

040WM07314-E

WM-73 (2)



Department of Energy
 Albuquerque Operations Office
 P.O. Box 5400
 Albuquerque, New Mexico 87115

JUN 26 1989

Mr. Edward F. Hawkins
 Licensing Branch 1
 Uranium Recovery Field Office
 Nuclear Regulatory Commission, Region IV
 P.O. Box 25325
 Denver, CO 80225

Dear Ed,

Enclosed for your information are absorption test results for the Tuba City erosion protection material. These tests were performed by MK-Ferguson Company (MK-F) during the production of the basalt riprap.

The information was discussed with Mr. Ray Gonzales of your staff and it was agreed that a specification change to add absorption to the rock quality requirements was not necessary. The tests results indicate the percent absorption is well below the NRC recommended 2.5 percent. If you have any questions, please contact Michael Abrams of my staff at FTS 844-3941.

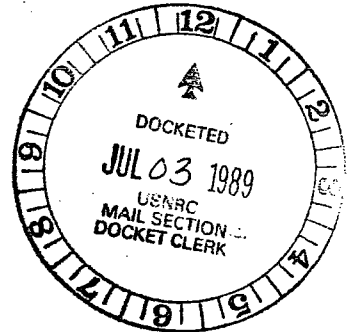
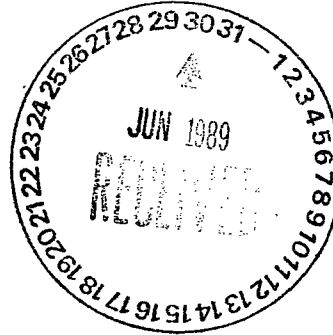
Sincerely,

Mark L. Matthews
 Acting Project Manager
 Uranium Mill Tailings Project Office

Enclosures

cc w/enclosures:
 J. Oldham, MK-F
 E. Banks, JEG

cc w/o enclosures:
 D. Gillen, NRC



OFFICIAL DOCKET COPY

9712290203 890626
 PDR WASTE
 WM-73 PDR

Add Info
 89-0765

23 pgs

ORIGINAL

Construction Inspection & Testing Co.

2002 West North Lane
Phoenix, Arizona 85021-1927
861-2002 / 264-5938

EXISTING SOIL CHARACTERISTICS

PROJECT: RIP RAP ROCK
LOCATION: TUBA CITY, ARIZONA
FOR: MK-FERGUSON

DATE: 4/28/88
LAB. NO.
TYPE OF SAMPLE TYPE "A"
SOURCE CONTRACTOR

Location	% passing (sieve size)						Atterberg Limits			
	1	1/2	#4	#10	#40	#100	#200	LL	PL	PI
SAMPLE NO.							1			
LOS ANGELES ABRASION* (100 REV)							4.9%			
SODIUM SULFATE SOUNDNESS (5 CYCLES)							0.016%			
SPECIFIC GRAVITY - BULK							2.88			
SPECIFIC GRAVITY - BULK (SSD)							2.90			
SPECIFIC GRAVITY - APPARENT							2.94			
ABSORPTION							0.72%			

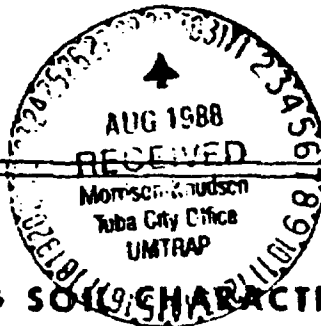
INFORMATION
ONLY

#C131 GRADING A

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FOR CONSTRUCTION INSPECTION
& TESTING CO.

Stallan Dyer - 05/02/88
740



Construction Inspection & Testing Co.

3151 NORTH BLACK CANYON FREEWAY
PHOENIX, ARIZONA 85015
PHONE: 264-5938

EXISTING SOIL CHARACTERISTICS

PROJECT: RIP RAP ROCK
LOCATION: TUBA CITY, ARIZONA
FOR: MK-FERGUSON

DATE: 6/7/88 (REVISED)
LAB. NO.
TYPE OF SAMPLE "A"
SOURCE CONTRACTOR

Location	<u>% passing (sieve size)</u>						
	1	1/2	#4	#10	#40	#100	#200

Atterberg Limits		
LL	PL	PI

SAMPLE NO.

LOS ANGELES ABRASION* (100 REV)	1 3.98
SODIUM SULPHATE SOUNDNESS (5 CYCLES)	0.048
SPECIFIC GRAVITY - BULK	2.93
SPECIFIC GRAVITY - BULK (SSD)	2.94
SPECIFIC GRAVITY - APPARENT	2.98
ABSORPTION	0.648

ORIGINAL

INFORMATION
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* C131 GRADING B

PASS

originally identified as Type "C", but
corrected to Type "A".

FOR CONSTRUCTION INSPECTION
& TESTING CO.

QA ENTRY NO. 2276
BY: [Signature]
DATE: 6/7/88

Construction Inspection & Testing Co.

3151 NORTH BLACK CANYON FREEWAY
PHOENIX, ARIZONA 85015
PHONE: 254-5939

EXISTING SOIL CHARACTERISTICS

PROJECT: RIP RAP ROCK
LOCATION: TUBA CITY, ARIZONA
FOR: MK-FERGUSON.....

DATE: JULY 5, 1988
LAB. NO. 88-20959
TYPE OF SAMPLE "A"
SOURCE CONTRACTOR

Location	1	%	% passing (sieve size)			
			#4	#10	#40	#100

Atterberg limits		
LL	P	PI

SAMPLE NO.	1
LOS ANGELES ABRASION* (100 REV)	4.8%
SODIUM SULPHATE SOUNDNESS (5 CYCLES)	0.016%
SPECIFIC GRAVITY - BULK	2.91
SPECIFIC GRAVITY - BULK (SSD)	2.93
SPECIFIC GRAVITY - APPARENT	2.97
ABSORPTION	0.60%

INFORMATION
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2002 West North Lane
Phoenix, Arizona 85021-1927
861-2002 / 264-5938

EXISTING SOIL CHARACTERISTICS

PROJECT: ... R.I.P. RAP ROCK
LOCATION: TUBA CITY, ARIZONA
FOR: ... MK-FERGUSON

DATE: ... 9/26/88
LAB. NO. ... 8821865
TYPE OF SAMPLE ... "A"
SOURCE ... CONTRACTOR

Location	% passing (sieve size)						
	1	½	#4	#10	#40	#100	#200
SAMPLE NO.							<u>1</u>
LOS ANGELES ABRASION" (10) REV)							<u>4.2%</u>
SODIUM SULPHATE SOUNDNESS (5 CYCLES)							<u>0.19%</u>
SPECIFIC GRAVITY - BULK							2.91
SPECIFIC GRAVITY - BULK (SSD)							<u>2.92</u>
SPECIFIC GRAVITY - APPARENT							2.96
ABSORPTION							0.60%

Atterberg Limits
LL PL PI

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Phoenix, Arizona 85021-1927
851-2002 / 264-5938

EXISTING SOIL CHARACTERISTICS

PROJECT: ... RIP RAP ROCK
LOCATION: ... TUBA CITY, ARIZONA
FOR: ... MK-FERGUSON

DATE: ... 9/26/88
LAB. NO. ... 8821866
TYPE OF SAMPLE "A" (BLEND)
SOURCE ... CONTRACTOR

Location	% passing (sieve size)						Atterberg Limits			
	1	½	N#4	N#10	N#40	N#100	N#200	LL	PL	PI
SAMPLE NO.							<u>1</u>			
GELES ABRASION* (100 REV)							<u>4.6%</u>			
SULPHATE SOUNDNESS (5 CYCLES)							<u>0.24%</u>			
IC GRAVITY - BULK							2.85			
IC GRAVITY - BULK (SSD)							<u>2.88</u>			
IC GRAVITY - APPARENT							2.95			
TION							1.17%			

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3151 NORTH BLACK CANYON FREEWAY
PHOENIX, ARIZONA 85015
PHONE: 264-5938

EXISTING SOIL CHARACTERISTICS

PROJECT: R.I.P. RAP. ROCK
LOCATION: TUBA CITY, ARIZONA
FOR: MK-FERGUSON

DATE: 11/4/88
LAB. NO. 88-22301
TYPE OF SAMPLE 'A' (BLEND)
SOURCE CONTRACTOR

Location	<u>% passing (sieve size)</u>						
	1	1/2	#4	#10	#40	#100	#200
SAMPLE NO.							<u>1</u>
LOS ANGELES ABRASION* (100 REV)							<u>6.1%</u>
SODIUM SULPHATE SOUNDNESS (5 CYCLES)							<u>0.00%</u>
SPECIFIC GRAVITY - BULK							2.64
SPECIFIC GRAVITY - BULK (SSD)							<u>2.68</u>
SPECIFIC GRAVITY - APPARENT							2.77
ABSORPTION							1.85%

Atterberg Limits
LL PL PI

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3151 NORTH BLACK CANYON FREEWAY
PHOENIX, ARIZONA 85015
PHONE: 254-5839

EXISTING SOIL CHARACTERISTICS

PROJECT:RIP. RAP. ROCK.....
LOCATION:TUBA CITY, ARIZONA.....
FOR:MK-FERGUSON.....

DATE:11/4/88.....
LAB. NO.88-22302.....
TYPE OF SAMPLE 'A'
SOURCE CONTRACTOR.....

Location	<u>% passing (sieve size)</u>							<u>Atterberg Limits</u>		
	1	%	#4	#10	#40	#100	#200	LL	PL	PI

SAMPLE NO.

	1
LOS ANGELES ABRASION* (100 REV)	2.8%
SODIUM SULPHATE SOUNDNESS (5 CYCLES)	0.02%
SPECIFIC GRAVITY - BULK	2.947
SPECIFIC GRAVITY - BULK (SSD)	2.954
SPECIFIC GRAVITY - APPARENT	2.97
ABSORPTION	0.23%

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PHONE: 264-5939

EXISTING SOIL CHARACTERISTICS

PROJECT: RIP RAP ROCK
LOCATION: TUBA CITY, ARIZONA
FOR: MK-FERGUSON

DATE: 9/16/88
LAB. NO. 88-21786-21788
TYPE OF SAMPLE 'B'
SOURCE CONTRACTOR

Location	1	%	% passing (sieve size)					Atterberg Limits		
			N#	N10	N40	N100	N200	LL	PL	PI

SAMPLE NO.	1	2	3
LOS ANGELES ABRASION* (100 REV)	5.5%	5.2%	4.7%
SODIUM SULPHATE SOUNDNESS (5 CYCLES)	0.00%	0.00%	0.00%
SPECIFIC GRAVITY - BULK	2.90	2.93	2.91
SPECIFIC GRAVITY - BULK (SSD)	2.92	2.94	2.93
SPECIFIC GRAVITY - APPARENT	2.95	2.97	2.97
ABSORPTION	0.35%	0.60%	0.16%

INFORMATION
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• C131 GRADING A

~~Voided due to sample ID
error by Vendor.~~

PASSE

243 results replaces 8/12/88 results.

FOR CONSTRUCTION INSPECTION
& TESTING CO.

Construction Inspection & Testing Co.

2002 West North Lane
Phoenix, Arizona 85021-1927
861-2002 / 264-5938

EXISTING SOIL CHARACTERISTICS

PROJECT: ... RIP RAP ROCK
LOCATION: TUBA CITY, ARIZONA
FOR: ... MK-FERGUSON

DATE: ... 9/25/88
LAB. NO. ... 8321864
TYPE OF SAMPLE ... "B"
SOURCE ... CONTRACTOR

Location	% passing (sieve size)						Atterberg Limits			
	1	1/2	#4	#10	#40	#100	#200	LL	PL	PI
SAMPLE NO.							<u>1</u>			
LOS ANGELES ABRASION* (100 REV)							<u>3.4%</u>			
SODIUM SULPHATE SOUNDNESS (5 CYCLES)							<u>0.00%</u>			
SPECIFIC GRAVITY - BULK							2.91			
SPECIFIC GRAVITY - BULK (SSD)							<u>2.93</u>			
SPECIFIC GRAVITY - APPARENT							2.96			
ABSORPTION							0.57%			

INFORMATION

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861-2002 / 264-5938

EXISTING SOIL CHARACTERISTICS

PROJECT: RIP RAP ROCK
LOCATION: TUBA CITY, ARIZONA
FOR: MK-FERGUSON

DATE: 4/13/88
LAB. NO.
TYPE OF SAMPLE TYPE "C"
SOURCE CONTRACTOR

Location	1	%	% passing (sieve size)				Atterberg Limits		
			#4	#10	#40	#100	#200	LL	PL

SAMPLE NO.	1
LOS ANGELES ABRASION* (100 REV)	4.0%
SODIUM SULFATE SOUNDNESS (5 CYCLES)	0.06%
SPECIFIC GRAVITY - BULK	2.90%
SPECIFIC GRAVITY - BULK (SSD)	2.92%
SPECIFIC GRAVITY - APPARENT	2.95%
ABSORPTION	0.53%

INFORMATION
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ORIGINAL

* C131 GRADING B

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QA PERFORMED FOR
Michael J. Davis
4/21/88
C. L. Davis

Construction Inspection & Testing Co.

3151 NORTH BLACK CANYON FREEWAY
PHOENIX, ARIZONA 85015
PHONE: 264-5935

EXISTING SOIL CHARACTERISTICS

PROJECT: RIP RAP ROCK
LOCATION: TUBA CITY, ARIZONA
FOR: MK-FERGUSON

DATE: 5/13/88
LAB NO.
TYPE OF SAMPLE "C"
SOURCE CONTRACTOR

Location	% passing (sieve size)						Atterberg Limits			
	1	%	#4	#10	#40	#100	#200	LL	PL	PI
SAMPLE NO.							<u>1</u>			
LOS ANGELES ABRASION* (100 REV)							<u>4.19%</u>			
SODIUM SULPHATE SOUNDNESS (5 CYCLES)							<u>0.17%</u>			
SPECIFIC GRAVITY - BULK							2.89			
SPECIFIC GRAVITY - BULK (SSD)							<u>2.91</u>			
SPECIFIC GRAVITY - APPARENT							2.96			
ABSORPTION							0.77%			

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Construction Inspection & Testing Co.

3151 NORTH BLACK CANYON FREEWAY
PHOENIX, ARIZONA 85015
PHONE: 264-5939

EXISTING SOIL CHARACTERISTICS

PROJECT: RIP RAP ROCK
LOCATION: TUBA CITY, ARIZONA
FOR: MK-FERGUSON
.....

DATE: JULY 5, 1988
LAB. NO. 88-20960
TYPE OF SAMPLE "C"
SOURCE CONTRACTOR
.....

Location	% passing (sieve size)						Atterberg Limits			
	1	%	#4	#10	#40	#100	#200	LL	PL	PI
SAMPLE NO.										
LOS ANGELES ABRASION* (100 REV)							<u>1</u>			
SODIUM SULPHATE SOUNDNESS (5 CYCLES)							<u>4.3%</u>			
SPECIFIC GRAVITY - BULK							2.92			
SPECIFIC GRAVITY - BULK (SSD)							<u>2.94</u>			
SPECIFIC GRAVITY - APPARENT							2.97			
ABSORPTION							0.66%			

INFORMATION

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& TESTING CO.

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3151 NORTH BLACK CANYON FREEWAY
PHOENIX, ARIZONA 85015
PHONE: 264-5938

EXISTING SOIL CHARACTERISTICS

PROJECT: RIP RAP ROCK
LOCATION: TUBA CITY, ARIZONA
FOR: MK-FERGUSON

DATE: 9/16/88
LAB. NO. 88-21789
TYPE OF SAMPLE 'C'
SOURCE CONTRACTOR

Location	% passing (sieve size)						
	1	%	#4	#10	#40	#100	#200
SAMPLE NO.							
LOS ANGELES ABRASION* (100 REV)							4.3%
SODIUM SULPHATE SOUNDNESS (5 CYCLES)							0.03%
SPECIFIC GRAVITY - BULK							2.91
SPECIFIC GRAVITY - BULK (SSD)							2.92
SPECIFIC GRAVITY - APPARENT							2.95
ABSORPTION							0.48%

Atterberg Limits
LL PL PI

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3151 NORTH BLACK CANYON FREEWAY
PHOENIX, ARIZONA 85015
PHONE: 264-9934

EXISTING SOIL CHARACTERISTICS

PROJECT: RIP RAP ROCK
LOCATION: TUBA CITY, ARIZONA
FOR: MK-FERGUSON

DATE: 7/28/88
LAB. NO. 88-21298
TYPE OF SAMPLE "D"
SOURCE CONTRACTOR

Location	1	%	#4	% passing (sieve size)				Atterberg Limits		
				#10	#40	#100	#200	LL	PL	PI

SAMPLE NO. 1

LOS ANGELES ABRASION* (100 REV)	4.49%
SODIUM SULPHATE SOUNDNESS (5 CYCLES)	0.13%
SPECIFIC GRAVITY - BULK	2.92
SPECIFIC GRAVITY - BULK (SSD)	2.94
SPECIFIC GRAVITY - APPARENT	2.97
ABSORPTION	0.47%

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DATE: 11/10/88

LAB NO. 88-22358-60

TYPE OF SAMPLE "D"

SOURCE CONTRACTOR

Atterberg Limits
LL PL PI

EXISTING SOIL CHARACTERISTICS

Location	1	%	#4	#10	#40	#100	#200
	% passing (sieve size)						

PROJECT: RIP RAP ROCK
LOCATION: TUBA CITY, ARIZONA
FOR: MK-FERGUSON

SAMPLE NO.	LOS ANGELES ABRASION: (100 REV)	SODIUM SULPHATE SOUNDNESS (5 CYCLES)	SPECIFIC GRAVITY - BULK	SPECIFIC GRAVITY - BULK (SSD)	SPECIFIC GRAVITY - APPARENT	ABSORPTION
1	4.20%	0.00%	2.95	2.96	2.97	0.002%
2	4.5%	0.06%	2.92	2.93	2.96	0.01%
3	4.62%	0.00%	2.92	2.93	2.95	0.004%

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MATERIAL SHIPPED 10/7/88
MATERIAL SHIPPED 10/11/88
MATERIAL SHIPPED 10/13/88

Handwritten signature

ORIGINAL

Construction Inspection & Testing Co.

3151 NORTH BLACK CANYON FREEWAY
PHOENIX, ARIZONA 85015
PHONE: 264-5939

EXISTING SOIL CHARACTERISTICS

PROJECT: RIP RAP ROCK
LOCATION: TUBA CITY, ARIZONA
FOR: MK-FERGUSON

DATE: 5/9/88
LAB NO.
TYPE OF SAMPLE TYPE "E"
SOURCE CONTRACTOR

Location	% passing (sieve size)							Atterberg Limits		
	1	%	#4	#10	#40	#100	#200	LL	PL	PI
SAMPLE NO.										
LOS ANGELES ABRASION* (100 REV)							4.8%			
SODIUM SULPHATE SOUNDNESS (5 CYCLES)							0.06%			
SPECIFIC GRAVITY - BULK							2.89			
SPECIFIC GRAVITY - BULK (SSD)							2.91			
SPECIFIC GRAVITY - APPARENT							2.94			
ABSORPTION							0.45%			

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* C131 GRADING B

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QA ENGINEER WH
CHECKED
BY
QA ENGINEER

Construction Inspection & Testing Co.

3151 NORTH BLACK CANYON FREEWAY
PHOENIX, ARIZONA 85015
PHONE: 254-5939

EXISTING SOIL CHARACTERISTICS

PROJECT: RIP RAP ROCK
LOCATION: TUBA CITY, ARIZONA
FOR: MK-FERGUSON

DATE: 5/31/88
LAB. NO.
TYPE OF SAMPLE "E"
SOURCE CONTRACTOR

Location	<u>% passing (sieve size)</u>					
	1	%	#4	#10	#40	#100

Atterberg Limits		
LL	PL	PI

SAMPLE NO.	<u>1</u>
LOS ANGELES ABRASION* (100 REV)	<u>4.6%</u>
SODIUM SULPHATE SOUNDNESS (5 CYCLES)	<u>0.012%</u>
SPECIFIC GRAVITY - BULK	2.90
SPECIFIC GRAVITY - BULK (SSD)	<u>2.93</u>
SPECIFIC GRAVITY - APPARENT	2.97
ABSORPTION	0.40%

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315th NORTH BLACK CANYON FREEWAY
PHOENIX, ARIZONA 85015
PHONE: 264-5939

EXISTING SOIL CHARACTERISTICS

PROJECT: RIP RAP ROCK
LOCATION: TUBA CITY, ARIZONA
FOR: MK-FERGUSON

DATE: JULY 5, 1988
LAB. NO. 88-20961
TYPE OF SAMPLE "E"
SOURCE CONTRACTOR

Location	% passing (sieve size)						
	1	%	#4	#10	#40	#100	#200
SAMPLE NO.							<u>1</u>
LOS ANGELES ABRASION* (100 REV)							<u>4.0%</u>
SODIUM SULPHATE SOUNDNESS (5 CYCLES)							<u>0.02%</u>
SPECIFIC GRAVITY - BULK							2.93
SPECIFIC GRAVITY - BULK (SSD)							<u>2.95</u>
SPECIFIC GRAVITY - APPARENT							2.98
ABSORPTION							0.58%

Atterberg Limits
LL PL PI

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Construction Inspection & Testing Co.

3151 NORTH BLACK CANYON FREEWAY
PHOENIX, ARIZONA 85015
PHONE: 254-5931

EXISTING SOIL CHARACTERISTICS

PROJECT: RIP RAP ROCK
LOCATION: TUBA CITY, ARIZONA
FOR: MK-FERGUSON
)

DATE: 7/28/88
LAB. NO. 88-21299
TYPE OF SAMPLE "E"
SOURCE CONTRACTOR

Location	1	%	% passing (sieve size)			
			#4	#10	#40	#100

Atterberg Limits		
LL	PL	PI

SAMPLE NO.

1

LOS ANGELES ABRASION* (100 REV)	<u>4.26%</u>
SODIUM SULPHATE SOUNDNESS (5 CYCLES)	<u>0.07%</u>
SPECIFIC GRAVITY - BULK	2.89
SPECIFIC GRAVITY - BULK (SSD)	<u>2.91</u>
SPECIFIC GRAVITY - APPARENT	2.94
ABSORPTION	0.48%

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" C131 GRADING A

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& TESTING CO.

ORIGINAL

Construction Inspection & Testing Co.

2002 West North Lane
Phoenix, Arizona 85021-1927
861-2002 / 264-5938

EXISTING SOIL CHARACTERISTICS

PROJECT: RIP RAP ROCK
LOCATION: TUBA CITY, ARIZONA
FOR: MK-FERGUSON

DATE: 4/28/88
LAB. NO.
TYPE OF SAMPLE TYPE "F"
SOURCE CONTRACTOR

Location	% passing (sieve size)					
	1	1/2	#4	#10	#40	#100

Atterberg Limits		
LL	PL	PI

SAMPLE NO.	I
LOS ANGELES ABRASION* (100 REV)	5.1%
SODIUM SULFATE SOUNDNESS (5 CYCLES)	0.115%
SPECIFIC GRAVITY - BULK	2.91
SPECIFIC GRAVITY - BULK (SSD)	2.86
SPECIFIC GRAVITY - APPARENT	2.88
ABSORPTION	0.19%

INFORMATION
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#C131 GRADING B

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FOR CONSTRUCTION INSPECTION
& TESTING CO.

TESTED BY: [Signature] -05/02/88
TEST NO. 741

ORIGINAL

Construction Inspection & Testing Co.

3151 NORTH BLACK CANYON FREEWAY
PHOENIX, ARIZONA 85015
PHONE: 264-5935

EXISTING SOIL CHARACTERISTICS

PROJECT: RIP RAP ROCK
LOCATION: TUBA CITY, ARIZONA
FOR MK-FERGUSON

DATE: 5/9/88
LAB. NO.
TYPE OF SAMPLE "F"
SOURCE CONTRACTOR

Location	% passing (sieve size)							Atterberg Limits		
	1	1/2	#4	#10	#40	#100	#200	LL	PL	PI
SAMPLE NO.										
LOS ANGELES ABRASION* (100 REV)							1			
SODIUM SULPHATE SOUNDNESS (5 CYCLES)							4.7%			
SPECIFIC GRAVITY - BULK							0.08%			
SPECIFIC GRAVITY - BULK (SSD)							2.88			
SPECIFIC GRAVITY - APPARENT							2.90			
ABSORPTION							2.94			
							0.21%			

INFORMATION
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* C131 GRADING B

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& TESTING CO.

QA REVIEWED BY WH
QUALITY CONTROL IS
BY
QA ENTRY NO. 820

Construction Inspection & Testing Co.

3151 NORTH BLACK CANYON FREEWAY
PHOENIX ARIZONA 85015
PHONE: 264-5939

EXISTING SOIL CHARACTERISTICS

PROJECT: RIP RAP ROCK
LOCATION: TUBA CITY, ARIZONA
FOR: MK-FERGUSON

DATE: 5/31/88
LAB. NO.
TYPE OF SAMPLE "F"
SOURCE CONTRACTOR

Location	<u>% passing (sieve size)</u>					
	1	1/2	#4	#10	#40	#100

Atterberg Limits		
LL	PL	PI

SAMPLE NO.	1
LOS ANGELES ABRASION* (100 REV)	4.4%
SODIUM SULPHATE SOUNDNESS (5 CYCLES)	0.09%
SPECIFIC GRAVITY - BULK	2.86
SPECIFIC GRAVITY - BULK (SSD)	2.89
SPECIFIC GRAVITY - APPARENT	2.92
ABSORPTION	0.32%

INFORMATION
ONLY

** C131 GRADING B

PASSED

FOR CONSTRUCTION INSPECTION
& TESTING CO.

Construction Inspection & Testing Co.

3151 NORTH BLACK CANYON FREEWAY
PHOENIX, ARIZONA 85015
PHONE: 264-5930

EXISTING SOIL CHARACTERISTICS

PROJECT:
LOCATION:
FOR:

RIP RAP ROCK

TUBA CITY, ARIZONA

MK-FERGUSON

DATE: 7/28/88
LAB. NO. 88-21300
TYPE OF SAMPLE "F"
SOURCE CONTRACTOR

Location	% passing (sieve size)						Atterberg Limits			
	1	1/2	#4	#10	#40	#100	#200	LL	PL	P
SAMPLE NO.										
LOS ANGELES ABRASION* (100 REV)										
SODIUM SULPHATE SOUNDNESS (5 CYCLES)										
SPECIFIC GRAVITY - BULK										
SPECIFIC GRAVITY - BULK (SSD)										
SPECIFIC GRAVITY - APPARENT										
ABSORPTION										

* C131 GRADING A

PASSED

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