature: 107 deg. F
Air Content (ASTM C231): N/A %
Unit Weight (ASTM C138): N/A pcf
No. of Samples Prepared: 4
Nominal Sample Size: 6x12

Time Batched: 12:55 PM
Time Sampled: 1:40 PM

Water Added Before Test: 0 gallons
Water Added After Test: 0 gallons
Time in Mixer: 45 minutes

Lab No.	Date Tested	Age (days)	Cyl. Dia. (in.)	Maximum Load (lbf)	Cross-Sectional Area (sq. in.)	Compressive Strength (psi)	Failure Type	Tested By
26991 A	07/13/2000	3	6.00	88910	28.27	**3140**	Cone	CW
26991 B	08/07/2000	28	6.00	120140	28.27	**4250**	Cone	DC
26991 C	08/07/2000	28	6.00	119895	28.27	**4240**	Cone	DC

Comments:

Remarks:

Material meets the design 28 day compressive strength.

Distribution:
(2) Addressee Attn:
(1) Supplier Attn:

Respectfully submitted,

Shawn C. Morman, E.I.T.
Technical Services Director

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LABORATORY/FIELD CONCRETE TEST RESULTS

(ASTM C31, C39)

Project: **Golden Eagle Park Dam Modifications**
Location: Golden Eagle Blvd., Fountain Hills

Client: Hunter Contracting
Attn: Bob Carlson
701 N. Cooper Road
Gilbert AZ 85234

Sample Source: Center Dam, Sta. 2+95, 9' East of Station

Project No.: T05354
Report/Set No.: 5
Report Date: 14-Jul-00
Lab No.: 26990

Sampled By: RAM/ Adair
Date Sampled: 07/10/2000
Submitted By: RAM/ Adair
Date Submitted: 07/13/2000

Results:

Supplier: Maricopa Ready Mix #2
Ticket No.: 22667
Truck No.: 145
Batch Size: 10 cy
Mix ID: 340145
Concrete Mix Design Strength: psi @ 14 days; **4000** psi @ 28 days

Slump (ASTM C143): 4.25 inches
Concrete Temp. (ASTM C1064): 90 deg. F
Ambient Temperature: 103 deg. F
Air Content (ASTM C231): N/A %
Unit Weight (ASTM C138): N/A pcf
No. of Samples Prepared: 4
Nominal Sample Size: 6x12

Time Batched: 11:07 AM
Time Sampled: 12:00 PM

Water Added Before Test: 0 gallons
Water Added After Test: 0 gallons
Time in Mixer: 53 minutes

Lab No.	Date Tested	Age (days)	Cyl. Dia. (in.)	Maximum Load (lbf)	Cross-Sectional Area (sq. in.)	Compressive Strength (psi)	Failure Type	Tested By
26990 A	07/13/2000	3	6.00	85180	28.27	**3010**	Cone	CW

Comments:

Remarks:

Distribution:
(2) Addressee Attn:
(1) Supplier Attn:

Respectfully submitted,

Shawn C. Morman, E.I.T.
Technical Services Director

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Construction Materials Testing
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Fax (480) 921-4081

LABORATORY/FIELD CONCRETE TEST RESULTS

(ASTM C31, C39)

Project: **Golden Eagle Park Dam Modifications**
Location: Golden Eagle Blvd., Fountain Hills

Client: Hunter Contracting
Attn: Bob Carlson
701 N. Cooper Road
Gilbert AZ 85234

Sample Source: Station 2+95, Center of the Dam

Project No.: T05354
Report/Set No.: 6
Report Date: 14-Jul-00
Lab No.: 26989

Sampled By: RAM/Adair
Date Sampled: 07/10/2000
Submitted By: RAM/Adair
Date Submitted: 07/13/2000

Results:

Supplier:	Maricopa Ready Mix #2	Slump (ASTM C143):	4	inches
Ticket No.:	22692	Concrete Temp. (ASTM C1064):	90	deg. F
Truck No.:	101	Ambient Temperature:	103	deg. F
Batch Size:	10 cy	Air Content (ASTM C231):	N/A	%
Mix ID:	340145	Unit Weight (ASTM C138):	N/A	pcf
Concrete Mix	psi @ 14 days	No. of Samples Prepared:	4	
Design Strength:	**4000** psi @ 28 days	Nominal Sample Size:	6x12	
		Water Added Before Test:	0	gallons
Time Batched:	12:11 PM	Water Added After Test:	0	gallons
Time Sampled:	1:10 PM	Time in Mixer:	59	minutes

Lab No.	Date Tested	Age (days)	Cyl. Dia. (in.)	Maximum Load (lbf)	Cross-Sectional Area (sq. in.)	Compressive Strength (psi)	Failure Type	Tested By
26989 A	07/13/2000	3	6.00	86275	28.27	**3050**	Cone	CW

Comments:

Remarks:

Distribution:
(2) Addressee Attn:
(1) Supplier Attn:

Respectfully submitted,

Shawn C. Morman, E.I.T.
Technical Services Director

Ricker Atkinson McBee & Assoc., Inc.
:105 S. Hardy Drive, Suite 13
Tempe, AZ 85282-1924

Geotechnical Engineering
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LABORATORY/FIELD CONCRETE TEST RESULTS

(ASTM C31, C39)

Project: **Golden Eagle Park Dam Modifications**
Location: Golden Eagle Blvd., Fountain Hills

Client: Hunter Contracting
Attn: Bob Carlson
701 N. Cooper Road
Gilbert AZ 85234

Sample Source: Station 2+95, Center of the Dam

Project No.: T05354
Report/Set No.: 6
Report Date: 14-Jul-00
Lab No.: 26989

Sampled By: RAM/Adair
Date Sampled: 07/10/2000
Submitted By: RAM/Adair
Date Submitted: 07/13/2000

Results:

Supplier: Maricopa Ready Mix #2
Ticket No.: 22692
Truck No.: 101
Batch Size: 10 cy
Mix ID: 340145
Concrete Mix Design Strength: psi @ 14 days; **4000** psi @ 28 days

Slump (ASTM C143): 4 inches
Concrete Temp. (ASTM C1064): 90 deg. F
Ambient Temperature: 103 deg. F
Air Content (ASTM C231): N/A %
Unit Weight (ASTM C138): N/A pcf
No. of Samples Prepared: 4
Nominal Sample Size: 6x12

Time Batched: 12:11 PM
Time Sampled: 1:10 PM

Water Added Before Test: 0 gallons
Water Added After Test: 0 gallons
Time in Mixer: 59 minutes

Lab No.	Date Tested	Age (days)	Cyl. Dia. (in.)	Maximum Load (lbf)	Cross-Sectional Area (sq. in.)	Compressive Strength (psi)	Failure Type	Tested By
26989 A	07/13/2000	3	6.00	86275	28.27	**3050**	Cone	CW

Comments:

Remarks:

Distribution:
(2) Addressee Attn:
(1) Supplier Attn:

Respectfully submitted,

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LABORATORY/FIELD CONCRETE TEST RESULTS

(ASTM C31, C39)

Project: **Golden Eagle Park Dam Modifications**
Location: Golden Eagle Blvd., Fountain Hills

Client: Hunter Contracting
Attn: Bob Carlson
701 N. Cooper Road
Gilbert AZ 85234

Sample Source: 5' West of Center of Damn, Sta. 2+95

Project No.: T05354
Report/Set No.: 7
Report Date: 14-Jul-00
Lab No.: 26991

Sampled By: RAM/Adair
Date Sampled: 07/10/2000
Submitted By: RAM/Adair
Date Submitted: 07/13/2000

Results:

Supplier: Maricopa Ready Mix #2
Ticket No.: 22700
Truck No.: 165
Batch Size: 10 cy
Mix ID: 340145
Concrete Mix psi @ 14 days
Design Strength: **4000** psi @ 28 days

Slump (ASTM C143): 3.5 inches
Concrete Temp. (ASTM C1064): 90 deg. F
Ambient Temperature: 107 deg. F
Air Content (ASTM C231): N/A %
Unit Weight (ASTM C138): N/A pcf
No. of Samples Prepared: 4
Nominal Sample Size: 6x12

Water Added Before Test: 0 gallons
Water Added After Test: 0 gallons
Time in Mixer: 45 minutes

Time Batched: 12:55 PM
Time Sampled: 1:40 PM

Lab No.	Date Tested	Age (days)	Cyl. Dia. (in.)	Maximum Load (lbf)	Cross-Sectional Area (sq. in.)	Compressive Strength (psi)	Failure Type	Tested By
26991 A	07/13/2000	3	6.00	88910	28.27	**3140**	Cone	CW

Comments:

Remarks:

Distribution:
(2) Addressee Attn:
(1) Supplier Attn:

Respectfully submitted,

Shawn C. Morman, E.I.T.
Technical Services Director

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LABORATORY/FIELD CONCRETE TEST RESULTS

(ASTM C31, C39)

Project: **Golden Eagle Park Dam Modifications**
Location: Golden Eagle Blvd., Fountain Hills

Client: Hunter Contracting
Attn: Bob Carlson
701 N. Cooper Road
Gilbert AZ 85234

Sample Source: 5' West of Center of Damn, Sta. 2+95

Project No.: T05354
Report/Set No.: 7
Report Date: 14-Jul-00
Lab No.: 26991

Sampled By: RAM/Adair
Date Sampled: 07/10/2000
Submitted By: RAM/Adair
Date Submitted: 07/13/2000

Results:

Supplier: Maricopa Ready Mix #2
Ticket No.: 22700
Truck No.: 165
Batch Size: 10 cy
Mix ID: 340145
Concrete Mix psi @ 14 days
Design Strength: **4000** psi @ 28 days

Slump (ASTM C143): 3.5 inches
Concrete Temp. (ASTM C1064): 90 deg. F
Ambient Temperature: 107 deg. F
Air Content (ASTM C231): N/A %
Unit Weight (ASTM C138): N/A pcf
No. of Samples Prepared: 4
Nominal Sample Size: 6x12

Water Added Before Test: 0 gallons
Water Added After Test: 0 gallons
Time in Mixer: 45 minutes

Time Batched: 12:55 PM
Time Sampled: 1:40 PM

Lab No.	Date Tested	Age (days)	Cyl. Dia. (in.)	Maximum Load (lbf)	Cross-Sectional Area (sq. in.)	Compressive Strength (psi)	Failure Type	Tested By
26991 A	07/13/2000	3	6.00	88910	28.27	**3140**	Cone	CW

Comments:

Remarks:

Distribution:
(2) Addressee Attn:
(1) Supplier Attn:

Respectfully submitted,

Shawn C. Morman, E.I.T.
Technical Services Director

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LABORATORY/FIELD CONCRETE TEST RESULTS

(ASTM C31, C39)

Project: **Golden Eagle Park Dam Modifications**
Location: Golden Eagle Blvd., Fountain Hills

Client: Hunter Contracting
Attn: Bob Carlson
701 N. Cooper Road
Gilbert AZ 85234

Sample Source: Sta. 2+95, 70' West

Project No.: T05354
Report/Set No.: 8
Report Date: 24-Jul-00
Lab No.: 27117

Sampled By: RAM/ Adair
Date Sampled: 07/14/2000
Submitted By: RAM/ Adair
Date Submitted: 07/18/2000

Results:

Supplier: Maricopa Ready Mix #2
Ticket No.: 23575
Truck No.: 163
Batch Size: 10 cy
Mix ID: 340145
Concrete Mix Design Strength: psi @ 14 days; **4000** psi @ 28 days

Slump (ASTM C143): 3.5 inches
Concrete Temp. (ASTM C1064): 84 deg. F
Ambient Temperature: 80 deg. F
Air Content (ASTM C231): N/A %
Unit Weight (ASTM C138): N/A pcf
No. of Samples Prepared: 4
Nominal Sample Size: 6x12

Time Batched: 3:52 AM
Time Sampled: 4:50 AM

Water Added Before Test: 0 gallons
Water Added After Test: 0 gallons
Time in Mixer: 58 minutes

Lab No.	Date Tested	Age (days)	Cyl. Dia. (in.)	Maximum Load (lbf)	Cross-Sectional Area (sq. in.)	Compressive Strength (psi)	Failure Type	Tested By
27117A	07/21/2000	7	6.00	104900	28.27	**3710**	Cone	CW

Comments:

Remarks:

Distribution:
(2) Addressee Attn:
(1) Supplier Attn:

Respectfully submitted,

Shawn C. Morman, E.I.T.
Technical Services Director

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LABORATORY/FIELD CONCRETE TEST RESULTS

(ASTM C31, C39)

Project: **Golden Eagle Park Dam Modifications**
Location: Golden Eagle Blvd., Fountain Hills

Client: Hunter Contracting
Attn: Bob Carlson
701 N. Cooper Road
Gilbert AZ 85234

Sample Source: Sta. 2+95, 60' West

Project No.: T05354
Report/Set No.: 9
Report Date: 24-Jul-00
Lab No.: 27119

Sampled By: RAM/Adair
Date Sampled: 07/14/2000
Submitted By: RAM/Adair
Date Submitted: 07/18/2000

Results:

Supplier:	Maricopa Ready Mix #2	Slump (ASTM C143):	4	inches
Ticket No.:	23627	Concrete Temp. (ASTM C1064):	85	deg. F
Truck No.:	135	Ambient Temperature:	82	deg. F
Batch Size:	10 cy	Air Content (ASTM C231):	N/A	%
Mix ID:	340145	Unit Weight (ASTM C138):	N/A	pcf
Concrete Mix	psi @ 14 days	No. of Samples Prepared:	4	
Design Strength:	**4000** psi @ 28 days	Nominal Sample Size:	6x12	
		Water Added Before Test:	0	gallons
Time Batched:	5:37 AM	Water Added After Test:	0	gallons
Time Sampled:	6:15 AM	Time in Mixer:	38	minutes

Lab No.	Date Tested	Age (days)	Cyl. Dia. (in.)	Maximum Load (lbf)	Cross-Sectional Area (sq. in.)	Compressive Strength (psi)	Failure Type	Tested By
27119 A	07/21/2000	7	6.00	98245	28.27	**3470**	Cone	CW

Comments:

Remarks:

Distribution:
(2) Addressee Attn:
(1) Supplier Attn:

Respectfully submitted,

Shawn C. Morman, E.I.T.
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LABORATORY/FIELD CONCRETE TEST RESULTS

(ASTM C31, C39)

Project: **Golden Eagle Park Dam Modifications**
Location: Golden Eagle Blvd., Fountain Hills

Client: Hunter Contracting
Attn: Bob Carlson
701 N. Cooper Road
Gilbert AZ 85234

Sample Source: Sta. 2+95, 50' West

Project No.: T05354
Report/Set No.: 10
Report Date: 24-Jul-00
Lab No.: 27120

Sampled By: RAM/Adair
Date Sampled: 07/14/2000
Submitted By: RAM/Adair
Date Submitted: 07/18/2000

Results:

Supplier:	Maricopa Ready Mix #2	Slump (ASTM C143):	3.75	inches
Ticket No.:	23640	Concrete Temp. (ASTM C1064):	88	deg. F
Truck No.:	107	Ambient Temperature:	85	deg. F
Batch Size:	10 cy	Air Content (ASTM C231):	N/A	%
Mix ID:	340145	Unit Weight (ASTM C138):	N/A	pcf
Concrete Mix	psi @ 14 days	No. of Samples Prepared:	4	
Design Strength:	**4000** psi @ 28 days	Nominal Sample Size:	6x12	
		Water Added Before Test:	0	gallons
Time Batched:	6:12 AM	Water Added After Test:	0	gallons
Time Sampled:	7:00 AM	Time in Mixer:	48	minutes

Lab No.	Date Tested	Age (days)	Cyl. Dia. (in.)	Maximum Load (lbf)	Cross-Sectional Area (sq. in.)	Compressive Strength (psi)	Failure Type	Tested By
27120 A	07/21/2000	7	6.00	104060	28.27	**3680**	Cone	CW

Comments:

Remarks:

Distribution:
(2) Addressee Attn:
(1) Supplier Attn:

Respectfully submitted,

Shawn C. Morman, E.I.T.
Technical Services Director

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LABORATORY/FIELD CONCRETE TEST RESULTS

(ASTM C31, C39)

Project: **Golden Eagle Park Dam Modifications**
Location: Golden Eagle Blvd., Fountain Hills

Client: Hunter Contracting
Attn: Bob Carlson
701 N. Cooper Road
Gilbert AZ 85234

Sample Source: Sta. 2+95, 50' West

Project No.: T05354
Report/Set No.: 10
Report Date: 24-Jul-00
Lab No.: 27120

Sampled By: RAM/Adair
Date Sampled: 07/14/2000
Submitted By: RAM/Adair
Date Submitted: 07/18/2000

Results:

Supplier:	Maricopa Ready Mix #2	Slump (ASTM C143):	3.75	inches
Ticket No.:	23640	Concrete Temp. (ASTM C1064):	88	deg. F
Truck No.:	107	Ambient Temperature:	85	deg. F
Batch Size:	10 cy	Air Content (ASTM C231):	N/A	%
Mix ID:	340145	Unit Weight (ASTM C138):	N/A	pcf
Concrete Mix	psi @ 14 days	No. of Samples Prepared:	4	
Design Strength:	**4000** psi @ 28 days	Nominal Sample Size:	6x12	
		Water Added Before Test:	0	gallons
Time Batched:	6:12 AM	Water Added After Test:	0	gallons
Time Sampled:	7:00 AM	Time in Mixer:	48	minutes

Lab No.	Date Tested	Age (days)	Cyl. Dia. (in.)	Maximum Load (lbf)	Cross-Sectional Area (sq. in.)	Compressive Strength (psi)	Failure Type	Tested By
27120A	07/21/2000	7	6.00	104060	28.27	**3680**	Cone	CW

Comments:

Remarks:

Distribution:
(2) Addressee Attn:
(1) Supplier Attn:

Respectfully submitted,

Shawn C. Morman, E.I.T.
Technical Services Director

0010

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LABORATORY/FIELD CONCRETE TEST RESULTS

(ASTM C31, C39)

Project: **Golden Eagle Park Dam Modifications**
Location: Golden Eagle Blvd., Fountain Hills

Client: Hunter Contracting
Attn: Bob Carlson
701 N. Cooper Road
Gilbert AZ 85234

Sample Source: Sta. 2+95, 60' East of Sta. Center Box

Project No.: T05354
Report/Set No.: 11
Report Date: 24-Jul-00
Lab No.: 27116

Sampled By: RAM/Adair
Date Sampled: 07/14/2000
Submitted By: RAM/Adair
Date Submitted: 07/18/2000

Results:

Supplier: Maricopa Ready Mix #2
Ticket No.: 23648
Truck No.: 163
Batch Size: 10 cy
Mix ID: 340145
Concrete Mix Design Strength: psi @ 14 days
4000 psi @ 28 days

Slump (ASTM C143): 2.5 inches
Concrete Temp. (ASTM C1064): 86 deg. F
Ambient Temperature: 86 deg. F
Air Content (ASTM C231): N/A %
Unit Weight (ASTM C138): N/A pcf
No. of Samples Prepared: 4
Nominal Sample Size: 6x12

Water Added Before Test: 0 gallons
Water Added After Test: 0 gallons
Time in Mixer: 68 minutes

Time Batched: 6:22 AM
Time Sampled: 7:30 AM

Lab No.	Date Tested	Age (days)	Cyl. Dia. (in.)	Maximum Load (lbf)	Cross-Sectional Area (sq. in.)	Compressive Strength (psi)	Failure Type	Tested By
27116A	07/21/2000	7	6.00	110155	28.27	**3900**	Cone	CW

Comments:

Remarks:

Distribution:
(2) Addressee Attn:
(1) Supplier Attn:

Respectfully submitted,

Shawn C. Morman, E.I.T.
Technical Services Director

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LABORATORY/FIELD CONCRETE TEST RESULTS

(ASTM C31, C39)

Project: **Golden Eagle Park Dam Modifications**
Location: Golden Eagle Blvd., Fountain Hills

Client: Hunter Contracting
Attn: Bob Carlson
701 N. Cooper Road
Gilbert AZ 85234

Sample Source: Sta. 2+95, 60' East of Sta. Center Box

Project No.: T05354
Report/Set No.: 11
Report Date: 14-Aug-00
Lab No.: 27116

Sampled By: RAM/Adair
Date Sampled: 07/14/2000
Submitted By: RAM/Adair
Date Submitted: 07/18/2000

Results:

Supplier: Maricopa Ready Mix #2
Ticket No.: 23648
Truck No.: 163
Batch Size: 10 cy
Mix ID: 340145
Concrete Mix Design Strength: psi @ 14 days; **4000** psi @ 28 days

Slump (ASTM C143): 2.5 inches
Concrete Temp. (ASTM C1064): 86 deg. F
Ambient Temperature: 86 deg. F
Air Content (ASTM C231): N/A %
Unit Weight (ASTM C138): N/A pcf
No. of Samples Prepared: 4
Nominal Sample Size: 6x12

Water Added Before Test: 0 gallons
Water Added After Test: 0 gallons
Time in Mixer: 68 minutes

Time Batched: 6:22 AM
Time Sampled: 7:30 AM

Lab No.	Date Tested	Age (days)	Cyl. Dia. (in.)	Maximum Load (lbf)	Cross-Sectional Area (sq. in.)	Compressive Strength (psi)	Failure Type	Tested By
27116A	07/21/2000	7	6.00	110155	28.27	**3900**	Cone	CW
27116B	08/11/2000	28	6.00	142450	28.27	**5040**	Cone	BW
27116C	08/11/2000	28	6.01	144470	28.37	**5090**	Cone	BW

Comments:

Remarks:

Material meets the design 28 day compressive strength.

Distribution:
(2) Addressee Attn:
(1) Supplier Attn:

Respectfully submitted,

Shawn C. Morman, E.I.T.
Technical Services Director

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LABORATORY/FIELD CONCRETE TEST RESULTS

(ASTM C31, C39)

Project: **Golden Eagle Park Dam Modifications**
Location: Golden Eagle Blvd., Fountain Hills

Client: Hunter Contracting
Attn: Bob Carlson
701 N. Cooper Road
Gilbert AZ 85234

Sample Source: Sta. 2+95, 50' West

Project No.: T05354
Report/Set No.: 10
Report Date: 14-Aug-00
Lab No.: 27120

Sampled By: RAM/Adair
Date Sampled: 07/14/2000
Submitted By: RAM/Adair
Date Submitted: 07/18/2000

Results:

Supplier: Maricopa Ready Mix #2
Ticket No.: 23640
Truck No.: 107
Batch Size: 10 cy
Mix ID: 340145
Concrete Mix Design Strength: psi @ 14 days; **4000** psi @ 28 days

Slump (ASTM C143): 3.75 inches
Concrete Temp. (ASTM C1064): 88 deg. F
Ambient Temperature: 85 deg. F
Air Content (ASTM C231): N/A %
Unit Weight (ASTM C138): N/A pcf
No. of Samples Prepared: 4
Nominal Sample Size: 6x12

Time Batched: 6:12 AM
Time Sampled: 7:00 AM

Water Added Before Test: 0 gallons
Water Added After Test: 0 gallons
Time in Mixer: 48 minutes

Lab No.	Date Tested	Age (days)	Cyl. Dia. (in.)	Maximum Load (lbf)	Cross-Sectional Area (sq. in.)	Compressive Strength (psi)	Failure Type	Tested By
27120A	07/21/2000	7	6.00	104060	28.27	**3680**	Cone	CW
27120B	08/11/2000	28	6.00	142695	28.27	**5050**	Cone	BW
27120C	08/11/2000	28	6.00	136795	28.27	**4840**	Cone	BW

Comments:

Remarks:

Material meets the design 28 day compressive strength.

Distribution:
(2) Addressee Attn:
(1) Supplier Attn:

Respectfully submitted,

Shawn C. Morman, E.I.T.
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LABORATORY/FIELD CONCRETE TEST RESULTS

(ASTM C31, C39)

Project: **Golden Eagle Park Dam Modifications**
Location: Golden Eagle Blvd., Fountain Hills

Client: Hunter Contracting
Attn: Bob Carlson
701 N. Cooper Road
Gilbert AZ 85234

Sample Source: Sta. 2+95, 60' West

Project No.: T05354
Report/Set No.: 9
Report Date: 14-Aug-00
Lab No.: 27119

Sampled By: RAM/Adair
Date Sampled: 07/14/2000
Submitted By: RAM/Adair
Date Submitted: 07/18/2000

Results:

Supplier:	Maricopa Ready Mix #2	Slump (ASTM C143):	4	inches
Ticket No.:	23627	Concrete Temp. (ASTM C1064):	85	deg. F
Truck No.:	135	Ambient Temperature:	82	deg. F
Batch Size:	10 cy	Air Content (ASTM C231):	N/A	%
Mix ID:	340145	Unit Weight (ASTM C138):	N/A	pcf
Concrete Mix	psi @ 14 days	No. of Samples Prepared:	4	
Design Strength:	**4000** psi @ 28 days	Nominal Sample Size:	6x12	
		Water Added Before Test:	0	gallons
Time Batched:	5:37 AM	Water Added After Test:	0	gallons
Time Sampled:	6:15 AM	Time in Mixer:	38	minutes

Lab No.	Date Tested	Age (days)	Cyl. Dia. (in.)	Maximum Load (lbf)	Cross-Sectional Area (sq. in.)	Compressive Strength (psi)	Failure Type	Tested By
27119A	07/21/2000	7	6.00	98245	28.27	**3470**	Cone	CW
27119B	08/11/2000	28	6.01	119665	28.37	**4220**	Cone	BW
27119C	08/11/2000	28	6.01	129725	28.37	**4570**	Cone	BW

Comments:

Remarks:

Material meets the design 28 day compressive strength.

Distribution:
(2) Addressee Attn:
(1) Supplier Attn:

Respectfully submitted,

Shawn C. Morman, E.I.T.
Technical Services Director

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LABORATORY/FIELD CONCRETE TEST RESULTS

(ASTM C31, C39)

Project: **Golden Eagle Park Dam Modifications**
Location: Golden Eagle Blvd., Fountain Hills

Client: Hunter Contracting
Attn: Bob Carlson
701 N. Cooper Road
Gilbert AZ 85234

Sample Source: Sta. 2+95, 70' West

Project No.: T05354
Report/Set No.: 8
Report Date: 14-Aug-00
Lab No.: 27117

Sampled By: RAM/Adair
Date Sampled: 07/14/2000
Submitted By: RAM/Adair
Date Submitted: 07/18/2000

Results:

Supplier: Maricopa Ready Mix #2
Ticket No.: 23575
Truck No.: 163
Batch Size: 10 cy
Mix ID: 340145
Concrete Mix Design Strength: psi @ 14 days; **4000** psi @ 28 days

Slump (ASTM C143): 3.5 inches
Concrete Temp. (ASTM C1064): 84 deg. F
Ambient Temperature: 80 deg. F
Air Content (ASTM C231): N/A %
Unit Weight (ASTM C138): N/A pcf
No. of Samples Prepared: 4
Nominal Sample Size: 6x12

Water Added Before Test: 0 gallons
Water Added After Test: 0 gallons
Time in Mixer: 58 minutes

Time Batched: 3:52 AM
Time Sampled: 4:50 AM

Lab No.	Date Tested	Age (days)	Cyl. Dia. (in.)	Maximum Load (lbf)	Cross-Sectional Area (sq. in.)	Compressive Strength (psi)	Failure Type	Tested By
27117A	07/21/2000	7	6.00	104900	28.27	**3710**	Cone	CW
27117B	08/11/2000	28	6.01	140685	28.37	**4960**	Cone	BW
27117C	08/11/2000	28	6.00	134165	28.27	**4750**	Cone	BW

Comments:

Remarks:

Material meets the design 28 day compressive strength.

Distribution:
(2) Addressee Attn:
(1) Supplier Attn:

Respectfully submitted,

Shawn C. Morman, E.I.T.
Technical Services Director

Ricker Atkinson McBee & Assoc., Inc.
2105 S. Hardy Drive, Suite 13
Tempe, AZ 85282-1924

AUG - 3

Geotechnical Engineering
Construction Materials Testing
Phone (480) 921-8100
Fax (480) 921-4081

LABORATORY/FIELD CONCRETE TEST RESULTS

(ASTM C31, C39)

Project: **Golden Eagle Park Dam Modifications**
Location: Golden Eagle Blvd., Fountain Hills

Client: Hunter Contracting
Attn: Bob Carlson
701 N. Cooper Road
Gilbert AZ 85234

Sample Source: Deck and Walls of Box Culvert, 30' West x 10' South from the Northeast Corner

Project No.: T05354
Report/Set No.: 13
Report Date: 31-Jul-00
Lab No.: 27311

Sampled By: RAM/Adair
Date Sampled: 07/21/2000
Submitted By: RAM/Adair
Date Submitted: 07/26/2000

Results:

Supplier: Maricopa Ready Mix #2
Ticket No.: 25009
Truck No.: 141
Batch Size: 10 cy
Mix ID: 340145
Concrete Mix Design Strength: psi @ 14 days; **4000** psi @ 28 days

Time Batched: 7:15 AM
Time Sampled: 7:55 AM

Slump (ASTM C143): 4 inches
Concrete Temp. (ASTM C1064): 84 deg. F
Ambient Temperature: 88 deg. F
Air Content (ASTM C231): N/A %
Unit Weight (ASTM C138): N/A pcf
No. of Samples Prepared: 4
Nominal Sample Size: 6x12

Water Added Before Test: 0 gallons
Water Added After Test: 0 gallons
Time in Mixer: 40 minutes

Lab No.	Date Tested	Age (days)	Cyl. Dia. (in.)	Maximum Load (lbf)	Cross-Sectional Area (sq. in.)	Compressive Strength (psi)	Failure Type	Tested By
27311 A	07/28/2000	7	6.00	99605	28.27	**3520**	Cone	BW

Comments:

Remarks:

Distribution:
(2) Addressee Attn:
(1) Supplier Attn:

Respectfully submitted,

Shawn C. Morman, E.I.T.
Technical Services Director

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LABORATORY/FIELD CONCRETE TEST RESULTS

(ASTM C31, C39)

Project: **Golden Eagle Park Dam Modifications**
Location: Golden Eagle Blvd., Fountain Hills

Client: Hunter Contracting
Attn: Bob Carlson
701 N. Cooper Road
Gilbert AZ 85234

Sample Source: Deck and Walls of Box Culvert, 30' West x 10' South from the Northeast Corner

Project No.: T05354
Report/Set No.: 13
Report Date: 21-Aug-00
Lab No.: 27311

Sampled By: RAM/Adair
Date Sampled: 07/21/2000
Submitted By: RAM/Adair
Date Submitted: 07/26/2000

Results:

Supplier: Maricopa Ready Mix #2
Ticket No.: 25009
Truck No.: 141
Batch Size: 10 cy
Mix ID: 340145
Concrete Mix Design Strength: psi @ 14 days; **4000** psi @ 28 days

Slump (ASTM C143): 4 inches
Concrete Temp. (ASTM C1064): 84 deg. F
Ambient Temperature: 88 deg. F
Air Content (ASTM C231): N/A %
Unit Weight (ASTM C138): N/A pcf
No. of Samples Prepared: 4
Nominal Sample Size: 6x12

Time Batched: 7:15 AM
Time Sampled: 7:55 AM

Water Added Before Test: 0 gallons
Water Added After Test: 0 gallons
Time in Mixer: 40 minutes

Lab No.	Date Tested	Age (days)	Cyl. Dia. (in.)	Maximum Load (lbf)	Cross-Sectional Area (sq. in.)	Compressive Strength (psi)	Failure Type	Tested By
27311 A	07/28/2000	7	6.00	99605	28.27	**3520**	Cone	BW
27311 B	08/18/2000	28	6.00	126420	28.27	**4470**	Cone	CW
27311 C	08/18/2000	28	6.00	125110	28.27	**4420**	Cone	CW

Comments:

Remarks:

Material meets the design 28 day compressive strength.

Distribution:
(2) Addressee Attn:
(1) Supplier Attn:

Respectfully submitted,

Shawn C. Morman, E.I.T.
Technical Services Director

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LABORATORY/FIELD CONCRETE TEST RESULTS

(ASTM C31, C39)

Project: **Golden Eagle Park Dam Modifications**
Location: Golden Eagle Blvd., Fountain Hills

Client: Hunter Contracting
Attn: Bob Carlson
701 N. Cooper Road
Gilbert AZ 85234

Sample Source: Deck and Walls of Box Culvert, 50' West x 4' South from the Northeast Corner

Project No.: T05354
Report/Set No.: 14
Report Date: 01-Aug-00
Lab No.: 27312

Sampled By: RAM/Adair
Date Sampled: 07/21/2000
Submitted By: RAM/Adair
Date Submitted: 07/26/2000

Results:

Supplier: Maricopa Ready Mix #2
Ticket No.: 24989
Truck No.: 102
Batch Size: 10 cy
Mix ID: 340145
Concrete Mix psi @ 14 days
Design Strength: **4000** psi @ 28 days

Slump (ASTM C143): 2.75 inches
Concrete Temp. (ASTM C1064): 84 deg. F
Ambient Temperature: 88 deg. F
Air Content (ASTM C231): N/A %
Unit Weight (ASTM C138): N/A pcf
No. of Samples Prepared: 4
Nominal Sample Size: 6x12

Water Added Before Test: 0 gallons
Water Added After Test: 0 gallons
Time in Mixer: 76 minutes

Time Batched: 6:24 AM
Time Sampled: 7:40 AM

Lab No.	Date Tested	Age (days)	Cyl. Dia. (in.)	Maximum Load (lbf)	Cross-Sectional Area (sq. in.)	Compressive Strength (psi)	Failure Type	Tested By
27312 A	07/28/2000	7	6.01	95470	28.37	**3370**	Cone	BW

Comments:

Remarks:

Distribution:
(2) Addressee Attn:
(1) Supplier Attn:

Respectfully submitted,

Shawn C. Morman, E.I.T.
Technical Services Director

AUG - 3 2000

Ricker Atkinson McBee & Assoc., Inc.
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LABORATORY/FIELD CONCRETE TEST RESULTS

(ASTM C31, C39)

Project: **Golden Eagle Park Dam Modifications**
Location: Golden Eagle Blvd., Fountain Hills

Client: Hunter Contracting
Attn: Bob Carlson
701 N. Cooper Road
Gilbert AZ 85234

Sample Source: Deck and Walls of Box Culvert, 50' West x 4' South from the Northeast Corner

Project No.: T05354
Report/Set No.: 14
Report Date: 21-Aug-00
Lab No.: 27312

Sampled By: RAM/ Adair
Date Sampled: 07/21/2000
Submitted By: RAM/ Adair
Date Submitted: 07/26/2000

Results:

Supplier: Maricopa Ready Mix #2
Ticket No.: 24989
Truck No.: 102
Batch Size: 10 cy
Mix ID: 340145
Concrete Mix psi @ 14 days
Design Strength: **4000** psi @ 28 days

Slump (ASTM C143): 2.75 inches
Concrete Temp. (ASTM C1064): 84 deg. F
Ambient Temperature: 88 deg. F
Air Content (ASTM C231): N/A %
Unit Weight (ASTM C138): N/A pcf
No. of Samples Prepared: 4
Nominal Sample Size: 6x12

Water Added Before Test: 0 gallons
Water Added After Test: 0 gallons
Time in Mixer: 76 minutes

Time Batched: 6:24 AM
Time Sampled: 7:40 AM

Lab No.	Date Tested	Age (days)	Cyl. Dia. (in.)	Maximum Load (lbf)	Cross-Sectional Area (sq. in.)	Compressive Strength (psi)	Failure Type	Tested By
27312 A	07/28/2000	7	6.01	95470	28.37	**3370**	Cone	BW
27312 B	08/18/2000	28	6.01	118030	28.37	**4160**	Cone	CW
27312 C	08/18/2000	28	6.01	120410	28.37	**4240**	Cone	CW

Comments:

Remarks:

Material meets the design 28 day compressive strength.

Distribution:
(2) Addressee Attn:
(1) Supplier Attn:

Respectfully submitted,

Shawn C. Morman, E.I.T.
Technical Services Director

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LABORATORY/FIELD CONCRETE TEST RESULTS

(ASTM C31, C39)

Project: **Golden Eagle Park Dam Modifications**
Location: Golden Eagle Blvd., Fountain Hills

Client: Hunter Contracting
Attn: Bob Carlson
701 N. Cooper Road
Gilbert AZ 85234

Sample Source: Outlet Wing Walls, Sta. 2+95, Left of Centerline

Project No.: T05354
Report/Set No.: 16
Report Date: 28-Aug-00
Lab No.: 27454

Sampled By: RAM/Oliver
Date Sampled: 07/28/2000
Submitted By: RAM/Adair
Date Submitted: 07/31/2000

Results:

Supplier: Maricopa Ready Mix
Ticket No.: 26283
Truck No.: 139
Batch Size: 10 cy
Mix ID: 340145
Concrete Mix Design Strength: psi @ 14 days; **4000** psi @ 28 days

Slump (ASTM C143): 2.25 inches
Concrete Temp. (ASTM C1064): 88 deg. F
Ambient Temperature: 93 deg. F
Air Content (ASTM C231): 4.0 %
Unit Weight (ASTM C138): N/A pcf
No. of Samples Prepared: 4
Nominal Sample Size: 6x12

Time Batched: 6:32 AM
Time Sampled: 7:40 AM

Water Added Before Test: 0 gallons
Water Added After Test: 0 gallons
Time in Mixer: 68 minutes

Lab No.	Date Tested	Age (days)	Cyl. Dia. (in.)	Maximum Load (lbf)	Cross-Sectional Area (sq. in.)	Compressive Strength (psi)	Failure Type	Tested By
27454 A	07/31/2000	3	6.00	94460	28.27	**3340**	Cone	DC
27454 B	08/04/2000	7	5.99	117115	28.18	**4160**	Cone	DC
27454 C	08/25/2000	28	6.00	119410	28.27	**4220**	Cone	JM
27454 D	08/25/2000	28	6.00	122425	28.27	**4330**	Cone	JM

Comments:

Remarks:

Material meets the design 28 day compressive strength.

Distribution:
(2) Addressee Attn:
(1) Supplier Attn:

Respectfully submitted,

Shawn C. Morman, E.I.T.
Technical Services Director

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LABORATORY/FIELD CONCRETE TEST RESULTS

(ASTM C31, C39)

Project: **Golden Eagle Park Dam Modifications**
Location: Golden Eagle Blvd., Fountain Hills

Client: Hunter Contracting
Attn: Bob Carlson
701 N. Cooper Road
Gilbert AZ 85234

Sample Source: Box Culvert Deck, Sta. 2+95 at Centerline

Project No.: T05354
Report/Set No.: 15
Report Date: 07-Aug-00
Lab No.: 27455

Sampled By: RAM/Oliver
Date Sampled: 07/28/2000
Submitted By: RAM/Adair
Date Submitted: 07/31/2000

Results:

Supplier: Maricopa Ready Mix
Ticket No.: 26227
Truck No.: 138
Batch Size: 10 cy
Mix ID: 340145
Concrete Mix Design Strength: psi @ 14 days; **4000** psi @ 28 days

Slump (ASTM C143): 3.75 inches
Concrete Temp. (ASTM C1064): 84 deg. F
Ambient Temperature: 90 deg. F
Air Content (ASTM C231): 6.0 %
Unit Weight (ASTM C138): N/A pcf
No. of Samples Prepared: 4
Nominal Sample Size: 6x12

Water Added Before Test: 0 gallons
Water Added After Test: 0 gallons
Time in Mixer: 62 minutes

Time Batched: 4:43 AM
Time Sampled: 5:45 AM

Lab No.	Date Tested	Age (days)	Cyl. Dia. (in.)	Maximum Load (lbf)	Cross-Sectional Area (sq. in.)	Compressive Strength (psi)	Failure Type	Tested By
27455 A	07/31/2000	3	6.00	81755	28.27	**2890**	Cone	DC
27455 B	08/04/2000	7	6.02	101730	28.46	**3570**	Cone	DC

Comments:

Remarks:

Distribution:
(2) Addressee Attn:
(1) Supplier Attn:

Respectfully submitted,

Shawn C. Morman, E.I.T.
Technical Services Director

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LABORATORY/FIELD CONCRETE TEST RESULTS

(ASTM C31, C39)

Project: **Golden Eagle Park Dam Modifications**
Location: Golden Eagle Blvd., Fountain Hills

Client: Hunter Contracting
Attn: Bob Carlson
701 N. Cooper Road
Gilbert AZ 85234

Sample Source: Box Culvert Deck, Sta. 2+95 at Centerline

Project No.: T05354
Report/Set No.: 15
Report Date: 28-Aug-00
Lab No.: 27455

Sampled By: RAM/Oliver
Date Sampled: 07/28/2000
Submitted By: RAM/Adair
Date Submitted: 07/31/2000

Results:

Supplier: Maricopa Ready Mix
Ticket No.: 26227
Truck No.: 138
Batch Size: 10 cy
Mix ID: 340145
Concrete Mix Design Strength: psi @ 14 days; **4000** psi @ 28 days

Slump (ASTM C143): 3.75 inches
Concrete Temp. (ASTM C1064): 84 deg. F
Ambient Temperature: 90 deg. F
Air Content (ASTM C231): 6.0 %
Unit Weight (ASTM C138): N/A pcf
No. of Samples Prepared: 4
Nominal Sample Size: 6x12

Water Added Before Test: 0 gallons
Water Added After Test: 0 gallons
Time in Mixer: 62 minutes

Time Batched: 4:43 AM
Time Sampled: 5:45 AM

Lab No.	Date Tested	Age (days)	Cyl. Dia. (in.)	Maximum Load (lbf)	Cross-Sectional Area (sq. in.)	Compressive Strength (psi)	Failure Type	Tested By
27455 A	07/31/2000	3	6.00	81755	28.27	**2890**	Cone	DC
27455 B	08/04/2000	7	6.02	101730	28.46	**3570**	Cone	DC
27455 C	08/25/2000	28	6.02	127295	28.46	**4470**	Cone	JM
27455 D	08/25/2000	28	6.01	128355	28.37	**4520**	Cone	JM

Comments:

Remarks:

Material meets the design 28 day compressive strength.

Distribution:
(2) Addressee Attn:
(1) Supplier Attn:

Respectfully submitted,

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LABORATORY/FIELD CONCRETE TEST RESULTS

(ASTM C31, C39)

Project: **Golden Eagle Park Dam Modifications**
Location: Golden Eagle Blvd., Fountain Hills

Client: Hunter Contracting
Attn: Bob Carlson
701 N. Cooper Road
Gilbert AZ 85234

Sample Source: Outlet Wing Walls, Sta. 2+95, Left of Centerline

Project No.: T05354
Report/Set No.: 16
Report Date: 31-Jul-00
Lab No.: 27454

Sampled By: RAM/Oliver
Date Sampled: 07/28/2000
Submitted By: RAM/Adair
Date Submitted: 07/31/2000

Results:

Supplier: Maricopa Ready Mix
Ticket No.: 26283
Truck No.: 139
Batch Size: 10 cy
Mix ID: 340145
Concrete Mix Design Strength: psi @ 14 days; **4000** psi @ 28 days

Slump (ASTM C143): 2.25 inches
Concrete Temp. (ASTM C1064): 88 deg. F
Ambient Temperature: 93 deg. F
Air Content (ASTM C231): 4.0 %
Unit Weight (ASTM C138): N/A pcf
No. of Samples Prepared: 4
Nominal Sample Size: 6x12

Water Added Before Test: 0 gallons
Water Added After Test: 0 gallons
Time in Mixer: 68 minutes

Time Batched: 6:32 AM
Time Sampled: 7:40 AM

Lab No.	Date Tested	Age (days)	Cyl. Dia. (in.)	Maximum Load (lbf)	Cross-Sectional Area (sq. in.)	Compressive Strength (psi)	Failure Type	Tested By
27454 A	07/31/2000	3	6.00	94460	28.27	**3340**	Cone	DC

Comments:

Remarks:

Distribution:
(2) Addressee Attn:
(1) Supplier Attn:

Respectfully submitted,

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Technical Services Director

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LABORATORY/FIELD CONCRETE TEST RESULTS

(ASTM C31, C39)

Project: **Golden Eagle Park Dam Modifications**
Location: Golden Eagle Blvd., Fountain Hills

Client: Hunter Contracting
Attn: Bob Carlson
701 N. Cooper Road
Gilbert AZ 85234

Sample Source: Outlet Wing Walls, Sta. 2+95, Left of Centerline

Project No.: T05354
Report/Set No.: 16
Report Date: 07-Aug-00
Lab No.: 27454

Sampled By: RAM/Oliver
Date Sampled: 07/28/2000
Submitted By: RAM/Adair
Date Submitted: 07/31/2000

Results:

Supplier: Maricopa Ready Mix
Ticket No.: 26283
Truck No.: 139
Batch Size: 10 cy
Mix ID: 340145
Concrete Mix psi @ 14 days
Design Strength: **4000** psi @ 28 days

Slump (ASTM C143): 2.25 inches
Concrete Temp. (ASTM C1064): 88 deg. F
Ambient Temperature: 93 deg. F
Air Content (ASTM C231): 4.0 %
Unit Weight (ASTM C138): N/A pcf
No. of Samples Prepared: 4
Nominal Sample Size: 6x12

Water Added Before Test: 0 gallons
Water Added After Test: 0 gallons
Time in Mixer: 68 minutes

Time Batched: 6:32 AM
Time Sampled: 7:40 AM

Lab No.	Date Tested	Age (days)	Cyl. Dia. (in.)	Maximum Load (lbf)	Cross-Sectional Area (sq. in.)	Compressive Strength (psi)	Failure Type	Tested By
27454 A	07/31/2000	3	6.00	94460	28.27	**3340**	Cone	DC
27454 B	08/04/2000	7	5.99	117115	28.18	**4160**	Cone	DC

Comments:

Remarks:

Distribution:
(2) Addressee Attn:
(1) Supplier Attn:

Respectfully submitted,

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LABORATORY/FIELD CONCRETE TEST RESULTS

(ASTM C31, C39)

Project: **Golden Eagle Park Dam Modifications**
Location: Golden Eagle Blvd., Fountain Hills

Client: Hunter Contracting
Attn: Bob Carlson
701 N. Cooper Road
Gilbert AZ 85234

Sample Source: Box Culvert Deck, Sta. 2+95 at Centerline

Project No.: T05354
Report/Set No.: 15
Report Date: 31-Jul-00
Lab No.: 27455

Sampled By: RAM/Oliver
Date Sampled: 07/28/2000
Submitted By: RAM/Adair
Date Submitted: 07/31/2000

Results:

Supplier:	Maricopa Ready Mix	Slump (ASTM C143):	3.75	inches
Ticket No.:	26227	Concrete Temp. (ASTM C1064):	84	deg. F
Truck No.:	138	Ambient Temperature:	90	deg. F
Batch Size:	10 cy	Air Content (ASTM C231):	6.0	%
Mix ID:	340145	Unit Weight (ASTM C138):	N/A	pcf
Concrete Mix	psi @ 14 days	No. of Samples Prepared:	4	
Design Strength:	**4000** psi @ 28 days	Nominal Sample Size:	6x12	
		Water Added Before Test:	0	gallons
Time Batched:	4:43 AM	Water Added After Test:	0	gallons
Time Sampled:	5:45 AM	Time in Mixer:	62	minutes

Lab No.	Date Tested	Age (days)	Cyl. Dia. (in.)	Maximum Load (lbf)	Cross-Sectional Area (sq. in.)	Compressive Strength (psi)	Failure Type	Tested By
27455 A	07/31/2000	3	6.00	81755	28.27	**2890**	Cone	DC

Comments:

Remarks:

Distribution:
(2) Addressee Attn:
(1) Supplier Attn:

Respectfully submitted,

Shawn C. Morman, E.I.T.
Technical Services Director

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LABORATORY/FIELD CONCRETE TEST RESULTS

(ASTM C31, C39)

Project: **Golden Eagle Park Dam Modifications**
Location: Golden Eagle Blvd., Fountain Hills

Client: Hunter Contracting
Attn: Bob Carlson
701 N. Cooper Road
Gilbert AZ 85234

Sample Source: Inlet Floor, Sta. 2+95

Project No.: T05354
Report/Set No.: 77
Report Date: 08-Aug-00
Lab No.: 27563

Sampled By: RAM/Adair
Date Sampled: 08/02/2000
Submitted By: RAM/Hemphill
Date Submitted: 08/03/2000

Results:

Supplier: Maricopa Ready Mix #2
Ticket No.: 27131
Truck No.: 162
Batch Size: 8 cy
Mix ID: 340145
Concrete Mix psi @ 14 days
Design Strength: **4000** psi @ 28 days

Time Batched: 6:53 AM
Time Sampled: 7:40 AM

Slump (ASTM C143): 3 inches
Concrete Temp. (ASTM C1064): 86 deg. F
Ambient Temperature: 92 deg. F
Air Content (ASTM C231): 5 %
Unit Weight (ASTM C138): N/A pcf
No. of Samples Prepared: 4
Nominal Sample Size: 6x12

Water Added Before Test: 0 gallons
Water Added After Test: 0 gallons
Time in Mixer: 47 minutes

Lab No.	Date Tested	Age (days)	Cyl. Dia. (in.)	Maximum Load (lbf)	Cross-Sectional Area (sq. in.)	Compressive Strength (psi)	Failure Type	Tested By
27563 A	08/05/2000	3	6.00	98550	28.27	**3490**	Cone	BW

Comments:

Remarks:

Distribution:
(2) Addressee Attn:
(1) Supplier Attn:

Respectfully submitted,

Shawn C. Morman, E.I.T.
Technical Services Director

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LABORATORY/FIELD CONCRETE TEST RESULTS

(ASTM C31, C39)

Project: **Golden Eagle Park Dam Modifications**
Location: Golden Eagle Blvd., Fountain Hills

Client: Hunter Contracting
Attn: Bob Carlson
701 N. Cooper Road
Gilbert AZ 85234

Sample Source: Inlet Floor, Sta. 2+95

Project No.: T05354
Report/Set No.: 17
Report Date: 10-Aug-00
Lab No.: 27563

Sampled By: RAM/Adair
Date Sampled: 08/02/2000
Submitted By: RAM/Hemphill
Date Submitted: 08/03/2000

Results:

Supplier: Maricopa Ready Mix #2
Ticket No.: 27131
Truck No.: 162
Batch Size: 8 cy
Mix ID: 340145
Concrete Mix psi @ 14 days
Design Strength: **4000** psi @ 28 days

Slump (ASTM C143): 3 inches
Concrete Temp. (ASTM C1064): 86 deg. F
Ambient Temperature: 92 deg. F
Air Content (ASTM C231): 5 %
Unit Weight (ASTM C138): N/A pcf
No. of Samples Prepared: 4
Nominal Sample Size: 6x12

Water Added Before Test: 0 gallons
Water Added After Test: 0 gallons
Time in Mixer: 47 minutes

Time Batched: 6:53 AM
Time Sampled: 7:40 AM

Lab No.	Date Tested	Age (days)	Cyl. Dia. (in.)	Maximum Load (lbf)	Cross-Sectional Area (sq. in.)	Compressive Strength (psi)	Failure Type	Tested By
27563 A	08/05/2000	3	6.00	98550	28.27	**3490**	Cone	BW
27563 B	08/09/2000	7	6.01	104445	28.37	**3680**	Cone	DC

Comments:

Remarks:

Distribution:
(2) Addressee Attn:
(1) Supplier Attn:

Respectfully submitted,

Shawn C. Morman, E.I.T.
Technical Services Director

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LABORATORY/FIELD CONCRETE TEST RESULTS

(ASTM C31, C39)

Project: **Golden Eagle Park Dam Modifications**
Location: Golden Eagle Blvd., Fountain Hills

Client: Hunter Contracting
Attn: Bob Carlson
701 N. Cooper Road
Gilbert AZ 85234

Sample Source: Inlet Floor, Sta. 2+95

Project No.: T05354
Report/Set No.: 17
Report Date: 31-Aug-00
Lab No.: 27563

Sampled By: RAM/Adair
Date Sampled: 08/02/2000
Submitted By: RAM/Hemphill
Date Submitted: 08/03/2000

Results:

Supplier: Maricopa Ready Mix #2
Ticket No.: 27131
Truck No.: 162
Batch Size: 8 cy
Mix ID: 340145
Concrete Mix psi @ 14 days
Design Strength: **4000** psi @ 28 days

Slump (ASTM C143): 3 inches
Concrete Temp. (ASTM C1064): 86 deg. F
Ambient Temperature: 92 deg. F
Air Content (ASTM C231): 5 %
Unit Weight (ASTM C138): N/A pcf
No. of Samples Prepared: 4
Nominal Sample Size: 6x12

Water Added Before Test: 0 gallons
Water Added After Test: 0 gallons
Time in Mixer: 47 minutes

Time Batched: 6:53 AM
Time Sampled: 7:40 AM

Lab No.	Date Tested	Age (days)	Cyl. Dia. (in.)	Maximum Load (lbf)	Cross-Sectional Area (sq. in.)	Compressive Strength (psi)	Failure Type	Tested By
27563 A	08/05/2000	3	6.00	98550	28.27	**3490**	Cone	BW
27563 B	08/09/2000	7	6.01	104445	28.37	**3680**	Cone	DC
27563 C	08/30/2000	28	6.00	121765	28.27	**4310**	Cone	DC
27563 D	08/30/2000	28	6.00	126070	28.27	**4460**	Cone	DC

Comments:

Remarks:

Material meets the design 28 day compressive strength.

Distribution:
(2) Addressee Attn:
(1) Supplier Attn:

Respectfully submitted,

Shawn C. Morman, E.I.T.
Technical Services Director

Rieker Atkinson McBee & Assoc., Inc.
2105 S. Hardy Drive, Suite 13
Tempe, AZ 85282-1924

Geotechnical Engineering
Construction Materials Testing
Phone (480) 921-8100
Fax (480) 921-4081

LABORATORY/FIELD CONCRETE TEST RESULTS

(ASTM C31, C39)

Project: **Golden Eagle Park Dam Modifications**
Location: Golden Eagle Blvd., Fountain Hills

Client: Hunter Contracting
Attn: Bob Carlson
701 N. Cooper Road
Gilbert AZ 85234

Sample Source: West Wing Walls

Project No.: T05354
Report/Set No.: 18
Report Date: 16-Aug-00
Lab No.: 27701

Sampled By: RAM/Adair
Date Sampled: 08/07/2000
Submitted By: RAM/Adair
Date Submitted: 08/08/2000

Results:

Supplier: Maricopa Ready Mix #2
Ticket No.: 27920
Truck No.: 139
Batch Size: 10 cy
Mix ID: 340145
Concrete Mix psi @ 14 days
Design Strength: **4000** psi @ 28 days

Slump (ASTM C143): 2.5 inches
Concrete Temp. (ASTM C1064): 87 deg. F
Ambient Temperature: 90 deg. F
Air Content (ASTM C231): 5.0 %
Unit Weight (ASTM C138): N/A pcf
No. of Samples Prepared: 4
Nominal Sample Size: 6 x 12

Water Added Before Test: 10 gallons
Water Added After Test: 0 gallons
Time in Mixer: 64 minutes

Time Batched: 6:56 AM
Time Sampled: 8:00 AM

Lab No.	Date Tested	Age (days)	Cyl. Dia. (in.)	Maximum Load (lbf)	Cross-Sectional Area (sq. in.)	Compressive Strength (psi)	Failure Type	Tested By
27701 A	08/10/2000	3	6.00	80550	28.27	**2850**	Cone	DC
27701 B	08/14/2000	7	6.01	96745	28.37	**3410**	Cone	DC

Comments:

Remarks:

Distribution:
(2) Addressee Attn:
(1) Supplier Attn:

Respectfully submitted,

Shawn C. Morman, E.I.T.
Technical Services Director

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LABORATORY/FIELD CONCRETE TEST RESULTS

(ASTM C31, C39)

Project: **Golden Eagle Park Dam Modifications**
Location: Golden Eagle Blvd., Fountain Hills

Client: Hunter Contracting
Attn: Bob Carlson
701 N. Cooper Road
Gilbert AZ 85234

Sample Source: West Wing Walls

Project No.: T05354
Report/Set No.: 18
Report Date: 16-Aug-00
Lab No.: 27701

Sampled By: RAM/ Adair
Date Sampled: 08/07/2000
Submitted By: RAM/ Adair
Date Submitted: 08/08/2000

Results:

Supplier: Maricopa Ready Mix #2
Ticket No.: 27920
Truck No.: 139
Batch Size: 10 cy
Mix ID: 340145
Concrete Mix psi @ 14 days
Design Strength: **4000** psi @ 28 days

Slump (ASTM C143): 2.5 inches
Concrete Temp. (ASTM C1064): 87 deg. F
Ambient Temperature: 90 deg. F
Air Content (ASTM C231): 5.0 %
Unit Weight (ASTM C138): N/A pcf
No. of Samples Prepared: 4
Nominal Sample Size: 6 x 12

Water Added Before Test: 10 gallons
Water Added After Test: 0 gallons
Time in Mixer: 64 minutes

Time Batched: 6:56 AM
Time Sampled: 8:00 AM

Lab No.	Date Tested	Age (days)	Cyl. Dia. (in.)	Maximum Load (lbf)	Cross-Sectional Area (sq. in.)	Compressive Strength (psi)	Failure Type	Tested By
27701 A	08/10/2000	3	6.00	80550	28.27	**2850**	Cone	DC
27701 B	08/14/2000	7	6.01	96745	28.37	**3410**	Cone	DC

Comments:

Remarks:

Distribution:
(2) Addressee Attn:
(1) Supplier Attn:

Respectfully submitted,

Shawn C. Morman, E.I.T.
Technical Services Director

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LABORATORY/FIELD CONCRETE TEST RESULTS

(ASTM C31, C39)

Project: **Golden Eagle Park Dam Modifications**
Location: Golden Eagle Blvd., Fountain Hills

Client: Hunter Contracting
Attn: Bob Carlson
701 N. Cooper Road
Gilbert AZ 85234

Sample Source: West Wing Walls

Project No.: T05354
Report/Set No.: 18
Report Date: 05-Sep-00
Lab No.: 27701

Sampled By: RAM/Adair
Date Sampled: 08/07/2000
Submitted By: RAM/Adair
Date Submitted: 08/08/2000

Results:

Supplier: Maricopa Ready Mix #2
Ticket No.: 27920
Truck No.: 139
Batch Size: 10 cy
Mix ID: 340145
Concrete Mix psi @ 14 days
Design Strength: **4000** psi @ 28 days

Slump (ASTM C143): 2.5 inches
Concrete Temp. (ASTM C1064): 87 deg. F
Ambient Temperature: 90 deg. F
Air Content (ASTM C231): 5.0 %
Unit Weight (ASTM C138): N/A pcf
No. of Samples Prepared: 4
Nominal Sample Size: 6 x 12

Water Added Before Test: 10 gallons
Water Added After Test: 0 gallons
Time in Mixer: 64 minutes

Time Batched: 6:56 AM
Time Sampled: 8:00 AM

Lab No.	Date Tested	Age (days)	Cyl. Dia. (in.)	Maximum Load (lbf)	Cross-Sectional Area (sq. in.)	Compressive Strength (psi)	Failure Type	Tested By
27701 A	08/10/2000	3	6.00	80550	28.27	**2850**	Cone	DC
27701 B	08/14/2000	7	6.01	96745	28.37	**3410**	Cone	DC
27701 C	09/04/2000	28	6.00	113730	28.27	**4020**	Cone	BW
27701 D	09/04/2000	28	6.00	114240	28.27	**4040**	Cone	BW

Comments:

Remarks:

Material meets the design 28 day compressive strength.

Distribution:
(2) Addressee Attn:
(1) Supplier Attn:

Respectfully submitted,

Shawn C. Morman, E.I.T.
Technical Services Director

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LABORATORY/FIELD CONCRETE TEST RESULTS

(ASTM C31, C39)

Project: **Golden Eagle Park Dam Modifications**
Location: Golden Eagle Blvd., Fountain Hills

Client: Hunter Contracting
Attn: Bob Carlson
701 N. Cooper Road
Gilbert AZ 85234

Sample Source: 60" Inlet Floor, Sta. 2+00

Project No.: T05354
Report/Set No.: 19
Report Date: 21-Aug-00
Lab No.: 27865

Sampled By: RAM/Adair
Date Sampled: 08/11/2000
Submitted By: RAM/Adair
Date Submitted: 08/15/2000

Results:

Supplier: Maricopa Ready Mix #2
Ticket No.: 29004
Truck No.: 139
Batch Size: 10 cy
Mix ID: 340145
Concrete Mix Design Strength: psi @ 14 days; **4000** psi @ 28 days

Slump (ASTM C143): 3.5 inches
Concrete Temp. (ASTM C1064): 89 deg. F
Ambient Temperature: 92 deg. F
Air Content (ASTM C231): N/A %
Unit Weight (ASTM C138): N/A pcf
No. of Samples Prepared: 4
Nominal Sample Size: 4 x 8

Time Batched: 7:09 AM
Time Sampled: 8:00 AM

Water Added Before Test: 0 gallons
Water Added After Test: 0 gallons
Time in Mixer: 51 minutes

Lab No.	Date Tested	Age (days)	Cyl. Dia. (in.)	Maximum Load (lbf)	Cross-Sectional Area (sq. in.)	Compressive Strength (psi)	Failure Type	Tested By
27865 A	08/18/2000	7	6.00	97670	28.27	**3450**	Cone	CW

Comments:

Remarks:

Distribution:
(2) Addressee Attn:
(1) Supplier Attn:

Respectfully submitted,

Shawn C. Morman, E.I.T.
Technical Services Director

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LABORATORY/FIELD CONCRETE TEST RESULTS

(ASTM C31, C39)

Project: **Golden Eagle Park Dam Modifications**
Location: Golden Eagle Blvd., Fountain Hills

Client: Hunter Contracting
Attn: Bob Carlson
701 N. Cooper Road
Gilbert AZ 85234

Sample Source: 60" Inlet Floor, Sta. 2+00

Project No.: T05354
Report/Set No.: 19
Report Date: 11-Sep-00
Lab No.: 27865

Sampled By: RAM/Adair
Date Sampled: 08/11/2000
Submitted By: RAM/Adair
Date Submitted: 08/15/2000

Results:

Supplier: Maricopa Ready Mix #2
Ticket No.: 29004
Truck No.: 139
Batch Size: 10 cy
Mix ID: 340145
Concrete Mix psi @ 14 days
Design Strength: **4000** psi @ 28 days

Slump (ASTM C143): 3.5 inches
Concrete Temp. (ASTM C1064): 89 deg. F
Ambient Temperature: 92 deg. F
Air Content (ASTM C231): N/A %
Unit Weight (ASTM C138): N/A pcf
No. of Samples Prepared: 4
Nominal Sample Size: 4 x 8

Water Added Before Test: 0 gallons
Water Added After Test: 0 gallons
Time in Mixer: 51 minutes

Time Batched: 7:09 AM
Time Sampled: 8:00 AM

Lab No.	Date Tested	Age (days)	Cyl. Dia. (in.)	Maximum Load (lbf)	Cross-Sectional Area (sq. in.)	Compressive Strength (psi)	Failure Type	Tested By
27865 A	08/18/2000	7	6.00	97670	28.27	**3450**	Cone	CW
27865 B	09/08/2000	28	6.00	127895	28.27	**4520**	Cone	CW
27865 C	09/08/2000	28	6.00	124690	28.27	**4410**	Cone	CW

Comments:

Remarks:

Material meets the design 28 day compressive strength.

Distribution:
(2) Addressee Attn:
(1) Supplier Attn:

Respectfully submitted,

Shawn C. Morman, E.I.T.
Technical Services Director

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LABORATORY/FIELD CONCRETE TEST RESULTS

(ASTM C31, C39)

Project: **Golden Eagle Park Dam Modifications**
Location: Golden Eagle Blvd., Fountain Hills

Client: Hunter Contracting
Attn: Bob Carlson
701 N. Cooper Road
Gilbert AZ 85234

Sample Source: 60" Inlet Floor, 2nd Half

Project No.: T05354
Report/Set No.: 20
Report Date: 24-Aug-00
Lab No.: 27887

Sampled By: RAM/ Adair
Date Sampled: 08/15/2000
Submitted By: RAM/ Adair
Date Submitted: 08/16/2000

Results:

Supplier:	Maricopa Ready Mix #2	Slump (ASTM C143):	1.75	inches
Ticket No.:	29473	Concrete Temp. (ASTM C1064):	89	deg. F
Truck No.:	138	Ambient Temperature:	92	deg. F
Batch Size:	10 cy	Air Content (ASTM C231):	4.5	%
Mix ID:	340145	Unit Weight (ASTM C138):	N/A	pcf
Concrete Mix	psi @ 14 days	No. of Samples Prepared:	4	
Design Strength:	**4000** psi @ 28 days	Nominal Sample Size:	6x12	
		Water Added Before Test:	10	gallons
Time Batched:	5:04 AM	Water Added After Test:	0	gallons
Time Sampled:	6:15 AM	Time in Mixer:	71	minutes

Lab No.	Date Tested	Age (days)	Cyl. Dia. (in.)	Maximum Load (lbf)	Cross-Sectional Area (sq. in.)	Compressive Strength (psi)	Failure Type	Tested By
27887 A	08/22/2000	7	6.00	98300	28.27	**3480**	Cone	DC

Comments:

Remarks:

Distribution:
(2) Addressee Attn:
(1) Supplier Attn:

Respectfully submitted,

Shawn C. Morman, E.I.T.
Technical Services Director

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LABORATORY/FIELD CONCRETE TEST RESULTS

(ASTM C31, C39)

Project: **Golden Eagle Park Dam Modifications**
Location: Golden Eagle Blvd., Fountain Hills

Client: Hunter Contracting
Attn: Bob Carlson
701 N. Cooper Road
Gilbert AZ 85234

Sample Source: 60" Inlet Floor, 2nd Half

Project No.: T05354
Report/Set No.: 20
Report Date: 13-Sep-00
Lab No.: 27887

Sampled By: RAM/ Adair
Date Sampled: 08/15/2000
Submitted By: RAM/ Adair
Date Submitted: 08/16/2000

Results:

Supplier:	Maricopa Ready Mix #2	Slump (ASTM C143):	1.75	inches
Ticket No.:	29473	Concrete Temp. (ASTM C1064):	89	deg. F
Truck No.:	138	Ambient Temperature:	92	deg. F
Batch Size:	10 cy	Air Content (ASTM C231):	4.5	%
Mix ID:	340145	Unit Weight (ASTM C138):	N/A	pcf
Concrete Mix	psi @ 14 days	No. of Samples Prepared:	4	
Design Strength:	**4000** psi @ 28 days	Nominal Sample Size:	6x12	
		Water Added Before Test:	10	gallons
Time Batched:	5:04 AM	Water Added After Test:	0	gallons
Time Sampled:	6:15 AM	Time in Mixer:	71	minutes

Lab No.	Date Tested	Age (days)	Cyl. Dia. (in.)	Maximum Load (lbf)	Cross-Sectional Area (sq. in.)	Compressive Strength (psi)	Failure Type	Tested By
27887A	08/22/2000	7	6.00	98300	28.27	**3480**	Cone	DC
27887B	09/12/2000	28	6.00	134715	28.27	**4760**	Cone	DC
27887C	09/12/2000	28	6.02	136840	28.46	**4810**	Cone	DC

Comments:

Remarks:

Material meets the design 28 day compressive strength.

Distribution:
(2) Addressee Attn:
(1) Supplier Attn:

Respectfully submitted,

Shawn C. Morman, E.I.T.
Technical Services Director

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LABORATORY/FIELD CONCRETE TEST RESULTS

(ASTM C31, C39)

Project: **Golden Eagle Park Dam Modifications**
Location: Golden Eagle Blvd., Fountain Hills

Client: Hunter Contracting
Attn: Bob Carlson
701 N. Cooper Road
Gilbert AZ 85234

Sample Source: 60" Walls and Collar

Project No.: T05354
Report/Set No.: 21
Report Date: 25-Aug-00
Lab No.: 28028

Sampled By: RAM/ Adair
Date Sampled: 08/21/2000
Submitted By: RAM/ Adair
Date Submitted: 08/22/2000

Results:

Supplier: Maricopa Ready Mix #2
Ticket No.: 30650
Truck No.: 105
Batch Size: 6 cy
Mix ID: 340145
Concrete Mix psi @ 14 days
Design Strength: **4000** psi @ 28 days

Slump (ASTM C143): 4 inches
Concrete Temp. (ASTM C1064): 84 deg. F
Ambient Temperature: 84 deg. F
Air Content (ASTM C231): 5.5 %
Unit Weight (ASTM C138): N/A pcf
No. of Samples Prepared: 4
Nominal Sample Size: 6x12

Water Added Before Test: 0 gallons
Water Added After Test: 0 gallons
Time in Mixer: 62 minutes

Time Batched: 6:43 AM
Time Sampled: 7:45 AM

Lab No.	Date Tested	Age (days)	Cyl. Dia. (in.)	Maximum Load (lbf)	Cross-Sectional Area (sq. in.)	Compressive Strength (psi)	Failure Type	Tested By
28028 A	08/23/2000	2	6.02	64645	28.46	**2270**	Cone	DC
28028 B	08/24/2000	3	6.01	78490	28.37	**2770**	Cone	DC

Comments:

Remarks:

Distribution:
(2) Addressee Attn:
(1) Supplier Attn:

Respectfully submitted,

Shawn C. Morman, E.I.T.
Technical Services Director

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LABORATORY/FIELD CONCRETE TEST RESULTS

(ASTM C31, C39)

Project: **Golden Eagle Park Dam Modifications**
Location: Golden Eagle Blvd., Fountain Hills

Client: Hunter Contracting
Attn: Bob Carlson
701 N. Cooper Road
Gilbert AZ 85234

Sample Source: 60" Walls and Collar

Project No.: T05354
Report/Set No.: 21
Report Date: 20-Sep-00
Lab No.: 28028

Sampled By: RAM/ Adair
Date Sampled: 08/21/2000
Submitted By: RAM/ Adair
Date Submitted: 08/22/2000

Results:

Supplier: Maricopa Ready Mix #2
Ticket No.: 30650
Truck No.: 105
Batch Size: 6 cy
Mix ID: 340145
Concrete Mix psi @ 14 days
Design Strength: **4000** psi @ 28 days

Slump (ASTM C143): 4 inches
Concrete Temp. (ASTM C1064): 84 deg. F
Ambient Temperature: 84 deg. F
Air Content (ASTM C231): 5.5 %
Unit Weight (ASTM C138): N/A pcf
No. of Samples Prepared: 4
Nominal Sample Size: 6x12

Water Added Before Test: 0 gallons
Water Added After Test: 0 gallons
Time in Mixer: 62 minutes

Time Batched: 6:43 AM
Time Sampled: 7:45 AM

Lab No.	Date Tested	Age (days)	Cyl. Dia. (in.)	Maximum Load (lbf)	Cross-Sectional Area (sq. in.)	Compressive Strength (psi)	Failure Type	Tested By
28028 A	08/23/2000	2	6.02	64645	28.46	**2270**	Cone	DC
28028 B	08/24/2000	3	6.01	78490	28.37	**2770**	Cone	DC
28028 C	09/19/2000	29	6.00	120970	28.27	**4280**	Cone	DC
28028 D	09/19/2000	29	6.00	123035	28.27	**4350**	Cone	DC

Comments:

Remarks:

Material meets the design 28 day compressive strength.

Distribution:
(2) Addressee Attn:
(1) Supplier Attn:

Respectfully submitted,

Shawn C. Morman, E.I.T.
Technical Services Director

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LABORATORY/FIELD CONCRETE TEST RESULTS

(ASTM C31, C39)

Project: **Golden Eagle Park Dam Modifications**
Location: Golden Eagle Blvd., Fountain Hills

Client: Hunter Contracting
Attn: Bob Carlson
701 N. Cooper Road
Gilbert AZ 85234

Sample Source: Flood Wall Footing, Sta. 10+00

Project No.: T05354
Report/Set No.: 22
Report Date: 20-Sep-00
Lab No.: 28126

Sampled By: RAM/Adair
Date Sampled: 08/22/2000
Submitted By: RAM/Adair
Date Submitted: 08/24/2000

Results:

Supplier: Maricopa Ready Mix #2
Ticket No.: 30873
Truck No.: 165
Batch Size: 10 cy
Mix ID: 340145
Concrete Mix Design Strength: psi @ 14 days; **4000** psi @ 28 days

Slump (ASTM C143): 3 inches
Concrete Temp. (ASTM C1064): 84 deg. F
Ambient Temperature: 85 deg. F
Air Content (ASTM C231): 5.4 %
Unit Weight (ASTM C138): N/A pcf
No. of Samples Prepared: 4
Nominal Sample Size: 6x12

Water Added Before Test: 0 gallons
Water Added After Test: 0 gallons
Time in Mixer: 51 minutes

Time Batched: 5:29 AM
Time Sampled: 6:20 AM

Lab No.	Date Tested	Age (days)	Cyl. Dia. (in.)	Maximum Load (lbf)	Cross-Sectional Area (sq. in.)	Compressive Strength (psi)	Failure Type	Tested By
28126A	08/29/2000	7	6.01	109515	28.37	**3860**	Cone	CW
28126B	09/19/2000	28	6.01	125170	28.37	**4410**	Cone	DC
28126C	09/19/2000	28	6.00	126690	28.27	**4480**	Cone	DC

Comments:

Remarks:

Material meets the design 28 day compressive strength.

Distribution:
(2) Addressee Attn:
(1) Supplier Attn:

Respectfully submitted,

Shawn C. Morman, E.I.T.
Technical Services Director

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LABORATORY/FIELD CONCRETE TEST RESULTS

(ASTM C31, C39)

Project: **Golden Eagle Park Dam Modifications**
Location: Golden Eagle Blvd., Fountain Hills

Client: Hunter Contracting
Attn: Bob Carlson
701 N. Cooper Road
Gilbert AZ 85234

Sample Source: Flood Wall Footing, Sta. 10+00

Project No.: T05354
Report/Set No.: 22
Report Date: 30-Aug-00
Lab No.: 28126

Sampled By: RAM/Adair
Date Sampled: 08/22/2000
Submitted By: RAM/Adair
Date Submitted: 08/24/2000

Results:

Supplier: Maricopa Ready Mix #2
Ticket No.: 30873
Truck No.: 165
Batch Size: 10 cy
Mix ID: 340145
Concrete Mix Design Strength: psi @ 14 days; **4000** psi @ 28 days

Slump (ASTM C143): 3 inches
Concrete Temp. (ASTM C1064): 84 deg. F
Ambient Temperature: 85 deg. F
Air Content (ASTM C231): 5.4 %
Unit Weight (ASTM C138): N/A pcf
No. of Samples Prepared: 4
Nominal Sample Size: 6x12

Time Batched: 5:29 AM
Time Sampled: 6:20 AM

Water Added Before Test: 0 gallons
Water Added After Test: 0 gallons
Time in Mixer: 51 minutes

Lab No.	Date Tested	Age (days)	Cyl. Dia. (in.)	Maximum Load (lbf)	Cross-Sectional Area (sq. in.)	Compressive Strength (psi)	Failure Type	Tested By
28126 A	08/29/2000	7	6.01	109515	28.37	**3860**	Cone	CW

Comments:

Remarks:

Distribution:
(2) Addressee Attn:
(1) Supplier Attn:

Respectfully submitted,

Shawn C. Morman, E.I.T.
Technical Services Director

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LABORATORY/FIELD CONCRETE TEST RESULTS

(ASTM C31, C39)

Project: **Golden Eagle Park Dam Modifications**
Location: Golden Eagle Blvd., Fountain Hills

Client: Hunter Contracting
Attn: Bob Carlson
701 N. Cooper Road
Gilbert AZ 85234

Sample Source: Flood Wall Footing, Sta. 10+00

Project No.: T05354
Report/Set No.: 22
Report Date: 20-Sep-00
Lab No.: 28126

Sampled By: RAM/ Adair
Date Sampled: 08/22/2000
Submitted By: RAM/ Adair
Date Submitted: 08/24/2000

Results:

Supplier: Maricopa Ready Mix #2
Ticket No.: 30873
Truck No.: 165
Batch Size: 10 cy
Mix ID: 340145
Concrete Mix psi @ 14 days
Design Strength: **4000** psi @ 28 days

Slump (ASTM C143): 3 inches
Concrete Temp. (ASTM C1064): 84 deg. F
Ambient Temperature: 85 deg. F
Air Content (ASTM C231): 5.4 %
Unit Weight (ASTM C138): N/A pcf
No. of Samples Prepared: 4
Nominal Sample Size: 6x12

Water Added Before Test: 0 gallons
Water Added After Test: 0 gallons
Time in Mixer: 51 minutes

Time Batched: 5:29 AM
Time Sampled: 6:20 AM

Lab No.	Date Tested	Age (days)	Cyl. Dia. (in.)	Maximum Load (lbf)	Cross-Sectional Area (sq. in.)	Compressive Strength (psi)	Failure Type	Tested By
28126A	08/29/2000	7	6.01	109515	28.37	**3860**	Cone	CW
28126B	09/19/2000	28	6.01	125170	28.37	**4410**	Cone	DC
28126C	09/19/2000	28	6.00	126690	28.27	**4480**	Cone	DC

Comments:

Remarks:

Material meets the design 28 day compressive strength.

Distribution:
(2) Addressee Attn:
(1) Supplier Attn:

Respectfully submitted,

Shawn C. Morman, E.I.T.
Technical Services Director

Ricker Atkinson McBee & Assoc., Inc.
2105 S. Hardy Drive, Suite 13
Tempe, AZ 85282-1924

Geotechnical Engineering
Construction Materials Testing
Phone (480) 921-8100
Fax (480) 921-4081

LABORATORY/FIELD CONCRETE TEST RESULTS

(ASTM C31, C39)

Project: **Golden Eagle Park Dam Modifications**
Location: Golden Eagle Blvd., Fountain Hills

Client: Hunter Contracting
Attn: Bob Carlson
701 N. Cooper Road
Gilbert AZ 85234

Sample Source: 17' Wide Flood Wall, Sta. 40+50, East End

Project No.: T05354
Report/Set No.: 24
Report Date: 25-Sep-00
Lab No.: 28263

Sampled By: RAM/Adair
Date Sampled: 08/25/2000
Submitted By: RAM/Adair
Date Submitted: 08/29/2000

Results:

Supplier: Maricopa Ready Mix #2
Ticket No.: 31797
Truck No.: 132
Batch Size: 10 cy
Mix ID: 340145
Concrete Mix Design Strength: psi @ 14 days
4000 psi @ 28 days

Slump (ASTM C143): 4.25 inches
Concrete Temp. (ASTM C1064): 85 deg. F
Ambient Temperature: 92 deg. F
Air Content (ASTM C231): 6.1 %
Unit Weight (ASTM C138): N/A pcf
No. of Samples Prepared: 4
Nominal Sample Size: 6x12

Water Added Before Test: 0 gallons
Water Added After Test: 0 gallons
Time in Mixer: 56 minutes

Time Batched: 7:02 AM
Time Sampled: 7:58 AM

Lab No.	Date Tested	Age (days)	Cyl. Dia. (in.)	Maximum Load (lbf)	Cross-Sectional Area (sq. in.)	Compressive Strength (psi)	Failure Type	Tested By
28263 A	09/01/2000	7	6.00	88780	28.27	**3140**	Cone	CW
28263 B	09/22/2000	28	6.00	116480	28.27	**4120**	Cone	CW
28263 C	09/22/2000	28	6.00	119260	28.27	**4220**	Cone	CW

Comments:

Remarks:

Material meets the design 28 day compressive strength.

Distribution:
(2) Addressee Attn:
(1) Supplier Attn:

Respectfully submitted,

Shawn C. Morman, E.I.T.
Technical Services Director

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LABORATORY/FIELD CONCRETE TEST RESULTS

(ASTM C31, C39)

Project: **Golden Eagle Park Dam Modifications**
Location: Golden Eagle Blvd., Fountain Hills

Client: Hunter Contracting
Attn: Bob Carlson
701 N. Cooper Road
Gilbert AZ 85234

Sample Source: 17' Wide Flood Wall, Sta. 40+50, East End

Project No.: T05354
Report/Set No.: 24
Report Date: 05-Sep-00
Lab No.: 28263

Sampled By: RAM/Adair
Date Sampled: 08/25/2000
Submitted By: RAM/Adair
Date Submitted: 08/29/2000

Results:

Supplier:	Maricopa Ready Mix #2	Slump (ASTM C143):	4.25	inches
Ticket No.:	31797	Concrete Temp. (ASTM C1064):	85	deg. F
Truck No.:	132	Ambient Temperature:	92	deg. F
Batch Size:	10 cy	Air Content (ASTM C231):	N/A	%
Mix ID:	340145	Unit Weight (ASTM C138):	N/A	pcf
Concrete Mix	psi @ 14 days	No. of Samples Prepared:	4	
Design Strength:	**4000** psi @ 28 days	Nominal Sample Size:	6x12	
		Water Added Before Test:	0	gallons
Time Batched:	7:02 AM	Water Added After Test:	0	gallons
Time Sampled:	7:58 AM	Time in Mixer:	56	minutes

Lab No.	Date Tested	Age (days)	Cyl. Dia. (in.)	Maximum Load (lbf)	Cross-Sectional Area (sq. in.)	Compressive Strength (psi)	Failure Type	Tested By
28263 A	09/01/2000	7	6.00	88780	28.27	**3140**	Cone	CW

Comments:

Remarks:

Distribution:
(2) Addressee Attn:
(1) Supplier Attn:

Respectfully submitted,

Shawn C. Morman, E.I.T.
Technical Services Director

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LABORATORY/FIELD CONCRETE TEST RESULTS

(ASTM C31, C39)

Project: **Golden Eagle Park Dam Modifications**
Location: Golden Eagle Blvd., Fountain Hills

Client: Hunter Contracting
Attn: Bob Carlson
701 N. Cooper Road
Gilbert AZ 85234

Sample Source: 17' Wide Flood Wall, Sta. 40+50, West End

Project No.: T05354
Report/Set No.: 23
Report Date: 25-Sep-00
Lab No.: 28262

Sampled By: RAM/ Adair
Date Sampled: 08/25/2000
Submitted By: RAM/ Adair
Date Submitted: 08/29/2000

Results:

Supplier: Maricopa Ready Mix #2
Ticket No.: 31745
Truck No.: 101
Batch Size: 10 cy
Mix ID: 340145
Concrete Mix Design Strength: psi @ 14 days
4000 psi @ 28 days

Slump (ASTM C143): 1.75 inches
Concrete Temp. (ASTM C1064): 87 deg. F
Ambient Temperature: 85 deg. F
Air Content (ASTM C231): 6.0 %
Unit Weight (ASTM C138): N/A pcf
No. of Samples Prepared: 4
Nominal Sample Size: 6x12

Time Batched: 5:15 AM
Time Sampled: 6:15 AM

Water Added Before Test: 0 gallons
Water Added After Test: 0 gallons
Time in Mixer: 60 minutes

Lab No.	Date Tested	Age (days)	Cyl. Dia. (in.)	Maximum Load (lbf)	Cross-Sectional Area (sq. in.)	Compressive Strength (psi)	Failure Type	Tested By
28262 A	09/01/2000	7	6.00	105100	28.27	**3720**	Cone	CW
28262 B	09/22/2000	28	6.00	121360	28.27	**4290**	Cone	CW
28262 C	09/22/2000	28	6.00	124415	28.27	**4400**	Cone	CW

Comments:

Remarks:

Material meets the design 28 day compressive strength.

Distribution:
(2) Addressee Attn:
(1) Supplier Attn:

Respectfully submitted,

Shawn C. Morman, E.I.T.
Technical Services Director

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LABORATORY/FIELD CONCRETE TEST RESULTS

(ASTM C31, C39)

Project: **Golden Eagle Park Dam Modifications**
Location: Golden Eagle Blvd., Fountain Hills

Client: Hunter Contracting
Attn: Bob Carlson
701 N. Cooper Road
Gilbert AZ 85234

Sample Source: 17' Wide Flood Wall, Sta. 40+50, West End

Project No.: T05354
Report/Set No.: 23
Report Date: 25-Sep-00
Lab No.: 28262

Sampled By: RAM/ Adair
Date Sampled: 08/25/2000
Submitted By: RAM/ Adair
Date Submitted: 08/29/2000

Results:

Supplier: Maricopa Ready Mix #2
Ticket No.: 31745
Truck No.: 101
Batch Size: 10 cy
Mix ID: 340145
Concrete Mix Design Strength: psi @ 14 days; **4000** psi @ 28 days

Slump (ASTM C143): 1.75 inches
Concrete Temp. (ASTM C1064): 87 deg. F
Ambient Temperature: 85 deg. F
Air Content (ASTM C231): 6.0 %
Unit Weight (ASTM C138): N/A pcf
No. of Samples Prepared: 4
Nominal Sample Size: 6x12

Water Added Before Test: 0 gallons
Water Added After Test: 0 gallons
Time in Mixer: 60 minutes

Time Batched: 5:15 AM
Time Sampled: 6:15 AM

Lab No.	Date Tested	Age (days)	Cyl. Dia. (in.)	Maximum Load (lbf)	Cross-Sectional Area (sq. in.)	Compressive Strength (psi)	Failure Type	Tested By
28262 A	09/01/2000	7	6.00	105100	28.27	**3720**	Cone	CW
28262 B	09/22/2000	28	6.00	121360	28.27	**4290**	Cone	CW
28262 C	09/22/2000	28	6.00	124415	28.27	**4400**	Cone	CW

Comments:

Remarks:

Material meets the design 28 day compressive strength.

Distribution:
(2) Addressee Attn:
(1) Supplier Attn:

Respectfully submitted,

Shawn C. Morman, E.I.T.
Technical Services Director

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LABORATORY/FIELD CONCRETE TEST RESULTS

(ASTM C31, C39)

Project: **Golden Eagle Park Dam Modifications**
Location: Golden Eagle Blvd., Fountain Hills

Client: Hunter Contracting
Attn: Bob Carlson
701 N. Cooper Road
Gilbert AZ 85234

Sample Source: 17' Wide Flood Wall, Sta. 40+50, West End

Project No.: T05354
Report/Set No.: 23
Report Date: 06-Sep-00
Lab No.: 28262

Sampled By: RAM/Adair
Date Sampled: 08/25/2000
Submitted By: RAM/Adair
Date Submitted: 08/29/2000

Results:

Supplier: Maricopa Ready Mix #2
Ticket No.: 31745
Truck No.: 101
Batch Size: 10 cy
Mix ID: 340145
Concrete Mix psi @ 14 days
Design Strength: **4000** psi @ 28 days

Slump (ASTM C143): 1.75 inches
Concrete Temp. (ASTM C1064): 87 deg. F
Ambient Temperature: 85 deg. F
Air Content (ASTM C231): 6.0 %
Unit Weight (ASTM C138): N/A pcf
No. of Samples Prepared: 4
Nominal Sample Size: 6x12

Water Added Before Test: 0 gallons
Water Added After Test: 0 gallons
Time in Mixer: 60 minutes

Time Batched: 5:15 AM
Time Sampled: 6:15 AM

Lab No.	Date Tested	Age (days)	Cyl. Dia. (in.)	Maximum Load (lbf)	Cross-Sectional Area (sq. in.)	Compressive Strength (psi)	Failure Type	Tested By
28262 A	09/01/2000	7	6.00	105100	28.27	**3720**	Cone	CW

Comments:

Remarks:

Distribution:
(2) Addressee Attn:
(1) Supplier Attn:

Respectfully submitted,

Shawn C. Morman, E.I.T.
Technical Services Director

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LABORATORY/FIELD CONCRETE TEST RESULTS

(ASTM C31, C39)

Project: **Golden Eagle Park Dam Modifications**
Location: Golden Eagle Blvd., Fountain Hills

Client: Hunter Contracting
Attn: Bob Carlson
701 N. Cooper Road
Gilbert AZ 85234

Sample Source: Flood Wall, Sta. 41+14 and 40+48

Project No.: T05354
Report/Set No.: 25
Report Date: 28-Sep-00
Lab No.: 28402

Sampled By: RAM/Adair
Date Sampled: 08/30/2000
Submitted By: RAM/Jensen
Date Submitted: 09/01/2000

Results:

Supplier: Maricopa Ready Mix #2
Ticket No.: 32610
Truck No.: 112
Batch Size: 8 cy
Mix ID: 340145
Concrete Mix Design Strength: psi @ 14 days; **4000** psi @ 28 days

Slump (ASTM C143): 2.25 inches
Concrete Temp. (ASTM C1064): 85 deg. F
Ambient Temperature: 83 deg. F
Air Content (ASTM C231): 5.2 %
Unit Weight (ASTM C138): N/A pcf
No. of Samples Prepared: 4
Nominal Sample Size: 6x12

Time Batched: 7:00 AM
Time Sampled: 8:00 AM

Water Added Before Test: 4 gallons
Water Added After Test: 0 gallons
Time in Mixer: 60 minutes

Lab No.	Date Tested	Age (days)	Cyl. Dia. (in.)	Maximum Load (lbf)	Cross-Sectional Area (sq. in.)	Compressive Strength (psi)	Failure Type	Tested By
28402 A	09/06/2000	7	6.01	106125	28.37	**3740**	Cone	DC
28402 B	09/27/2000	28	6.00	128105	28.27	**4530**	Cone	CW
28402 C	09/27/2000	28	6.00	124540	28.27	**4400**	Cone	CW

Comments:

Remarks:

Material meets the design 28 day compressive strength.

Distribution:
(2) Addressee Attn:
(1) Supplier Attn:

Respectfully submitted,

Shawn C. Morman, E.I.T.
Technical Services Director

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LABORATORY/FIELD CONCRETE TEST RESULTS

(ASTM C31, C39)

Project: **Golden Eagle Park Dam Modifications**
Location: Golden Eagle Blvd., Fountain Hills

Client: Hunter Contracting
Attn: Bob Carlson
701 N. Cooper Road
Gilbert AZ 85234

Sample Source: Flood Wall, Sta. 41+14 and 40+48

Project No.: T05354
Report/Set No.: 25
Report Date: 07-Sep-00
Lab No.: 28402

Sampled By: RAM/Adair
Date Sampled: 08/30/2000
Submitted By: RAM/Jensen
Date Submitted: 09/01/2000

Results:

Supplier:	Maricopa Ready Mix #2	Slump (ASTM C143):	2.25	inches
Ticket No.:	32610	Concrete Temp. (ASTM C1064):	85	deg. F
Truck No.:	112	Ambient Temperature:	83	deg. F
Batch Size:	8 cy	Air Content (ASTM C231):	5.2	%
Mix ID:	340145	Unit Weight (ASTM C138):	N/A	pcf
Concrete Mix	psi @ 14 days	No. of Samples Prepared:	4	
Design Strength:	**4000** psi @ 28 days	Nominal Sample Size:	6x12	
		Water Added Before Test:	4	gallons
Time Batched:	7:00 AM	Water Added After Test:	0	gallons
Time Sampled:	8:00 AM	Time in Mixer:	60	minutes

Lab No.	Date Tested	Age (days)	Cyl. Dia. (in.)	Maximum Load (lbf)	Cross-Sectional Area (sq. in.)	Compressive Strength (psi)	Failure Type	Tested By
28402 A	09/06/2000	7	6.01	106125	28.37	**3740**	Cone	DC

Comments:

Remarks:

Distribution:
(2) Addressee Attn:
(1) Supplier Attn:

Respectfully submitted,

Shawn C. Morman, E.I.T.
Technical Services Director

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LABORATORY/FIELD CONCRETE TEST RESULTS

(ASTM C31, C39)

Project: **Golden Eagle Park Dam Modifications**
Location: Golden Eagle Blvd., Fountain Hills

Client: Hunter Contracting
Attn: Bob Carlson
701 N. Cooper Road
Gilbert AZ 85234

Sample Source: 6'6" Flood Wall

Project No.: T05354
Report/Set No.: 26
Report Date: 29-Sep-00
Lab No.: 28403

Sampled By: RAM/Jensen
Date Sampled: 08/31/2000
Submitted By: RAM/Jensen
Date Submitted: 09/01/2000

Results:

Supplier: Maricopa Ready Mix #2
Ticket No.: 32896
Truck No.: 135
Batch Size: 5 cy
Mix ID: 340145
Concrete Mix psi @ 14 days
Design Strength: **4000** psi @ 28 days

Slump (ASTM C143): 3 inches
Concrete Temp. (ASTM C1064): 87 deg. F
Ambient Temperature: 90 deg. F
Air Content (ASTM C231): N/A %
Unit Weight (ASTM C138): N/A pcf
No. of Samples Prepared: 4
Nominal Sample Size: 6x12

Water Added Before Test: 0 gallons
Water Added After Test: 0 gallons
Time in Mixer: 49 minutes

Time Batched: 7:11 AM
Time Sampled: 8:00 AM

Lab No.	Date Tested	Age (days)	Cyl. Dia. (in.)	Maximum Load (lbf)	Cross-Sectional Area (sq. in.)	Compressive Strength (psi)	Failure Type	Tested By
28403 A	09/07/2000	7	6.00	94515	28.27	**3340**	Cone	DC
28403 B	09/28/2000	28	6.00	115120	28.27	**4070**	Cone	DC
28403 C	09/28/2000	28	6.02	112845	28.46	**3960**	Cone	DC

Comments:

Remarks:

Material meets the design 28 day compressive strength.

Distribution:
(2) Addressee Attn:
(1) Supplier Attn:

Respectfully submitted,

Shawn C. Morman, E.I.T.
Technical Services Director

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LABORATORY/FIELD CONCRETE TEST RESULTS

(ASTM C31, C39)

Project: **Golden Eagle Park Dam Modifications**
Location: Golden Eagle Blvd., Fountain Hills

Client: Hunter Contracting
Attn: Bob Carlson
701 N. Cooper Road
Gilbert AZ 85234

Sample Source: 6'6" Flood Wall

Project No.: T05354
Report/Set No.: 26
Report Date: 08-Sep-00
Lab No.: 28403

Sampled By: RAM/Jensen
Date Sampled: 08/31/2000
Submitted By: RAM/Jensen
Date Submitted: 09/01/2000

Results:

Supplier: Maricopa Ready Mix #2
Ticket No.: 32896
Truck No.: 135
Batch Size: 5 cy
Mix ID: 340145
Concrete Mix Design Strength: psi @ 14 days
3000 psi @ 28 days

Slump (ASTM C143): 3 inches
Concrete Temp. (ASTM C1064): 87 deg. F
Ambient Temperature: 90 deg. F
Air Content (ASTM C231): N/A %
Unit Weight (ASTM C138): N/A pcf
No. of Samples Prepared: 4
Nominal Sample Size: 6x12

Water Added Before Test: 0 gallons
Water Added After Test: 0 gallons
Time in Mixer: 49 minutes

Time Batched: 7:11 AM
Time Sampled: 8:00 AM

Lab No.	Date Tested	Age (days)	Cyl. Dia. (in.)	Maximum Load (lbf)	Cross-Sectional Area (sq. in.)	Compressive Strength (psi)	Failure Type	Tested By
28403 A	09/07/2000	7	6.00	94515	28.27	**3340**	Cone	DC

Comments:

Remarks:

Distribution:
(2) Addressee Attn:
(1) Supplier Attn:

Respectfully submitted,

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Technical Services Director

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LABORATORY/FIELD CONCRETE TEST RESULTS

(ASTM C31, C39)

Project: **Golden Eagle Park Dam Modifications**
Location: Golden Eagle Blvd., Fountain Hills

Client: Hunter Contracting
Attn: Bob Carlson
701 N. Cooper Road
Gilbert AZ 85234

Sample Source: Flood Wall, Sta. 40+84 & Sta. 40+63

Project No.: T05354
Report/Set No.: 28
Report Date: 05-Oct-00
Lab No.: 28465

Sampled By: RAM/Adair
Date Sampled: 09/05/2000
Submitted By: RAM/Adair
Date Submitted: 09/06/2000

Results:

Supplier:	Maricopa Ready Mix #2	Slump (ASTM C143):	3.25	inches
Ticket No.:	33519	Concrete Temp. (ASTM C1064):	85	deg. F
Truck No.:	113	Ambient Temperature:	94	deg. F
Batch Size:	4 cy	Air Content (ASTM C231):	5.1	%
Mix ID:	240400	Unit Weight (ASTM C138):	N/A	pcf
Concrete Mix	psi @ 14 days	No. of Samples Prepared:	4	
Design Strength:	**4000** psi @ 28 days	Nominal Sample Size:	6x12	
		Water Added Before Test:	2	gallons
Time Batched:	9:35 AM	Water Added After Test:	0	gallons
Time Sampled:	10:15 AM	Time in Mixer:	40	minutes

Lab No.	Date Tested	Age (days)	Cyl. Dia. (in.)	Maximum Load (lbf)	Cross-Sectional Area (sq. in.)	Compressive Strength (psi)	Failure Type	Tested By
28465 A	09/12/2000	7	6.01	104325	28.37	**3680**	Cone	DC
28465 B	10/03/2000	28	6.02	125015	28.46	**4390**	Cone	DC
28465 C	10/03/2000	28	5.99	130070	28.18	**4620**	Cone	DC

Comments:

Remarks:

Material meets the design 28 day compressive strength.

Distribution:
(2) Addressee Attn:
(1) Supplier Attn:

Respectfully submitted,

Shawn C. Morman, E.I.T.
Technical Services Director

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LABORATORY/FIELD CONCRETE TEST RESULTS

(ASTM C31, C39)

Project: **Golden Eagle Park Dam Modifications**
Location: Golden Eagle Blvd., Fountain Hills

Client: Hunter Contracting
Attn: Bob Carlson
701 N. Cooper Road
Gilbert AZ 85234

Sample Source: Flood Wall, Sta. 40+84 & Sta. 40+63

Project No.: T05354
Report/Set No.: 28
Report Date: 14-Sep-00
Lab No.: 28465

Sampled By: RAM/Adair
Date Sampled: 09/05/2000
Submitted By: RAM/Adair
Date Submitted: 09/06/2000

Results:

Supplier: Maricopa Ready Mix #2
Ticket No.: 33519
Truck No.: 113
Batch Size: 4 cy
Mix ID: 240400
Concrete Mix psi @ 14 days
Design Strength: **4000** psi @ 28 days

Slump (ASTM C143): 3.25 inches
Concrete Temp. (ASTM C1064): 85 deg. F
Ambient Temperature: 94 deg. F
Air Content (ASTM C231): 5.1 %
Unit Weight (ASTM C138): N/A pcf
No. of Samples Prepared: 4
Nominal Sample Size: 6x12

Water Added Before Test: 2 gallons
Water Added After Test: 0 gallons
Time in Mixer: 40 minutes

Time Batched: 9:35 AM
Time Sampled: 10:15 AM

Lab No.	Date Tested	Age (days)	Cyl. Dia. (in.)	Maximum Load (lbf)	Cross-Sectional Area (sq. in.)	Compressive Strength (psi)	Failure Type	Tested By
28465 A	09/12/2000	7	6.01	104325	28.37	**3680**	Cone	DC

Comments:

Remarks:

Distribution:
(2) Addressee Attn:
(1) Supplier Attn:

Respectfully submitted,

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LABORATORY/FIELD CONCRETE TEST RESULTS

(ASTM C31, C39)

Project: **Golden Eagle Park Dam Modifications**
Location: Golden Eagle Blvd., Fountain Hills

Client: Hunter Contracting
Attn: Bob Carlson
701 N. Cooper Road
Gilbert AZ 85234

Sample Source: Flood Wall, Sta. 40+12 to Sta. 40+33

Project No.: T05354
Report/Set No.: 29
Report Date: 19-Sep-00
Lab No.: 28597

Sampled By: RAM/Adair
Date Sampled: 09/08/2000
Submitted By: RAM/Poels
Date Submitted: 09/12/2000

Results:

Supplier:	Maricopa Ready Mix #2	Slump (ASTM C143):	2	inches
Ticket No.:	34274	Concrete Temp. (ASTM C1064):	83	deg. F
Truck No.:	165	Ambient Temperature:	85	deg. F
Batch Size:	4 cy	Air Content (ASTM C231):	5.0	%
Mix ID:	230400	Unit Weight (ASTM C138):	N/A	pcf
Concrete Mix	psi @ 14 days	No. of Samples Prepared:	4	
Design Strength:	**3000** psi @ 28 days	Nominal Sample Size:	6x12	
		Water Added Before Test:	0	gallons
Time Batched:	7:00 AM	Water Added After Test:	0	gallons
Time Sampled:	8:05 AM	Time in Mixer:	65	minutes

Lab No.	Date Tested	Age (days)	Cyl. Dia. (in.)	Maximum Load (lbf)	Cross-Sectional Area (sq. in.)	Compressive Strength (psi)	Failure Type	Tested By
28597 A	09/15/2000	7	6.00	97445	28.27	**3450**	Cone	CW

Comments:

Remarks:

Distribution:
(2) Addressee Attn:
(1) Supplier Attn:

Respectfully submitted,

Shawn C. Morman, E.I.T.
Technical Services Director

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LABORATORY/FIELD CONCRETE TEST RESULTS

(ASTM C31, C39)

Project: **Golden Eagle Park Dam Modifications**
Location: Golden Eagle Blvd., Fountain Hills

Client: Hunter Contracting
Attn: Bob Carlson
701 N. Cooper Road
Gilbert AZ 85234

Sample Source: Concrete Flood Wall, Sta. 40+30 to Sta. 40+00

Project No.: T05354
Report/Set No.: 30
Report Date: 25-Sep-00
Lab No.: 28714

Sampled By: RAM/Adair
Date Sampled: 09/14/2000
Submitted By: RAM/Adair
Date Submitted: 09/15/2000

Results:

Supplier: Maricopa Ready Mix #2
Ticket No.: 35459
Truck No.: 107
Batch Size: 10 cy
Mix ID: 340145
Concrete Mix Design Strength: psi @ 14 days; **4000** psi @ 28 days

Slump (ASTM C143): 3.5 inches
Concrete Temp. (ASTM C1064): 89 deg. F
Ambient Temperature: 101 deg. F
Air Content (ASTM C231): 5.5 %
Unit Weight (ASTM C138): N/A pcf
No. of Samples Prepared: 4
Nominal Sample Size: 6x12

Time Batched: 9:25 AM
Time Sampled: 10:15 AM

Water Added Before Test: 0 gallons
Water Added After Test: 0 gallons
Time in Mixer: 50 minutes

Lab No.	Date Tested	Age (days)	Cyl. Dia. (in.)	Maximum Load (lbf)	Cross-Sectional Area (sq. in.)	Compressive Strength (psi)	Failure Type	Tested By
28714 A	09/21/2000	7	6.02	101890	28.46	**3580**	Cone	DC

Comments:

Remarks:

Distribution:
(2) Addressee Attn:
(1) Supplier Attn:

Respectfully submitted,

Shawn C. Morman, E.I.T.
Technical Services Director

Ricker Atkinson McBee & Assoc., Inc.
2105 S. Hardy Drive, Suite 13
Tempe, AZ 85282-1924

Geotechnical Engineering
Construction Materials Testing
Phone (480) 921-8100
Fax (480) 921-4081

LABORATORY/FIELD CONCRETE TEST RESULTS

(ASTM C31, C39)

Project: **Golden Eagle Park Dam Modifications**
Location: Golden Eagle Blvd., Fountain Hills

Client: Hunter Contracting
Attn: Bob Carlson
701 N. Cooper Road
Gilbert AZ 85234

Sample Source: Concrete Floodwall, Sta. 40+57 to Sta. 40+84

Project No.: T05354
Report/Set No.: 31
Report Date: 25-Sep-00
Lab No.: 28759

Sampled By: RAM/Adair
Date Sampled: 09/15/2000
Submitted By: RAM/Adair
Date Submitted: 09/18/2000

Results:

Supplier:	Maricopa Ready Mix #2	Slump (ASTM C143):	2.75	inches
Ticket No.:	35761	Concrete Temp. (ASTM C1064):	86	deg. F
Truck No.:	152	Ambient Temperature:	97	deg. F
Batch Size:	10 cy	Air Content (ASTM C231):	4.6	%
Mix ID:	340145	Unit Weight (ASTM C138):	N/A	pcf
Concrete Mix	psi @ 14 days	No. of Samples Prepared:	4	
Design Strength:	**4000** psi @ 28 days	Nominal Sample Size:	6x12	
		Water Added Before Test:	0	gallons
Time Batched:	9:25 AM	Water Added After Test:	0	gallons
Time Sampled:	10:25 AM	Time in Mixer:	60	minutes

Lab No.	Date Tested	Age (days)	Cyl. Dia. (in.)	Maximum Load (lbf)	Cross-Sectional Area (sq. in.)	Compressive Strength (psi)	Failure Type	Tested By
28759 A	09/22/2000	7	6.00	106075	28.27	**3750**	Cone	CW

Comments:

Remarks:

Distribution:
(2) Addressee Attn:
(1) Supplier Attn:

Respectfully submitted,

Shawn C. Morman, E.I.T.
Technical Services Director

Ricker Atkinson McBee & Assoc., Inc.
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Tempe, AZ 85282-1924

Geotechnical Engineering
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LABORATORY/FIELD CONCRETE TEST RESULTS

(ASTM C31, C39)

Project: **Golden Eagle Park Dam Modifications**
Location: Golden Eagle Blvd., Fountain Hills

Client: Hunter Contracting
Attn: Bob Carlson
701 N. Cooper Road
Gilbert AZ 85234

Sample Source: Flood Wall Sta. 40+57, Sta. 40+30, Sta. 40+87, & Sta. 41+11

Project No.: T05354
Report/Set No.: 32
Report Date: 27-Sep-00
Lab No.: 28815

Sampled By: RAM/Adair
Date Sampled: 09/19/2000
Submitted By: RAM/Adair
Date Submitted: 09/20/2000

Results:

Supplier: Maricopa Ready Mix #2
Ticket No.: 36307
Truck No.: 108
Batch Size: 9 cy
Mix ID: 340145
Concrete Mix Design Strength: psi @ 14 days; **4000** psi @ 28 days

Slump (ASTM C143): 2.75 inches
Concrete Temp. (ASTM C1064): 88 deg. F
Ambient Temperature: 96 deg. F
Air Content (ASTM C231): 5.2 %
Unit Weight (ASTM C138): N/A pcf
No. of Samples Prepared: 4
Nominal Sample Size: 4 x 8

Time Batched: 9:16 AM
Time Sampled: 10:00 AM

Water Added Before Test: 0 gallons
Water Added After Test: 0 gallons
Time in Mixer: 44 minutes

Lab No.	Date Tested	Age (days)	Cyl. Dia. (in.)	Maximum Load (lbf)	Cross-Sectional Area (sq. in.)	Compressive Strength (psi)	Failure Type	Tested By
28815 A	09/26/2000	7	6.00	99355	28.27	**3510**	Cone	CW

Comments:

Remarks:

Distribution:
(2) Addressee Attn:
(1) Supplier Attn:

Respectfully submitted,

Shawn C. Morman, E.I.T.
Technical Services Director

MISCELLANEOUS TESTS

AGRA Earth & Environmental, Inc.

PROJECT:	GOLDEN EAGLE PARK DAM	**JOB NO:**	0-119-000113
LOCATION:	PALISADES & FOUNTAIN HILLS H.S.	**WORK ORDER NO:**	7
MATERIAL:	FINE AGG.	**LAB NO:**	10
SAMPLE SOURCE:	MARICOPA READY MIX-CEMEX	**DATE SAMPLED:**	6/19/00

SIEVE ANALYSIS OF FINE AND COARSE AGGREGATES (ASTM C136/C117)

MECHANICAL ANALYSIS

SIEVE SIZE	% PASSING	SPECS**
6in.	100	
4in.	100	
3in.	100	
2in.	100	
1 1/2in.	100	
1 1/4in.	100	
1in.	100	
3/4in.	100	
1/2in.	100	
3/8in.	100	100
1/4in.	100	
#4	100	95-100
#8	85	80-100
#10	80	
#16	63	50-85
#30	42	25-60
#40	31	
#50	21	10-30
#100	6	2-10
#200	2.8	

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ENGINEERING GLOBAL SOLUTIONS

AGRA Earth & Environmental, Inc.

PROJECT:	GOLDEN EAGLE PARK DAM	**JOB NO:**	0-119-000113
LOCATION:	PALISADES & FOUNTAIN HILLS H.S.	**WORK ORDER NO:**	8
MATERIAL:	COURSE AGG. 1/2"	**LAB NO:**	11
SAMPLE SOURCE:	MARICOPA READY MIX-CEMEX	**DATE SAMPLED:**	6/19/00

SIEVE ANALYSIS OF FINE AND COARSE AGGREGATES (ASTM C136/C117)

MECHANICAL ANALYSIS

SIEVE SIZE	% PASSING	SPECS**
6in.	100	
4in.	100	
3in.	100	
2in.	100	
1 1/2in.	100	
1 1/4in.	100	
1in.	100	
3/4in.	100	100
1/2in.	87	90-100 *
3/8in.	64	40-70
1/4in.	32	
#4	14	0-15
#8	2	0-10
#10	2	
#16	2	0-5
#30	1	
#40	1	
#50	1	
#100	1	
#200	0.6	

* MATERIAL DID NOT FALL WITHIN SPECIFIED TOLERANCES.

AGRA
ENGINEERING GLOBAL SOLUTIONS

AGRA Earth & Environmental, Inc.

PROJECT:	GOLDEN EAGLE PARK DAM	**JOB NO:**	0-119-000113
LOCATION:	PALISADES & FOUNTAIN HILLS H.S.	**WORK ORDER NO:**	9
MATERIAL:	COURSE AGG. 1"	**LAB NO:**	12
SAMPLE SOURCE:	MARICOPA READY MIX-CEMEX	**DATE SAMPLED:**	6/19/00

SIEVE ANALYSIS OF FINE AND COARSE AGGREGATES (ASTM C136/C117)

MECHANICAL ANALYSIS

SIEVE SIZE	% PASSING	SPECS**	
6in.	100		
4in.	100		
3in.	100		
2in.	100		
1 1/2in.	100	100	
1 1/4in.	100		
1in.	95	90-100	
3/4in.	61	20-55	*
1/2in.	9	0-10	
3/8in.	3	0-5	
1/4in.	1		
#4	1		
#8	1		
#10	1		
#16	1		
#30	1		
#40	1		
#50	1		
#100	1		
#200	0.7		

* MATERIAL DID NOT FALL WITHIN SPECIFIED TOLERANCES.

AGRA
ENGINEERING GLOBAL SOLUTIONS

AGRA Earth & Environmental, Inc.

PROJECT:	GOLDEN EAGLE PARK DAM	**JOB NO:**	0-119-000113
LOCATION:	PALISADES & FOUNTAIN HILLS H.S.	**WORK ORDER NO:**	18
MATERIAL:	COURSE AGG. 1"	**LAB NO:**	28
SAMPLE SOURCE:	MARICOPA READY MIX	**DATE SAMPLED:**	6/19/00

SIEVE ANALYSIS OF FINE AND COARSE AGGREGATES (ASTM C136/C117)

MECHANICAL ANALYSIS

SIEVE SIZE	% PASSING	SPECS**
6in.	100	
4in.	100	
3in.	100	
2in.	100	
1 1/2in.	100	100
1 1/4in.	100	
1in.	97	90-100
3/4in.	54	20-55
1/2in.	5	0-10
3/8in.	1	0-5
1/4in.	1	
#4	1	
#8	0	
#10	0	
#16	0	
#30	0	
#40	0	
#50	0	
#100	0	
#200	0.0	

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ENGINEERING GLOBAL SOLUTIONS

AGRA Earth & Environmental, Inc.

PROJECT:	GOLDEN EAGLE PARK DAM	**JOB NO:**	0-119-000113
LOCATION:	PALISADES & FOUNTAIN HILLS H.S.	**WORK ORDER NO:**	18
MATERIAL:	COURSE AGG. 1/2"	**LAB NO:**	27
SAMPLE SOURCE:	MARICOPA READY MIX	**DATE SAMPLED:**	6/19/00

SIEVE ANALYSIS OF FINE AND COARSE AGGREGATES (ASTM C136/C117)

MECHANICAL ANALYSIS

SIEVE SIZE	% PASSING	SPECS**
6in.	100	
4in.	100	
3in.	100	
2in.	100	
1 1/2in.	100	
1 1/4in.	100	
1in.	100	
3/4in.	100	100
1/2in.	86	90-100 *
3/8in.	58	40-70
1/4in.	27	
#4	13	0-15
#8	2	0-10
#10	2	
#16	1	0-5
#30	1	
#40	1	
#50	1	
#100	1	
#200	0.6	

* MATERIAL DID NOT FALL WITHIN SPECIFIED TOLERANCES.

AGRA
ENGINEERING GLOBAL SOLUTIONS

AGRA Earth & Environmental, Inc.

PROJECT:	GOLDEN EAGLE PARK DAM	**JOB NO:**	0-119-000113
LOCATION:	PALISADES & FOUNTAIN HILLS H.S.	**WORK ORDER NO:**	18
MATERIAL:	SAND	**LAB NO:**	26
SAMPLE SOURCE:	MARICOPA READY MIX	**DATE SAMPLED:**	6/19/00

SIEVE ANALYSIS OF FINE AND COARSE AGGREGATES (ASTM C136/C117)

MECHANICAL ANALYSIS

SIEVE SIZE	% PASSING	SPECS**
6in.	100	
4in.	100	
3in.	100	
2in.	100	
1 1/2in.	100	
1 1/4in.	100	
1in.	100	
3/4in.	100	
1/2in.	100	
3/8in.	100	100
1/4in.	100	
#4	100	95-100
#8	88	80-100
#10	82	
#16	65	50-85
#30	45	25-60
#40	34	
#50	23	10-30
#100	7	2-10
#200	3.2	

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ENGINEERING GLOBAL SOLUTIONS

AGRA Earth & Environmental, Inc.

PROJECT:	GOLDEN EAGLE PARK DAM	**JOB NO:**	0-119-000113
LOCATION:	PALISADES & FOUNTAIN HILLS H.S.	**WORK ORDER NO:**	7
MATERIAL:	FINE AGG.	**LAB NO:**	10
SAMPLE SOURCE:	MARICOPA READY MIX-CEMEX	**DATE SAMPLED:**	6/19/00

SIEVE ANALYSIS OF FINE AND COARSE AGGREGATES (ASTM C136/C117)

MECHANICAL ANALYSIS

SIEVE SIZE	% PASSING
6in.	100
4in.	100
3in.	100
2in.	100
1 1/2in.	100
1 1/4in.	100
1in.	100
3/4in.	100
1/2in.	100
3/8in.	100
1/4in.	100
#4	100
#8	85
#10	80
#16	63
#30	42
#40	31
#50	21
#100	6
#200	2.8

AGRA Earth & Environmental, Inc.

PROJECT:	GOLDEN EAGLE PARK DAM	**JOB NO:**	0-119-000113
LOCATION:	PALISADES & FOUNTAIN HILLS H.S.	**WORK ORDER NO:**	8
MATERIAL:	COURSE AGG. 1/2"	**LAB NO:**	11
SAMPLE SOURCE:	MARICOPA READY MIX-CEMEX	**DATE SAMPLED:**	6/19/00

SIEVE ANALYSIS OF FINE AND COARSE AGGREGATES (ASTM C136/C117)

MECHANICAL ANALYSIS

SIEVE SIZE	% PASSING
6in.	100
4in.	100
3in.	100
2in.	100
1 1/2in.	100
1 1/4in.	100
1in.	100
3/4in.	100
1/2in.	87
3/8in.	64
1/4in.	32
#4	14
#8	2
#10	2
#16	2
#30	1
#40	1
#50	1
#100	1
#200	0.6

AGRA Earth & Environmental, Inc.

PROJECT:	GOLDEN EAGLE PARK DAM	**JOB NO:**	0-119-000113
LOCATION:	PALISADES & FOUNTAIN HILLS H.S.	**WORK ORDER NO:**	9
MATERIAL:	COURSE AGG. 1"	**LAB NO:**	12
SAMPLE SOURCE:	MARICOPA READY MIX-CEMEX	**DATE SAMPLED:**	6/19/00

SIEVE ANALYSIS OF FINE AND COARSE AGGREGATES (ASTM C136/C117)

MECHANICAL ANALYSIS

SIEVE SIZE	% PASSING
6in.	100
4in.	100
3in.	100
2in.	100
1 1/2in.	100
1 1/4in.	100
1in.	95
3/4in.	61
1/2in.	9
3/8in.	3
1/4in.	1
#4	1
#8	1
#10	1
#16	1
#30	1
#40	1
#50	1
#100	1
#200	0.7

Fax Transmittal

Stantec Consulting Inc.
8211 South 48th Street
Phoenix, AZ 85044-5355

Stantec

To:	FCD	Sender:	Chuck Gopperton
Attention:	LARRY LAMBERT	Tel. No:	438-2200
Fax No:	506 4601	Fax No:	431-9562
Date:	6/28/00	6 page(s) total includes cover sheet	
File:	82000157	Original will **NOT** follow by mail.	

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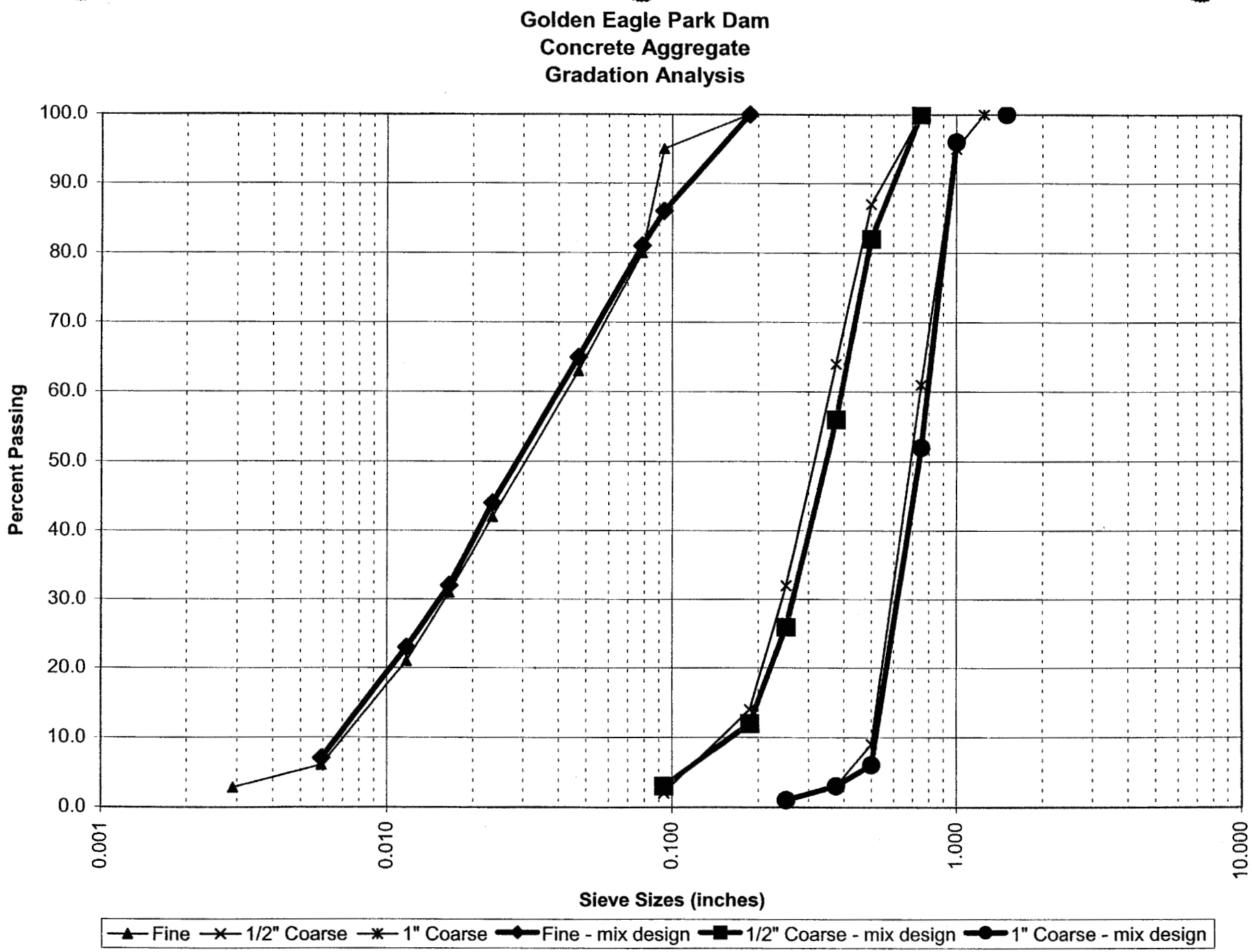
Reference: Golden Eagle Park Dam

Attachments: gradation of conc. aggregate as designed and tested by AGRA

Message:



Concrete Aggregate.xls - Chart1

Golden Eagle Park Dam Construction AGRA Job No. D-119-000113

Gradation Analysis

		Sieve Sizes		% finer														
		#200	#100	#50	#40	#30	#16	#10	#8	#4	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
	mm																	
Location	USCS inch	0.00290	0.00590	0.01170	0.01650	0.02340	0.04690	0.07870	0.09370	0.18700	0.25	0.375	0.5	0.75	1	1.25	1.5	2
Fine		2.8	6	21	31	42	63	80	95	100								
1/2" Coarse									2	14	32	64	87	100				
1" Coarse											1	3	9	61	95	100		
Fine - mix design			7	23	32	44	65	81	86	100								
1/2" Coarse - mix design									3	12	26	56	82	100				
1" Coarse - mix design											1	3	6	52	96		100	

AGRA Earth & Environmental, Inc.

PROJECT:	GOLDEN EAGLE PARK DAM	JOB NO:	0-119-000113
LOCATION:	PALISADES & FOUNTAIN HILLS H.S.	WORK ORDER NO:	7
MATERIAL:	FINE AGG.	LAB NO:	10
SAMPLE SOURCE:	MARICOPA READY MIX-CEMEX	DATE SAMPLED:	8/19/00

SIEVE ANALYSIS OF FINE AND COARSE AGGREGATES (ASTM C136/C117)

MECHANICAL ANALYSIS

SIEVE SIZE	% PASSING
6in.	100
4in.	100
3in.	100
2in.	100
1 1/2in.	100
1 1/4in.	100
1in.	100
3/4in.	100
1/2in.	100
3/8in.	100
1/4in.	100
#4	100
#8	85
#10	80
#16	63
#30	42
#40	31
#50	21
#100	6
#200	2.8

AGRA Earth & Environmental, Inc.

PROJECT:	GOLDEN EAGLE PARK DAM	**JOB NO:**	0-119-000113
LOCATION:	PALISADES & FOUNTAIN HILLS H.S.	**WORK ORDER NO:**	8
MATERIAL:	COURSE AGG. 1/2"	**LAB NO:**	11
SAMPLE SOURCE:	MARICOPA READY MIX-CEMEX	**DATE SAMPLED:**	6/19/00

SIEVE ANALYSIS OF FINE AND COARSE AGGREGATES (ASTM C136/C117)

MECHANICAL ANALYSIS

SIEVE SIZE	% PASSING
6in.	100
4in.	100
3in.	100
2in.	100
1 1/2in.	100
1 1/4in.	100
1in.	100
3/4in.	100
1/2in.	87
3/8in.	64
1/4in.	32
#4	14
#8	2
#10	2
#16	2
#30	1
#40	1
#50	1
#100	1
#200	0.6

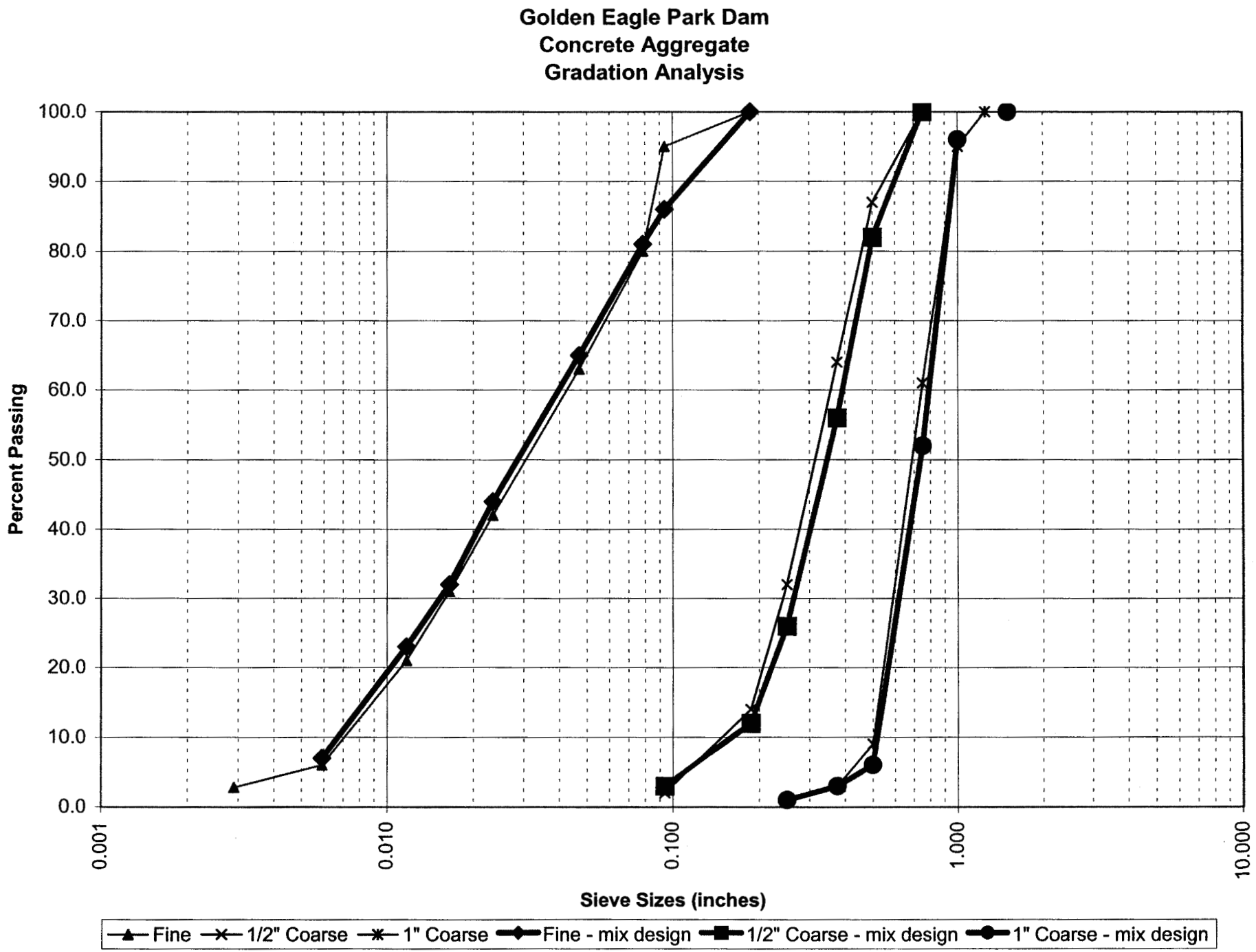
AGRA Earth & Environmental, Inc.

PROJECT:	GOLDEN EAGLE PARK DAM	JOB NO:	0-119-000113
LOCATION:	PALISADES & FOUNTAIN HILLS H.S.	WORK ORDER NO:	9
MATERIAL:	COURSE AGG. 1"	LAB NO:	12
SAMPLE SOURCE:	MARICOPA READY MIX-CEMEX	DATE SAMPLED:	6/19/00

SIEVE ANALYSIS OF FINE AND COARSE AGGREGATES (ASTM C136/C117)

MECHANICAL ANALYSIS

SIEVE SIZE	% PASSING
6in.	100
4in.	100
3in.	100
2in.	100
1 1/2in.	100
1 1/4in.	100
1in.	95
3/4in.	61
1/2in.	9
3/8in.	3
1/4in.	1
#4	1
#8	1
#10	1
#16	1
#30	1
#40	1
#50	1
#100	1
#200	0.7



Concrete Aggregate.xls - Chart1

Golden Eagle Park Dam Construction AGRA Job No. D-119-000113

Gradation Analysis

			Sieve Sizes		% finer													
			#200	#100	#50	#40	#30	#16	#10	#8	#4	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
		mm																	
Location	USCS	inch	0.00290	0.00590	0.01170	0.01650	0.02340	0.04690	0.07870	0.09370	0.18700	0.25	0.375	0.5	0.75	1	1.25	1.5	2
Fine			2.8	6	21	31	42	63	80	95	100								
1/2" Coarse										2	14	32	64	87	100				
1" Coarse												1	3	9	61	95	100		
Fine - mix design				7	23	32	44	65	81	86	100								
1/2" Coarse - mix design										3	12	26	56	82	100				
1" Coarse - mix design												1	3	6	52	96		100	

CONCRETE AGGREGATE TESTS

amec

PROJECT:	Golden Eagle Park Dam	**JOB NO:**	0-119-000113
LOCATION:	Palisades & Fountain Hills H.S.	**WORK ORDER NO:**	25
MATERIAL:	Gravel Mulch	**LAB NO:**	32
SAMPLE SOURCE:	McDowell Sand & Gravel	**DATE SAMPLED:**	9/13/00

SIEVE ANALYSIS OF FINE AND COARSE AGGREGATES (ASTM C136/C117)

MECHANICAL ANALYSIS

SIEVE SIZE	% PASSING	SPECS	
6in.	100		
4in.	100		
3in.	100		
2in.	100		
1 1/2in.	100		
1 1/4in.	100		
1in.	100		
3/4in.	100	100	
1/2in.	94	60-70	*
3/8in.	75		
1/4in.	55		
#4	48		
#8	35		
#10	32		
#16	25		
#30	19		
#40	16	5-20	
#50	14		
#100	10		
#200	6.6	0-5	*

* MATERIAL DID NOT FALL WITHIN SPECIFIED TOLERANCES.

Stantec

Project: Golden Eagle Park Dam Project Number: 82000157

Notes: Conversation w/ Sheena

Scale:

Page of Page(s)

Computed By: Date: 6/22/00 Checked By: Date:

Need concrete test results (breaks)
— air entrainment test

Need PI tests for stockpiles
gradations for all stockpiles
permeability for sand

talk to AGRA about acceptability of stockpiled material

talk to AGRA for about compaction inspection or testing sand

reviewing mix design — looks good
Foundation inspection on Monday?
Aggregate Quality tests per specs

ASTM 4253
54 > relative density test sample (of approved sand) to Albuquerque

FAX
(480)
836-4530
Phone
836-4529

Stantec

Project:		Project Number:	
Notes:		Scale:	
		Page of Page(s)	
Computed By:	Date:	Checked By:	Date:

Need to get permission from ADWR to use Relative Density test instead of SPD for sand diaphram 70% R.D.

· Existing Stockpile & In-Place

With the large rocks - it doesn't meet the gradations, by scalping the large rocks (1 1/2) does it then meet the specs? If, so, will ADWR approve the large rocks - or must it be grizzlied?

What about Zone-2 in place at diaphragm - it also contains large rocks

Fax Transmittal

Stantec Consulting Inc.
8211 South 48th Street
Phoenix, AZ 85044-5355

Stantec

To: AGRA
Sender: Chuck Gopperton
Attention: TONY Frieman
Tel. No: 438-2200
Fax No: (602) 2727239
Fax No: 431-9562
Date: 6/23/00
7 page(s) total includes cover sheet
File: 82000157
Original will **NOT** follow by mail.

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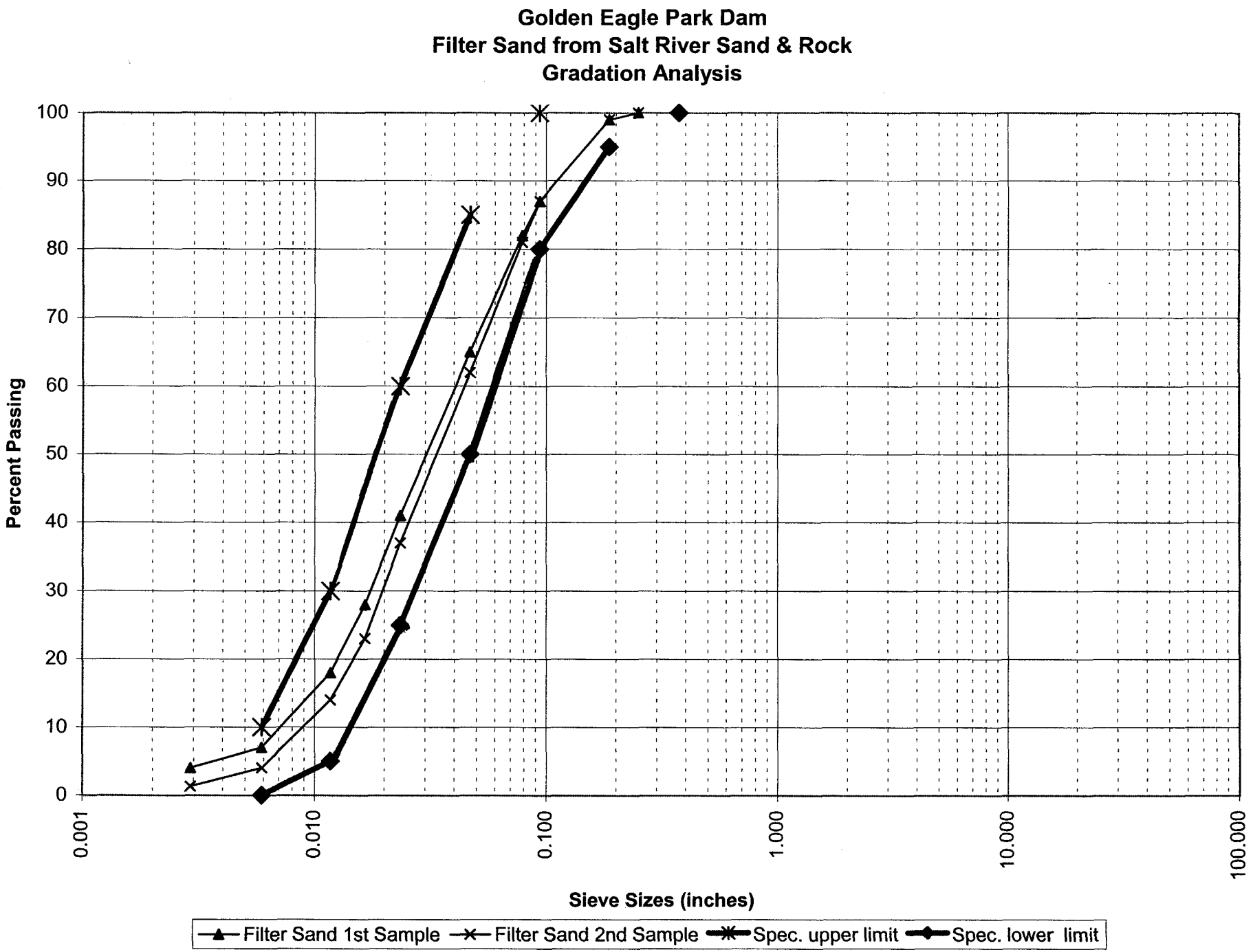
Reference: Golden Eagle Park Dam

Attachments: Filter Sand Gradation, Core material gradation & permeability test for sand

Message: TONY – Can you check the filter match against sample "E" OF THE CORE MATERIAL. THIS SAMPLE WAS TAKEN FROM THE SAND DIAPHRAM TRENCH. We need to determine that we have a filter match before approving the sand.

Chuck



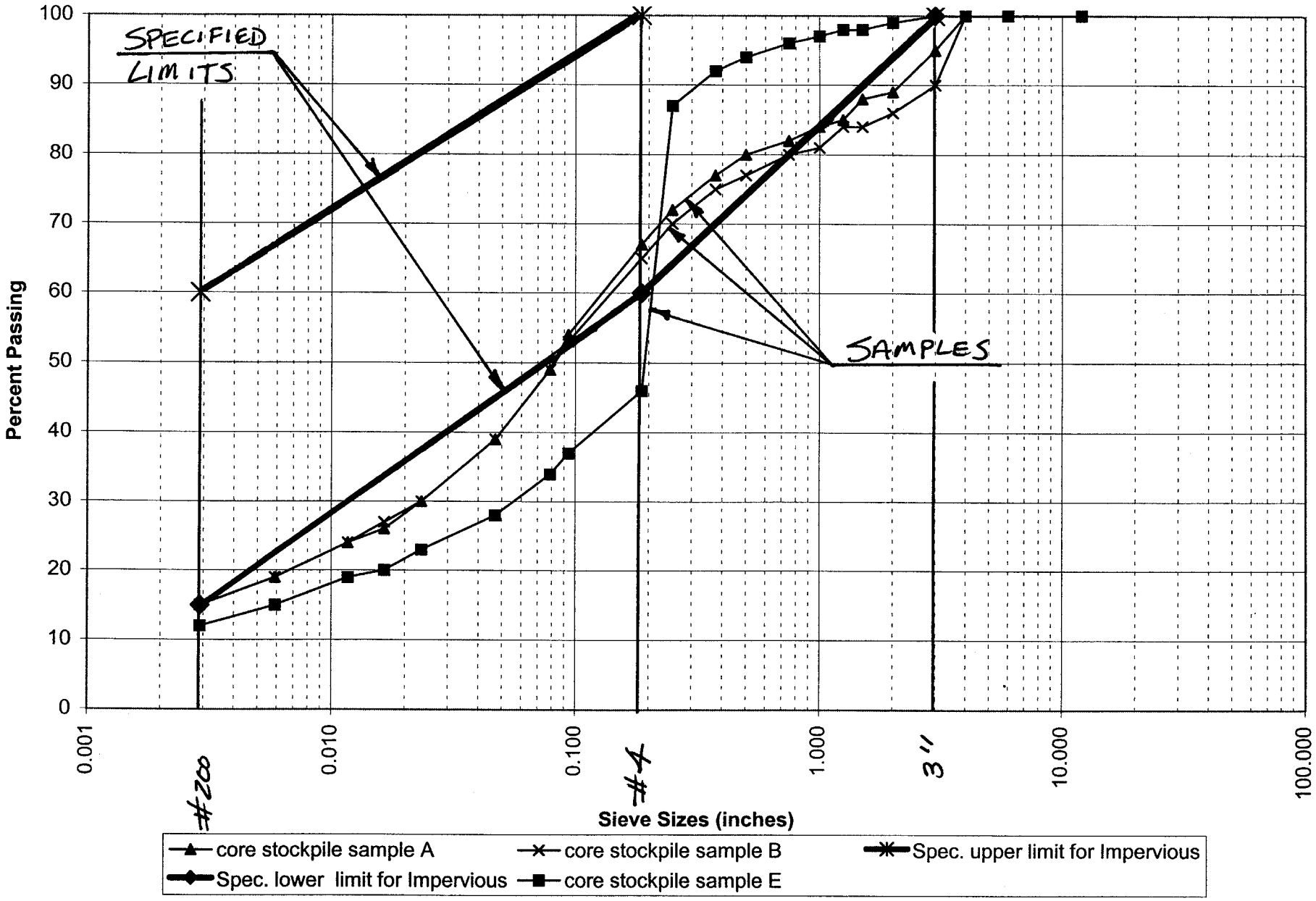
Filter Sand.xls - Chart1

Golden Eagle Park Dam Construction AGRA Job No. D-119-000113

Gradation Analysis

		Sieve Sizes		% finer																	
		#200	#100	#50	#40	#30	#16	#10	#8	#4	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	3	4	6	12
	mm																					
Location	USCS inch	0.00290	0.00590	0.01170	0.01650	0.02340	0.04690	0.07870	0.09370	0.18700	0.25	0.375	0.5	0.75	1	1.25	1.5	2	3	4	6	12
Filter Sand 1st Sample		4	7	18	28	41	65	82	87	99	100											
Filter Sand 2nd Sample		1	4	14	23	37	62	81	87	99	100											
Spec. upper limit			10	30		60	85		100													
Spec. lower limit			0	5		25	50		80	95		100										

Golden Eagle Park Dam
Existing Material Stockpiles
Gradation Analysis



Golden Eagle Park Dam Construction AGRA Job No. D-119-000113
Gradation Analysis

			Sieve Sizes		% finer																	
			#200	#100	#50	#40	#30	#16	#10	#8	#4	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	3	4	6	12
		mm																					
Location	USCS	inch	0.00290	0.00590	0.01170	0.01650	0.02340	0.04690	0.07870	0.09370	0.18700	0.25	0.375	0.5	0.75	1	1.25	1.5	2	3	4	6	12
core stockpile sample A			15	19	24	26	30	39	49	54	67	72	77	80	82	84	85	88	89	95	100	100	100
core stockpile sample B			15	19	24	27	30	39	49	53	65	70	75	77	80	81	84	84	86	90	100	100	100
core stockpile sample E			12	15	19	20	23	28	34	37	46	87	92	94	96	97	98	98	99	100	100	100	100
Spec. upper limit for Impervious			60								100									100			
Spec. lower limit for Impervious			15								60									100			

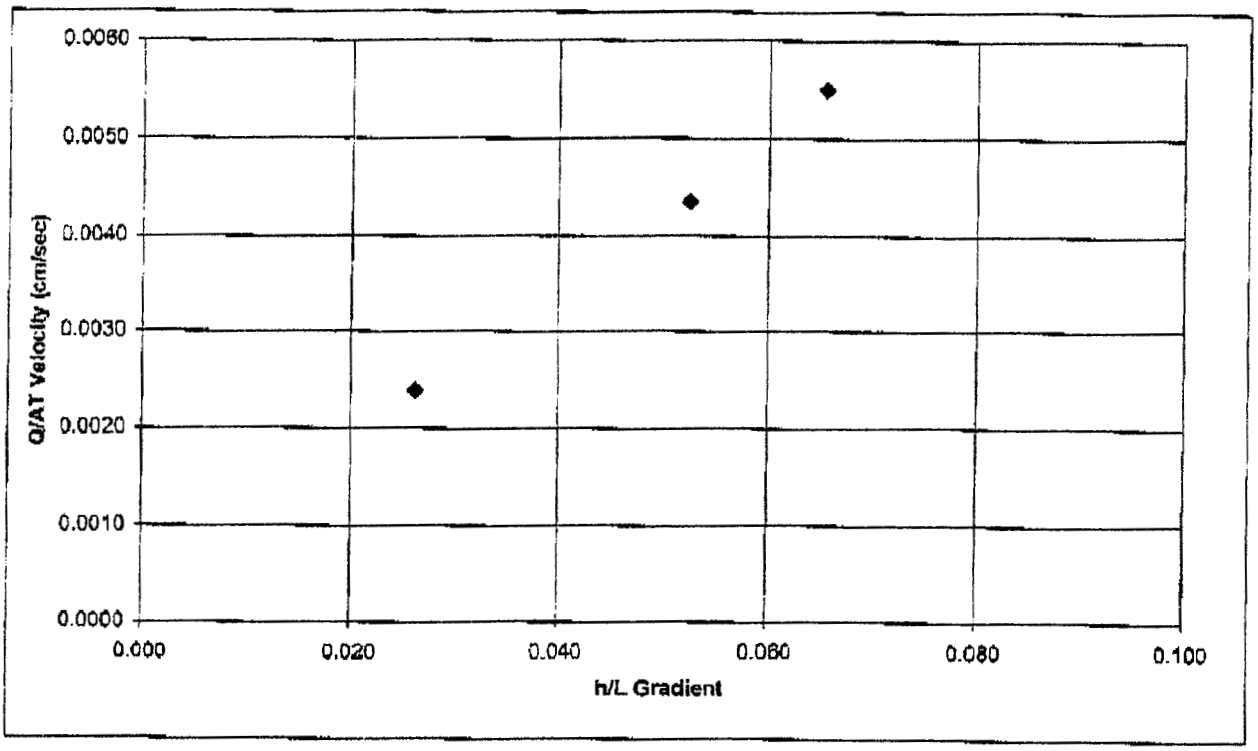
AGRA Earth & Environmental, Inc.

PROJECT:	GOLDEN EAGLE PARK DAM-FCD 1999 CO71	**JOB NO:**	0-119-000113
LOCATION:	PALESIDES & FOUNTAIN HILLS H.S.	**WORK ORDER NO:**	10
MATERIAL:	FILTER SAND	**LAB NO:**	13
SAMPLE SOURCE:	SALT RIVER SAND & ROCK	**DATE SAMPLED:**	
SAMPLE PREP:			

PREMEABILITY OF GRANULAR SOILS (CONSTANT HEAD) (ASTM D2434)

AVERAGE PERMEABILITY (CM/SEC):	8.6E-02
DRY UNIT WEIGHT OF SAMPLE (PCF):	102.3
VOID RATIO:	0.62

Head (cm)	Q (cu.cm)	Time (sec)	Q/AT Velocity (cm/sec)	h/L Gradient	k (cm/sec)
0.2	10	93.8	0.0024	0.0262	0.0909
0.4	10	51.4	0.0044	0.0525	0.0829
0.5	20	81.5	0.0055	0.0656	0.0837

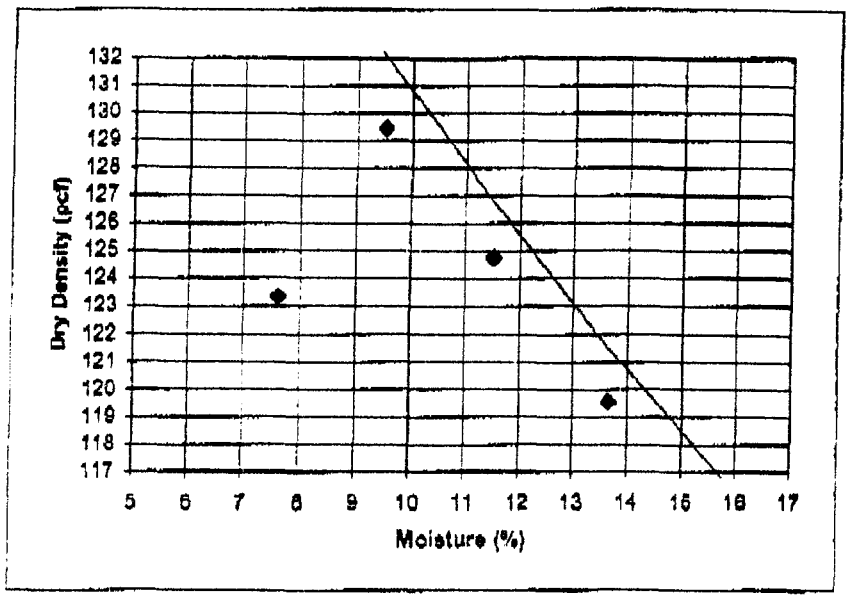


AGRA Earth & Environmental, Inc.

PROJECT:	GOLDEN EAGLE PARK DAM	JOB NO:	0-119-000113
LOCATION:	PALISADES & FOUNTAIN HILLS H.S.	WORK ORDER NO:	11
MATERIAL:	IMPERVIOUS FILL-SAMPLE E	LAB NO:	14
SAMPLE SOURCE:	ON SITE	SAMPLE DATE:	6/19/00

LABORATORY COMPACTION CHARACTERISTICS OF SOILS USING STANDARD EFFORTS (12,400ft-lb-ft/cu.ft) (ASTMD698A)
SIEVE ANALYSIS OF FINE AND COARSE AGGREGATES (ASTM C136/C117)
LIQUID LIMIT, PLASTIC LIMIT, AND PLASTICITY INDEX OF SOILS (ASTM D4318)

	K
CURVE:	
MAXIMUM DRY DENSITY (pcf):	129.5
OPTIMUM MOISTURE (%):	9.5



SIEVE SIZE	PERCENT PASSING	
6"	100	
4"	100	
3"	100	100
2"	99	
1 1/2"	98	
1 1/4"	98	
1"	97	
3/4"	96	
1/2"	94	
3/8"	92	
1/4"	87	
#4	46	60-100
#8	37	
#10	34	
#16	28	
#30	23	
#40	20	
#50	19	
#100	15	
#200	12	15-60
LL:	22	
PL:	13	
PI:	9	
USCS:	GC	

NOTE: THE ZERO AIR VOIDS CURVE REPRESENTS A SPECIFIC GRAVITY OF: 2.651 ASSUMED.

THIS IS A SUMMARIZED REPORT OF THE REFERENCED PROCEDURES AND DOES NOT INCLUDE ALL REPORTING REQUIREMENTS. ADDITIONAL DATA CAN BE PROVIDED AT CLIENT'S REQUEST.

* FROM EXCAVATED DEPTH BOTTOM of DIAPHRAGM - 5' BELOW S.G. LEVEL APPR. STA 2+95 ± - ZONE I EXISTING MATERIAL

Fax Transmittal

Stantec Consulting Inc.
8211 South 48th Street
Phoenix, AZ 85044-5355

Stantec

To: AGRA

Sender: Chuck Gopperton (602)

Attention: TONY FREIMAN

Tel. No: ~~438-2200~~ 707 4637

Fax No: (602) 272 7239

Fax No: 431-9562

Date: 6/16/00

12 page(s) total includes cover sheet

File: 82000157 02/00

Original will **NOT** follow by mail.

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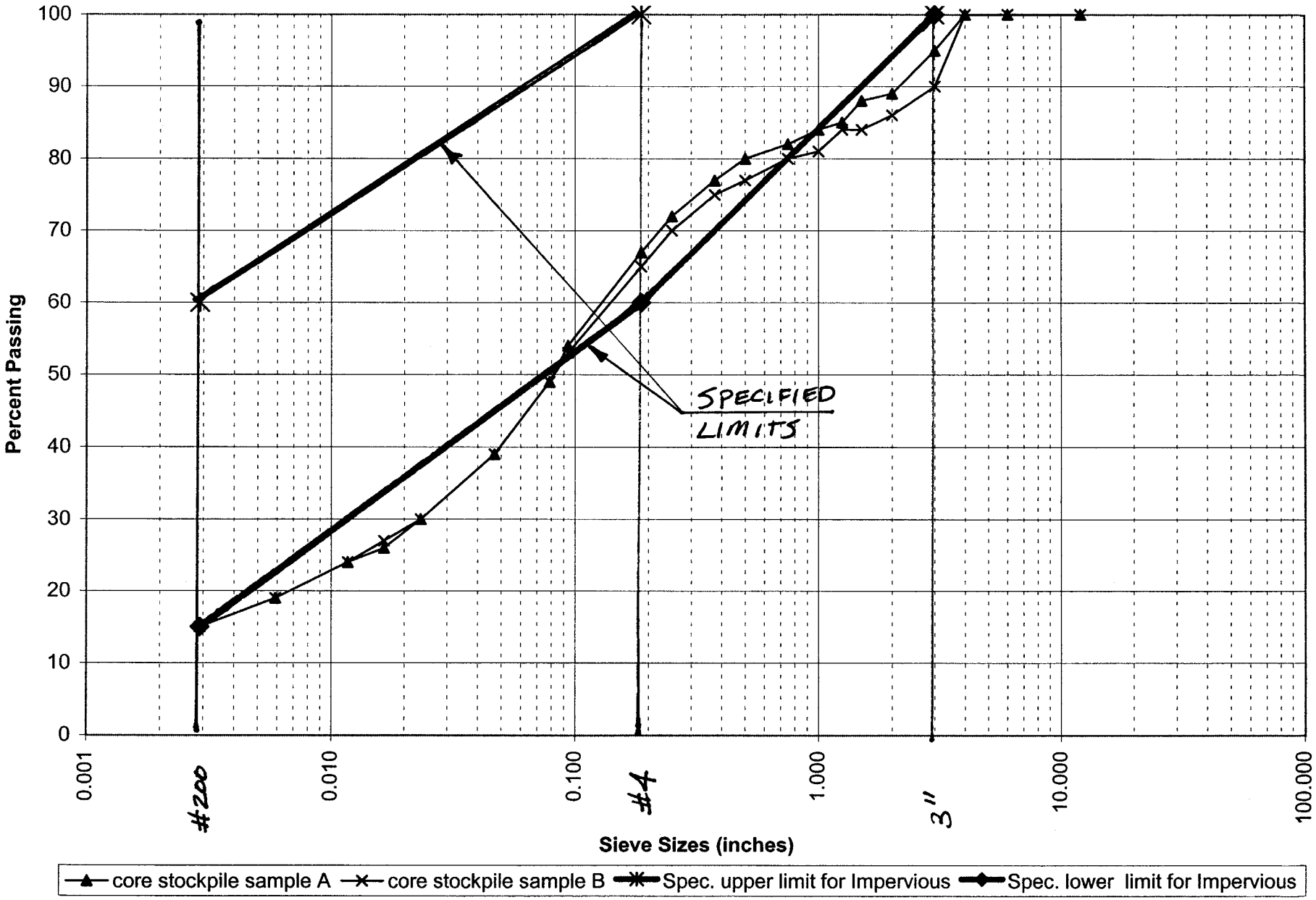
Reference: Golden Eagle Park Dam

Attachments: Gradations & Plots FOR MATERIAL PROPOSED TO BE PLACED IN THE DAM & Specs

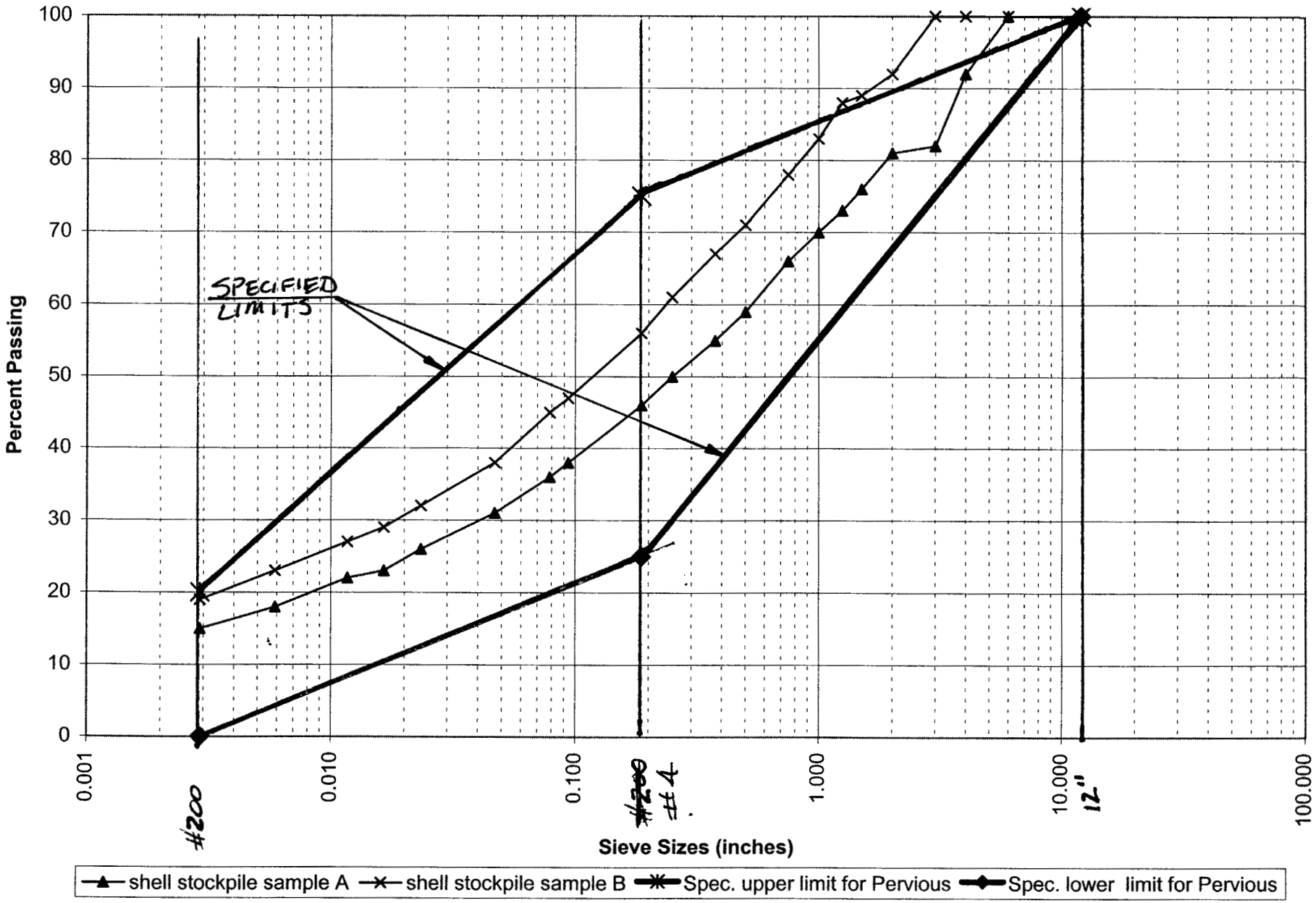
Message: Please review & COMMENT ON ACCEPTABILITY OF THE IMPERVIOUS MATERIAL
NOTE: P.I TEST IS STILL BEING DONE

Golden Eagle Park Dam
Existing Material Stockpiles
Gradation Analysis



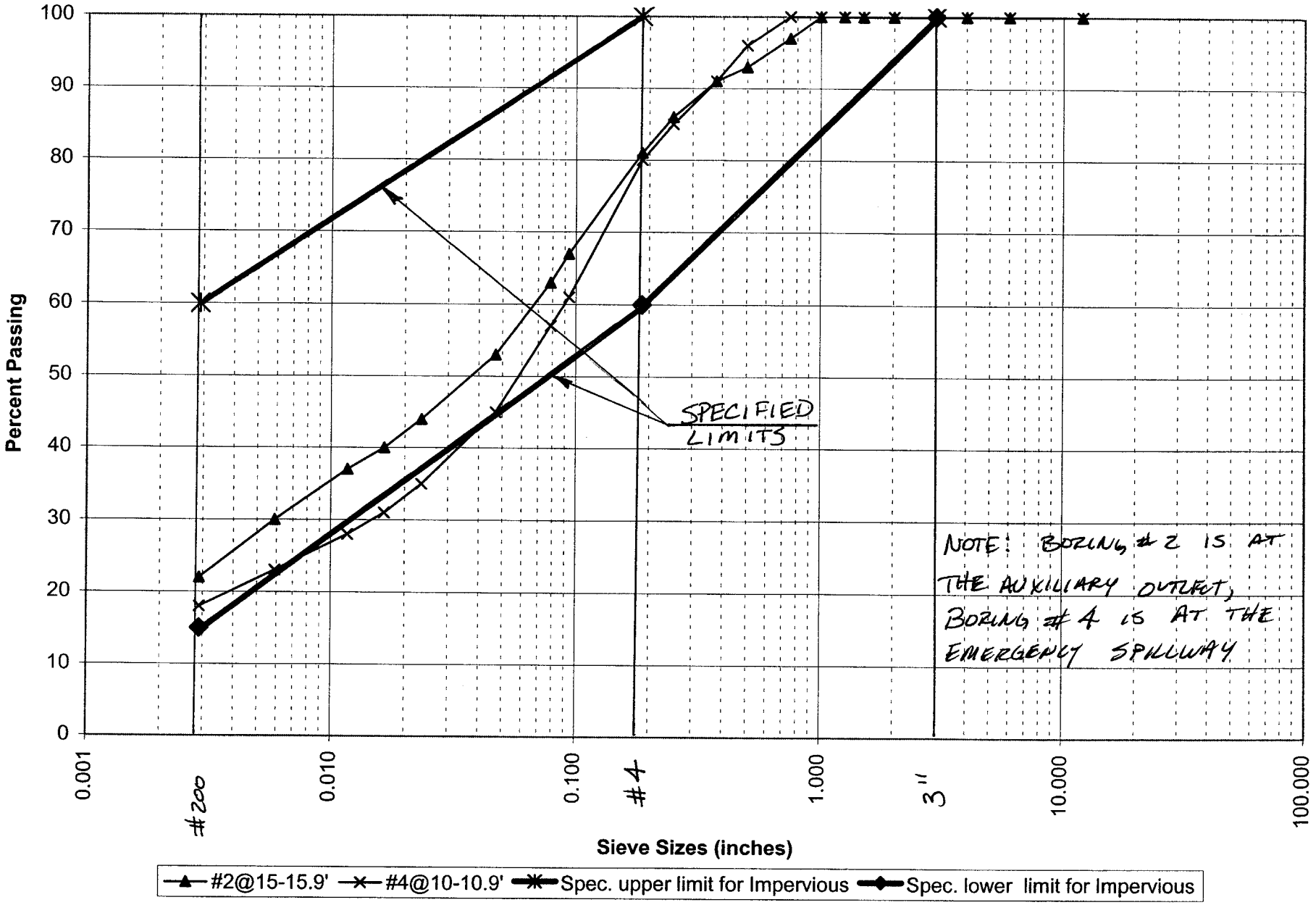
82000157

Golden Eagle Park Dam
Existing Material Stockpiles
Gradation Analysis



B2000 157

Golden Eagle Park Dam
Existing Material From Borings
Gradation Analysis



820001-57

Golden Eagle Park Dam Construction AGRA Job No. D-119-000113

Gradation Analysis

		Sieve Sizes		% finer																	
		#200	#100	#50	#40	#30	#16	#10	#8	#4	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	3	4	6	12
	mm																					
Location USCS	inch	0.00290	0.00590	0.01170	0.01650	0.02340	0.04690	0.07870	0.09370	0.18700	0.25	0.375	0.5	0.75	1	1.25	1.5	2	3	4	6	12
core stockpile sample A		15	19	24	26	30	39	49	54	67	72	77	80	82	84	85	88	89	95	100	100	100
core stockpile sample B		15	19	24	27	30	39	49	53	65	70	75	77	80	81	84	84	86	90	100	100	100
Spec. upper limit for Impervious		60								100									100			
Spec. lower limit for Impervious		15								60									100			

Golden Eagle Park Dam Construction AGRA Job No. D-119-000113

Gradation Analysis

			Sieve Sizes		% finer																	
			#200	#100	#50	#40	#30	#16	#10	#8	#4	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	3	4	6	12
		mm																					
Location	USCS	inch	0.00290	0.00590	0.01170	0.01650	0.02340	0.04690	0.07870	0.09370	0.18700	0.25	0.375	0.5	0.75	1	1.25	1.5	2	3	4	6	12
shell stockpile sample A			15	18	22	23	26	31	36	38	46	50	55	59	66	70	73	76	81	82	92	100	100
shell stockpile sample B			19	23	27	29	32	38	45	47	56	61	67	71	78	83	88	89	92	100	100	100	100
Spec. upper limit for Pervious			20								75												100
Spec. lower limit for Pervious			0								25												100

Golden Eagle Park Dam Construction AGRA Job No. D-119-000113

Gradation Analysis

Location	USCS	Sieve Sizes / % finer	#200	#100	#50	#40	#30	#16	#10	#8	#4	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	3	4	6	12
		mm	0.00290	0.00590	0.01170	0.01650	0.02340	0.04690	0.07870	0.09370	0.18700	0.25	0.375	0.5	0.75	1	1.25	1.5	2	3	4	6	12
		inch																					
#2@15-15.9'			22	30	37	40	44	53	63	67	81	86	91	93	97	100	100	100	100	100	100	100	100
#4@10-10.9'			18	23	28	31	35	45	57	61	80	85	91	96	100	100	100	100	100	100	100	100	100
Spec. upper limit for Impervious			60								100									100			
Spec. lower limit for Impervious			15								60									100			

AGRA Earth & Environmental, Inc.

PROJECT:	GOLDEN EAGLE PARK DAM FCD 1999C071	**JOB NO:**	0-119-000113
LOCATION:	PALISADES & FOUNTAIN HILLS H.S.	**WORK ORDER NO:**	3
MATERIAL:	ABC IMPERVIOUS FILL	**LAB NO:**	4
SAMPLE SOURCE:	ON SITE SAMPLE A	**DATE SAMPLED:**	6/13/00

SIEVE ANALYSIS OF FINE AND COARSE AGGREGATES (ASTM C136/C117)

MECHANICAL ANALYSIS

SIEVE SIZE	% PASSING	SPECS**
6in.	100	
4in.	100	
3in.	95	100 *
2in.	89	
1 1/2in.	88	
1 1/4in.	85	
1in.	84	
3/4in.	82	
1/2in.	80	
3/8in.	77	
1/4in.	72	
#4	67	60-100
#8	54	
#10	49	
#16	39	
#30	30	
#40	26	
#50	24	
#100	19	
#200	15	15-60

* MATERIAL DID NOT FALL WITHIN SPECIFIED TOLERANCES.

AGRA Earth & Environmental, Inc.

PROJECT:	GOLDEN EAGLE PARK DAM FCD 1999C071	JOB NO:	0-119-000113
LOCATION:	PALISADES & FOUNTAIN HILLS H.S.	WORK ORDER NO:	3
MATERIAL:	ABC IMPERVIOUS FILL	LAB NO:	5
SAMPLE SOURCE:	ON SITE SAMPLE 8	DATE SAMPLED:	6/13/00

SIEVE ANALYSIS OF FINE AND COARSE AGGREGATES (ASTM C136/C117)

MECHANICAL ANALYSIS

SIEVE SIZE	% PASSING	SPECS**
6in.	100	
4in.	100	
3in.	90	100 *
2in.	86	
1 1/2in.	84	
1 1/4in.	84	
1in.	81	
3/4in.	80	
1/2in.	77	
3/8in.	75	
1/4in.	70	
#4	65	60-100
#8	53	
#10	49	
#16	39	
#30	30	
#40	27	
#50	24	
#100	19	
#200	15	15-60

* MATERIAL DID NOT FALL WITHIN SPECIFIED TOLERANCES.

PROJECT: GOLDEN EAGLE PARK DAM
LOCATION: FOUNTAIN HILLS, AZ

JOB NO: 8-117-001014
WORK ORDER NO: 2
DATE SAMPLED: 2-20-98

MECHANICAL SIEVE ANALYSIS
GROUP SYMBOL, USCS (ASTM D-2487)

SIEVE SIZES

				Silt or Clay	SAND								GRAVEL								COBBLES		
					Fine			Medium			Coarse		Fine				Coarse						
Location & Depth	USCS	LL	PI	#200	#100	#50	#40	#30	#16	#10	#8	#4	1/4"	3/8"	1/2"	3/4"	1"	1 1/2"	2"	3"	4"	6"	Lab #

PERCENT PASSING BY WEIGHT

#1 @ 5-6.5'	SM	NV	NP	21	27	34	36	41	51	61	65	79	84	90	93	97	100	100	100	100	100	100	9
#1 @ 35-36.5'	SC-SM	28	6	31	40	43	47	50	60	70	73	83	85	87	89	95	100	100	100	100	100	100	13
#1 @ 45-46.2'	ML	48	16	67	74	78	80	82	86	89	90	93	96	99	99	100	100	100	100	100	100	100	15
* #2 @ 15-15.9'	SM	NV	NP	22	30	37	40	44	53	63	67	81	86	91	93	97	100	100	100	100	100	100	19

* MATERIAL TO BE EXCAVATED & REPLACED IN DAM

PROJECT: GOLDEN EAGLE PARK DAM
LOCATION: FOUNTAIN HILLS, AZ

JOB NO: 8-117-001014
WORK ORDER NO: 3
DATE SAMPLED: 2-20-98

MECHANICAL SIEVE ANALYSIS
GROUP SYMBOL, USCS (ASTM D-2487)

SIEVE SIZES

				Silt or Clay	SAND								GRAVEL								COBBLES		
					Fine			Medium			Coarse		Fine				Coarse						
Location & Depth	USCS	LL	PI	#200	#100	#50	#40	#30	#16	#10	#8	#4	1/4"	3/8"	1/2"	3/4"	1"	1 1/2"	2"	3"	4"	6"	Lab #

PERCENT PASSING BY WEIGHT

#1 @ 5-6.5'	SM	NV	NP	18	28	32	36	41	53	66	71	86	91	95	98	100	100	100	100	100	100	100	29
#3 @ 30-30.9'	ML	46	18	99	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	33
* #4 @ 10.10.9'	SM	NV	NP	18	23	28	31	35	45	57	61	80	85	91	96	100	100	100	100	100	100	100	40
#4 @ 10-15'	GP-GM	NV	NP	9.6	13	13	14	15	20	25	28	39	55	71	80	91	99	100	100	100	100	100	41
#4 @ 20-21.5'	SM	NV	NP	33	42	50	53	57	67	76	79	88	92	95	98	100	100	100	100	100	100	100	43
#4 @ 30-31.5'	SM	NV	NP	16	30	31	35	39	47	54	57	67	71	75	79	89	100	100	100	100	100	100	45
#6 @ 5-6.5'	SM	NV	NP	46	57	64	67	69	75	79	81	87	91	93	95	96	100	100	100	100	100	100	47

* MATERIAL TO BE EXCAVATED & REPLACED IN DAM

Specification

Impervious Fill

Material for compacted impervious fill in the core zone of the dam and other areas as shown on the drawings or specified shall consist of clays, silty clays, or clayey silts obtained from the approved borrow areas, commercial sources or required excavation. The material shall be well graded and the gradation shall be as follows:

U.S. STANDARD SIEVE	PERCENT BY WEIGHT, PASSING Upper Limit	Lower Limit
3 inch	100	100
No. 4	100	60
No. 200	60	15

Silts and clays containing sand may be used, if such materials are sufficiently impermeable and suitable for compacting with a tamping or rubber-tired roller. The plasticity index shall be between non-plastic and 25.

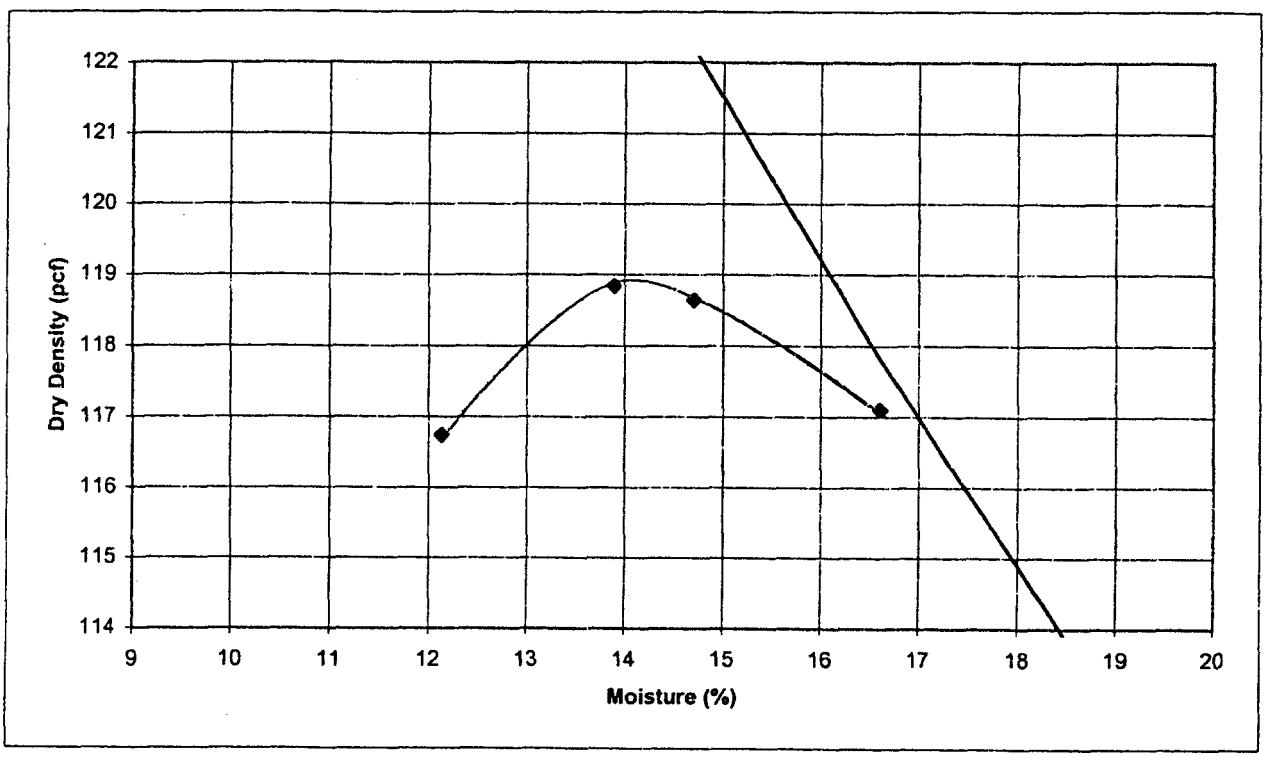
Where exposed during construction, it is expected that the existing compacted impervious core zone of the dam will be acceptable for re-use as the impervious material, however all material must still be approved by the Engineer prior to placement in the dam embankment.

AGRA Earth & Environmental, Inc.

PROJECT:	GOLDEN EAGLE PARK DAM	**JOB NO:**	0-119-000113
LOCATION:	PALISADES & FOUNTAIN HILLS H.S.	**WORK ORDER NO:**	5
MATERIAL:	ON SITE	**LAB NO:**	7
SAMPLE SOURCE:	SUBGRADE/ABC	**SAMPLE DATE:**	6/19/00

LABORATORY COMPACTION CHARACTERISTICS OF SOILS USING STANDARD EFFORTS (12,400ft-lb-ft/cu.ft) (ASTMD698A)

CURVE:	G
MAXIMUM DRY DENSITY (pcf):	118.8
OPTIMUM MOISTURE (%):	14.2



NOTE: THE ZERO AIR VOIDS CURVE REPRESENTS A SPECIFIC GRAVITY OF: 2.75 ASSUMED.

THIS IS A SUMMARIZED REPORT OF THE REFERENCED PROCEDURES AND DOES NOT INCLUDE ALL REPORTING REQUIREMENTS. ADDITIONAL DATA CAN BE PROVIDED AT CLIENT'S REQUEST.

FREE WATER POINT #4

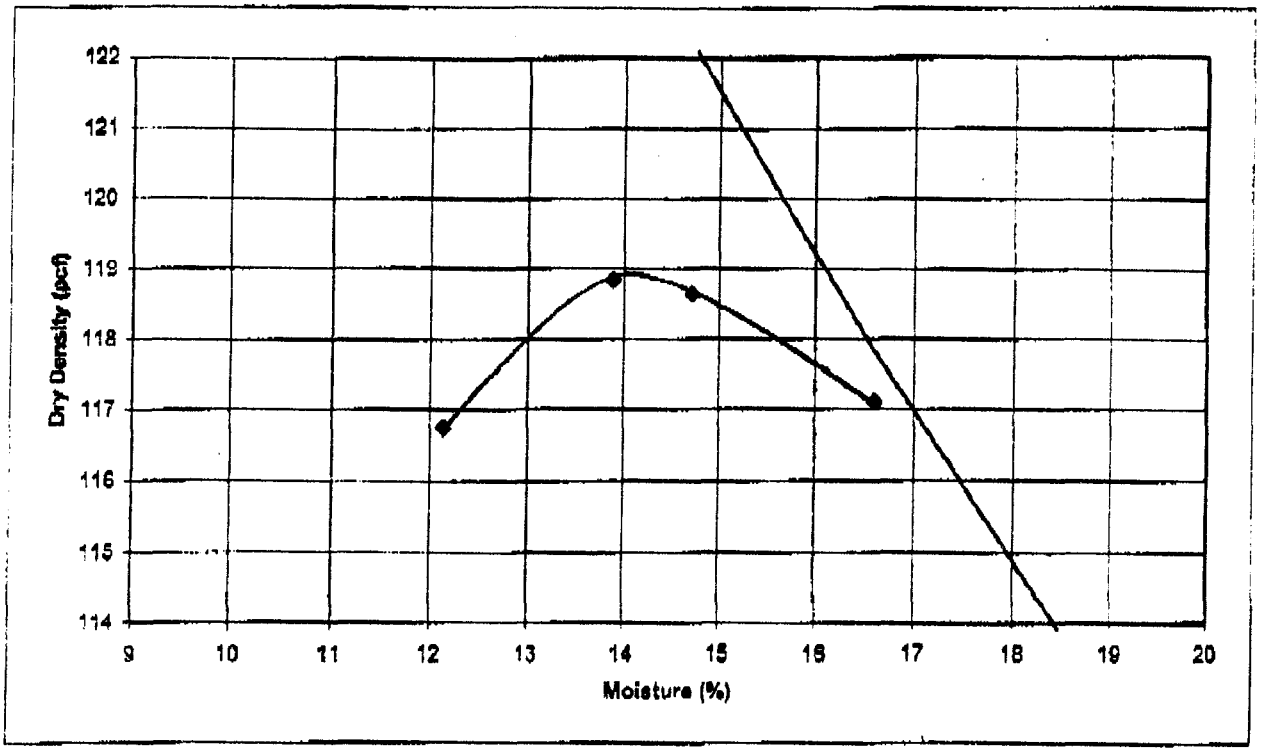
AGRA
ENGINEERING GLOBAL SOLUTIONS

AGRA Earth & Environmental, Inc.

PROJECT:	GOLDEN EAGLE PARK DAM	JOB NO:	0-119-000113
LOCATION:	PALISADES & FOUNTAIN HILLS H.S.	WORK ORDER NO:	5
MATERIAL:	ON SITE	LAB NO:	7
SAMPLE SOURCE:	SUBGRADE/ABC	SAMPLE DATE:	6/19/00

LABORATORY COMPACTION CHARACTERISTICS OF SOILS USING STANDARD EFFORTS (12,400ft-lb-ft/cu.ft) (ASTMD698A)

CURVE:	G
MAXIMUM DRY DENSITY (pcf):	118.8
OPTIMUM MOISTURE (%):	14.2



NOTE: THE ZERO AIR VOIDS CURVE REPRESENTS A SPECIFIC GRAVITY OF: 2.75 ASSUMED.

THIS IS A SUMMARIZED REPORT OF THE REFERENCED PROCEDURES AND DOES NOT INCLUDE ALL REPORTING REQUIREMENTS. ADDITIONAL DATA CAN BE PROVIDED AT CLIENT'S REQUEST.

FREE WATER POINT #4

S.G. BOTTOM OF BOX CULVERT IN TRENCHED AREA
FOR CONCRETE PLACEMENT.
APPR STA 2+95±

Laboratory Consultants, Ltd.

Rieker-Atkinson-McBee & Assoc.
2105 S. Hardy Dr., Suite #13
Tempe, Arizona 85282

Sample Number: 20001266-01
Date Reported: 11/3/00
Date Received: 10/27/00
Project Number: T05354

Analyses Results

Client Sample ID	Analysis	Method	Result	Units	MAG 795 SPECS
5815	pH	ARIZ237b	8.1	S.U.	5.5-8.0
5815	SOLUBLE SALTS	ARIZ237b	490	PPM	0-1500
5815	ORGANIC MATTER	ENG SOIL	1.4	%	1.5%

Approved By:

There were no problems with the analyses and all data met laboratory quality assurance specifications.

TEST BORROW
SUITABILITY FOR
TOPSOIL

OK

947 South 48th Street, Suite 127 Tempe, Arizona 85281 Phone (480) 858-1641 Fax (480) 858-0752

CONTRACTOR MISCELLANEOUS TESTS

Ricker Atkinson McBee & Assoc., Inc.
2105 S. Hardy Drive, Suite 13
Tempe, AZ 85282-1924

Geotechnical Engineering
Construction Materials Testing
Phone (480) 921-8100
Fax (480) 921-4081

LABORATORY TEST RESULTS

Client: Hunter Contracting
Attn: Bob Carlson
701 N. Cooper Road
Gilbert, AZ 85234

Project No.: T05354
Report Date: 16-Jun-00
Lab No.: 4685

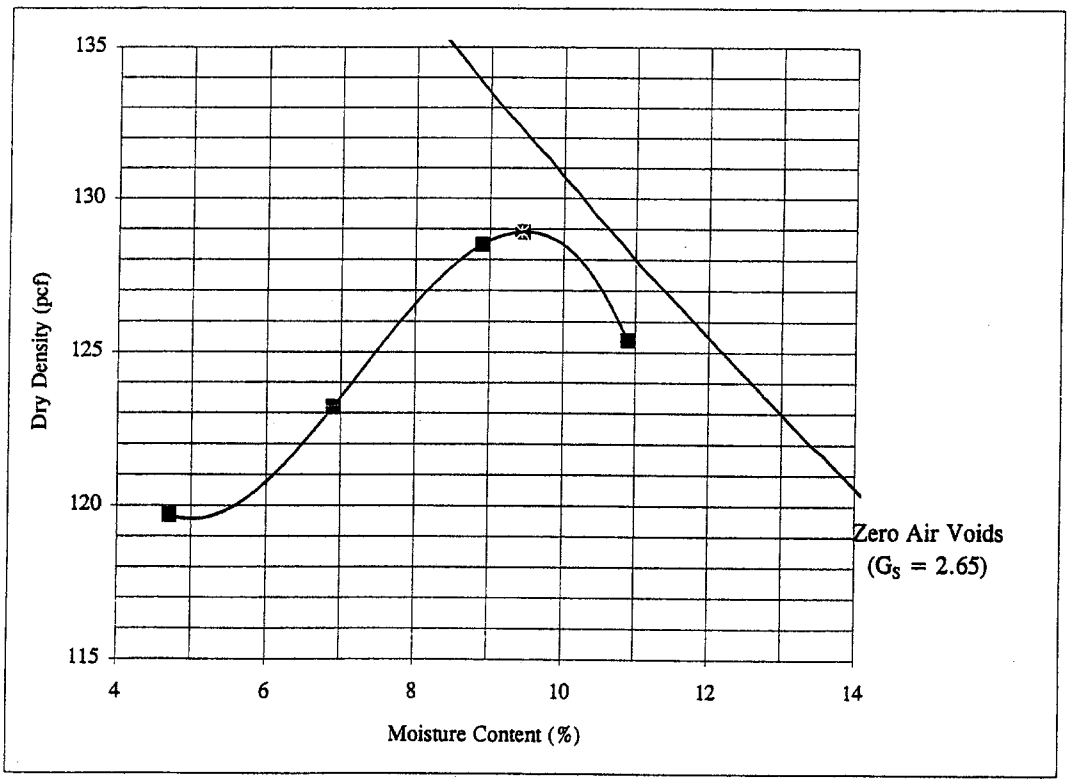
Project: **Golden Eagle Park Dam Modifications**
Location: Golden Eagle Blvd. North of Palisades Blvd., Ftn. Hills
Sample Source: Composite of Proposed Impervious and Pervious Stockpiles Sta. 4+00, 100' Left and Sta. 5+50, 50' Left
Material: Proposed Fill

Sampled By: RAM/Horacek
Date Sampled: 13-Jun-00
Submitted By: RAM/Horacek
Date Submitted: 13-Jun-00
Supplier:

Test Method(s): Maximum Density-Optimum Moisture Determination (ASTM D698 Method A)

Results:

Maximum Density (pcf) = 128.9 Optimum Moisture (%) = 9.4



Distribution: Addressee (2)

Respectfully submitted,

Shawn C. Morman, E.I.T.
Technical Services Director

Ricker Atkinson McBee & Assoc., Inc.
2105 S. Hardy Drive, Suite 13
Tempe, AZ 85282-1924

Geotechnical Engineering
Construction Materials Testing
Phone (480) 921-8100
Fax (480) 921-4081

LABORATORY TEST RESULTS

Client: Hunter Contracting
Attn: Bob Carlson
701 N. Cooper Road
Gilbert, AZ 85234

Project No.: T05354
Report Date: 12-Jun-00
Lab No.: 4660

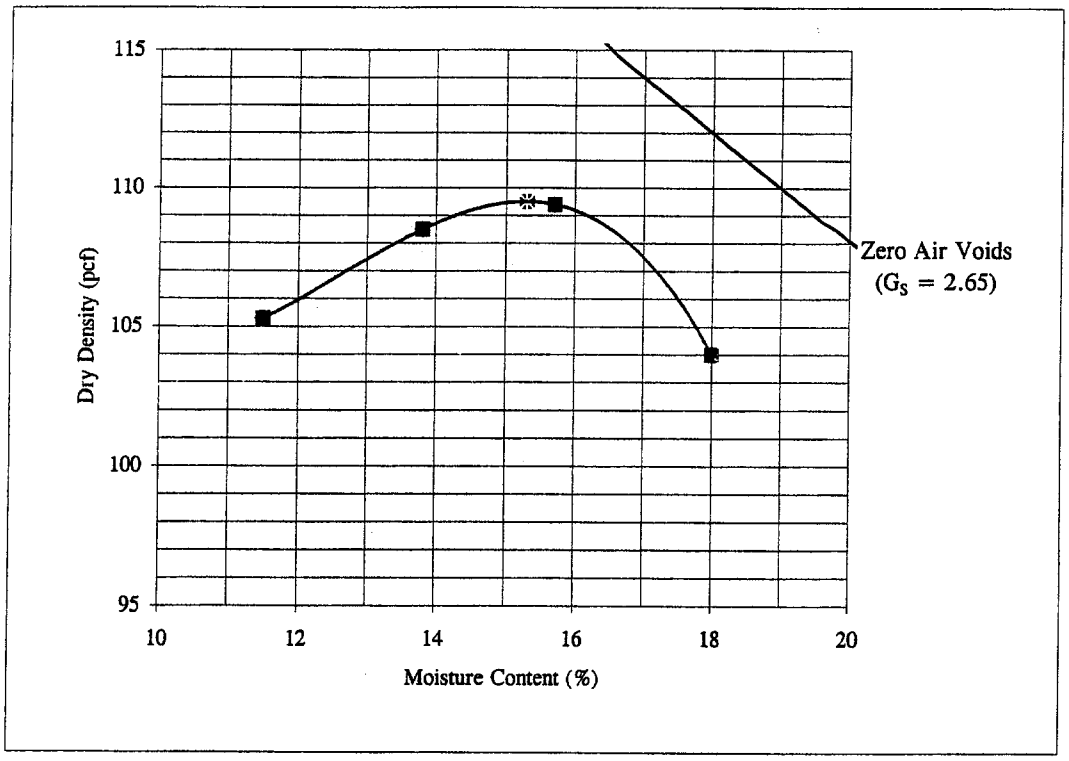
Project: **Golden Eagle Park Dam Modifications**
Location: Golden Eagle Blvd. North of Palisades Blvd., Ftn. Hills
Sample Source: Inlet Structure Subgrade, Sta. 3+00, 100' Right
Material: Subgrade

Sampled By: RAM/Horacek
Date Sampled: 8-Jun-00
Submitted By: RAM/Horacek
Date Submitted: 8-Jun-00
Supplier:

Test Method(s): Maximum Density-Optimum Moisture Determination (ASTM D698 Method A)

Results:

Maximum Density (pcf) = 109.5 Optimum Moisture (%) = 15.3



Distribution: Addressee (2)

Respectfully submitted,

Shawn C. Morman, E.I.T.
Technical Services Director

Ricker Atkinson McBee & Assoc., Inc.
2105 S. Hardy Drive, Suite 13
Tempe, AZ 85282-1924

Geotechnical Engineering
Construction Materials Testing
Phone (480) 921-8100
Fax (480) 921-4081

LABORATORY TEST RESULTS

Client: Hunter Contracting
Attn: Bob Carlson
701 N. Cooper Road
Gilbert, AZ 85234

Project No.: T05354
Report Date: 12-Jun-00
Lab No.: 4660

Project: **Golden Eagle Park Dam Modifications**
Location: Golden Eagle Blvd. North of Palisades Blvd., Ftn. Hills

Sampled By: RAM/Horacek
Date Sampled: 8-Jun-00
Submitted By: RAM/Horacek
Date Submitted: 8-Jun-00

Sample Source: Inlet Structure Subgrade, Sta. 3+00, 100' Right

Material: Subgrade

Supplier:

Test Method(s): Sieve Analysis and Plasticity Index (ASTM C117, C136, AASHTO T89, T90)

Results:

Sieve Size	Percent Passing	Specifications Minimum	Specifications Maximum
	100		
	100		
3"	100		
2"	100		
1-1/2"	100		
1"	100		
3/4"	100		
1/2"	99		
3/8"	98		
1/4"	97		
#4	95		
#8	91		
#10	90		
#16	86		
#30	82		
#40	81		
#50	79		
#100	72		
#200	58		

Liquid Limit: 25

Plastic Limit: 22

PLASTICITY INDEX: 3

Remarks:

Distribution: Addressee (2)

Respectfully submitted,

Shawn C. Morman, E.I.T.
Technical Services Director

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Fax (480) 921-4081

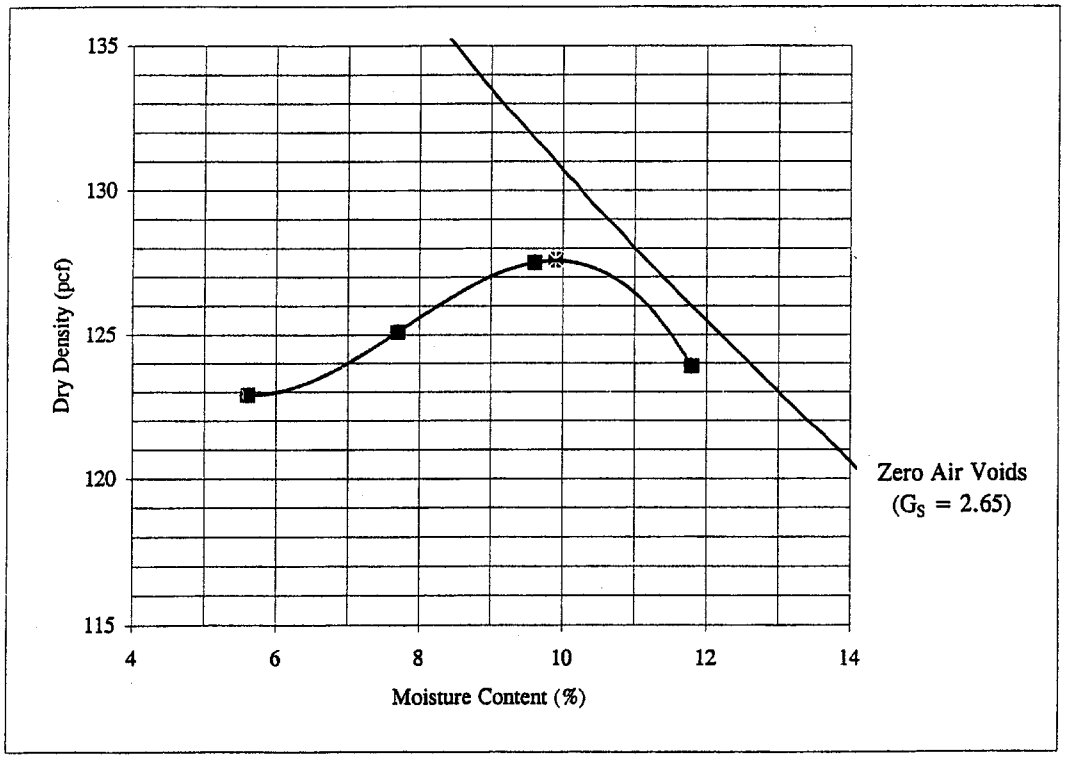
LABORATORY TEST RESULTS

Client:	Hunter Contracting Attn: Bob Carlson 701 N. Cooper Road Gilbert, AZ 85234	Project No.: Report Date: Lab No.:	T05354 12-Jun-00 4659
Project:	**Golden Eagle Park Dam Modifications**		
Location:	Golden Eagle Blvd. North of Palisades Blvd., Ftn. Hills	Sampled By: Date Sampled:	RAM/Horacek 8-Jun-00
Sample Source:	Outlet Structure Subgrade, Sta. 2+75, 75' Left	Submitted By: Date Submitted:	RAM/Horacek 8-Jun-00
Material:	Subgrade	Supplier:	

Test Method(s): Maximum Density-Optimum Moisture Determination (ASTM D698 Method A)

Results:

Maximum Density (pcf) = 127.6 Optimum Moisture (%) = 9.9



Distribution: Addressee (2)

Respectfully submitted,

Shawn C. Morman, E.I.T.
Technical Services Director

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LABORATORY TEST RESULTS

Client: Hunter Contracting
Attn: Bob Carlson
701 N. Cooper Road
Gilbert, AZ 85234

Project No.: T05354
Report Date: 12-Jun-00
Lab No.: 4659

Project: **Golden Eagle Park Dam Modifications**
Location: Golden Eagle Blvd. North of Palisades Blvd., Ftn. Hills

Sample Source: Outlet Structure Subgrade, Sta. 2+75, 75' Left

Sampled By: RAM/Horacek
Date Sampled: 8-Jun-00
Submitted By: RAM/Horacek
Date Submitted: 8-Jun-00

Material: Subgrade

Supplier:

Test Method(s): Sieve Analysis and Plasticity Index (ASTM C117, C136, AASHTO T89, T90)

Results:

Sieve Size	Percent Passing	Minimum	Maximum
6"	100		
4"	100		
3"	100		
2"	98		
1-1/2"	96		
1"	92		
3/4"	90		
1/2"	85		
3/8"	82		
1/4"	75		
#4	69		
#8	57		
#10	53		
#16	44		
#30	35		
#40	31		
#50	29		
#100	24		
#200	19		

Liquid Limit: 21

Plastic Limit: 19

PLASTICITY INDEX: 2

Remarks:

Distribution: Addressee (2)

Respectfully submitted,

Shawn C. Morman, E.I.T.
Technical Services Director

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Geotechnical Engineering
Construction Materials Testing
Phone (480) 921-8100
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LABORATORY TEST RESULTS

Client: Hunter Contracting
Attn: Bob Carlson
701 N. Cooper Road
Gilbert, AZ 85234

Project No.: T05354
Report Date: 12-Jun-00
Lab No.: 4658

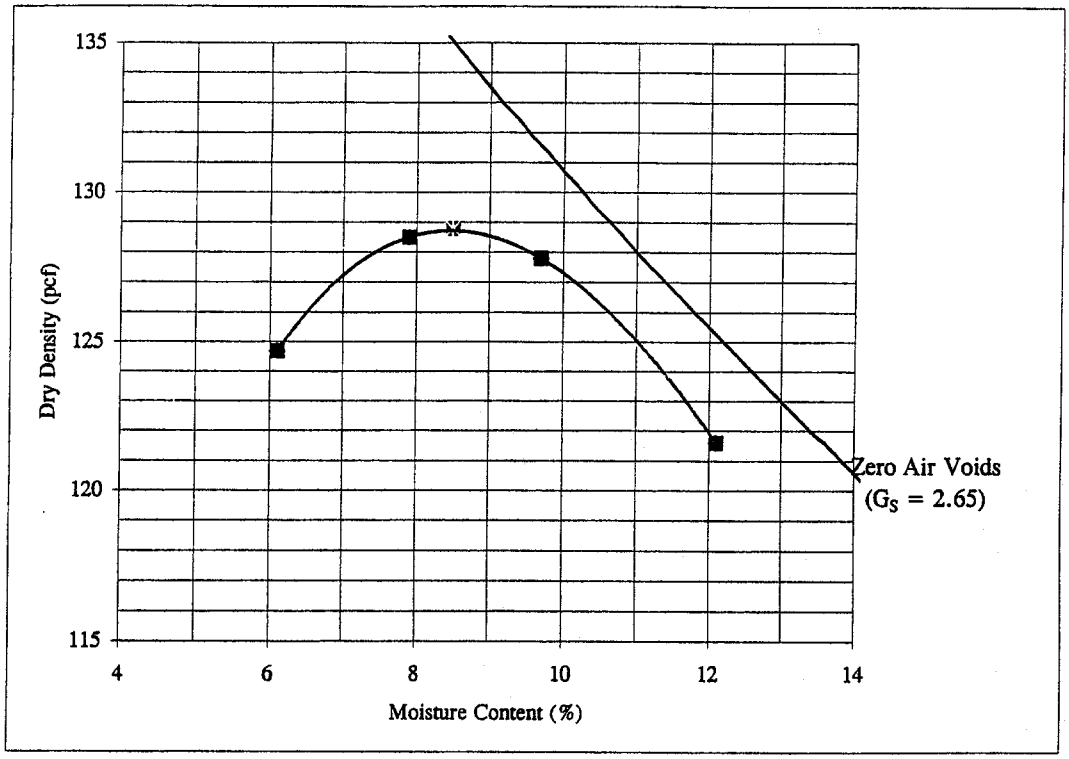
Project: **Golden Eagle Park Dam Modifications**
Location: Golden Eagle Blvd. North of Palisades Blvd., Ftn. Hills
Sample Source: Gabion Subgrade, Sta. 8+50, 50' Left
Material: Subgrade

Sampled By: RAM/Horacek
Date Sampled: 8-Jun-00
Submitted By: RAM/Horacek
Date Submitted: 8-Jun-00
Supplier:

Test Method(s): Maximum Density-Optimum Moisture Determination (ASTM D698 Method A)

Results:

Maximum Density (pcf) = 128.8 Optimum Moisture (%) = 8.5



Distribution: Addressee (2)

Respectfully submitted,

Shawn C. Morman, E.I.T.
Technical Services Director

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Tempe, AZ 85282-1924

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Phone (480) 921-8100
Fax (480) 921-4081

LABORATORY TEST RESULTS

Client: Hunter Contracting
Attn: Bob Carlson
701 N. Cooper Road
Gilbert, AZ 85234

Project No.: T05354
Report Date: 12-Jun-00
Lab No.: 4658

Project: **Golden Eagle Park Dam Modifications**
Location: Golden Eagle Blvd. North of Palisades Blvd., Ftn. Hills

Sample Source: Gabion Subgrade, Sta. 8+50, 50' Left

Sampled By: RAM/Horacek
Date Sampled: 8-Jun-00
Submitted By: RAM/Horacek
Date Submitted: 8-Jun-00

Material: Subgrade

Supplier:

Test Method(s): Sieve Analysis and Plasticity Index (ASTM C117, C136, AASHTO T89, T90)

Results:

Sieve Size	Percent Passing		
		Minimum	Maximum
6"	100		
4"	100		
3"	100		
2"	97		
1-1/2"	95		
1"	91		
3/4"	89		
1/2"	84		
3/8"	82		
1/4"	77		
#4	73		
#8	58		
#10	55		
#16	46		
#30	36		
#40	33		
#50	30		
#100	24		
#200	19		

Liquid Limit: 22

Plastic Limit: 17

PLASTICITY INDEX: 5

Remarks:

Distribution: Addressee (2)

Respectfully submitted,

Shawn C. Morman, E.I.T.
Technical Services Director

STOCKPILE

SALT RIVER SAND & ROCK

CONCRETE SAND

P.O. Box 728 (Dobson & McKellips)
Mesa, Arizona 85211-0728
(480) 833-8625 • (480) 990-1987

DATE	06/08/00
SOURCE	STOCKPILE
LOCATION	DOBSON
SMPLD BY	GJ
TIME	AM
TEST BY	GJ
WBWW	556.7
WBWD	530.3
WAW	
DSE	75
M %	5.0%

SIEVE	WT. RET. CUMUL.	% RET. CUMUL	% PASS	ASTM		ADOT	
3/8		0.0	100.0	100	IN	100	IN
1/4							
4	3.8	0.7	99.3	95-100	IN	95-100	IN
8	80.3	15.1	84.9	80-100	IN		
10	107.3	20.2	79.8				
16	199.4	37.6	62.4	50-85	IN	45-80	IN
30	330.2	62.3	37.7	25-60	IN		
40	397.6	75.0	25.0				
50	442.6	83.5	16.5	10-30	IN	0-30	IN
100	505.0	95.2	4.8	2-10	IN	0-10	IN
200	519.7	98.0	2.0			0-4	IN
PAN	521.0						

	FM	2.94
RECAP	DSE	75
	PASS 200	2

DE