

040Wm073140E

WM-73



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

RETURN ORIGINAL TO PDR, HQ.

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

OF02
11

DESIGNATED ORIGINAL

Certified By Mary C. Hood
(9907050369) XA

Add Info
89-0765

ORIGINAL

Construction Inspection & Testing Co.

2002 West North Lane
Phoenix, Arizona 85021-1927
861-2002 / 264-5936

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

Atterberg Limits

LL	PL	PI
----	----	----

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

Location

SAMPLE NO.

LOS ANGELES ABRASION* (100 REV)
SODIUM SULFATE SOUNDNESS (5 CYCLES)
SPECIFIC GRAVITY - BULK
SPECIFIC GRAVITY - BULK (SSD)
SPECIFIC GRAVITY - APPARENT

ABSORPTION

1
4.90
0.016%
2.38
2.90
2.94
0.72%

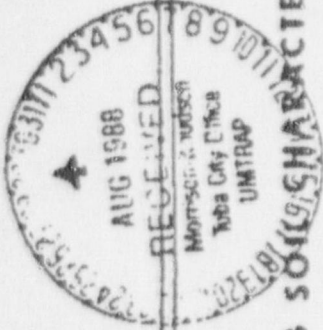
INFORMATION
ONLY

#C131 GRADING A

PASSED

FOR CONSTRUCTION INSPECTION
& TESTING CO.

Stallan-Hayes-05/02/88



Construction Inspection & Testing Co.

3151 NORTH BLACK CANYON FREEWAY
PHOENIX, ARIZONA 85015
PHONE: 254-5838

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

Atterberg Limits
LL PL PI

1	%	M4	% passing (sieve size)			
			#10	#40	#100	#200

SAMPLE NO.

LOS ANGELES ABRASION* (100 REV)
SODIUM SULPHATE SOUNDNESS (5 CYCLES)
SPECIFIC GRAVITY - BULK
SPECIFIC GRAVITY - BULK (SSD)
SPECIFIC GRAVITY - APPARENT
ABSORPTION

1
3.98
0.048
2.93
2.94
2.98
0.648

ORIGINAL

INFORMATION
ONLY

* C131 GRADING B

PASS

CA. 1.00 PER 100
QUANTITY OF MATERIAL
BY: *Leon M. ...*
QA ENTRY NO. 227

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

FOR CONSTRUCTION INSPECTION
& TESTING CO.

Construction Inspection & Testing Co.

3151 NORTH BLACK CANYON FREEWAY
PHOENIX, ARIZONA 85015
PHONE: 254-5037

EXISTING SOIL CHARACTERISTICS

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

DATE: JULY 5, 1988
LAB NO: 88-20559
TYPE OF SAMPLE: "A"
SOURCE: CONTRACTOR

Atterberg limits
LL P PI

Location	1	1/2	3/4	% passing (sieve size)			
				#10	#40	#100	#200

SAMPLE NO.

LOS ANGELES ABRASION* (100 REV)
SODIUM SULPHATE SOUNDNESS (5 CYCLES)
SPECIFIC GRAVITY - BULK
SPECIFIC GRAVITY - BULK (SSD)
SPECIFIC GRAVITY - APPARENT
ABSORPTION

1
4.8%
0.016%
2.91
2.93
2.97
0.60%

INFORMATION
ONLY

11 C131 GRADING B

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FOR CONSTRUCTION INSPECTION
& TESTING CO.

Construction Inspection & Testing Co.

2002 West North Lane
Phoenix, Arizona 85021-1927
861-2002 / 264-5936

EXISTING SOIL CHARACTERISTICS

DATE: 9/25/86
LAB. NO. 8821865
TYPE OF SAMPLE "A"
SOURCE CONTRACTOR

Atterberg Limits

LL	PL	PI
----	----	----

% passing (sieve size)				
#10	#40	#100	#200	

Location

SAMPLE NO.

1

LOS ANGELES ABRASION" (10) REV)
SODIUM SULPHATE SOUNDNESS (5 CYCLES)
SPECIFIC GRAVITY - BULK
SPECIFIC GRAVITY - BULK (SSD)
SPECIFIC GRAVITY - APPARENT
ABSORPTION

4.2%
0.19%
2.91
2.92
2.96
0.60%

INFORMATION
ONLY

" C131 GRADING A PASS

FOR CONSTRUCTION INSPECTION
& TESTING CO.

800

Construction Inspection & Testing Co.

2002 West North Lane
Phoenix, Arizona 85021-1927
851-200 / 264-5938

EXISTING SOIL CHARACTERISTICS

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

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

Atterberg Limits
LL PL PI

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

Location

SAMPLE NO.

LOS ANGELES ABRASION* (100 REV)
SODIUM SULPHATE SOUNDNESS (5 CYCLES)
SPECIFIC GRAVITY - BULK
SPECIFIC GRAVITY - BULK (SSD)
SPECIFIC GRAVITY - APPARENT
ABSORPTION

1
4.6%
0.24%
2.85
2.88
2.95
1.17%

INFORMATION
ONLY

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FOR CONSTRUCTION INSPECTION
& TESTING CO.

Construction Inspection & Testing Co.

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

EXISTING SOIL CHARACTERISTICS

PROJECT: R.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	% passing (sieve size)						
	1	1/2	#4	#10	#40	#100	#200

Atterberg Limits
LL PL PI

SAMPLE NO.

LOS ANGELES ABRASION: (100 REV)
SODIUM SULPHATE SOUNDNESS (5 CYCLES)
SPECIFIC GRAVITY - BULK
SPECIFIC GRAVITY - BULK (SSD)
SPECIFIC GRAVITY - APPARENT
ABSORPTION

1
6.1%
0.00%
2.64
2.68
2.77
1.85%

INFORMATION
ONLY

C131 GRADING A

7/155

Construction Inspection & Testing Co.

3151 NORTH BLACK CANYON FREEWAY
PHOENIX, ARIZONA 85015
PHONE: 254-5830

EXISTING SOIL CHARACTERISTICS

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

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

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

Atterberg Limits
LL PL PI

SAMPLE NO.

LOS ANGELES ABRASION: (100 REV)
SODIUM SULPHATE SOUNDNESS (5 CYCLES)
SPECIFIC GRAVITY - BULK
SPECIFIC GRAVITY - BULK (SSD)
SPECIFIC GRAVITY - APPARENT
ABSORPTION

1
2.8%
0.02%
2.947
2.954
2.97
0.23%

INFORMATION
ONLY

~ C131 GRADING A

PASS

Construction Inspection & Testing Co.

3151 NORTH BLACK CANYON FREEWAY
PHOENIX, ARIZONA 85015
PHONE: 264-8939

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

Atterberg Limits			
LL	PL	PI	

SAMPLE NO.

LOS ANGELES ABRASION* (100 REV)
SODIUM SULPHATE SOUNDNESS (5 CYCLES)
SPECIFIC GRAVITY - BULK
SPECIFIC GRAVITY - BULK (SSD)
SPECIFIC GRAVITY - APPARENT
ABSORPTION

1	2	3
5.5%	5.2%	4.7%
0.00%	0.00%	0.00%
2.90	2.93	2.91
2.5	2.94	2.93
2.95	2.97	2.97
0.35%	0.60%	0.16%

INFORMATION ONLY

:: C131 GRADING A

FOR CONSTRUCTION INSPECTION
& TESTING CO.

243 results replaces 8/12/88 results

*voided due to sample ID
with error by vendor*

Construction Inspection & Testing Co.

2002 West North Lane
Phoenix, Arizona 85021-1927
851-2002 / 264-5938

EXISTING SOIL CHARACTERISTICS

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

DATE: 9/25/88
LAB NO: 8321854
TYPE OF SAMPLE: "B"
SOURCE: CONTRACTOR

Atterberg Limits
LL PL PI

% passing (sieve size)				
1	1/2	#4	#10	#40
#100	#200			

Location

SAMPLE NO.

LOS ANGELES ABRASION² (100 REV)
SODIUM SULPHATE SOUNDNESS (5 CYCLES)
SPECIFIC GRAVITY - BULK
SPECIFIC GRAVITY - BULK (SSD)
SPECIFIC GRAVITY - APPARENT
ABSORPTION

1
3.4%
0.00%
2.91
2.93
2.96
0.57%

INFORMATION
ONLY

#: C131 GRADING A

PASSED

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: 4/13/38

LAB NO.

TYPE OF SAMPLE TYPE "C"

SOURCE CONTRACTOR

Atterberg Limits

LL PL PI

% passing (sieve size)

1 1/2 3/4 #4 #10 #40 #100 #200

Location

SAMPLE NO.

LOS ANGELES ABRASION* (100 REV)

SODIUM SULFATE SOUNDNESS (5 CYCLES)

SPECIFIC GRAVITY - BULK

SPECIFIC GRAVITY - BULK (SSD)

SPECIFIC GRAVITY - APPARENT

ABSORPTION

1

4.03

0.068

2.908

2.928

2.958

0.538

ORIGINAL

INFORMATION ONLY

C131 GRADING B

PASSED

OK FOR REVIEW FOR

4/29/38
7/3

Construction Inspection & Testing Co.

3151 NORTH BLACK CANYON FREEWAY
PHOENIX, ARIZONA 85015
PHONE: 254-5936

EXISTING SOIL CHARACTERISTICS

RIP RAP ROCK

PROJECT:

LOCATION:

FOR:

TUBA CITY, ARIZONA

MK-FERGUSON

DATE: 5/13/88

LAB NO

TYPE OF SAMPLE "C"

SOURCE CONTRACTOR

Atterberg Limits

LL	PL	PI
----	----	----

% passing (sieve size)

1	%	#4	#10	#40	#100	#200
---	---	----	-----	-----	------	------

Location

SAMPLE NO.

1

LOS ANGELES ABRASION: (100 REV)

SODIUM SULPHATE SOUNDNESS (5 CYCLES)

SPECIFIC GRAVITY - BULK

SPECIFIC GRAVITY - BULK (SSD)

SPECIFIC GRAVITY - APPARENT

ABSORPTION

4.19%

0.17%

2.89

2.91

2.96

0.77%

INFORMATION ONLY

:: C131 GRADING A

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FOR CONSTRUCTION INSPECTION
& TESTING CO.

Signature

Construction Inspection & Testing Co.

3151 NORTH BLACK CANYON FREEWAY
PHOENIX, ARIZONA 85015
PHONE: 264-5539

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

Atterberg Limits
LL PL PI

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

Location

SAMPLE NO.

LOS ANGELES ABRASION: (100 REV)
SODIUM SULPHATE SOUNDNESS (5 CYCLES)
SPECIFIC GRAVITY - BULK
SPECIFIC GRAVITY - BULK (SSD)
SPECIFIC GRAVITY - APPARENT
ABSORPTION

1
4.3%
0.03%
2.92
2.94
2.97
0.66%

INFORMATION
ONLY

:: C131 GRADING B

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FOR CONSTRUCTION INSPECTION
& TESTING CO.

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

AASHTO Limits
%L PL PI

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

SAMPLE NO.

LOS ANGELES ABRASION* (100 REV)
SODIUM SULPHATE SOUNDNESS (5 CYCLES)
SPECIFIC GRAVITY - BULK
SPECIFIC GRAVITY - BULK (SSD)
SPECIFIC GRAVITY - APPARENT
ABSORPTION

4.31
0.031
2.91
2.92
2.95
0.481

INFORMATION
ONLY

* C131 GRADING A

FOR CONSTRUCTION INSPECTION
& TESTING CO.

Construction Inspection & Testing Co.

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

EXISTING SOIL CHARACTERISTICS

RIP RAP ROCK

PROJECT:
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)			
				#10	#40	#100	#200

Atterberg Limits
LL PL PI

SAMPLE NO.

1

LOS ANGELES ABRASION^x (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

ASSORPTION 0.47%

INFORMATION
ONLY

x C1:1 GRADING A

PASSED

FOR CONSTRUCTION INSPECTION
& TESTING CO.

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: 11/10/88
LAB NO: 88-22358-60
TYPE OF SAMPLE: "D"
SOURCE: CONTRACTOR

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

Atterberg Limits		
LL	PL	PI

SAMPLE NO.

LOS ANGELES ABRASION: (100 REV)
SODIUM SULFATE SOUNDNESS (5 CYCLES)
SPECIFIC GRAVITY - BULK
SPECIFIC GRAVITY - BULK (SSD)
SPECIFIC GRAVITY - APPARENT
ABSORPTION

1	2	3
4.20%	4.5%	4.62%
0.00%	0.06%	0.00%
2.95	2.92	2.92
2.96	2.93	2.93
2.97	2.96	2.95
0.002%	0.01%	0.004%

INFORMATION ONLY

C131 GRADING A
MATERIAL SHIPPED 10/7/88
MATERIAL SHIPPED 10/11/88
MATERIAL SHIPPED 10/13/88

FOR CONSTRUCTION INSPECTION
& TESTING CO.

PASSED

Shelley P. ...

ORIGINAL

Construction Inspection & Testing Co.

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

EXISTING SOIL CHARACTERISTICS

RIP RAP ROCK

PROJECT:
LOCATION: TUBA CITY, ARIZONA
FOR: MK-FERGUSON

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

Atterberg Limits
LL PL PI

Location	1	2	4	% passing (sieve size)					#100	#200
				#10	#40	#100	#200			

SAMPLE NO.

LOS ANGELES ABRASION: (100 REV)
SODIUM SULPHATE SOUNDNESS (5 CYCLES)
SPECIFIC GRAVITY - BULK
SPECIFIC GRAVITY - BULK (SSD)
SPECIFIC GRAVITY - APPARENT
ABSORPTION

1
4.8%
0.06%
2.89
2.91
2.94
0.45%

INFORMATION
ONLY

* C131 GRADING B

PASSED

FOR CONSTRUCTION INSPECTION
& TESTING CO.

DATE: 5/9/88
BY: [Signature]
QA: [Signature]

Construction Inspection & Testing Co.

3151 NORTH BLACK CANYON FREEWAY
PHOENIX, ARIZONA 85015
PHONE: 264-5839

EXISTING SOIL CHARACTERISTICS

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

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

Atterberg Limits
LL PL PI

1	1/2	#4	% passing (sieve size)			
			#10	#40	#100	#200

Location

SAMPLE NO.

LOS ANGELES ABRASION* (100 REV)
SODIUM SULPHATE SOUNDNESS (5 CYCLES)
SPECIFIC GRAVITY - BULK
SPECIFIC GRAVITY - BULK (SSD)
SPECIFIC GRAVITY - APPARENT
ABSORPTION

1
4.6%
0.012%
2.90
2.93
2.97
0.40%

INFORMATION
ONLY

PASSED

#: C131 GRADING B

FOR CONSTRUCTION INSPECTION
& TESTING CO.

Construction Inspection & Testing Co.

315 NORTH BLACK CANYON FREEWAY
PHOENIX, ARIZONA 85015
PHONE: 264-9939

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	1/2	#4	#10	#40
				#100	#200

Atterberg Limits		
LL	PL	PI

SAMPLE NO.

LOS ANGELES ABRASION* (100 REV)
SODIUM SULPHATE SOUNDNESS (5 CYCLES)
SPECIFIC GRAVITY - BULK
SPECIFIC GRAVITY - BULK (SSD)
SPECIFIC GRAVITY - APPARENT
ABSORPTION

1
4.0%
0.02%
2.93
2.95
2.98
0.58%

INFORMATION
ONLY

* C131 GRADING B

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FOR CONSTRUCTION INSPECTION
& TESTING CO.

Construction Inspection & Testing Co.

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

EXISTING SOIL CHARACTERISTICS

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

Atterberg Limits
LL PL PI

% passing (sieve size)				
#10	#40	#100	#200	

Location

SAMPLE NO.

LOS ANGELES ABRASION (100 REV)
SODIUM SULPHATE SOUNDNESS (5 CYCLES)
SPECIFIC GRAVITY - BULK
SPECIFIC GRAVITY - BULK (SSD)
SPECIFIC GRAVITY - APPARENT
ABSORPTION

1

4.26%
0.07%
2.89
2.91
2.94
0.48%

INFORMATION
ONLY

11 C131 GRADING A

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FOR CONSTRUCTION INSPECTION
& TESTING CO.

ORIGINAL

Construction Inspection & Testing Co.

2002 West North Lane
Phoenix, Arizona 85021-1927
861-2002 / 284-5938

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

Atterberg Limits
LL PL PI

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

SAMPLE NO.

LOS ANGELES ABRASION# (100 REV)
SODIUM SULFATE SOUNDNESS (5 CYCLES)
SPECIFIC GRAVITY - BULK
SPECIFIC GRAVITY - BULK (SSD)
SPECIFIC GRAVITY - APPARENT
ABSORPTION

5.15
0.1158
2.91
2.86
2.88
0.195

INFORMATION
ONLY

PASSED

#C131 GRADING B

FOR CONSTRUCTION INSPECTION
& TESTING CO.

APPROVED
-05/02/88
[Signature]

ORIGINAL

Construction Inspection & Testing Co.

351 NORTH BLACK CANYON FREEWAY
PHOENIX, ARIZONA 85015
PHONE: 264-5936

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

Atterberg Limits
LL PL PI

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

SAMPLE NO.

LOS ANGELES ABRASION: (100 REV)
SODIUM SULPHATE SOUNDNESS (5 CYCLES)
SPECIFIC GRAVITY - BULK
SPECIFIC GRAVITY - BULK (SSD)
SPECIFIC GRAVITY - APPARENT
ABSORPTION

1
4.7%
0.08%
2.88
2.90
2.94
0.21%

INFORMATION
ONLY

#: C131 GRADING B

PASSED

FOR CONSTRUCTION INSPECTION
& TESTING CO.

DATE: 5/9/88
BY: [Signature]
QA: [Signature]

Construction Inspection & Testing Co.

3151 NORTH BLACK CANYON FREEWAY
PHOENIX, ARIZONA 85015
PHONE: 264-3939

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

Atterberg Limits
LL PL PI

Location	1	1/2	3/4	% passing (sieve size)			
				#10	#40	#100	#200

SAMPLE NO.

LOS ANGELES ABRASION: (100 REV)
SODIUM SULPHATE SOUNDNESS (5 CYCLES)
SPECIFIC GRAVITY - BULK
SPECIFIC GRAVITY - BULK (SSD)
SPECIFIC GRAVITY - APPARENT
ABSORPTION

1
4.4%
0.09%
2.86
2.89
2.92
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: 264-5038

EXISTING SOIL CHARACTERISTICS

RIP RAP ROCK

PROJECT:
LOCATION: TUBA CITY, ARIZONA
FOR: MK-FERGUSON

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

Atterberg Limits
LL PL PI

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

Location

SAMPLE NO.

LOS ANGELES ABRASION* (100 REV)
SODIUM SULPHATE SOUNDNESS (5 CYCLES)
SPECIFIC GRAVITY - BULK
SPECIFIC GRAVITY - BULK (SSD)
SPECIFIC GRAVITY - APPARENT
ABSORPTION

1
4.37%
0.12%
2.92
2.94
2.97
0.41%

INFORMATION
ONLY

PASSED

* C131 GRADING A

FOR CONSTRUCTION INSPECTION
& TESTING CO.